unicef
for every child

© UNICEF/UN0157449/Ayene

A practical stages-of-change model

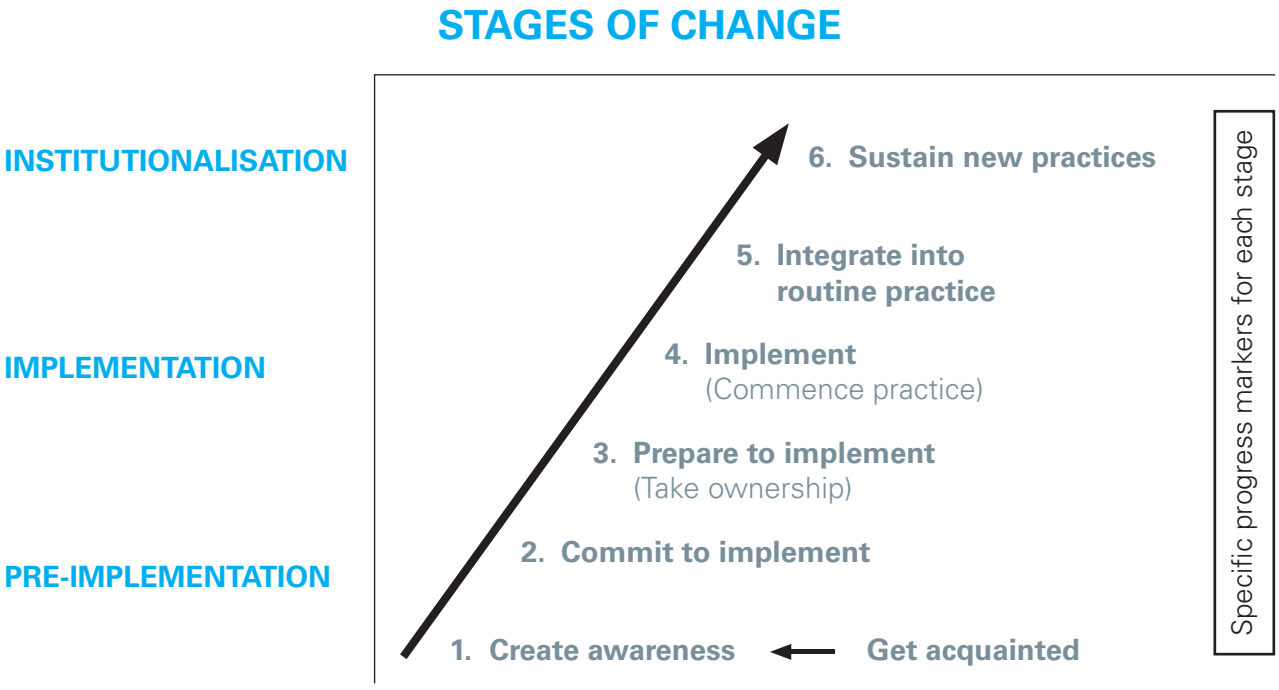
for planning and reviewing the implementation of kangaroo mother care (KMC) and maternal and perinatal death surveillance and response (MPDSR)

There are many different guides for implementing new interventions or to improve on current practice. The stages-of-change model described here was initially developed to measure or evaluate the progress of implementation with kangaroo mother care (KMC) at health facility level and collectively at subnational level.[1-5] As time went by the model also became a heuristic tool for planning implementation and evaluating sustained practice.[6,7] The model was subsequently applied to perinatal death review as a tool for reflecting on the implementation and maintenance of a perinatal death audit programme[8,9] and in the evaluation of the implementation of maternal and perinatal death surveillance and response (MPDSR) in four sub-Saharan African countries.[10]

Figure 1 shows the three phases of the stages-of-change model, each with two stages. In the pre-implementation phase, the two stages are: *create awareness* and *commit to implement*. This is linked to the notion of stakeholder readiness. The stages in the implementation phase are: *prepare to implement* and *implement*. These stages entail getting the health system ready. The institutionalisation phase consists of the stages of *integrate into routine practice* and *sustain new practices*. The first four stages are aimed at improving the uptake and coverage of KMC and MPDSR practice. The last two stages in the institutionalisation phase are linked with quality of care and should feature in quality improvement initiatives. Progress with implementation is measured with specific quantifiable progress markers (indicators) identified for each stage of implementation.

