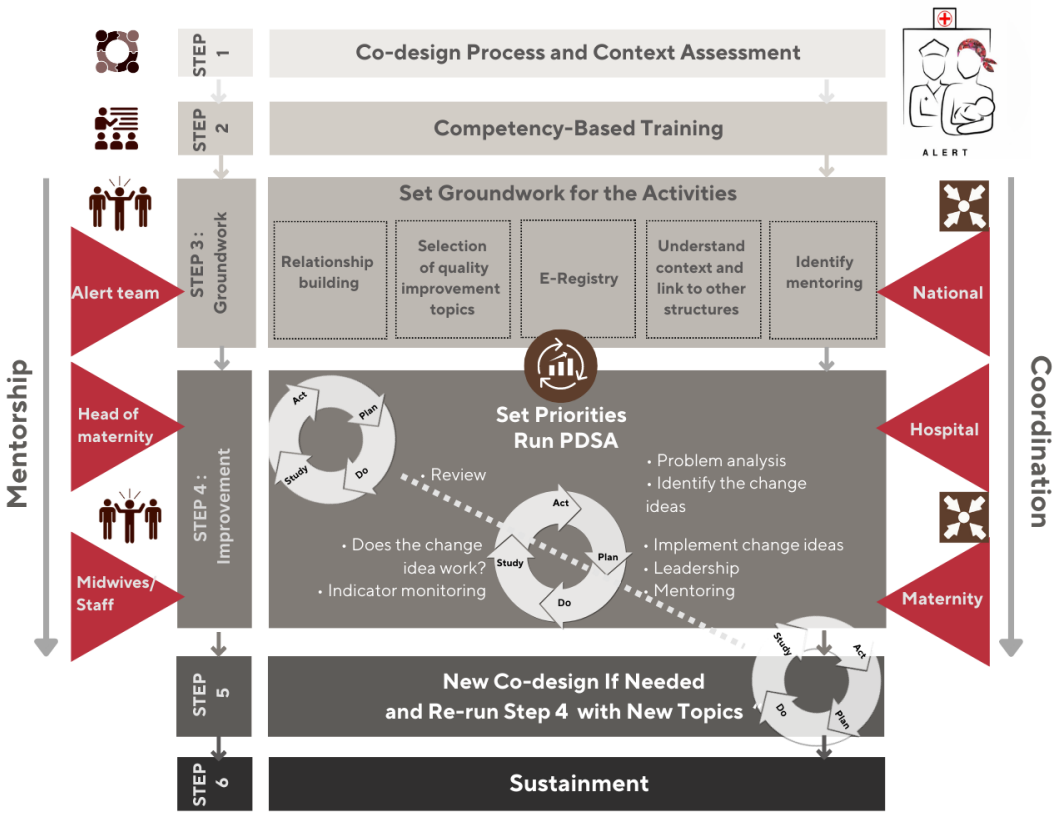
ALERT Intervention Manual



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Content

Aim

This ALERT intervention manual describes the intervention and its various components. It is a core document of the ALERT project.

Key terminology

Co-Design

A continuous process of

Improvement topic

An aspect of maternity care that was identified as a challenge for perinatal care during formative research. A total of six core improvement topics emerged from ALERT research. These form the basis of ALERT trainings and *Plan-Do-Study-Act* (PDSA) cycles for quality improvement work at hospital level.

Change idea

A solution that addresses one root cause of a problem identified during problem analysis as part of a PDSA cycle to implement and monitor this change idea.

PDSA

The Plan-Do-Study-Act cycle (PDSA) describes a structured approach to continuous quality improvement

Target group

The target group of this manual is the ALERT country implementation teams. The manual should also be shared with associated external mentors and coaches at country team level and with hospital-based actors engaged in the implementation of the ALERT intervention. This guide is complemented by a slide set (Intervention Strategy Slide Set) which summarizes the important aspects for the implementation teams.

Objectives

This document will facilitate and structure the implementation of the ALERT intervention components especially the quality improvement and mentoring strategy. This practical manual shall facilitate communication and operational decisions.

OBS: note that more detailed information is available on the Co-design process as well as the training on a educational platform called CANVAS. The protocols of the training are available here:

- Protocol for the implementation of a ToT training for the competency-based training intervention (091121_Protocol for ToT training Competency based training_v2.docx)
- Protocol for the implementation of the competency-based training intervention (261022_Protocol for Competency based training intervention_v6.docx)
- A separate document sharing case study examples will support this guide further.
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Following a set of preliminary facility and contextual evaluation and stakeholders' identification and engagement, the overview of the ALERT intervention can be summarized as in figure1 below. The figure should be read from top to bottom, starting with step 1. The boxes indicate the flow of actionable steps that the overall strategy composes of. Please also note the glossary of terms / icons in the annex of this manual (#Annex_1).

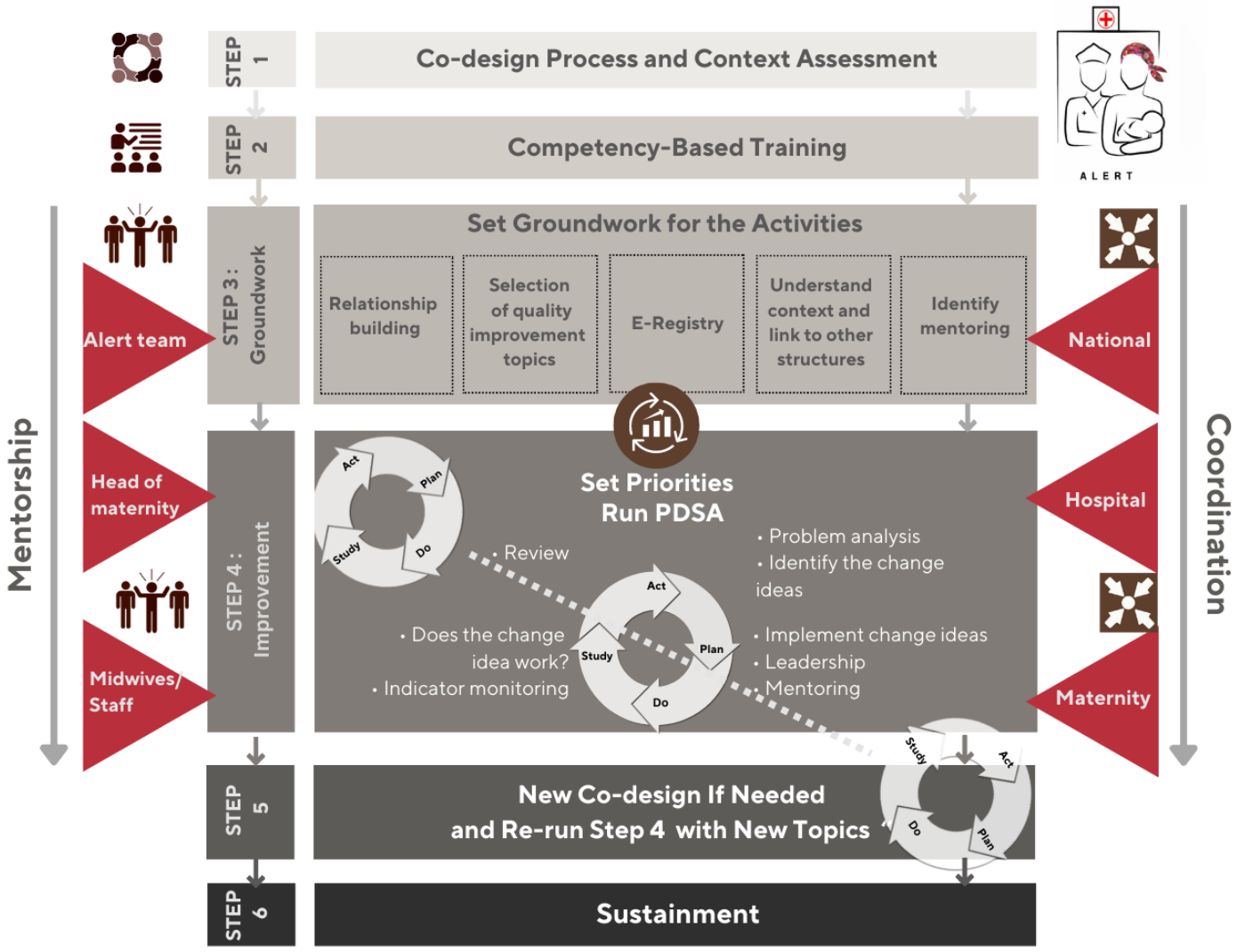


Figure 1: ALERT Intervention overview with pictorial intervention elements

Step 1: Co-design and Context Assessment

The first step of the ALERT intervention was a formal co-design phase which included i) interviews with mothers, providers and birth companions; ii) observations including shadowing midwives and Go-along women; iii) co-design workshops with women and providers after preliminary analysis; and iv) interviews with WP2 data collectors.

In addition to the co-design approach, we also used a classical health facility assessment to better understand the included hospitals. This assessment incorporated several parts including i) governance, leadership and financing, ii) facility, equipment and supplies, iii) human resources including their knowledge and skills and v) guidelines, standard operational procedures and standards established in the facilities. Of particular relevance is the assessment of nurses / midwives competence.

