Partnership for Reviving Routine Immunisation in Northern Nigeria; Maternal Newborn and Child Health Initiative

Report to PRRINN-MNCH and Save the Children

REVIEW OF KANGAROO MOTHER CARE IMPLEMENTATION IN PRRINN-MNCH STATES

Number of the assignment: P.N.T.3.3.1.G

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July 2011

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Section 1: Front matter

Final Approval

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	Date	Initials
For Final		

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Acknowledgements

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Abbreviations and Acronyms

BBA	Born before admission
BCC	Behaviour change communication
B/CEOC	Basic/Comprehensive Emergency Obstetric Care
CHEW	Community Health Extension Worker
DfID	Department for International Development
FMOH	Federal Ministry of Health
GH	General Hospital
HMIS	Health Management Information System
ITP	Inpatient Therapeutic Programme
IYCF	Infant and Young Child Feeding
KMC	Kangaroo Mother Care
LBW	Low birth weight
LGA	Local Government Area
MDG	Millennium Development Goals
MOH	Ministry of Health
MSS	Midwives Service Scheme
NMR	Neonatal Mortality Rate
OPD	Out Patient Department
PHC	Primary Health Centre
PO	Programme Officer
PRRINN/MNCH	Partnership for Reviving Routine Immunisation in Northern Nigeria/ Maternal Newborn and Child Health
TBA	Traditional Birth Attendant
TOT	Training of Trainers
VDC	Village Development Committee
WDC	Ward Development Committee

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Section 2: Executive Summary

Nigeria's PRRINN/MNCH Programme began training trainers in Kangaroo Mother Care (KMC) in 2009 from 3 target states (Katsina, Yobe and Zamfara). As of July 2011, 31 master trainers have carried out both on-site and off-site step down KMC training to over 150 health care providers. Health care facilities were provided with KMC kits for own facility-based usage. PRRINN-MNCH has provided KMC training to 22 health facilities in target states as well as commodities (KMC kit comprising a wrap, cup and spoon, nappy) and equipment (weighing scale, ambubag and mask) to enable KMC implementation.

Between 24-31 July 2011 a team of 4 staff visited 20 health facilities in Yobe, Katsina and Zamfara states in order to assess the implementation status for Kangaroo Mother Care (KMC) in these facilities. The sites were assessed using a standard methodology and questionnaire tool for monitoring the progress of KMC implementation that had been developed and tested by the South African Medical Research Council Research Unit for Maternal and Infant Health Care Strategies.[1] Each site receives a total score out of 30 based on three phases: pre-implementation, implementation and institutionalisation.

Six sites (2 training facilities, 2 CEOC, 2 BEOC) were identified as demonstrating evidence of routine and integrated KMC; nine facilities (2 CEOC, 5 BEOC, 2 PHC) demonstrated evidence of practice; five facilities (1 CEOC, 3 BEOC, 1 PHC) were in the process of taking ownership of KMC; and one PHC was in the adopting the concept stage.

Overall, staff appeared well-trained and enthusiastic about KMC and space was available for KMC practice. However, facility utilisation was very low and there was little demand for inpatient facility-based care services. The quality of recording was highly variable across sites. None of the sites had KMC-specific job aids or guidelines in place to guide KMC practice. Below are specific recommendations for key stakeholder groups involved in KMC implementation:

Recommendations for PRRINN-MNCH

- Create a simple poster for Kangaroo Mother Care that can be displayed in health facilities in order to encourage KMC practice by both mothers and health workers
- Follow up on KMC register completion during routine supervision visits.
- Consider training on collecting and using data for senior staff at health facilities.
- Link with PO-Demand to ensure that community engagement personnel counsel families and pregnant women on newborn health messages including KMC, and identify and refer small babies. Consider using and testing the foot size job aid developed in East Africa to assist in identification of small babies at community level (see Appendix 4.14).
- Circulate a proposed curriculum for orienting new staff on KMC. A one day on-site training curriculum which includes a clinical and practical component is found in Appendix 4.10. On-site orientation can also be done incrementally, e.g. 1 hour per day for one week.
- Introduce a job aid/checklist for facility staff to follow when starting KMC, discharging from KMC and during follow-up visits (Appendices 4.11-4.12).
- Consider simplifying newborn job aids and reducing the technical language since many of the frontline staff at these facilities are lower level cadres with English as a second language. In the interim, orient service providers on the existing job aids.
- Replenish the current supply of KMC wraps while encouraging facilities to seek innovative ways of resupplying the material (e.g. having women bring in fabric and asking the facility administration for a small amount of funds for sewing).

Recommendations for health facilities

- Improve linkages between labour, maternity and OPD so that preterm babies are quickly identified and admitted to KMC.
- Encourage breastfeeding every 2 hours for babies weighing less than 1.5kg and every 3 hours for those weighing more than 1.5kg. Record the frequency of breastfeeding and the amount (for those using expressed breastmilk) in the patient notes.
- Weigh babies at least once per day and record this information in the patient notes.
- Include weight on admission to KMC and weight at discharge to the standard register.
- Include neonatal deaths and KMC as indicators in the monthly summary wall charts.
- Present KMC statistics at regular Ward Development Committee meetings. Consider inviting a mother and baby who have "graduated" from KMC to demonstrate the effectiveness of the intervention.
- Use standard checklists for admission, discharge, and follow-up for KMC, as well as orientation for new staff to ensure all key messages are covered.

Recommendations for training instructors

- Provide extra hands-on time with equipment (thermometer, weighing scale) during KMC training to ensure staff know how to use the equipment.
- Review the training manual sections on breastfeeding and remove all references to feeding "on demand." Low birthweight babies n KMC should be fed every 2-3 hours.
- Show participants how they can use traditional fabric to secure babies in KMC in case mothers do not have a special KMC wrap.
- Focus on the importance of register completion and monitoring and evaluation.
- Add a checklist for admission, discharge and follow-up to the counselling section of the training.

Recommendations for Save the Children

- Consider integrating KMC messages into health education at ITP sites.
- Request review IYCF, particularly to review the breastfeeding section of the KMC training manual.
- Ensure ongoing data collection and sharing lessons learned.

Opportunities for immediate action

Five missed opportunities were identified that could receive immediate attention without any additional costs apart from on-site in-service training and awareness-raising:

- *Strengthen current feeding practices* to ensure weight gain and other positive outcomes by providing refresher training to facility staff on the number of feeds needed each day (see job aid in Appendix 4.9) and improving support and guidance to mothers regarding feeding times and the volume of feeds required. Remove all references to "feeding on demand" in the current training manual.
- *Improve tracking of weight gain* to flag potential problems by sharing a job aid that will help staff track how much weight should be gained (Appendix 4.8) and providing training to staff on how to properly use and care for the weighing scales.
- *Ensure KMC messages are being disseminated* through multiple channels to increase demand for KMC services. Ensure that linked units and partners (e.g. antenatal, labour and delivery, Inpatient Therapeutic Program for severe acute malnutrition, community groups, TBAs, CHEWs) receive sensitisation on KMC.

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- *Encourage continued KMC practice at home* by introducing criteria for discharging mothers from the health facility in cases where women request to be discharged very soon after delivery (see Appendix 4.11).
- *Follow up on babies who do not return* to the health facility after discharge from KMC by engaging CHEWs and community engagement personnel to visit these mothers and babies at home.

Photo credit: Kate Kerber. Turai Yadua Women and Children's Hospital.

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Section 3: Main report

3.1 Background and Introduction

Preterm birth is the leading cause of the world's annual 3.3 million newborn deaths.[2] *Kangaroo mother care (KMC) is an evidence-based, feasible solution* that ultimately prevents newborn deaths by keeping the baby warm, promoting breastfeeding and reducing infections.[3] See Appendix 4.7 for definitions. KMC has been shown to be a successful component of existing maternal and child health programmes yet it is still at very low coverage in many African countries.

> "Kangaroo-Mother Care should be a basic right of the newborn, and should be an integral part of the management of low birth weight and full-term newborns, in all settings and at all levels of care and in all countries." - *Bogotá Declaration, 1998*[4]

Background of PRRINN-MNCH

Nigeria has some of the highest rates of maternal, child and neonatal mortality in the world.[5] The PRRINN (Partnership for Reviving Routine Immunisation in Northern Nigeria) Programme is a five-year project (2006-2011) funded by the UK Department for International Development (DfID) in four northern states of Jigawa, Katsina, Yobe and Zamfara; with an advisory office in Abuja and a national office in Kano.