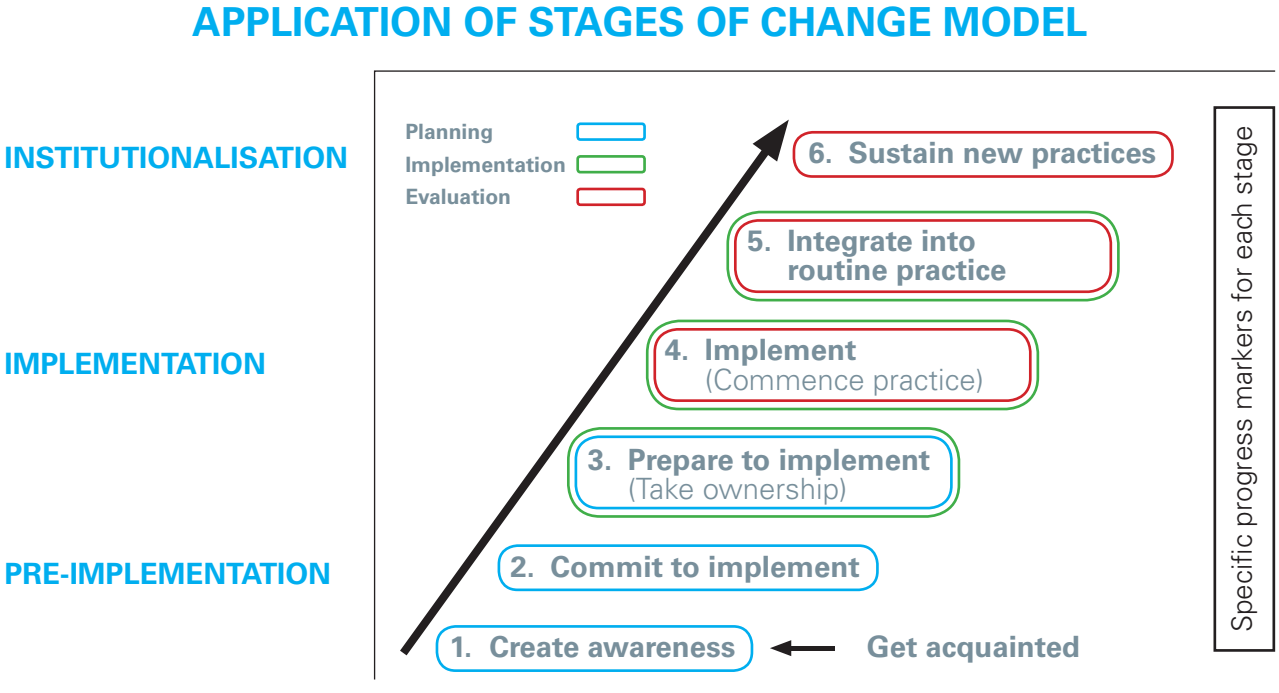
The quantitative tools that have been developed for measuring progress with implementation are not meant to measure quality of KMC or the quality of the application of MPDSR processes, only progress with implementation of the programme, according to specified progress markers. The stages-of-change model can be applied for different phases of a project: planning the introduction of KMC or MPDSR; implementing KMC or MPDSR; or evaluating the implementation of KMC or MPDSR (see Figure 2). The model can be used at different levels of the health system: individual health care facilities; health facilities at the same level (e.g. teaching, maternal and child, general hospitals); or health facilities in a geopolitical area (district, county, prefecture, province, region, country).

Figure 1. Basic stages-of-change model.



(Bergh et al, 2005; Belizán et al, 2011)

Figure 2. Stages involved in the planning, implementation and evaluation of a programme.



(Bergh et al, 2005; Belizán et al, 2011)

Table 1 gives a summary of the actions involved in the different stages of change. This information could be used for planning or reviewing implementation of KMC or MPDSR at the various levels mentioned above. Table 2 is a template that illustrates how role players at different levels in the health system could use the information (points to consider) to draft a plan of action or a business plan. Planned actions could also be divided into different time periods of when an action should take place: immediately; within 3 months; within 6 months; within 1 year; and beyond 1 year. Of importance is that all the reflective, brainstorming and planning activities should be accompanied by a concrete plan of action with timelines and responsibilities allocated to each action. Implementers should also be held accountable for what the planning group has agreed on.