The results of the co-design process as well as the facility and provider assessment led – through a process of sharing, reflection and condensing – to the development of six priority areas for the training and further intervention implementation. These areas are now called – in-line with quality improvement terminology – "improvement topics" (table 1). The co-design process continues throughout the intervention process and will produce new training and improvement priorities during the implementation period.

Step 2: Competency-based training

We conceived a train-the-trainer module for the ALERT country teams and external experts based on the six improvement topics identified during formative research. We also trained the team on basic principles of quality improvement prior to the initial competency-based training for staff from included hospitals. The initial training introduces the six improvement topics (table 1). These focus on **a) mortality:** (i) admission standards and procedures, (ii) intrapartum monitoring, (iii) emergency preparedness; and on **b) responsiveness:** (iv) respectful care and compassion, (v) labour and birth positioning, (iv) communication and teamwork.

There are also three optional improvement topics[1] (i) active management of third stage of labour and early newborn care, ii) infection prevention and control in labor management and iii) documentation and data for quality improvement). The competency-based training also introduces three tools (table 1) (i) de-escalation techniques for conflict situations, ii) special cases and iii) reflections on workplace environment). These tools were also developed from formative research results and support the facilitation of the competency-based training course. It is to be noted that participants from all hospitals receive training in all the six topics and in optional topics if relevant to the context. It is recommended for participants to prioritize one or two improvement topics to work on immediately after the training as described in step 3-5. Once all agreed aspects of the topic have been worked on, additional improvement topics are chosen as a priority. The improvement topics are described below in table 1.

Table 1: Improvement topics

	Improvement topics	**Comments**
Core	**Mortality-focused**	
	Admission standards & procedures	links to documentation and data for quality improvement
	Intrapartum monitoring	Includes basis examination skills
	Emergency preparedness	
	Responsiveness-focused	
	Respectful care and compassion	Includes pain management
	Labour and birth positioning	Includes maternal mobility during labour
	Communication and teamwork	
Optional	Active management of third stage of labour and early newborn care	
	Infection prevention and control in labour management	
	Documentation and data for quality improvement	
Tools	De-escalation techniques for conflict situation	Set of scenario-based group sessions to support the core topic "communication and teamwork"
	Special cases	A set of lectures and group activities supporting quality improvement for vulnerable sub-groups affected by intrapartum care, e.g. premature babies
	Reflections on workplace environment	Group activity to be carried out at the end of CBT training so that participants can draft an action plan for implementation of quality improvement measures based on their learning.

[1] Optional improvement topics emerged in some but not all hospitals during formative research. They can be added to the six core improvement topics to contextualize training content.

Step 3: Setting the groundwork for activities

In step 3 the groundwork for activities is set up. Foremost, this step includes the relationship building with the hospitals and getting to know each other. This groundwork also consists of mapping / conducting a stakeholder analysis (in-facility / within district / national), building relationships, understanding the context/linking with other structures, identifying mentors/plan mentoring and selecting improvement topics as outlined in table 2. This requires one or several site visit(s). During these visits there should be also one or several sessions to select priority improvement topics and to identify the mentors (table 2). The visit(s) should also include the perinatal e-registry, the needed data and how the data can be used.

Table 2: Activities during initial physical site visit(s)

Activities	Description	Support mechanisms[2]
Relationship building/strengthening	Establishing a trusted working relationship between the country teams and the hospital and maternity ward managers including the midwife in charge of maternity ward and possibly lead midwife/nurse of maternity services.	All formal and informal contacts with the facility managers and maternity staff members are part of this group of activities. Country teams should be confident in their strategy to this end, based on the country's context and their previous experience with facilities. (Note: the strategy might evolve over time according to changes in context and health facilities).
Understanding context / link to other structures	Understand who is doing what, understanding the governance systems (e.g. who are main stakeholders), established committees (e.g. knowing who decides and when to influence on drug/equipment purchases), knowing the important people, lines of communication and command	Data collected as part of the WP 4 health facility assessment tool provide a starting point. This data describes all coordination and quality improvement structures as well as stakeholders for each hospital. We encourage you to check the folder in which the assessment as well as the results are found WP4-HFA
Perinatal e-registry	Provides the data for continuous quality improvement. Also, the perinatal e-registry is the source of the dashboards	Visiting the hospitals should include contacts with the data collectors for information sharing
Identify mentors / plan mentoring	Identify mentors, plan the cascade mentoring.	Plan the mentoring approach together with maternity staff for on-site and remote sessions as described here #Annex_5 and document your approach and schedule.
Selecting improvement topics from table 1	Identify one mortality-oriented improvement topic (admission standards & procedures, Intrapartum monitoring, emergency preparedness) and one responsiveness-focused improvement topic (respectful care and compassion, labour and birth positioning, communication and teamwork)	• Table 1 improvement topic list (#Table_1) as agreed on after the co-design work. • Example of QI indicators for local run-charts (#Annex_4) • The training material on reflection on the work environment can help facilitate and structure that prioritization process too (see CANVAS). • It is recommended to choose a first topic that is likely to be relatively easy to implement with existing structures and resources (see

[2] Supporting documents for regular use by the country teams are found in the annex of this manual. Other documents explaining specific aspects of the intervention are found in the OneDrive via a link in the table.

	Prioritization probably comes from an interactive cycle of discussions and thinking. Most important: decide!! Decide on one or more indicators to follow-up progress. **Note**: The selection of the first improvement area may be **pragmatic**. Teams should choose where they feel they can **easily make progress**. Management-oriented improvements are often the most difficult. So, help the team to choose an area where they feel they have autonomy and the ability to make change. The positive example will give them strength for the more difficult!	the comments regarding '*DO*' below on engaging senior management).

Step 4: Set priorities and implement a *Plan-Do-Study-Act* cycle

Once an improvement topic is selected conduct *Plan-Do-Study-Act* (PDSA) cycle to address the respective topic in a systematic manner. The PDSA cycle allows to identify one concrete "change idea" during a problem analysis, which maternity providers can then work on strategically. The first PDSA cycle should be done during the first initial on-site visit after the training and then the activities should be continued remotely over WhatsApp/Zoom. The PDSA should be repeated regularly, first, if progress is limited and new change ideas are innovated, and second, to work on a new improvement topic once change ideas for one improvement topic are exhausted (Step 5).

Table 3: PDSA activities

Activities	Description	Tools for support
PLAN	• Problem analysis: - Use brainstorming and Fishbone #Annex_7 - Integration of ideas from hospital MPDSR[3] or other review teams (#Annex_8) - Identify so-called "change ideas". - Document decision of "change ideas" in the ALERT quality improvement and mentoring documentation journal(#Annex_3). - Use the document QI monitoring indicators to create your indicators for the change idea or pick an appropriate one from the list (#Annex_4). • Identify indicators (see annex 4 for example indicators which can be used for local run-charts (#Annex_4) -	• ALERT QI and mentoring documentation journal (#Annex_3) • Fishbone Tool #Annex_7 • PowerPoint slides QI training (in CANVAS) • MPDSR and QI PowerPoint slides (in Canvas) • Integration of MPDSR and Quality Improvement #Annex_8 •

[3] MPDSR (Maternal and Perinatal Death Reviews are national initiatives with associated guidelines including terminology.

DO	• Implement the change ideas: - Leadership mentoring is provided by ALERT team to implement the change ideas (#Annex_5) - Mentoring of staff/midwives is done by maternity in charge There are three cascade leadership levels: -Level 1 ALERT coordination team – ALERT country team, -Level 2 ALERT country team with maternity head/teams and, -Level 3 maternity head / maternity team The mentoring approach for cascade level 1 consists of peer-learning and is described in #Annex_5 in detail. **The mentoring approach for cascade level 2** is centered around i) **physical visits** to individual hospitals ii) **individual 1:1 mentoring using WhatsApp** and iii) and a **WhatsApp group** where mentees will be added after subsequent hospital trainings. This group will assist coordination of mentoring visits and peer exchange between hospital-based mentors. It will also allow access to training materials and support documents and tools to ensure the change ideas are implemented. • **Mentees** will be the maternity in-charges. Others may be included if appropriate (e.g. hospital focal person for quality improvement/maternity focal person for quality improvement or the matron/principal nursing officer.) • **Mentors**: ALERT midwifery leads: Benin, Malawi, Tanzania, Uganda. Additional mentors should be identified during each hospital training and should be added to the mentors' pool to allow access to the CANVAS platform. The mentoring at **cascade level 3** is in-person mentoring of one or more midwifery staff at a time. • **Mentees** will be the midwifery staff but could also include theatre team, postnatal team NCU team depending on the change idea. • **Mentor** will be the maternity in charge and other resource people in the hospital identified as mentors and depending on the change idea (e.g. QI focal person) **NOTE:** The 'Do' may require hospital higher level managers to 'Do' certain things to implement the change ideas or to facilitate or enforce or incentivize the maintenance of the change idea. The 'do' can also require managers of the hospital to create an accountability culture in the hospital that is favorable for the implementation and institutionalization of the change ideas. Support to the leadership team of the hospital will contribute also to the 'do'. So while a large part of our strategy targets the midwifery staff, note that working only with the maternity staff is not enough.	• The first mentoring visit should be done one-two months after the initial training. • Follow-up visits should be done at least bi-annually but can be done more often depending on budget and availability of mentors. • Remote sessions should be held at least, monthly at an agreed timing but can be more frequent depending on availability and need. Please use available reporting templates (Reporting) • SOP mentoring 220222_SOP_mentoring_v3 (1).docx • ALERT Glossary (#Annex_1)
STUDY	• Use the indicators as agreed during 'PLAN'. Guide the team to prepare run charts. Run charts can be shared using WhatsApp. • Support analysis of findings (using run charts and contextual information) • After every 3 months there should be a physical meeting of the QI team reviewing the run chart. During these meetings	For more information on how to conduct PDSA cycles and sketch run charts see #Annex_6. Our bi-weekly country ALERT sessions allow a review and exchange of successful change ideas. Sharing within ALERT also allows for discussing barriers