In order to support Nigeria towards the achievement of the Millennium Development Goals (MDGs) 4 and 5, a four-year Maternal Newborn and Child Health (MNCH) programme was linked to the existing Partnership for Reviving Routine Immunisation in Northern Nigeria (PRRINN). The MNCH component started in September 2008 and covers three states excluding Jigawa (where a sister DfID-funded programme, PATH 2 operates). PRRINN-MNCH is a DfID and Norwegian Government funded programme. The PRRINN-MNCH approach to achieving the overall programme objectives is organized around the following outputs:

- **Output 1:** Strengthened state and LGA governance of PHC systems geared to RI/MNCH
- **Output 2:** Improved human resource policies and practices in the PHC system
- **Output 3:** Improved delivery of RI and other MNCH services via the PHC system
- **Output 4:** Operational research providing evidence for PHC stewardship, RI and MNCH policy, service delivery and effective demand
- **Output 5:** Improved information generation; knowledge being used in policy/practice
- **Output 6:** Increased demand for RI and MNCH services
- **Output 7:** Improved capacity of Federal Ministry level to enable States' routine immunisation and MNCH activities

A key approach under Output 3 has been to strengthen the continuum of care with particular emphasis on improving the quality and availability of Skilled Birth Attendance and Essential Obstetric and Newborn Care.

As part of the strategy for strengthening MNCH service delivery in each target state, the states are divided into clusters comprising of 2-3 LGAs around the selected CEOC hospital,

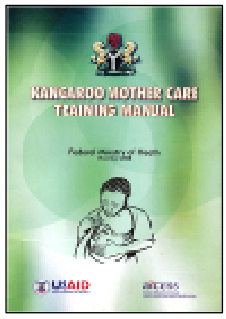
which constitute a population of about 500,000 for each cluster. Each cluster consists of 1 CEOC health facility, 4 BEOC and 8 PHC (24/7) facilities. By end of the programme in 2013, 6 clusters will be covered in each state (i.e., 100% of Yobe and Zamfara, and 50% Katsina states).

3.2 Objectives of the Assignment

The purpose of this review was to assess implementation of KMC in selected CEOC, BEOC and PHC facilities in 3 PRRIN/MNCH states from the first cluster in the following areas:

- Availability of KMC services in the selected facilities, their accessibility and level of service utilization
- Quality of KMC services, including follow up after discharge
- Supervision and monitoring mechanisms in place including job aids, guidelines, protocols, registers, and HMIS forms
- Support system including staffing, drugs and consumables, equipment, space, and organization
- Sustainability and acceptability of KMC
- Feasibility for scaling up KMC to other clusters

3.3 Overview of KMC in Nigeria



KMC was first introduced to Nigeria in the late 1990s through a resident paediatrician at the University of Lagos Teaching Hospital. Following a month-long training in Bogotá, Colombia, the first study on skin-to-skin care for Nigerian newborns was conducted in 2001.[6] In 2007, ACCESS supported the introduction of KMC in two general hospitals in Kano and Zamfara states. As part of the process, ACCESS worked with the FMOH to adapt a KMC training manual, which could be used by health institutions across the country to train staff on KMC. A review of ACCESS supported KMC sites were conducted in 2009.[7] No policy, service guidelines or routine data collection system exists for KMC nationally. KMC has however been included in the Infant and Young Child Feeding Guidelines, the National Child Health Policy, and Key Strategies for Community IMCI.

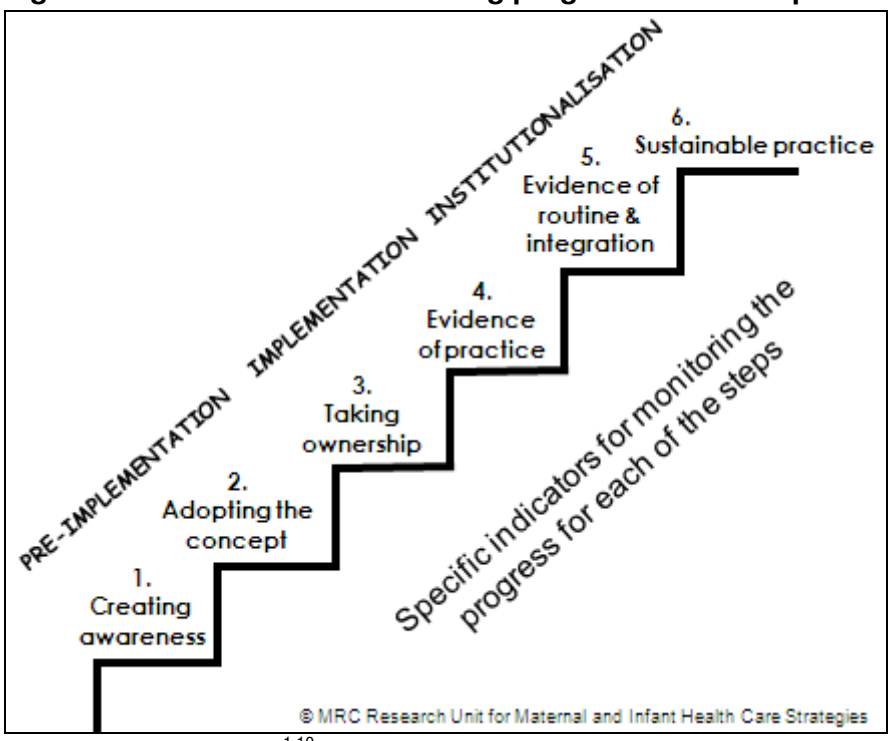
PRRINN-MNCH conducted baseline health facility surveys (Aug-Oct 2008) for hospitals and PHCs which revealed that KMC was rarely practiced – only 8 of 51 hospitals in the 3 target states. The programme initiated a KMC Training of Trainers (TOT) in 2009 to conduct step down training of health care providers at state level. A total of 31 trainers were trained who have since carried out training at state level. PRRINN-MNCH provided KMC training to 22 health facilities in target states as well as commodities (KMC kit comprising a wrap, cup and spoon, nappy) and equipment (weighing scale, ambubag and mask) to enable KMC implementation.

3.4 Approach and Methodology

This review used a model and tool developed and tested by the South African Medical Research Council Unit for Maternal and Infant Health Care Strategies for monitoring the progress of KMC implementation, which is depicted in figure 1 and scored out of a total of 30

(Table 1).[1] The tool has been applied in South Africa[1,8,9] and adapted for use in Malawi[10] and Ghana.[11] The scoring methodology is based on three phases: pre-implementation, implementation and institutionalisation. For each phase there are two "steps" that need to be monitored carefully. Together, the six steps are summarised as creating awareness, commitment to implementation, preparing to implement, implementation, integration into routine practice and sustaining of new practices. If initial pre-implementation steps are omitted and logistics planning is not done in very much detail, the rest of the scaling-up process may be in jeopardy and the sustainability of the KMC programme could be compromised.

Figure 1. Model used for monitoring progress of KMC implementation



Source: Bergh et al, 2005.[1,10]

Table 1. Scoring system

		Points per step	Cumulative points
Pre-Implementation Phase			
1	Creating awareness	2	2
2	Adopting the concept	2	4
Implementation Phase			
3	Taking ownership	6	10
4	Evidence of practice	7	17
Institutionalisation phase			
5	Evidence of routine and integrated practice	7	24
6	Sustainable practice	6	30
Total		**30**	**30**

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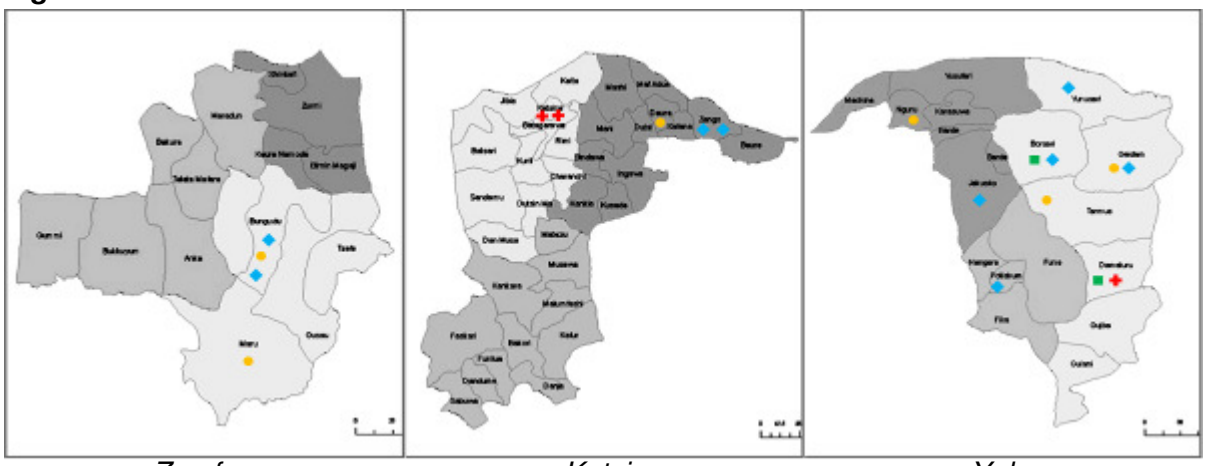
Four health facilities in Zamfara, 5 in Katsina and 11 in Yobe were visited to gain first-hand insight into how KMC services were operating on the ground (see Figure 2). All were visited in person, except for one hospital in Yobe which was too distant to visit and thus followed up via telephone interview. Appendix 4.5 contains a summary of the discussions held at each facility.