Table 1. Key actions in each stage of change.

Phase	Stage	Actions
PRE-IMPLEMENTATION	**1 Create awareness** • of problem (e.g. prematurity and high neonatal mortality) • that something must be done • of what could be done	• Sensitise politicians, policy makers, health officials, health workers and end users (families) across different levels • Use existing forums and meetings across the board for initial orientation in the problems to be addressed and how KMC or MPDSR can make a difference (advocacy) • Collect baseline data
	2 Commit to implement and expand a KMC or MPDSR programme at different levels of the health system	• Obtain high-level buy-in from leaders, administrators and managers – political will • Develop or review guidelines • Solicit concrete (written) commitment from leaders and managers at different levels: health facility, subnational and national levels • Link commitment with appropriate funding (government and/or donors)
IMPLEMENTATION	**3 Prepare to implement a KMC or MPDSR programme** • Practical aspects to get the programme and services up and running as a demonstration of taking ownership	• Describe roles and responsibilities of different role-players • Embed KMC and MPDSR from the onset in the health system → job descriptions & performance indicators (health workers & management) • Identify and use 'champions' to demonstrate committed leadership
	4 Implement the KMC or MPDSR programme • Commencement of practice • Provision of additional services where applicable • Further improvement of the service or administration	• Document – the process of KMC or MPDSR implementation and expansion at all levels – improvements as a result of KMC or MPDSR implementation (e.g. commodities, service, referral, transport, morbidity and mortality) • Continue orientation and training (pre- and in-service; onsite refreshers) – use resources from existing budgets • Give regular feedback on progress with implementation of KMC services or MPDSR through official channels

Phase	Stage	Actions
INSTUTIONALISATION	**5 Integrate KMC or MPDSR into routine practice** • Analysis and dissemination of results • Use of findings to improve practice and review activities ↓ Routine practice	• Ensure the following is in place and well developed: – standard operating procedures (SOPs) and policies for KMC or MPDSR – proper recordkeeping that will feed accurate data and trend analysis into the MPDSR and other review meetings – KMC or MPDSR quality-improvement activities to be conducted continuously – supportive supervision across all levels (integrated in maternal and newborn care and health information systems structures) • Ensure that the following occurs regularly across all levels: – feedback and response to changes, outcomes and impact resulting from KMC or MPDSR implementation – assessment of and accountability for quality of KMC-related data and data required for the MPDSR process • Ensure continued – commitment and ownership by all role-players – support for KMC or MPDSR leaders – KMC or MPDSR orientation of new staff and refreshers for existing staff
	6 Sustain KMC or MPDSR • Long-term data collection, analysis and dissemination of results • Use of findings ↓ Sustained over a longer period of time	• Ensure KMC and MPDSR are included in – the health management information system – maternity and newborn accreditation standards and audits • Reliable audit figures are available for KMC or MPDSR for at least 1-2 years • Do long-term strategic planning to continually improve KMC services or the MPDSR programme

This document should be used in conjunction with other technical documents providing guidance on the implementation and maintenance of KMC and MPDSR programmes, for example the following World Health Organization (WHO) documents:

- Maternal and perinatal death surveillance and response: materials to support implementation (2021) (https://apps.who.int/iris/rest/bitstreams/1390203/retrieve)
- Maternal death surveillance and response: technical guidance information for action to prevent maternal death (2013) (https://apps.who.int/iris/rest/bitstreams/312798/retrieve)
- Kangaroo mother care: a practical guide (2003) (https://apps.who.int/iris/bitstream/handle/10665/42587/9241590351.pdf;jsessionid=9D4F6E1DC9224AD44116244B9249123B?sequence=1)

Table 2. Guide for action plans.