	the progress of the past 3 months needs to be reviewed and feedback should be given. • It is important to report any progress back within the hospital structure. Whenever you go to the hospital, go and see the director of the hospital. Link to the respective structures, meet with the head of the quality improvement, the management committees, and any other committee identified during the groundwork described for step 3 • Understand who is doing what, understanding the set-up, established committees, lines of communication and command. • Most important: link with the MPDSR structures!!!	and facilitators and to find also new ways to overcome those bottlenecks. Findings from the perinatal e-registry provide inputs for the study step either by using the ready-made graphs from WP 5 or by creating hospital-specific run charts with the maternity team. Every 6 months, the synthesis of the learnings from a given hospital prior to the implementation of the intervention into a new hospital provides a key study moment.
ACT	• Adapt and innovate new change ideas based on finding from the "Study" s	As above, sharing within the team should support new change ideas to facilitate the implementation of new ideas.

Step 5 Re-run step 4. Start a new PDSA cycle with new topics

Review the improvement topic you have worked on and the related problem analysis (PLAN)

1. Are there change ideas remaining for one root cause that haven't been worked on? If yes, choose another change idea for the respective root cause (PLAN) and complete the PDSA cycle.

2. Are all root causes from the problem analysis addressed? If one root cause has been worked on, i) choose another one, ii) create change idea (PLAN), iii) complete PDSA cycle.

3. If all root causes for prioritized problems are addressed and improvement topic is exhausted, review priority list with midwifery team and identify new improvement topic and conduct new PDSA cycle to generate new change ideas.

Annex

Annex 1: ALERT Intervention Glossary

Component	
 **Quality Improvement**	**Definition:** A structured approach to solving problems / continued action to improve care **Adaptation in ALERT:** In ALERT we recommend using a structured approach as proposed by the Plan-Do-Study-Act (PDSA) cycle. Problem definition and prioritization (the "plan" aspect of the PDSA) will be informed by issues identified during, formative research, competency-based training , hospital-based discussions, the ALERT theory of change and the 'revised' maternal and perinatal deaths reviews (MPDSR). We recommend using the **fishbone diagram** for brainstorming to decide on what to do (so called *change ideas*) and **run-charts** to follow progress Coaching and mentoring for the QI work in the hospitals will be integrated into the leadership mentoring for the head of maternity
	Activities: **Prioritization:** This activity is ***shared*** with mentoring. This activity includes sitting with the head of maternity or the team to decide what to do first. This activity may be done bd discussing during the mentoring. There could be a team meeting as well. Tools such as brainstorming may be used. **Problem analysis**: This is a core quality improvement activity. This activity may include i) activities under MPDSR (deaths reviews); ii) team meetings using the fishbone diagram or other problem analysis tools; iii) team brainstorming based on critical events. **Review of progress:** This activity is a core quality improvement activity, but the review of data shall also be done within the mentoring conversation between the ALERT team members and the head of maternity. Indicators to be used may be those predefined (see annex 4 #). Still, sometimes more locally appropriate indicators are needed that relate more directly to the change ideas. Data follow-up may include a review of run-chart, review of data from the perinatal e-registry or similar activities.
 **Leadership Mentoring**	**Definition:** Mentoring means offering advice based on knowledge, expertise, and experience. In leadership mentoring this is used to develop and support leaders. **Adaptation in ALERT:**Our definition of leadership, within the ALERT work is inspired by a quote from Steve Jobs. While" '*Management' is about persuading people to do things they do not want to do or things they must do, 'leadership' is about inspiring people to do things they never thought they could*." Indeed, the root causes of problems one needs to solve to improve quality are entrenched in the system, persistent, and most of the time resisted to one or more previous attempts to solve them. Staff may have already stopped believing that change for those problems can be addressed and that change is possible with their actions. The spirit of leadership, that is grounded in inspiring everybody to do things they never thought they could, is important to make everybody believe that change is possible. **Adaptation in ALERT:** The maternity in charge of each hospital will receive individual mentoring by the ALERT midwives supporting leadership actions including the quality improvement work and managerial issues.

	At the hospital level, the head of maternity may offer clinical mentoring and training as a continuation of competency-based training to midwifery staff. Mentorship skills have been taught within the competency-based training which should support the mentoring of staff in need. About leadership, the ALERT teams suggest the following practical adaptation: - 'leaders' include all those who must lead a team or drive a group to implement a change at any level in the maternity care provision process. - from that perspective, the responsible of the cleaners' shift team is a 'leader', as he/she has the potential to drive a change in the cleaning process that can improve quality care. As the director of the hospital or the chief of the maternity ward, he/she requires expertise in change implementation process, leadership skills to drive their team to deliver on expectations, they never thought they could achieve as a team. - Once priorities are set and concrete change ideas are identified, the leaders of the team in charge of implementing them, can be identified at any level, and be supported with leadership mentoring regardless of the level of their formal responsibility in the hospital.
	Activities: **(Prioritization):** This activity is ***shared*** with quality improvement. This activity includes discussing with the head of maternity or supporting the head of maternity with a team to decide what to do first. This activity may be done by taking and discussing during the mentoring. There could be a team meeting as well. Tools such as brainstorming may be used. **Relationship building / strengthening**: This activity includes all the common ways to start a conversation and bonding, exchanging phone numbers, indicating interest in the work situation, etc. This also includes self-assessment. **Review of workplace challenges:** This is a core leadership activity. The main task is listening and elements of mentoring and coaching to address challenges. **Leadership support:** This activity demands advanced mentoring skills as we need to support the head of maternity, or other change implementation team leaders, to take initiative and leadership in the hospitals. Activities may include i) support to make graphs and analysis; ii) support to initiate and chair meetings; iii) facilitate the connection to others eg. coordination teams, important stakeholders, existing committees. This activity will also include support in reflecting on one's own leadership skills, potential weaknesses, areas to develop. **Cascade mentoring:** This includes i) bed-side teaching; ii) skills drill; iii) re-training sessions/ webinars; iv) clinical case-based mentoring **(Review of progress):** This is a ***core quality improvement component***, but it may also be included in a leadership conversation. Indicators to be used may be those predefined for quality improvement activities or come from the e-registry. Still, sometimes more locally appropriate indicators are needed that relate more directly to the change ideas. Data follow-up may include a review of run-chart, review of data from the perinatal e-registry or similar activities.
 **Coordination/ Communication**	**Definition:** Activity to enable a complex system such as the hospital and the maternity to effectively work together. **Adaptation in ALERT:** **First**: we encourage the head of maternity to communicate and liaise strongly with other leadership and management structures within the hospital including the i) hospital director/matron/patrons; ii) the management and coordination bodies including drug management committees, iii) Quality improvement coordinators and bodies and iv) the MPDSR team members

	Second, we recommend bi-annual coordination meetings with hospital/district authorities to review and coordinate quality improvement of intrapartum care and link initiatives to the primary ANC & PNC level.
	Activities: **Understanding the context/linking to other structures:** Under this activity is the thrive to continuously realize the context: i) what's going on in the hospital; ii) what are the important committees and what decisions are made; iii) what are important alliances. This activity links to the WP 4 context assessment but it is not a one-off activity as the hospitals are lively structures. **Feedback and coordination:** Under these activities may be found: i) planning a dissemination meeting within a hospital event, iii) inviting health providers from other departments or lower-level facilities to joint meetings, iii) attending regularly (at a rhythm that can be agreed upon) important coordination meetings at the hospital or district level to secure time and attention for maternity care provision issues, advocate for the needs of the labour ward, and facilitate decision making by higher level actors, through evidence from the various knowledge gathering processes ongoing in the hospital. A set of tools can be proposed and tailored to the existing committees to enhance their capacity to read into the labour ward problems and take improvement decisions about them, even in the absence of the ALERT team. These meeting provides also a platform to enhance the culture of accountability in the hospital, by connecting problem solving dynamics with resources distribution platforms in the hospital t to ensure that resources and appropriate capabilities are affected to those who are expected to solve maternity care related problems (2nd pillar of accountability culture), creating a platform for feedback (4rd pillar of accountability culture) and clarifying the consequences (5th pillar of accountability).

Annex 2: Indicator List from Perinatal e-Registry to Support Quality Improvement Work

This is a list of indicators that can be used from the perinatal eRegistry to support the implementation of the ALERT intervention. Stata do-files have been created to help with the cleaning of data and creation of the variables below. They can be found in the folder ALERT Intervention Implementing Monitoring Indicators.