Figure 2: Location and level of facilities assessed



Zamfara *Katsina* *Yobe*

✚**Training facility**; ●**CEOC facility** ; ◆**BEOC facility**; ■**PHC facility**
*icons placed within LGAs, not on exact geographic location of facility

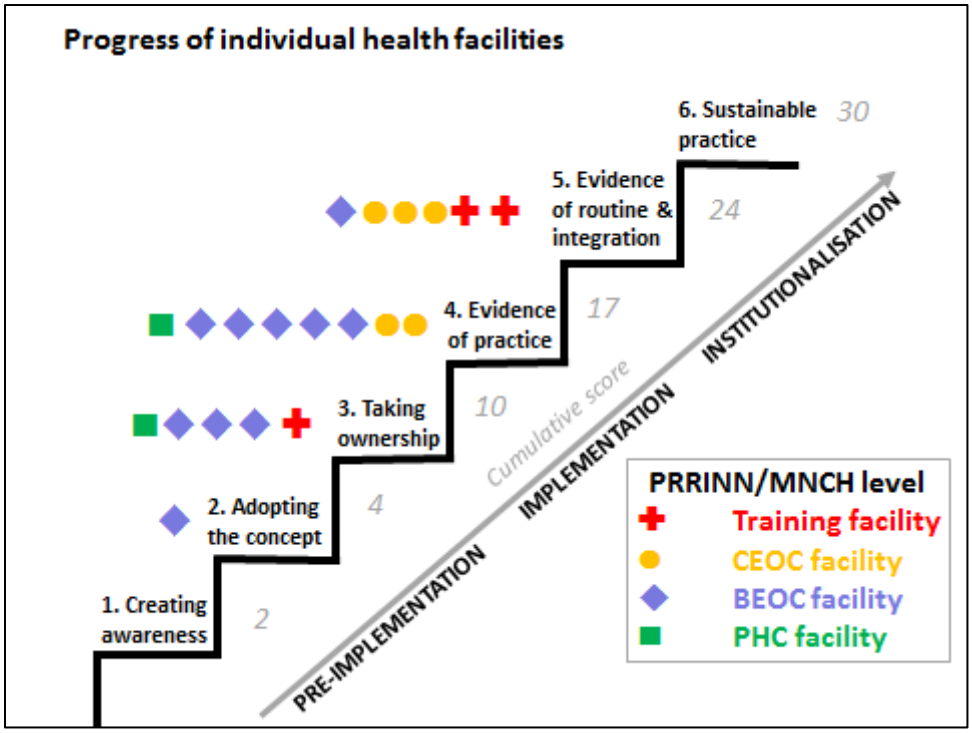
A standard questionnaire (Appendix 4.6) was used during the visits. Specifics probed during conversations and observations included the "story" of how KMC was implemented, important role-players, staffing, staff rotation policies, staff training and on-the-job orientation of new staff, record keeping, KMC admission criteria, feeding, discharge criteria, follow-up, general strengths, and challenges. The relevant wards including the lie-in ward, labour ward and postnatal ward were also visited to observe practices.

Following the Katsina and Zamfara sites, investigators met together to systematically review notes and apply a score to each site based on set constructs. The notes from the Yobe sites were sent to the lead consultant in South Africa to compile and score, which were subsequently reviewed by the team.

3.5 Findings and Analysis

The sites varied in terms of implementation progress (Figure 3). Six sites (2 training facilities, 3 CEOC, 1 BEOC) were identified as demonstrating evidence of routine and integrated KMC; seven facilities (2 CEOC, 4 BEOC, 1 PHC) demonstrated evidence of practice; five facilities (1 training facility, 3 BEOC, 1 PHC) were in the process of taking ownership of KMC; and one BEOC was in at the pre-implementation stage of adopting the concept of KMC.

Figure 3: Implementation status of facilities in Katsina, Zamfara and Yobe states



CREATING AWARENESS AND ADOPTING THE CONCEPT

A common theme across nearly all sites was a strong knowledge of the process of implementing KMC amongst the health workers interviewed. Most sites could identify senior level staff (mostly a doctor or paediatrician, if available) who led or was very supportive of the process. The staff interviewed could confidently explain the training procedures followed, numbers of staff trained. None of the sites reported experiencing any resistance to initiating KMC services.

As a practice, KMC seems to be acceptable to mothers and guardians, although some health workers mentioned that community members may find the sight of babies being carried in front in the skin-to-skin position strange and unfamiliar. A number of sites mentioned mothers who are very pleased with KMC and have continued to bring their baby back for follow up long after they had 'graduated' from KMC. At one Yobe facility, a mother was observed bringing her baby back for follow up care in KMC position and was able to demonstrate how to wrap and care for her baby while practicing KMC.

Dedicated champions helped get KMC services initiated, though some have since moved on.
Photo credit: Kate Kerber.

TAKING OWNERSHIP (MOBILIZATION OF RESOURCES)

All of the facilities received an initial stock of minimum essential supplies for KMC. These included

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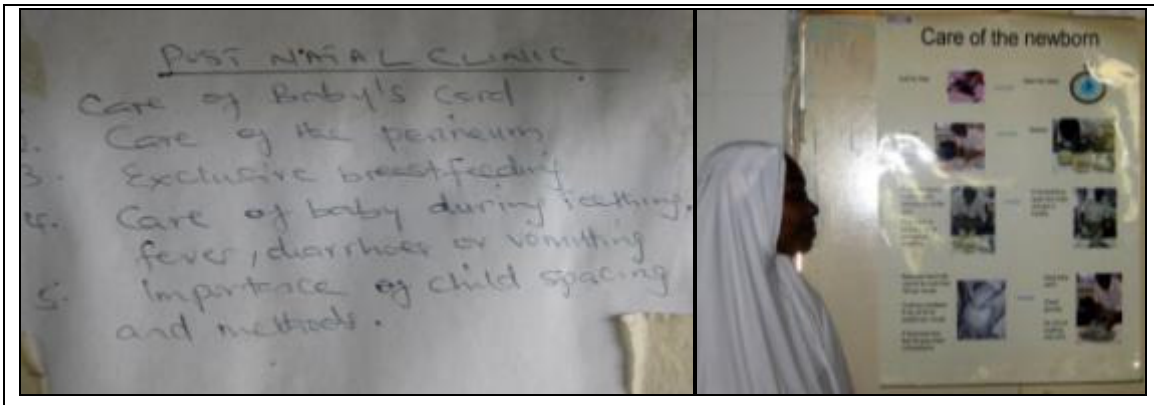
'KMC kits' comprising of a bag with a KMC wrap, nappies, and a feeding cup. Most of the sites still had a supply of these kits left, but those who did not have these supplies (particularly in Yobe state) listed this as a key barrier to KMC practice. The sites also had weighing scales and at least one ambubag and mask. Thermometers were only observed in the tertiary facilities. There were no specific KMC visual materials in use at any of the sites visited, though the majority of sites had wall posters on newborn care. While almost all facilities displayed a wall chart for neonatal resuscitation, there were no relevant job aids regarding as breastfeeding, weighing, temperature taking, etc. The job aids available were noted to be written in technical language which could make them difficult for the lower level staff to use frequently. Only three of the 20 sites have received financial or other support from any group other than PRRINN-MNCH, including their own facility management.