POINTS TO CONSIDER	Actions			Date/ Timeline/ Deadline	Responsible person(s)
	National	District	Facility		
Stage 1: Create awareness • Collect information on local and international experience that can inform implementation, improvement and expansion • Use baseline data for creating awareness of the problem(s) • Reach out to stakeholders – how will they be familiarised and motivated to get on board? • Determine stakeholders' and health workers' readiness and willingness to change (including political will) • Draft a plan for advocacy for KMC / MPDSR – Who? What? Where? When? How? • Use existing forums, meetings etc. across all levels for initial orientation in KMC / MPDSR • Identify meetings and forums where KMC / MPDSR should become a permanent agenda item for regular reporting on progress					
Stage 2: Commit to implement and expand a KMC or MPDSR programme at different levels of the health system • Reach agreement among decision makers, opinion leaders and health workers to expand KMC services or the MPDSR programme in the district, region or country • Spell out and solicit the commitment required from leaders and managers at different levels in the district, region or country • Identify other commitments and support required (e.g. human resources, financial, capital/material) • Describe the capacity to support sustainable KMC services or the MPDSR programme at all levels • Indicate how dialogue will be conducted between healthcare users, providers, and policy makers and how the flow of information will be managed • Place KMC / MPDSR as a permanent agenda item on the identified meetings and forums for regular reporting on progress • Identify existing structures to harness for the promotion of KMC / MPDSR implementation					

POINTS TO CONSIDER	Actions			Date/ Timeline/ Deadline	Responsible person(s)
	National	District	Facility		
Stage 3: Prepare to implement a KMC or MPDSR programme • Make decisions on an expansion programme with timelines (including how existing structures will be used and whether some temporary committee may be needed to get the ball rolling and oversee the initial implementation with a view to integrate within the overall newborn care and review activities) • Make decisions on initial orientation and training and training models to use (integration with other training programmes, temporary stand-alone sessions, etc.) • Draft business plans for the expansion process, for the maintenance of quality of LBW/preterm services and monitoring of outcomes via local audits and the MPDSR programme at all levels (including resource allocations from existing budgets) • Clarify the roles and responsibilities of different partners and role-players • Plan for committed leadership across levels (identify and use 'champions') • Assess preparedness of individual healthcare facilities and health networks to implement KMC / MPDSR and sustain practice • Prepare and motivate health workers at facility level for compulsory activities, including job descriptions and performance agreements • Develop or review current KMC / MPDSR guidelines or adapt other existing guidelines and protocols to include KMC / MPDSR • Keep KMC / MPDSR as a permanent agenda item on the identified meetings and forums for regular reporting on progress • Identify other accountability measures for expansion and maintenance that should be put in place • Work on inclusion of KMC / MPDSR in pre-service curricula					

POINTS TO CONSIDER	Actions			Date/ Timeline/ Deadline	Responsible person(s)
	National	District	Facility		
Stage 4: Implement the KMC or MPDSR programme • Provide support for appointed leaders • Do extensive training (pre- and in-service) • Strengthen and expand clinical services and hold regular review meetings • Allocate resources for continuous orientation and training (include in existing budgets) • Document the process of KMC / MPDSR implementation and expansion at all levels • Record improvements as a result of KMC / MPDSR implementation (e.g. commodities, service, referral, transport, morbidity and mortality improvements) • Give regular feedback on progress with implementation of KMC services / MPDSR review meetings according to the channels identified					
Stage 5: Integrate KMC or MPDSR into routine practice • The following should be in place: all KMC components (position/skin-to-skin practice, feeding and follow-up) and general management and care of the LBW/preterm infant, as well as referral routes – link with the recommendations emanating from the MPDSR meetings, where applicable • Have supportive supervision for KMC / MPDSR across all levels in place (integrated in maternal and newborn care and health information systems structures) • Give regular feedback and respond to the changes, outcomes and impact resulting from KMC / MPDSR implementation across all levels • Assess the quality of KMC-related data and data required for the MPDSR process regularly and include accountability measures • Demonstrate continued commitment and ownership by all role-players and support for KMC / MPDSR leaders • Provide continued refresher training • Provide support for essential resources for KMC / MPDSR to be integrated into the health system functioning					

POINTS TO CONSIDER	Actions			Date/ Timeline/ Deadline	Responsible person(s)
	National	District	Facility		
Stage 6: Sustain KMC or MPDSR • Conduct and provide long-term and sustained monitoring, evaluation and feedback on the expansion and provision of KMC services or the application of MPDSR at all levels • Ensure that reliable audit figures are available for at least 1-2 years • Ensure an institutional culture that promotes facility- and health-worker ownership of KMC / MPDSR • Provide continued support for the induction of new staff members in KMC / MPDSR • Ensure KMC / MPDSR is included in long-term strategic plans for improvement of services and care					