	Training & Improvement topics	**Perinatal e-registry**
Core	**Mortality-focused**	
	Admission standards & procedures	**Ind 1: Admission variables without missing data** **Numerator** Q1 to 12 without missing in month # **Denominator:** all birth in month # Interpretation: Good if 100% **Ind 2**: **Fetal check at admission done** **Numerator:** Q16 either positive or negative in month # **Denominator:** all birth in month # Interpretation: Good if 100%
	Intrapartum monitoring	**Ind 3: Fetal monitoring done and documented in 1st stage of labour** a) All births **Numerator:** Births where fetal monitoring in the first stage was done and documented (Q18 yes) in month # **Denominator**: of all birth in month # Interpretation: Good if 100% b) Women who were admitted before labour started **Numerator**: Births admitted before labour (q2ref=0 or q2ref=1 & q2aqta=1) where fetal monitoring in the first stage was done and documented (Q18 yes) in month # **Denominator**: all births admitted before labour in month # c) Women referred from other facilities during labour **Numerator**: Births referred during labour (q2ref=1 & q2aqta=2 & q2whe=2 or 3) where fetal monitoring in the first stage was done and documented (Q18 yes) in month # **Denominator**: all births referred from another facility during labour in month # **Ind 4: Fetal monitoring done in 2nd stage** a) All births **Numerator:** Births where fetal monitoring in the second stage of labor was done and documented (Q 21) in month # **Denominator**: of all birth in month # Interpretation: Good if 100% b) Women who were admitted before labour started **Numerator**: Births admitted before labour (q2ref=0 or q2ref=1 & q2aqta=1) where fetal monitoring in the second stage was done and documented (Q21 yes) in month # **Denominator**: all births admitted before labour in month # c) Women referred from other facilities during labour

		Numerator: Births referred during labour (q2ref=1 & q2aqta=2 & q2whe=2 or 3) where fetal monitoring in the second stage was done and documented (Q21 yes) in month # **Denominator**: all births referred from another facility during labour in month # *Note*: the denominator includes all births but sometimes the women are referred without monitoring information and then, they shouldn't be counted as not monitored in the facility. **Ind 5**: **Documentation of the start of the second stage** **Numerator:** Births where start of the second stage of labor was recorded (Q 20) in month # **Denominator**: of all birth in in month # Interpretation: Good if 100%
	Emergency preparedness	**Ind 6: Fetal heartbeat abnormality % of positive** **Nominator:** Those with a positive heartbeat at admission who had any abnormality recorded months # **Denominator**: Those with a positive heartbeat at admission month # Interpretation: probably 10-15% **Ind 7: Decision to delivery time in case of Caesarean section** (Ques23 *minus* ques 22e) **Nominator:** Case of emergency CS (cases of 19d – 2) OR (cases of Q22d – 3) where Ques23 *minus* ques 22e is < 45 m in month # **Denominator**: Case of emergency CS in month # Interpretation: CS below 45m, better below 30m
	Responsiveness-focused	
	Respectful maternity care and compassion	**Ind 8: Companion present during labour / during birth** **Nominator:** Companion present (Q38) during labour **Denominator**: all births Interpretation: good if increasing **Nominator:** Companion present (Q40) during birth **Denominator**: all births Interpretation: good if increasing
Optional	Active management of third stage of labour and early newborn care	**Ind 9: Breastfeeding within 1 h (ques 36)** **Nominator:** Baby breastfed within 1 h in month # **Denominator**: All births in month # Interpretation: Good if 100%
	Infection prevention and control in labour management	**Ind 10: Use of antibiotics in vaginal deliveries** **Numerator** # antibiotic given (Q 42 e) to vaginal birth (Q24 – all except 2) **Denominator**: # all vaginal births (Q24 – all except 2) Interpretation: Good if < 10%

	Documentation and data for quality improvement	Consistency of indicators: **Ind 11: Fresh stillbirth with a positive heartbeat at admission** **Numerator** Fresh stillbirths (Q27 2) where a positive heartbeat was available (Q16 – 1) **Denominator**: # all fresh stillbirths (Q27 2) Interpretation: good id <10%
	Special cases- Premature labor and Fetal distress	**Ind 12: Resuscitation for babies with APGAR < 7** **Numerator** # of babies with Apgar < 7 (Q30) who were resuscitated (Q 32) **Denominator**: # all of babies with Apgar < 7 (Q30) Interpretation: good if 100%

Annex 3: QI and Mentoring Documentation Journal

QUALITY IMPROVEMENT/LEADERSHIP MENTORING ALERT PROJECT	**IMPROVEMENT TOPIC**

DOCUMENTATION JOURNAL FOR HOSPITAL ALERT TEAMS

Name of the site: _____**Team Leader**: _____

Team members: _____

_____

Start Date for using journal: _____ **Proposed end date:** _____

Part 1:

Improvement topic: 1. _____ _____	**Indicator(s):**
Problem analysis (Note down some summary point from i) brainstorming, ii) findings from the Fishbone diagram or iii) analysis from the maternal and perinatal deaths reviews if the are used to define an improvement topic. White down which change ideas you were developing and why you decided to go along them.	

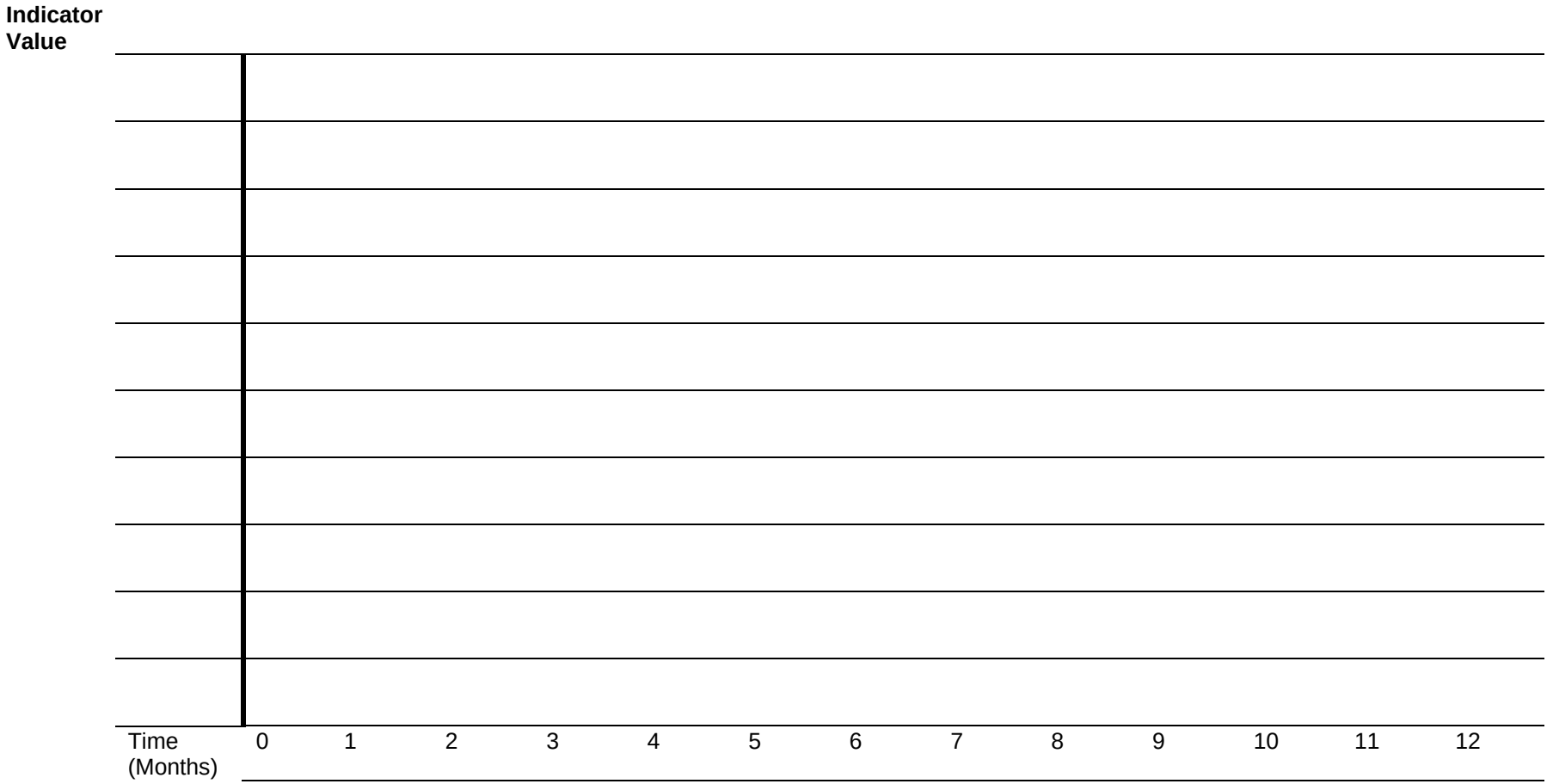
Part 2:

***Changes worksheet* – Hospital ALERT Team activities:** Please list below the changes that the team has tried out to achieve the improvement objective. Write all changes, whether effective or not. Also note when it was started and when it ended (where applicable) to enable you annotate the results.
NB. Step 3 (PDSA)-Plan part, implement, review etc. Mentoring activities may be some of the changes to be tested

Tested Changes: In the space below, list all the changes that you are implementing to address the improvement objective. Use 1-2 sentences to briefly describe the tested change. REMEMBER: Change ideas can be i) a change of the way you work, ii) a mentoring exercise /training, or iii) improved coordination or others.	**Start Date:** DD/MM/YY	**End date** (if applicable) DD/MM/YY	**Effective?** **(Yes/No)** Was there any improvement registered?	**Comments:** Note here any potential reasons why the change was or was not effective; also indicate any change in indicator value observed related to this change.
1.				
2.				
3.				
4.				
5.				
6.				
7.				