Job aids for postnatal clinic follow up and neonatal resuscitation. No job aids were available for KMC services. Photo credit: Kate Kerber

Very few facilities with the exception of tertiary facilities still had baby cots. All other facilities practiced rooming-in between mothers and babies. Functional incubators were available only at the two tertiary facilities in Katsina, the Specialist hospital in Yobe and one Yobe general hospital. Two additional general hospitals had incubators but they were not in use due to maintenance issues and lack of training for staff on their use. However, even when incubators were in use they appeared to be set at a constant temperature and not servo-controlled (adjusting to a baby's body temperature), putting the baby at increased risk.[12] During one hospital visit, the power went out for 20 minutes before the generator kicked in. The babies remained in the incubators during this time, unmonitored. In these facilities, intermittent KMC is practised while the baby is in an incubator, phototherapy or radiant warmer. The definition of 'stable' was not consistent across sites and the higher level facilities seemed more reluctant to place sick babies in KMC (see definitions in Appendix 4.7). Continuous KMC should be the norm for all preterm babies whose vital functions (breathing and circulation) do not require *continuous* medical support and monitoring, and mothers choosing not to do this should be required to sign a form indicating such.

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Equipment from PRRINN-MNCH did not appear to be well-used or always kept in the most efficient location. Most sites practiced rooming-in with regular hospital beds for mothers and babies, though a few had incubators and/or cots for babies. Photo credit: Kate Kerber.

EVIDENCE OF PRACTICE

Admission and position

All sites that had initiated KMC could provide documentation of KMC practice in their records; however there were very few mothers and babies observed in KMC at the time of the visits. Across 20 sites, only 5 babies were seen in continuous KMC position. A number of facilities only practiced intermittent KMC at this time, though all mentioned plans to designate space for continuous KMC. In those sites showing evidence of continuous KMC, it is practiced in regular beds in rooms that are not temperature controlled. The *kalafong thari* wrap is used almost exclusively to tie the baby to the mother.

The postnatal wards were under-utilized in almost every facility. This is a welcome change to an overbooked ward, but it also means that mothers in KMC might be alone for most of the time and there are no activities to keep mothers occupied. Mothers who are admitted are not encouraged to walk around even though this is an important activity for the development of babies.

Discharge, referral and follow up

Although most hospitals reported similar general discharge criteria (e.g. gaining weight, ability to feed, readiness of mother to go home), none reported using a set list of criteria. One facility reported keeping babies until exactly 2.5kg before discharge. One of the key challenges in this setting is that mothers and babies are discharged home very soon after delivery – within 2 to 3 hours in some cases – often on request of the woman or her husband.

If a mother and baby are referred to higher care, none of the facilities had a system in place to receive feedback on the pair. None of the facilities reported referring or transporting babies in the skin-to-skin position without prompting, and some admitted to not knowing about the benefits of using this position during transport.

Upon discharge women are given KMC kits and counselled on KMC and told to return for follow up visits. The follow up visit schedule ranged from the day after discharge, or day 3, 7

and 28, or once weekly until 6 weeks, depending on the facility. Health workers reported that most women return for follow-up, though these records are not available in the majority of sites. However in at least one facility, records showed babies as small as 0.7kg and 0.8kg remaining in the facility to practice KMC and being discharged at an appropriate weight. Facilities with external resources may consider offering small incentives to return for follow up, in the form of either remuneration for transport or a small gift. However, these types of incentives are usually not sustainable.

KMC documentation

The KMC registers in use are simple exercise books with hand-drawn columns. In June 2011, PRRINN-MNCH provided sites with sample columns to complete (annex 3 in the KMC training manual). The quality of records and recordkeeping varies. One hospital provided only patient names in the 'KMC register'. Most of the facilities produced helpful wall charts of monthly statistics though none of the wall charts included neonatal death as an indicator. In all facilities the recording of weight and feeding was minimal and could be improved.

Individual patient records were rarely available and not always filled out when they were available. No site had a feeding chart and none documented frequency or volume of feeds. Weight gain was also poorly documented. All sites reported weighing babies on admission and discharge, but very few of the facilities were looking at weight as an important danger sign or marker of progress for the baby. Job aids for determining appropriate weight gain and for breastfeeding are included in Appendix 4.8 and 4.9.

Evidence of varying quality of recording in KMC registers. Photo credit: Kate Kerber

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Helpful wall chart summaries show differences in demand for services between facilities.
Photo credit: Kate Kerber

Staffing

The staffing arrangements in the KMC units varied greatly. Units had a combination of CHEWs, MSS midwives, and nurses. One facility reported training patient attendants on KMC. Most of the facilities reported staff shortages as a problem. Staff turnover was not raised as a problem in any of the sites in the past year since KMC services had been initiated, though one small PHC had to discontinue 24-hour services because of the lack of staff.

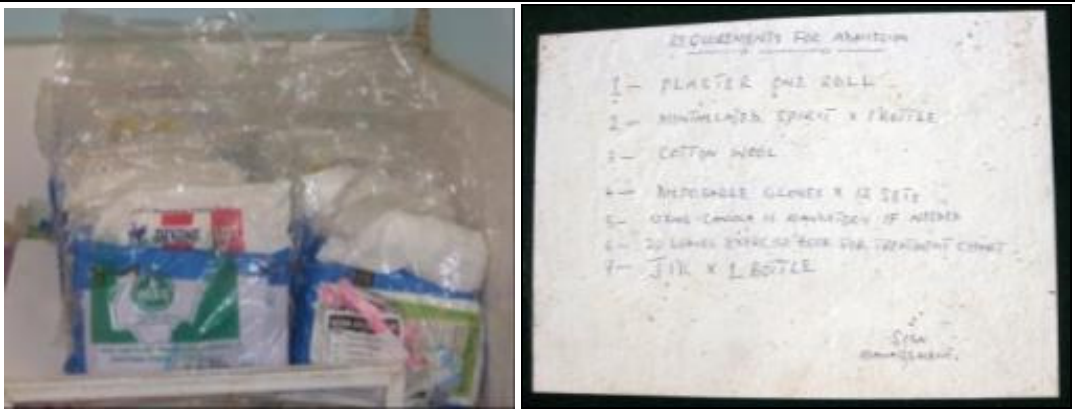
The practice of regular staff rotation is not conducive to the provision of quality care. Rotation schedules were erratic in those facilities that reported it. At least one facility reported that nurses and midwives in the neonatal unit are no longer rotated in recognition that caring for babies requires specialised skills.

EVIDENCE OF ROUTINE AND INTEGRATION

Barriers to accessing care

While most of the services are free for pregnant and newly-delivered women, the cost of giving birth in and staying in a facility after delivery is prohibitive for many families. One facility sold packets of materials needed to deliver, and had a wall chart of the items needed including 12 sets of disposable gloves, a full roll of plaster and a full bottle of bleach. Most facilities do not provide meals so patients depend on family members to bring food. There are also significant constraints around seeking care during childbirth and in the first week of life. These socio-cultural barriers were not explored in detail during these visits, but almost every facility noted the fact that a woman or her husband – not a health worker – was the key decision maker in determining length of stay in the facility. The lack of demand for care was the largest single factor in the limited functionality of these health services. Many of the sites mentioned wanting to reach out to WDCs and local imams to sensitise communities to the services provided at the facilities and to KMC in particular. This is an immediate follow

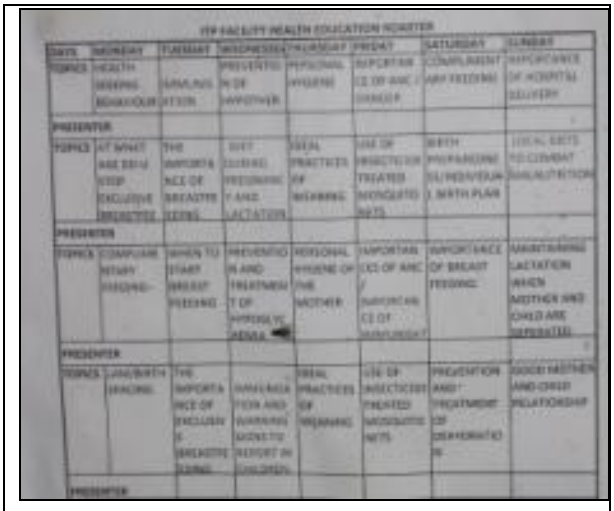
up action that can take place. Further formative research and demand-side incentives need to be explored in order to remove these barriers to seeking care.