Adapted from: Bergh A-M et al. What is needed for taking emergency obstetric and neonatal programmes to scale? *Best Practice & Research Clinical Obstetrics & Gynecology* (2015);[11] Bergh A-M et al. Measuring implementation progress in kangaroo mother care. *Acta Paediatrica* (2005);[1] Belizán M et al. Stages of change: A qualitative study on the implementation of a perinatal audit programme in South Africa. *BMC Health Services Research* (2011);[8] and other documents of the South African Medical Research Council's Unit for Maternal and Infant Health Care Strategies.

References

1. Bergh A-M, Arsalo I, Malan A, Pattinson R, Patrick M, Phillips N. Measuring implementation progress in kangaroo mother care. Acta Paediatrica. 2005;94:1102-1108. DOI: 10.1111/j.1651-2227.2005.tb02052.x
2. Pattinson RC, Arsalo I, Bergh A-M, Malan AF, Patrick M, Phillips N. Implementation of kangaroo mother care: a randomized trial of two outreach strategies. Acta Paediatrica. 2005;97(4):924-927. DOI: 10.1111/j.1651-2227.2005.tb02012.x
3. Bergh A-M, Van Rooyen E, Pattinson RC. Scaling up kangaroo mother care in South Africa: 'on-site' versus 'off-site' educational facilitation. Human Resources for Health. 2008;6:13. https://human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-6-13
4. Bergh A-M, Manu R, Davy K, et al. Translating research findings into practice - the implementation of kangaroo mother care in Ghana. Implementation Science. 2012;7:75. https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-7-75
5. Bergh A-M, Rogers-Bloch Q, Pratomo H, et al. Progress in the implementation of kangaroo mother care in ten hospitals in Indonesia. Journal of Tropical Pediatrics. 2012;58(5):402-405. DOI: 10.1093/tropej/fmr114
6. Bergh A-M, Van Rooyen E, Lawn J, Zimba E, Ligowe R, Chiundu G. Retrospective evaluation of kangaroo mother care practices in Malawian hospitals, July-August 2007. Report. Lilongwe: Malawi Ministry of Health; 2007. http://www.healthynewbornnetwork.org/hnn-content/uploads/SNL-2007.-Malawi-KMC-Assessment-Report.pdf
7. Maternal and Child Health Integrated Program (MCHIP), USAID. Kangaroo mother care implementation guide. Washington, D.C.: MCHIP; 2012. https://www.mchip.net/technical-resource/kangaroo-mother-care-implementation-guide/
8. Belizán M, Bergh A-M, Cilliers C, Pattinson RC, Voce A, for the Synergy Group. Stages of change: A qualitative study on the implementation of a perinatal audit programme in South Africa. BMC Health Services Research. 2011;11:243. https://bmchealthservres.biomedcentral.com/articles/10.1186/1472-6963-11-243
9. Bergh A-M, Pattinson R, Belizán M, et al. Completing the audit cycle for quality care in perinatal, newborn and child health. Pretoria: MRC Unit for Maternal and Infant Health Care Strategies; 2012. https://www.up.ac.za/media/shared/717/PPIP/Saving%20Babies%20Reports/completing-the-audit-cycle-for-quality-care-in-perinatal-newborn-and-child-health.zp194940.pdf.
10. Kinney MV, Ajayi G, de Graft-Johnson J, et al. "It might be a statistic to me, but every death matters": An assessment of facility-level maternal and perinatal death surveillance and response systems in four sub-Saharan African countries. PloS One. 2021;15(12):e0243722. https://doi.org/0243710.0241371/journal.pone.0243722
11. Bergh A-M, Allanson E, Pattinson R. What is needed for taking emergency obstetric and neonatal programmes to scale? Best Practice & Research Clinical Obstetrics & Gynaecology. 2015;29(8):1017-1027. DOI: 10.1016/j.bpobgyn.2015.03.015

Compiled by Anne-Marie Bergh
December 2022

© UNICEF/UN0156466/Vockel


unicef
for every child