Part 3: *Graph Template* – Annotated results (Review of progress):

- Use the graph below to document your progress. Indicate the value of the numerator and denominator.
- Note on your graph the time the change was introduced.



Numerator												
Denominator												
%												

Please give brief explanation for any notable trends in the graph:

Notes on the indicator: Write down any additional comments you may have on the performance of indicators. Write anything derived from the *changes worksheet* and the *graph template* that might explain the performance trends of the improvement objective.

Notes on other observed effects: Please write here any effects (positive or negative) you are currently observing as a result of the quality improvement effort such as comments from patients, changes in your performance or motivate, improved efficiency or the survival story of a sick patient. You may use your notes to tell the complete story at the next learning session(s).

NB. Adapted from IHI/USAID, Uganda Team

Summarize the leadership mentoring/coordination and accountability activities/outputs monthly (face-face or online)

Leadership mentoring 	**Coordination and accountability** 

Send the completed journal monthly to Country ALERT Team lead

OBS: This tool can be used for:
Review this during mentoring session with head of maternity and the hospital team and for dissemination/reporting

Annex 4: Potential Quality Improvement Measures

The table below outlines examples of measures/indicators that can be used to monitor the implementation of the Quality Improvement (QI) WITHIN the facility. These indicators are EXAMPLE INDICATORS. Chosen indicators need to directly reflecting the change ideas.

Instructions:

- The country teams may choose one or two indicators per change idea (like a menu) to help monitor implementation of activities for the respective PDSA cycle.
- The indicators should be chosen and monitored by the midwifery teams in the hospital with the ALERT team's guidance.
- Indicators should be captured/reported in the QI mentoring journal (#Annex_3).
- The duration of monitoring for the indicator is flexible based on the birth load in each hospital and the duration of the PDSA cycle for the change idea.

	Training & Improvement topics	**Local monitoring (examples)**	**Data source**
Core	**Mortality-focused**		
	Admission standards & procedures	**I: Process measure: Admission forms are consistently filled according to standards** % or proportion of parameters properly documented in the admission form (select parameter based on low scores from the knowledge and skills assessment e.g. BP, pulse, temp, respiratory rate, assessing bleeding, urine test) **Numerator: #** of parameter completed from the admission forms **Denominator:** number of women admitted in labour *Note*: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month). **Goal**: 100% Proposed indicator examples: **a) Temperature** **Numerator:** # women with temp recorded according to standards during admission **Denominator:** # of women admitted in labour *Note*: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month). **b) Assessing vaginal bleeding** **Numerator**: # women assessed for vaginal bleeding according to standards during admission **Denominator**: # of women admitted in labour *Note*: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month). **c) Checking urine for protein** **Numerator**: # women with recorded urine check according to standards during admission	**Review of records**

		Denominator: # of women admitted in labour *Note*: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month). **d) Respiration rate** **Numerator**: # women with recorded respiratory rate according to standards during admission **Denominator**: # of women admitted in labour *Note*: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month). **e) Treatment of pre-eclampsia upon admission** **Numerator**: # of women with pre-eclampsia **AND** received magnesium sulfate on admission **Denominator:** # of women who had pre-eclampsia on admission	
	Intrapartum monitoring	**II. Process Measure: Consistent monitoring in first and second stage** **How:** Additional column in delivery register **a) % of women where fetal monitoring of first stage of labour is recorded** **Numerator:** Births with positive FHR on admission per month where fetal monitoring in the first stage of labour was recorded by midwife every **30** minutes **Denominator:** All births with positive FHR on admission in month ## **b) % of women where fetal monitoring of second stage of labour is recorded** **Numerator:** Births with positive FHR on admission by month where fetal monitoring in the second stage of labour was recorded by midwife every **five** minutes **Denominator:** all births with positive FHR on admission in month ## **c) % of births where labour progress graphic display (partograph or labour care guide) was used to record findings** **Numerator:** # of records with graphical display (partograph or labour care guide) **Denominator:** # of women admitted in labour *Note*: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month). **d) % of mothers in active phase of labour where a partograph is used to monitor labour** **Numerator**: # Mothers who had labour monitored using a partograph **Denominator**: # Mothers eligible for partograph use to monitor labour (excludes elective C/S, those who come in second stage of labour and ready to push, and those admitted in latent phase of labour) per week or 2 weeks or month **e) % of women with complications where labour progress was adequately recorded in mothers' card, on partograph or labour care guide**	

		Numerator: # mothers with complications adequately recorded on mothers' card or partograph or labour care guide **Denominator:** # of women admitted in labour who developed complications *Note*: Take at least 20 records at discharge. The sample is based on the birth load in your hospital (e.g., day/week/month). **f) % or proportion of parameters properly documented** on mothers card, or partograph during labour, childbirth and the immediate postpartum period (select parameter based on low scores from the knowledge and skills assessment e.g. BP, pulse, temp, respiratory rate, assessing bleeding, urine test for protein, urine output) **Numerator:** # of parameter completed on mother's card or partograph **Denominator:** # of women admitted in labour *Note*: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month).	
	Emergency preparedness	**III: Process measure: Standard for emergency preparedness observed** **a) % Emergency kit/tray or trolley monitored for completeness every day or beginning of every 8 hourly shift** **Numerator:** # days/8 hourly shifts when the emergency kit/tray or trolley is checked daily for completeness **Denominator:** 7 days in a week or 14 days in two weeks or 30 days in a month *Note*: Create a checklist next to the emergency kit where the shift leader can sign. **b) # of days in a week/month when the emergency kits/tray or trolley had all the essential drugs & equipment (in line with country recommendations)** **Numerator:** # of days when the tray had all the recommended supplies & equipment **Denominator:** 7 days in a week, or 14 days in 2 weeks, or 30 days in a month **c) SOP/protocol on what to do, where to go, who to call for help before and during emergency in place**	Checklist/observation
	Responsiveness-focused		
	Respectful maternity care and compassion	**IV: Process Measure: Respectful maternity care and compassion observed** **a) Minutes or memo from Monthly/quarterly meetings with hospital administration with commitment to integrate companions** (e.g., registering them, retaining them, space within hospital for them) **b) Monthly report with a photo on measures to support privacy and confidentiality, including dividers/curtains initiated**	Reports/minutes

		c) **# Labour companions oriented on supportive labour companionship techniques (2-hour sessions or longer) in a month/quarter** d) **# Midwifery care providers or hospital teams oriented to SOP/protocol on respectful maternity care in a month/quarterly.**	
	Mobility in Labour and birth positions of choice	**V: Process measure: Birth positions of choice** **How:** Additional column in delivery register a) **% of women given births in upright birthing position per month** **Numerator:** # women who give birth in upright positions **Denominator:** Total deliveries in a month b) **% of women with shorter duration of labour** (Active labor usually lasts about 4 to 8 hours), length of second stage (can be as short as 20 minutes or as long as 2 hours) **Numerator:** # women with shorter duration of labour, **Denominator:** # of women admitted in labour *Note*: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month). c) **% of women with shorter length of second stage of labour** (can be as short as 20 minutes or as long as 2 hours) **Numerator:** # women with shorter second stage **Denominator:** # of women admitted in labour	Records review Records review
	Communication and teamwork	**VI: Process measure: Improved communication and teamwork** a) **% Midwifery care providers satisfied with the communication during clinical hand-over in maternity** **Numerator:** # MCP satisfied with communication during hand over **Denominator:** 10 interviews/observations or Likert Scare (defined by the country teams) with midwifery care providers	Observations /Likert scale
Optional	**Active management of third stage of labour**	**VII: Process measure: Improved active management of 3rd stage of labor** a) **% of women received uterotonics (oxytocin, misoprostol etc.) for active management of the third stage of labor** **Numerator:** # mothers who received a uterotonic (oxytocin/misoprostol/etc.) during the third stage of labour **Denominator:** All births within the selected period	Record review
	Early newborn care	**VIII: Process measure: Consistent active management of the third stage of labor** a) **% of newborns where bathing is delayed 24 hours after birth** **Numerator:** # newborn bathing delayed until 24 hours after birth **Denominator:** # of women with live births *Note*: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month). This should be per baby not per mother b) **% of births attended by a midwifery care provider trained in neonatal resuscitation present**	Records review

		Numerator: # of pre-term deliveries where neonatal unit care personnel is present/ **Denominator:** # of women admitted in labour who have pre-term deliveries Note: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month). **c) % stayed least 24 hours after uncomplicated vaginal birth** **Numerator:** # women discharged 24 hours after uncomplicated vaginal birth **Denominator:** # of women with uncomplicated spontaneous vaginal deliveries (SVD) *Note*: Take at least 20 records. The sample is based on the birth load in your hospital (e.g., day/week/month).	

Annex 5: The ALERT Mentoring Approach

Aim

This standard operational procedure (SOP) is one of the core documents of the ALERT project and adds detail to the ALERT intervention manual. It describes the component of mentoring and leadership mentoring in more detail

Target Group

ALERT country teams and associated external mentors and coaches at country team level.

Objectives

This document will facilitate and structure:

- Planning and implementation of mentoring in ALERT hospitals as part of the overall strategy.