Women are requested to bring in or purchase supplies for delivery and bring their own food while in KMC. Even though services are officially free of charge these indirect costs can present major barriers to accessing services. Photo credit: Kate Kerber.

Health education

Almost all facilities mentioned providing health education for mothers during antenatal care, during childbirth and upon admission to KMC and discharge. However this was not able to be observed in practice due to a limited number of patients. Topics for health education include feeding, weight gain, practicing KMC at home.



One health facility provided a roster of health education topics to discuss within the ITP ward. KMC was not listed as a topic. Photo credit: Kate Kerber.

Evidence of KMC nutrition

All staff reported that babies should be fed on demand and not according to a time schedule; this is echoed in the KMC training manual used in Nigeria. Regular feeding for preterm babies is very important because these babies do not have reserves of energy to draw from. Premature infants may have a poor sucking reflex, make little attempt to suck and become

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fatigued easily, which is why they need small, scheduled feeds at regular intervals. In order to ensure babies in KMC are receiving adequate nutrition, the training manual should be revised and staff be given a refresher training in the importance of encouraging and monitoring frequent breastfeeding (see appendix 4.9).

KMC integrated into policy and guidelines

No policies or guidelines were mentioned at any of the sites and very little exists in this area. PRRINN-MNCH should consider working with State MOH to introduce a standalone newborn care or KMC guideline in order to standardise implementation at health facilities.

SUSTAINABLE PRACTICE

Using data to improve services

Some of the sites mentioned maternal mortality audit, but none had started perinatal audit. A perinatal audit tool is being piloted through PRRINN-MNCH though it is a 6-page form that might not be feasible to pilot in these settings. Many of the sites displayed excellent wall charts giving the monthly statistics. Sites that don't yet have these wall charts should be encouraged to use them during supervision visits.

Evidence of staff orientation and training

All of the staff interviewed demonstrated good retention of knowledge acquired during KMC training. However, there are no written guidelines or curricula in place for on-the-job orientation or refresher training. See appendix 4.10 for an example of a one-day orientation curriculum that could be followed. As staff turnover continues over time, it is important to have documented orientation and refresher training guidelines so enough information is shared in order to practise KMC safely and efficiently. If the orientation is on-site for new staff it could also be done incrementally, e.g. one hour per day for a week. These types of orientations are also sometimes included as part of a general induction programme for new staff. More formal skills assessment could also be built in as a compulsory part of such a "curriculum" and it could be included in performance appraisals (where they exist).

On-site orientation is a key gap as it was noted in some units there is an impression that staff cannot orient mothers to KMC until they have received official training, resulting in inconsistent implementation of KMC depending on which staff are on duty at the time.

Supervision

Some sites reported not receiving supervision visits, including from PRRINN-MNCH but others reported never receiving a visit. The supervisory visits have a large remit which means that KMC services cannot be examined in detail. However, it could be suggested that supervisors are oriented to one or two key indicators of KMC services (e.g. number of patients admitted in the last month, quality of register data) and can check those quickly while reviewing other services.

Table 2 provides key details of sites assessed during this review.

Table 2: Summary of KMC practices in health care facilities visited

	Facility name	PRRINN/ MNCH Level	LGA	State	When started	Separate KMC space	No of beds for KMC+	No of staff trained	No of KMC dyads present	Type of KMC*	KMC job aids or guidelines	KMC score (out of 30)	Level of implementation
1	Kotorkoshi PHC	BEOC	Bungudu	Zamfara	Feb-10	No	0	10	0	(Amb)	No	9.83	Taking ownership of KMC
2	Maru GH	BEOC	Maru	Zamfara	Feb-10	No	0	5	0	(Amb)	No	12.46	Evidence of KMC practice
3	Bungudu GH	CEOC	Bungudu	Zamfara	Feb-10	No	0	5	0	Cont	No	14.63	Evidence of KMC practice
4	Nahuche PHC	BEOC	Bungudu	Zamfara	Feb-10	No	0	10	0	(Amb)	No	13	Evidence of KMC practice
5	Daura GH	CEOC	Daura	Katsina	Jan-10	Yes	2	29	1	Cont	No	20.04	Evidence of routine and integrated KMC
6	Zango CHC	BEOC	Zango	Katsina	Jun-10	No	0	8	0	Cont	No	13.54	Evidence of KMC practice
7	Rogogo MCH	BEOC	Zango	Katsina	Aug-10	No	0	11	0	Cont	No	12.46	Evidence of KMC practice
8	Turai Yadua WCH	Training	Katsina	Katsina	Jan-10	No	0	5	4	Int	No	18.42	Evidence of routine and integrated KMC
9	Katsina FMC	Training	Katsina	Katsina	Aug-10	In progress	0	8	3	Int	No	19.5	Evidence of routine and integrated KMC
10	Bayamari MPHC	PHC	Burusari	Yobe	Jul-10	Yes	1	10	0	Cont	No	10.83	Evidence of KMC practice
11	Damaturu FSP	PHC	Damaturu	Yobe	Apr-11	No	0	6	0	Cont	No	7.31	Taking ownership of KMC
12	Dapchi GH	BEOC	Burusari	Yobe	Jun-11	No	0	12	0	Cont	No	7.58	Taking ownership of KMC
13	Gashua GH	CEOC	Gashua	Yobe	Jun-10	Yes	2	7	0	Int/ Amb	No	11.92	Evidence of KMC practice
14	Gen Sani Abacha Specialist Hosp	Training	Damaturu	Yobe	2009	Yes	4	Unsure	0	Cont/ Int	No	8.12	Taking ownership of KMC
15	Geidam GH	CEOC	Geidam	Yobe	May-10	Yes	2	13	1	Cont	No	17.06	Evidence of routine and integrated KMC
16	Jakusko GH	BEOC	Jakusko	Yobe	Not yet started	In progress	0	Unsure	0	None	No	4.88	Taking ownership of KMC
17	Kelluri MCH	BEOC	Geidam	Yobe	May-11	No	0	10	0	Int/ Amb	No	12.46	Evidence of KMC practice
18	Nguru FMC	CEOC	Nguru	Yobe	2009	Yes	5	14	0	Int/ Cont	No	17.33	Evidence of routine and integrated KMC
19	Potiskum GH	BEOC	Potiskum	Yobe	Jan-10	Yes	2	7	1	Cont	No	17.88	Evidence of KMC practice
20	Yunusari CHC	BEOC	Yunusari	Yobe	Not yet started	No	0	Unsure	0	None	No	2.17	Adopting concept of KMC

+Refers to separate, designated beds for KMC. All other sites reported using lie-in/postnatal ward beds for KMC practice but did not distinguish separate beds.
*Primary method of practice: (Amb)=Ambulatory KMC (practiced by default because women do not remain admitted); Cont=Continuous; Int=Intermittent (see definitions in Appendix 4.7

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3.6 Recommendations

Recommendations for PRRINN-MNCH

- Create a simple poster for Kangaroo Mother Care that can be displayed in health facilities.
- Follow up on KMC register completion during routine supervision visits.
- Consider training on collecting and using data for senior staff at health facilities.
- Link with PO-Demand to ensure that community engagement personnel counsel families and pregnant women on newborn health messages including KMC, and identify and refer small babies. Consider using and testing the foot size job aid developed in East Africa to assist in identification of small babies at community level (see Appendix 4.14).
- Circulate a proposed curriculum for orienting new staff on KMC. A one day on-site training curriculum which includes a clinical and practical component is found in Appendix 4.10.
- Introduce a job aid/checklist for facility staff to follow when starting KMC, discharging from KMC and during follow-up visits (Appendices 4.11-4.13).
- Consider reviewing the newborn job aids and reducing the technical language since many of the frontline staff at these facilities are lower level cadres with English as a second language.
- Replenish the current supply of KMC wraps while encouraging facilities to seek innovative ways of resupplying the material (e.g. having women bring in fabric and asking the facility administration for a small amount of funds for sewing).

Recommendations for health facilities

- Improve linkages between labour, maternity and OPD so that preterm babies are quickly identified and admitted to KMC.
- Encourage breastfeeding every 2 hours for babies weighing less than 1.5kg and every 3 hours for those weighing more than 1.5kg. Record the frequency of breastfeeding and the amount (for those using expressed breastmilk) in the patient notes.
- Weigh babies at least once per day and record this information in the patient notes.
- Include weight on admission to KMC and weight at discharge to the standard register.
- Include neonatal deaths and KMC as indicators in the monthly summary wall charts.
- Present KMC statistics at regular WDC meetings. Consider inviting a mother and baby who have “graduated” from KMC to demonstrate the effectiveness of the intervention.
- Use standard checklists for admission, discharge, and follow-up for KMC, as well as orientation for new staff to ensure all key messages are covered.

Recommendations for training instructors

- Provide extra hands-on time with equipment (thermometer, weighing scale) during KMC training to ensure staff know how to use the equipment.
- Review the training manual sections on breastfeeding and remove all references to feeding “on demand.” Babies in KMC should be fed every 2-3 hours.
- Show participants how they can use traditional fabric to secure babies in KMC in case mothers do not have a special KMC wrap.
- Focus on the importance of register completion and monitoring and evaluation.
- Add a checklist for admission, discharge and follow-up to the counselling section of the training.

Recommendations for Save the Children

- Consider integrating KMC messages into health education at ITP sites.

- Request review IYCF, particularly to review the breastfeeding section of the KMC training manual.
- Ensure ongoing data collection and sharing lessons learned.

3.7 Conclusion and Emerging Issues

Information and recommendations from this review can help advocate for and improve KMC service delivery and influence policy change and scale up for KMC in PRRINN-MNCH clusters and beyond. Key messages from this review include:

Quality of training is good. Retention seems high, but a few small changes to the content of training materials and on-site orientation could fill knowledge gaps and maintain sustainability services in the event of staff turnover.

Measuring and reporting should be improved. Staff are lacking basic knowledge that could help them document services. Where data are documented and displayed (e.g. in a wall chart) there seems to be greater knowledge and awareness about the services.

Demand for services is a major challenge. There is a need for formative research exploring reasons why women do not use the available services as well as implementation research around ambulatory KMC in order to determine a more appropriate service delivery model for this setting.

Supervision is key to improving services. The current implementation model strongly depends on a partner such as PRRINN-MNCH for start-up support, training and supervision. KMC is not likely to spread beyond the existing clusters without a partner to drive the effort and supportive champions, however KMC has a strong foothold in the facilities where KMC has initiated services and these services are likely to continue.

A number of short-term changes could be implemented while working on improving quality and supply of services and increasing demand. The review team identified opportunities for immediate action and attention that could be addressed without any additional cost apart from on-site in-service training and awareness raising:

- *Strengthen current feeding practices* to ensure weight gain and other positive outcomes by providing refresher training to facility staff on the number of feeds needed each day (see job aid in Appendix 4.9) and improving support and guidance to mothers regarding feeding times and the volume of feeds required. Remove all references to feeding on demand in the current training manual.
- *Improve tracking of weight gain* to flag potential problems by sharing a job aid that will help staff track how much weight should be gained (Appendix 4.8) and providing training to staff on how to properly use and care for the weighing scales.
- *Ensure KMC messages are being disseminated through multiple channels* to increase demand for KMC services. Ensure that linked units and partners (e.g. antenatal, labour and delivery, Inpatient Therapeutic Program for severe acute malnutrition, community groups, TBAs, CHEWs) receive sensitisation on KMC.
- *Encourage KMC practice at home* by introducing a checklist for mothers or families who have requested early discharge from KMC given that women request to be discharged very soon after delivery (see Appendix 4.11).
- *Follow up on babies who do not return to the health facility after discharge from KMC* by engaging CHEWs and community engagement personnel to visit these mothers and babies at home.

The reviewers would like to commend PRRINN-MNCH on a strong focus on quality implementation and sustainability and would like to recognise the hard work and dedication of the many health workers providing these crucial KMC services for the mothers and babies of Katsina, Zamfara and Yobe.

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Section 4: Appendices

1. Terms of Reference
2. List of persons consulted
3. List of stakeholders to receive this report
4. Consultants bio data
5. Individual site summaries
6. Questionnaire and scoring criteria
7. KMC definitions
8. Job aid for determining appropriate weight gain
9. Job aid for determining frequency and volume of feeds
10. Suggested orientation curriculum for KMC
11. Criteria for KMC admission and discharge
12. Checklist for KMC follow up
13. Foot size job aid for identifying small babies in the community

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Appendix 4.1: Terms of reference

Partnership for Reviving Routine Immunisation in Northern Nigeria; Maternal Newborn and Child Health Initiative

TERMS OF REFERENCE FOR REVIEW OF KANGAROO MOTHER CARE IMPLEMENTATION IN PRRINN/MNCH STATES

Budget activity code: P.NT.3.3.1.G	Output and Initiative: 3.3 Strengthen neonatal and child health
Date of draft: 20 May 2011	Lead STA: Eric Swedberg
Decision Date: May 2011	Dates: July 2011
Responsible Persons: Anthony Aboda	Status: Final

Background

In order to support Nigeria in the achievement of the Millennium Development Goals (MDGs) related to maternal, newborn and child health in Northern Nigeria, a 4 year Maternal Newborn and Child Health (MNCH) programme was linked to the existing Partnership for Reviving Routine Immunisation in Northern Nigeria (PRRINN). PRRINN-MNCH (a DfID and Norwegian Government funded program) seeks to contribute towards the reduction of maternal and child morbidity and mortality, and ultimately towards achieving MDGs 4 and 5. The PRRINN-MNCH approach to achieving the overall program objectives is organized around the following outputs:

1. Strengthened state and LGA governance of PHC systems geared to RI and MNCH;
2. Improved human resource policies and practices for PHC;
3. Improved delivery of MNCH services (including RI) via the strengthened PHC system;
4. Operational research providing evidence for PHC stewardship, RI and MNCH policy and planning, service delivery, and effective demand creation;
5. Improved information generation with knowledge being used in policy, planning and practice;
6. Increased demand for MNCH (including RI) services; and
7. Improved capacity of Federal Ministry level to enable States' MNCH (including RI) activities.

Existing methods of caring for small babies

Incubators are widely used in developed countries for the care of very small and premature babies. However, because of their high cost, many hospitals in Nigeria do not have the required numbers of incubators. Where incubators are available, often they are not functional as many have broken down due to incessant power cuts or inadequate maintenance. The number of babies needing to use the incubator often exceeds the number of available functioning incubators. In addition, the prolonged stay in hospital

associated with incubator care is often very costly for most families, and contributes to overcrowding of the already small space in neonatal units.

Alternative method: Kangaroo Mother Care

As soon as the small baby is stable and has no complications, Kangaroo Mother Care (KMC) is initiated. KMC involves provision of warmth through skin-to-skin contact of the mother and baby's bodies. The baby is undressed except for a cap on the head, nappy and socks, and is placed upright between the mother's breasts with its head turned to one side. The baby is then tied to the mother's chest with a cloth and covered with the mother's clothes. If the mother is not available, the father or any adult can provide skin-to-skin care. Once the baby is gaining weight and caregivers have learned to provide KMC, they are discharged from the hospital and are seen for follow up clinic visits.

Advantages of Kangaroo Mother Care

KMC is safe, cheap and affordable for most mothers. KMC is effective for keeping the baby warm and also enables early breastfeeding, protection from infections, early stimulation, love and bonding of the parents to the newborn baby. There is no special ward required and KMC can be practiced within the existing postnatal ward. KMC reduces the amount of hospital space required to manage newborns, and often reduces the average length of stay in the hospital.

Kangaroo Mother Care can save lives in Nigeria

KMC was first introduced to Nigeria in the late 1990s through a resident paediatrician at the University of Lagos Teaching Hospital. Following a month-long training in Bogotá, Colombia, the first study on skin to skin care for Nigerian newborns was conducted in 2001. The results of this study were presented at the
2002 Paediatric Association of Nigeria (PAN) conference and published in the Nigeria Journal of
Paediatrics. A training workshop was held with doctors and nurses from sixteen teaching hospitals across the country. In 2007, ACCESS supported the introduction of KMC in two general hospitals in Kano and Zamfara states. As part of the process, ACCESS worked with the FMOH to adapt a KMC training manual, which could be used by health institutions across the country to train staff on KMC. KMC practice has continued at various levels but it has not been systematically rolled out since there has not been a plan to expand services beyond the existing KMC centres. No national KMC policy, service guidelines or routine data collection system exists. KMC was included in the Infant and Young Child Feeding Guidelines, the National Child Health Policy, and Key Strategies for CIMCI, but it was overlooked in the IMNCH strategy. This is despite the fact that reaching all preterm babies in Nigeria with KMC alone by 2015 would save over 19,000 lives.