Description of the intervention component "mentoring"

Please refer to the ALERT implementation manual for a list of improvement topics that can be picked according to countries' and hospital priorities (except for those indicated as core modules which should be included. Please refer to the glossary in the same document for a definition of mentoring.

Mentors gain their legitimacy and credibility to support the mentees through i) their capacity to use the various tools, ii) their capacity to identify tools gaps and search for them to help the mentees, iii) their capacity to bring data and evidence to support the hospital teams in understanding and 'doing' the right things to implement the change ideas. In the case where change ideas require redistribution of power and resources among the hospital staff to be implemented effectively, hospital management must intervene. ALERT country staff support the hospital management in identifying these scenarios and in taking appropriate actions.

Approach to mentoring

The approach to mentoring is based on **three mentoring levels** as displayed below. Quality improvement is at the core of the ALERT intervention and during mentoring mentees will be supported to understand and apply quality improvement during their daily work with confidence. Quality improvement follows the structured approach outlined by the Plan-Study-Act-Do Cycle (PDSA). Other QI tools supporting PDSA are fishbone diagrams for problem analysis and run charts for visualization of chosen indicators and follow up on progress. Mentoring serves to strengthen mentees' capacities in this matter, with a focus on the maternity in-charge (level 2) in the form of leadership coaching.

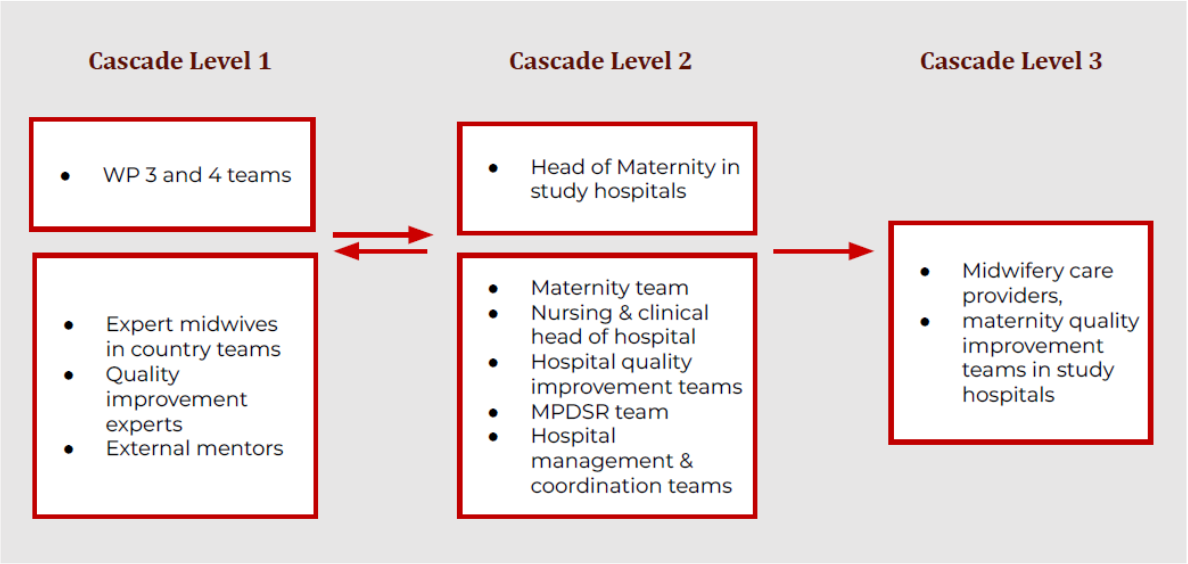


Figure 1: Overall mentoring cascade

The maternity in-charge in turn will support her staff during PDSA cycles with mentoring or on topic specific matters (level 3). At each level of the mentoring cascade additional mentees can be chosen depending on identified improvement topics, change ideas or needs.

During cascade level 1 peer mentoring, we will introduce health system thinking and death/near-miss reviews for quality improvement as well as e-registry use for quality improvement to support cascade level 1 mentors and coaching cascade level 2 mentors to apply these powerful tools during their mentoring. The rationale is to enable country team members to provide successful leadership mentoring.

Planning and implementation of the mentoring strategy are conducted based on the ALERT implementation manual, including the ALERT glossary in #Annex 1.

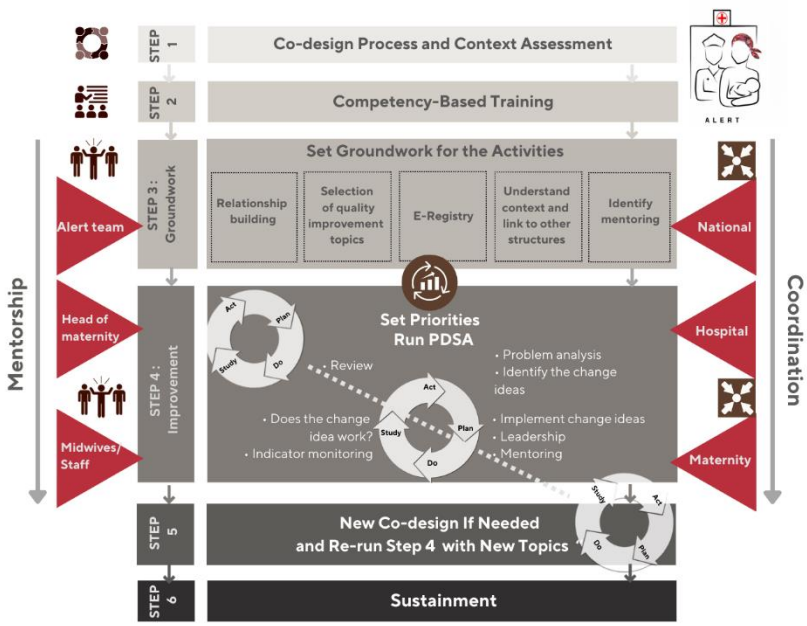


Figure 2: ALERT Implementation figure

After initial training (step 2), the first on-site visit is planned together with the respective hospital to start step 3 of the ALERT intervention strategy: groundwork for activities.

Planning and implementation of mentoring approach

Scientific literature suggests grooming mentors also at local level. Discuss and document who will mentor whom starting from the country team to the hospitals.

Cascade level 1 mentoring

As a consortium we realize that we learn together while we go during monthly sessions. Therefore, at consortium level implementing members will be enabled through reciprocal peer mentoring (together with external mentors identified by country teams) to perform downstream mentoring.

- We will constantly identify our knowledge and skills gaps during consortium and work package meetings and through mentee self-evaluation. These discussions will inform formal and informal capacity building measures for consortium members through the ALERT consortium meeting and CANVAS platform as the principal learning space.
- CANVAS will serve as a repository for reading material, recorded teaching sessions, podcasts etc. and as a communication platform on selected capacity building topics with group discussions, quizzes etc. A self-evaluation tool for mentees is available (Mentee self evaluation tool_cascade 1.docx, Mentee self evaluation tool_cascade 2 and 3.docx) as a feedback loop to inform the content of the platform.

In the future we aim to migrate the content to local educational platforms hosted at consortium institutions.

- Please fill table 2 below for each country team.

Who

Mentors: WP 3 and 4 leads (Mechthild, Regine, Gorrette, Claudia, Jean-Paul, Gertrude)

Mentees: ALERT midwifery leads & external mentors: Benin, Malawi, Tanzania, Uganda

When

Intervention implementation zoom meeting twice every month (1 joint and 1 for each country group)

Monthly consortium zoom meetings

What

Reporting and reflecting on the mentoring activities, discussion of successes and challenges Formal capacity building sessions

Leadership mentoring at cascade level 2

The mentoring approach for cascade level 2 is centered around i) physical visits to individual hospitals, ii) regular 1:1 WhatsApp calls with the maternity in-charge and a **WhatsApp group** where mentees will be added after subsequent hospital trainings. This group will assist coordination of mentoring visits and peer exchange between hospital-based mentors. It will also allow access to training materials and support documents. and tools to ensure the change ideas are implemented.

Who

- **Mentees** will be the maternity in-charges. Others may be included if appropriate (e.g. hospital focal person for quality improvement/maternity focal person for quality improvement or the matron/principal nursing officer.)
- **Mentors**: ALERT midwifery leads: Benin Malawi Tanzania Uganda. Additional mentors should be identified during each hospital training course and should be added to the mentors' pool to allow access to the CANVAS platform.

When

- The first mentoring on-site visit should be done one-two months after the initial training.
- Physical follow-up visits should be done at least bi-annually but can be done more often depending on budget and availability of mentors.

- Remote sessions should be held at least monthly at an agreed timing but can be more frequent depending on availability and need.