PRRINN-MNCH conducted baseline health facility surveys (Aug- Oct 2008) for hospitals and PHCs which revealed that KMC for LBWs was rarely practiced – only 8/51 hospitals (6 Katsina and 2 in Zamfara and none in Yobe and none of 238 PHCs in cluster 1) in the 3 target programme states. 3 hospitals in Katsina,
2 Hospitals in Yobe, 5 in Zamfara had incubators. However the incubators are generally reported as not in use.

The programme initiated KMC TOTs in 2009 to conduct step down training of health care providers at state level. A total of 24 trainers were trained and have since carried out training at state level benefiting a total of 175 health care providers (doctors, nurses/midwives and CHEWs) from CEOC and BEOC health facilities and tutors from health training schools.

Rationale

Although only an estimated 14 percent of Nigerian newborns are low birth weight, weighing less than
2500g, and in Nigeria most low-birth-weight babies are preterm. Complications in these babies account for the majority of newborn deaths and neonatal mortality is more than twice that for babies classified as average or larger. Kangaroo Mother Care (KMC) is a feasible and low cost approach for managing LBW babies, has been shown to reduce mortality and serious morbidity in preterm babies and is being successfully implemented in several African countries including Nigeria.

The experience of ACCESS in Kano, Katsina and Zamfara, trained providers have found KMC interesting, low cost, easy to adopt, relatively simple to implement, and a successful and beneficial intervention for low birth weight babies. Some babies admitted with weights as low as 1.4 kg been managed successfully with KMC. KMC will reduce the dependence on incubators especially where only few functional incubators exist for the large number of small babies born every day.

Purpose of Assignment

After the national TOT (see above), the state offices supported the conduct of step down training workshops for health workers within CEOCs and BEOCs, PHC 24/7 as well as tutors from training institutions and the SMOHs. A total of 19 health facilities in target states therefore commenced implementation of KMC in 2010 after they were provided simple KMC commodities and designated KMC centres. Majority have at this time had at least 12 months of implementation. PRRINN/MNCH programme is interested in reviewing the implementation so far, looking at how health workers are applying their acquired new skills and also the quality of service provided.

The purpose of this review is therefore to review the implementation of KMC in some selected CEOCs and BEOCs HFs in 3 of PRRIN/MNCH states from cluster 1.

Objectives

The objectives for this review will include the assessment/review of:

- The availability of KMC services in the selected facilities and their accessibility and level of service utilisation,
- The quality of service, including follow up of babies after discharge
- The supervision and monitoring mechanism in place; job aids, guidelines, protocols, registers, patient records, HMIS forms – data collection
- The support system including; staffing, drugs and consumables, equipment, space, organization of the service
- The sustainability and acceptability of KMC for LBWs
- The feasibility for scaling up to additional facilities and the need and potential for expanding to community-based KMC where facility-based KMC is not feasible
- Training materials and teaching aids, and BCC materials and other job aids being used

Information from the review will help to advocate for and

- Improve service delivery and management
- Improve monitoring and evaluation of KMC activities
- influence and inform policy change in each state and health facilities
- inform scale up into new PRRINN/MNCH clusters
- Experience documentation and sharing.

Specific Tasks

The specific tasks for the consultants include:

- Guide the PRRINN-MNCH country staff in selecting sample facilities to be assessed and to prepare for the review.
- Review relevant programme documents such as baseline reports, progress reports, technical briefs, maternity registers, newborn care unit registers, patient records, training and educational materials, job aids, etc
- Identify specific issues around the objectives of the assessment of implementation of KMC in the Programme and develop appropriate tools/interview guides to be used
- Conduct interviews of HWs, health facility administrators, policy makers at LGA and SMOH, FMOH (their involvement and ownership) and community leaders (in CE communities).
- Interview a few mothers with LBW babies who practiced KMC
- Hold FGDs with mothers to find out about their perceptions and acceptability of KMC
- Observing service delivery and whenever possible conduct in-depth interviews with clients
- Collect data about number of LBW newborns treated and treatment outcomes and follow up
- Hold debriefing meeting with senior staff of PRRINN-MNCH in Kano at end of in-country work
- To write a short report of no longer than 10 pages on the assignment. A draft version will be submitted to Anthony Aboda before the end of the in-country work and a final version within 10 working days of the end of the assignment.

Expected Outputs

By the end of the assignment the following outputs will be expected:

- KMC review tools
- Draft and final reports submitted on time to Anthony Aboda.

Type of Consultants Required

The international consultant that:

- Is familiar with the MNCH (in particular newborn situation) and health in the Nigerian context:
- Has proven KMC programme evaluation skills and experience;
- Has excellent communication skills, including designing of questionnaires and conducting key informant interviews and FGDs (if required);
- Excellent report writing skills;
- Willingness to work under challenging circumstances; from her previous work with the Nigeria's Saving Newborn lives project

National consultant

- Familiar with the MNCH and newborn situation in the Northern Nigeria context;
- Excellent communication skills, especially interview and facilitation/moderating skills;
- Good report writing skills

The international consultant will be identified and recruited by Save the Children

The international consultant will be supported by 2 national consultants with expertise in KMC.

The national consultants are doctors or midwives, who themselves are KMC trainers and have had some experience in KMC implementation. The national consultants will be

recruited by CDC, PRINN-MNCH.

Timing of Consultancy

July 2011

Activities	1 Band A International consultant	2 band D National consultants
Preparation and planning for field review;	2 days	2 days
Briefing by the Kano office	1 day	1 day
Conduct of review in the field	5 days	5 days
Debriefing and next steps	1day	1 day
Report writing	5days	-
TOTAL for all consultants	**(1x14) = 14days**	**(2x9) = 18 days**

Appendix 4.2: List of persons consulted

Facility	*Name*	*Phone number*
KOTOKORSHI PHC	Aliyu yusuf (CHO)	08065812816
	Hannatu Hanshun (CHO)	08064231598
MARU GH	Jummai Lawal RN/RM	08036521834
BUNGUNDU GH	Hadiza Shittu RN/RM	08067234833
NAHUCHE PHC	Gloria Okurumabuya MSS midwife	07034840833
	Aishatu Namadi RN/RM	
DAURA GH	Fatima Musa RN/RM	08025560820
	Sakina Abdul	08184839970
ZANGO PHC	Hafsat Ahmed RN/RM	08086580369
ZANGO BEOC	Hadiza Tukur RN/RM	08036403562
TURAI YAR'ADUA	Fatima Abubakar	08040025094
FMC KATSINA		08035927194

Appendix 4.3: List of stakeholders to receive report

Dr Abimbola Williams	Newborn Health Programme Officer, Saving Newborn Lives / Save the Children; PRRINN-MNCH
Dr Anthony Aboda	MNCH Adviser, PRRINN-MNCH
Ms Raila Masha	National consultant
Dr Sani Mado	National consultant
Dr Garba Idris	National Programme Manager, PRRINN-MNCH
Dr Rodion Kraus	Deputy National Programme Manager, PRRINN-MNCH
Dr Eric Swedberg	Senior Child Health Advisor, Save the Children
Dr Anne-Marie Bergh	Researcher, Medical Research Council Research Unit for Maternal and Infant Healthcare Strategies Research Council and University of Pretoria, South Africa
Ms Aisha Abubakar	Midwifery Advisor PRRINN-MNCH
Ms Nathalie Gamache	Associate Director, Africa Country Support & Coordination, Saving Newborn Lives / Save the Children
Aliyu Yusuf (CHO)	CHO, Kotorkoshi PHC
Hannatu Hanshun (CHO)	CHO, Kotorkoshi PHC
Jummai Lawal RN/RM	RN/RM, Maru GH
Hadiza Shittu RN/RM	RN/RM, Bugundu GH
Gloria Okurumabuya MSS midwife	MSS Midwife, Nahuche PHC
Aishatu Namadi RN/RM	RN/RM, Nahuche PHC
Fatima Musa RN/RM	RN/RM, Daura GH
Sakina Abdul	Daura GH
Hafsat Ahmed RN/RM	Zango PHC
Hadiza Tukur RN/RM	Zango BEOC
Fatima Abubakar	Turai Yar-Adua

Appendix 4.4: Consultants bio data

CURRICULUM VITAE - DR. SANI M. MADO

BIO DATA:

NAME:	DR. SANI M. MADO
Age:	41Yrs
Sex:	Male
Date of Birth:	12/2/1970
Place of Birth:	Kuru
L.G.A:	Minjibir
State	Kano
Nationality	Nigerian