What

- Maternity in charges will be supported to use the quality improvement tools suggested in the ALERT intervention guide and glossary.
- Other mentoring topics will depend on the hospital context, the mentee's personal challenges, identified improvement topics and change ideas (e.g. support to present a problem or change idea to hospital management, staff management, communication awareness, technical midwifery topics, data analysis etc.)
- Formats could consist of one-to-one coaching, case reviews, on-job training, discussions, formal topic-specific mini trainings (See Fig 3)

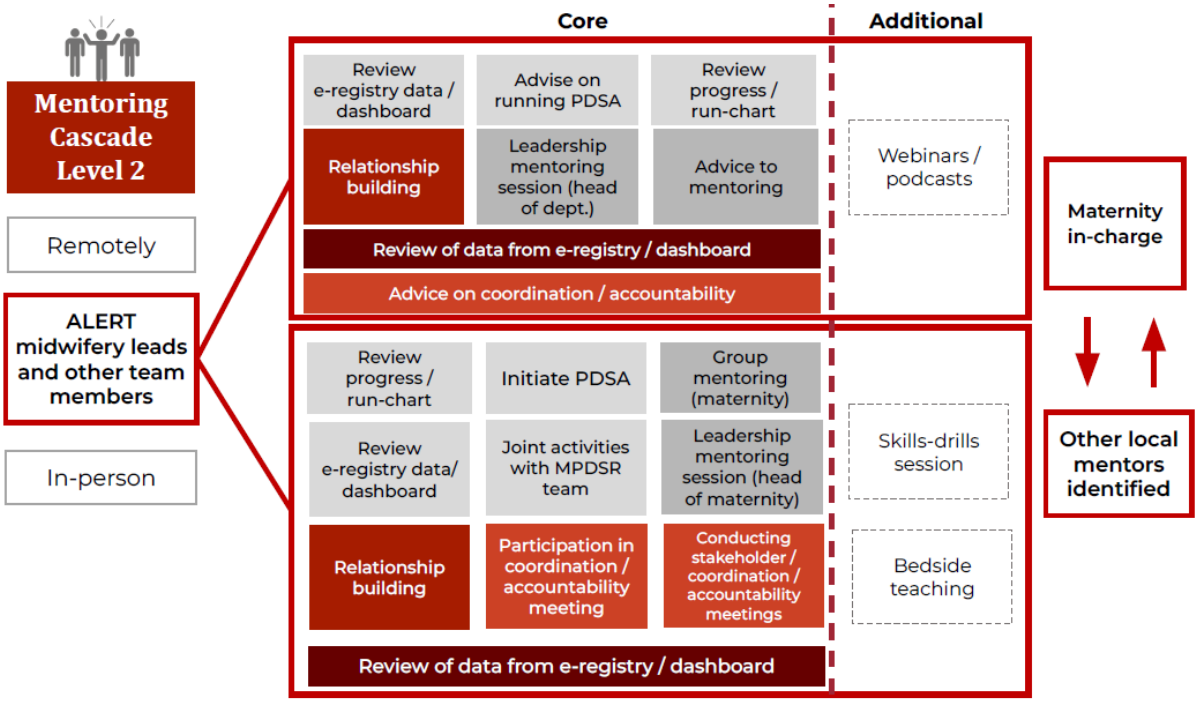


Figure 3: Mentoring Cascade level 2

Cascade level 3 mentoring

The approach to mentoring at cascade level 3 is centered around everyday encounters and formal mentoring meetings at the maternity level to improve service quality and midwifery providers' skills and behavior through diverse formats.

Who

- **Mentees** will be the midwifery staff but could also include theatre team, postnatal team NCU team depending on the change idea.
- **Mentors** will be the maternity in-charge and other resource people in the hospital identified as mentors and depending on the change idea (e.g. QI focal person)

When

- The first mentoring session should be initiated during a physical visit of the country team. one-two months after the initial training.

- Follow-on activities should be led by local mentors of cascade level 3 and should be done at least monthly at an agreed timing but can be more frequent depending on availability and need. Please document below:

What

The format of mentoring is defined by the ALERT implementation manual. Content depends on the identified improvement topic and problem analysis and individual mentees' needs.

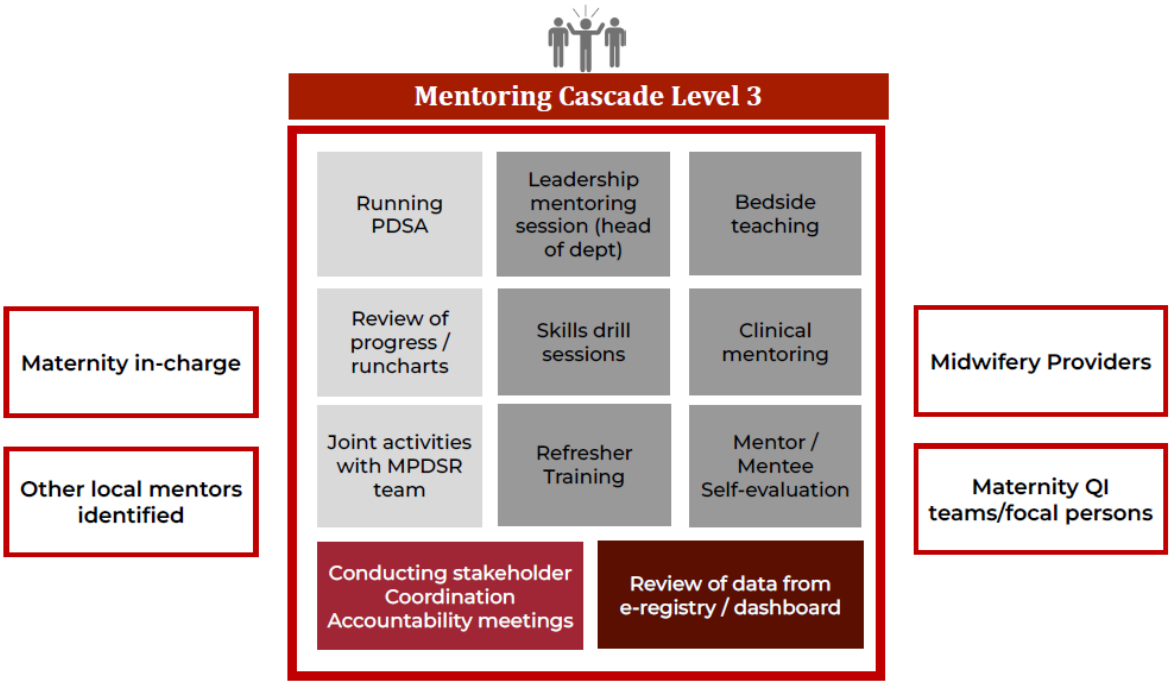
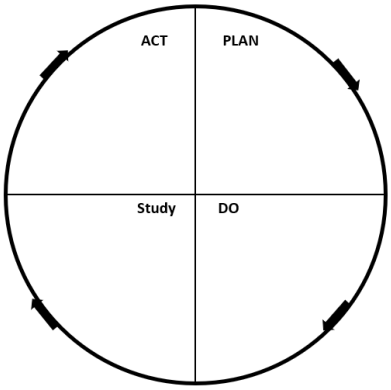


Figure 4: Mentoring cascade level 3

Annex 6: Quality Improvement in a Nutshell

4-Step Quality improvement guide:

Our Quality improvement approach uses the Plan-Do-Study-Act Principle which can be used in a formal way by filling the cycle or in an informal way by still using this structured approach but without graphical use of the cycle itself.

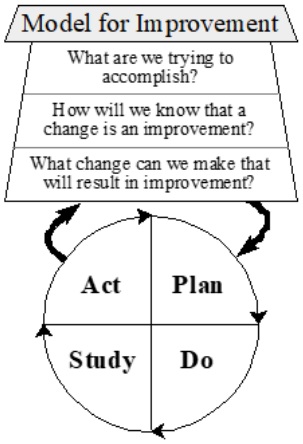


PLAN: Decide what problem you want to address and what to do
DO: Implement
STUDY: Follow-up your progress
ACT: Review if there is progress or if you should change

STEP 1 A: Decision on Priority Problems

Decision on priority areas can come from several sources and discussions:

1) Directly after our initial training from brainstorming
2) Issues which come up during any discussion / mentoring visit
3) Issue raised in the maternal and perinatal deaths reviews meetings



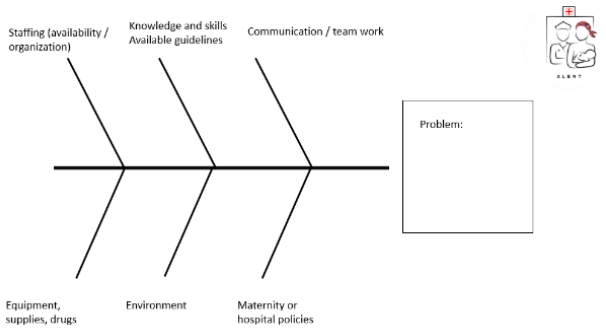
What to do to get clear whether a problem is really an important problem:

Is it a big issue? Occurs often? Really nagging?
Is it hampering professional care leading to either disrespectful care or unnecessary deaths?
Can the problem be solved with local resources, or does it mean major changes which also will need the hospital management to act?

It is often advisable at the beginning to select two topics, one which is relatively easy to work on and which is of high relevance for the teams and one which will be more difficult but is also seen as important to reduce mortality or disrespect.

STEP 1B: Analyzing the problem and root cause analysis

You can use different ways to analyze a problem: Sometimes teams quickly define it and have it clear, but often you may need to facilitate brainstorming. You can use the fishbone diagram.



There are often those issues which can be solved within a team (quick win) and others which cannot be solved so easily because they need additional resources, such as further training, or an investment which needs money. Decide on which aspect the team can work themselves, but also offer help to work on issues which need discussion with hospital management.

What to do when facilitating brainstorming using the fishbone diagram?

1) Prepare a larger paper/ flipchart and draw the fishbone diagram (you may also prepare to print some as in #Annex_8 of the manual).
2) Prepare sticky notes.
3) Add the problem in the box.
4) Ask the team to think about factors that are leading to the problem and ask participants to write on sticky notes which then are placed on the prepared flipchart.
5) Discuss the findings.
6) Rank the ideas according to importance, thus ask the team what they believe is most important.
7) Decide on one what to priorities then first for action.

Use the worksheet in Annex_3 of the implementation manual to document your change ideas

Problem XYZ	
Root causes	Change ideas
	1) 2)
	1) 2) 3)

STEP 1 C: Clearly define an improvement topic and write this down in the quality improvement journal in Annex_3 of the implementation manual. Also decide on an indicator which can directly follow any improvement.

Check if there is any indicator in the perinatal e-registry. Please just ask for help if you are unsure.

Indicators can be monitored using i) a notebook, ii) adding an additional row in the register book, etc.

Now you have finalized the part "Plan" of the Plan-Do-Study-Act Cycle

STEP 2: Do what you planned to do

This part is the most difficult, the head of maternity and the maternity team will need to implement according to their plan during daily work. They will need to convince all members, and this is often difficult.

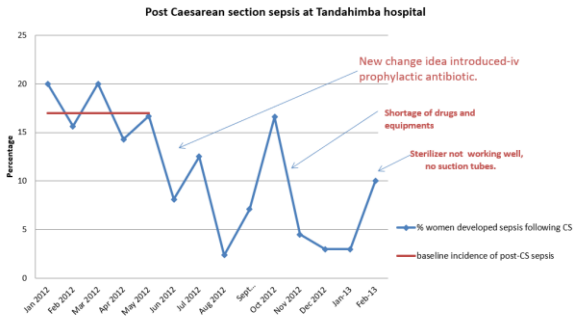
Help the team by calling regularly and asking about challenges.

STEP 3: Study progress

This part goes in parallel with part 2 (Do). The team should regularly, best every month, review the progress. Thus, they should count and calculate the indicators they decided to work on.

Example:

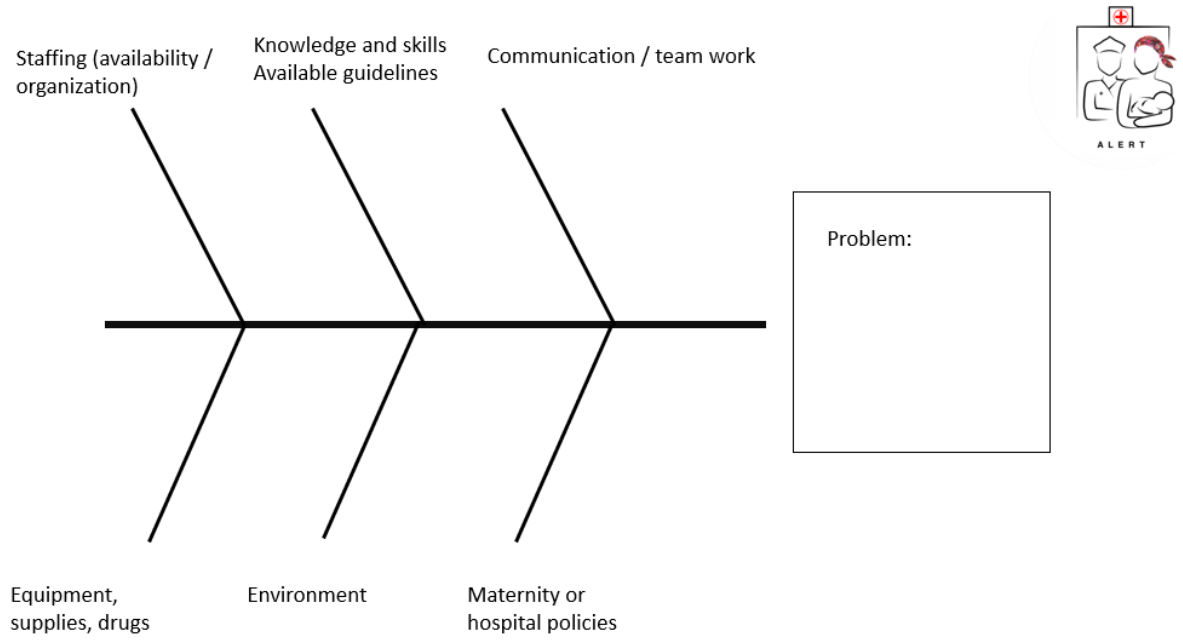
- The team decided to work on good admission practices.
- The team decided to make they own research notebook where they now document all women admitted to the labour ward.
- They document for each of them if they welcomed the women in a friendly way, asked all the obstetric history question, took the blood pressure and temperature and carried out the obstetric examination.
- After each month the team counts how many admissions they have attended (the denominator), and how many were done according to the standard (the nominator). The percentage can then be calculated and put in a so-called run-chart.

	This is an example of a run- hart, it can be drawn on paper or on excel, both is fine. It makes a lot of sense to add in a run chart also all the change ideas which we implemented. Often it takes more than just one idea to really change the practices. Keep on measuring the indicator up to the time you feel that this is now really a new routine which will continue.

STEP 4: Act

This uses the run chart which you prepared. If the run chart indicates that you are making progress, just continue. However, if progress is not good enough (according to the target set during the PLAN part), you may need to look at the documents you prepared under step 1 B and you may introduce another change idea.

Annex 7: Fishbone Diagram



Annex 8: Integration of MPDSR and Quality Improvement

All hospitals have established either maternal or maternal and perinatal death reviews or other types of auditing systems such as critical case reviews. Our ALERT approach is to harness this and if the teams see it as important, to support these established review formats. The Benin team, for example, will support hospitals to integrate near-miss reviews. Near-misses (those cases where the mother had a life-threatening complication but survived) may provide a more positive review experience because the team can reflect on what worked.

All reviews and auditing aim to detect and analyze any dysfunction of the health care system. Ideally, not only one case should be reviewed, but patterns should be established by reviewing several cases. (Frequency of occurrence of this type of complication in the hospitals, period when certain errors occur more frequently, moment when certain materials are missing particularly…)

All established reviews and audit systems typically establish an action plan or a "to-do-list", thus ideas what should be changed. OUR ALERT intervention should 1) review these action plans, 2) select those aspects which the ALERT teams can support, 3) integrate the activities into ALERT and report on findings. The new guidelines from WHO are helpful for further reading.[4]

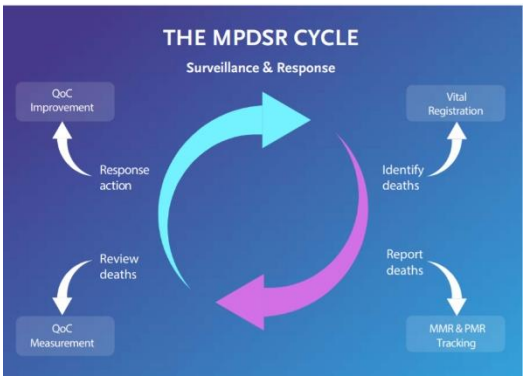


Figure 2: WHO guidance on the integration of MPDSR and QI

Point 2: *select those actions the ALERT team can support* should recognize that *actions* or, to stay with the quality improvement terminology, *change ideas* must be as appropriate as possible to solve the problem identified. It must be a good solution, that does more 'goods' than harm in the hospital and for the users. The ALERT country teams may assist hospital staff to critically assess and fine-tune the change idea. The change idea must be feasible and accepted by key stakeholders. Indeed, the change idea may require that some hospitals actors lose certain privileges or resources or influences and that others gain. A good change idea is a win-win solution for all; it is the one with the highest chance to be implemented effectively

A neglected aspect of classical MPDSR compared to quality improvement is the monitoring of improvement. We propose to use run charts for monitoring. Indicators may include our proposed service-related indicators or those from the perinatal e-registry Also, data from the regular HMIS/DHIS2 of the hospital can be processed and used to inform that step. The figure depicts the idea how MPDSR and quality improvement teams may "cooperate".

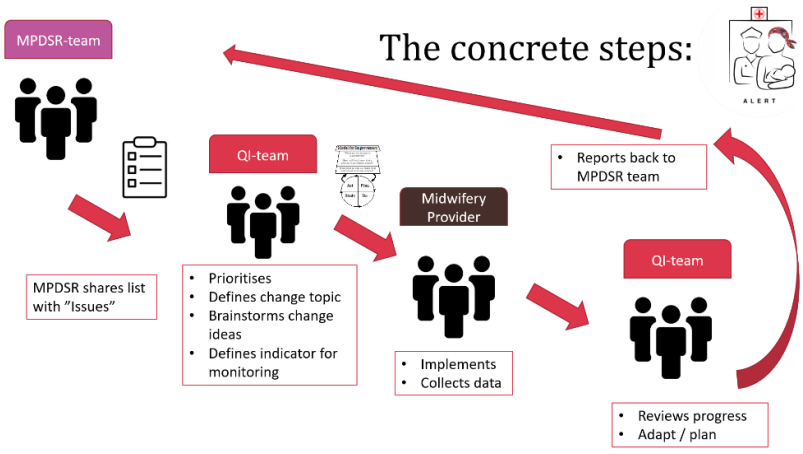


Figure 3: Idea how MPDSR and Quality improvement teams may work together

[4] https://www.who.int/teams/maternal-newborn-child-adolescent-health-and-ageing/maternal-health/maternal-and-perinatal-death-surveillance-and-response