SCHOOLS ATTENTED WITH DATES:

Primary	Kuru Primary School	1976-1982
Secondary	Junior Sec. Sch. Kunya	1982-1985
	Senior Sec. Sch. D/Tofa	1985-1988
University	Usmanu Danfodiyo University Sokoto	1988-1994
	University o f Maiduguri	1994-1997

QUALIFICATIONS OBTAINED WITH DATES:

Primary School Leaving Certificate	1982
Senior Secondary School Certificate	1988
MBBS	1997
FMC, Paed.	2007

WORKING EXPERIENCE:

1. Housemanship	UMTH	1997-1998
2. NYSC	NKWERE L.G.A. Imo State	1999-2000
3. Medical Officer	F.M.C., Gusau	2000-2001
4. Registrar	ABUTH, Zaria	2001-2003
5. Senior Registrar	ABUTH, Zaria	2003-2007
6. Consultant Pediatrician	F.M.C., Gusau	2007-Date

COURSES/CONFERENCES ATTENDED WITH DATES

1. Expanded Life-saving Skill Training, Makurdi, 27^{th}march- 8^{th}April, 2006
2. Prevention of Mother to Child Transmission of HIV (PMTCT) Programme ABUTH Zaria Dec, 2004
3. pediatric HIV Comprehensive Care Training Abuja June, 2008
4. Integrated Management of childhood illness, Gombe March, 2007
5. Neonatal Resuscitation and competency in Basic Neonatal Air Way Management, Abuja June, 2007
6. Kangaroo Mother Care (Facilitator) Organized by

PRRINN-MCH, Zamfara State

7. Essential Life-saving Skills (Facilitator) Organized by
   PRRINN-MCH, Zamfara State

8. Protocol Review on Common Newborn Problems
   PRRINN-MCH, Kano Head office June, 2010

9. Community Based Management of Newborn Infections
   Abuja July, 2010

PUBLICATIONS

1. Wammada RD., Mado SM. Secondary Causes of Attention Deficit and Hyperactivity In Nigerian Children: The Zaria Experience. Sahel Medical Journal 2006; 9.

2. Ogurunde, GO, Mado SM. Lukong CS *et al*. Acute Salmonella Typhi a Calculous Cholecystitis. Nig J Paediatr 2006; 33(2): 56-9

3. Mado SM, Onazi S, Abubakar U *et al*. Spectrum of tuberculosis in Children as seen in Federal Medical Center Gusau Zamfara State Over a Year. Proceedings of the PANCOF 2010 Ilorin, Kwara State.

4. Mado SM, Onazi S, Abubakar U *et al*. Epidemic Cerebrospinal Meningitis In Children In Federal Medical Center Gusau Zamfara State. Proceedings of the PANCOF 2010 Ilorin, Kwara State.

CURRICULUM VITAE - Raliatu L. Masha

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Off Ibrahim Taiwo Road, Kano
Email: bumel4real@yahoo.co.nz
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Profession/ Expertise Midwifery (Educator)

Profile:
Date of Birth: 6th April 1954
Nationality: Nigerian
Languages: English, Hausa and Yoruba

Areas of expertise: Midwife Educator Safe Mother Hood Consultant having undergone numerous TOT's on L.S.S., KMC, HIV/AIDS/STI's Family Planning among others

Educational and Qualifications
Qualification, Subject (data), Institution, Country

- Diploma, Midwifery Education 1981, Institute of Management and Technology, Enugu, Nigeria
- Registered Midwifery Educator- 1982 NMCN
- Registered Midwife 1977, School of Midwifery, Kano
- Registered Nurse 1976, School of Nursing, Kano
- WASC 1972, Government Girls' College, Dala Kano
- First School Leaving Certificate 1968 – ST. Michael's Anglican School, Kaduna.

ADDITIONAL RELEVANT COURSES:

- TOT Workshop on Family Planning 1985 UCH Ibadan (JHPEGO FUND)
- TOT Workshop on Growth Monitoring/Infant Nutrition/BFHI) 2000
- TOT Workshop Post Abortion Care (MVA), IPAS Kano 2004
- TOT Workshop Life Saving Skills (WHO) Bauchi 2005
- TOT Workshop STI (Syndromic Approach) (WHO) Accra, Ghana 2006
- TOT Workshop Kangaroo Mother Care (KMC) UNICEF 2007

Professional Experience-Consultancy Activities
Safe Mother Hood Consultant PATHS, FMOH, WHO, NPHCDA.

	Country Month Year	Funder/Client	Project title	Description
1	Nigeria October 2005	Compass	Current RH/IPC Components (LSS, MVA, KMC)	Integration into Basic and Post Basic Midwifery curriculum
2	Nigeria January 2007	WHO	STI's (Syndromic Approach)	Training of Educators in Health Institutions in Nigeria. Integration into Basic and Post Basic Nursing/Midwifery Curricula
3	Nigeria (2006 to date)	PATHS NPHCDA FMOH	Safe Mother Hood (LSS, HIV/AIDS/STI's, PCTMT, KMC)	Continuous Training of Care Providers (Nurses/Midwives CHEWS etc) Privy to establishment of 2 LSS Centers

Professional Experience- Research Activities

	Country Month	Funder/Client	Project title	Description

	Year			
1	NIL	NIL	NIL	NIL

Professional Experience-Employment Record

Organization	Position	Country	Date	Description
Ministry of Health Kano	Nurse/Midwife	Nigeria	June 1976-Sept 1980	Bedside Nursing (Paediatric, Accident & Emergency, Maternity Units)
Ministry of Health Kano	Midwife Educator	Nigeria	Jan 1982-Dec 2007	All aspects of Midwifery Education Training, Supervision and Evaluation of Basic and Post Basic Midwives
Ministry of Health Kano	Midwife Educator	Nigeria	Jan 2008 to date	Assisted in the establishment and take off of a Basic Midwifery Training School
Federal Ministry of Health	LSS/KMC/MVA Trainer. Safe Mother Hood Consultant	Nigeria	March 2007-Nov 2007	Participated in the Establishment of 2 LSS Training Centers

CURRICULUM VITAE – Kate Kerber

PERSONAL INFORMATION

Nationality: Canadian
Date of Birth: 12 October 1981
Marital Status: Married
Language: English (mother tongue), proficient French

EDUCATION

2011-present	**University of the Western Cape** *PhD candidate, School of Public Health*	Cape Town, South Africa
2005-2007	**University of Cape Town** *Masters of Public Health (MPH)*	Cape Town, South Africa
2000-2004	**University of Alberta** *BA (Honours) Political Science, with distinction*	Edmonton, Canada

PROFESSIONAL EXPERIENCE

2007-present	**Saving Newborn Lives / Save the Children US** *Newborn Health Specialist, Africa Region*	Cape Town, South Africa
2005-2007	**BASICS and Saving Newborn Lives** *Research and Publication Advisor*	Cape Town, South Africa
2005- 2006	**Paediatric AIDS Treatment for Africa** *Programme Coordinator*	Cape Town, South Africa

SELECT PUBLICATIONS

The PRRINN-MNCH Programme is funded & supported by UKaid from the Department for International Development and the State Department of the Norwegian Government. The programme is managed by Health Partners International (HPI), Save the Children UK and GRID Consulting, Nigeria.

Peer reviewed

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Lawn JE, Khan A, Teshome S, Kerber K. Newborn Survival and Health – Delivering the Future. *Eur Peds* 2008;2:1:16-19.

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Pattinson R, Kerber K, Buchmann E, et al. Stillbirths: how can health systems deliver for mothers and babies? *Lancet* 2011;377:1610-23.

Blencowe H, Cousens S, Mullany LC, et al. Clean birth and postnatal care practices to reduce neonatal deaths from sepsis and tetanus: a systematic review and Delphi estimation of mortality effect. *BMC Public Health* 2011;11 Suppl 3:S11.

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Appendix 4.5: KMC facility summaries

ZAMFARA STATE

KOTOKORSHI PHC

- Facility designated "KMC friendly"
- More than 20 staff but not run 24/7 – operates on call at nights and weekend as staff live within facility
- 2 CHOs (1 male 1 female), 6 female SCHWs, 1 male Sr CHW and 1Jr CHW were trained on KMC.
- KMC services commenced after training in February 2010 with support from PRRINN–MNCH
- No formal event or launching at the start but got ample support from the district head who chairs the Village Development Committee to sensitize the people.
- The DH is supportive and visited facilities once to commend staff and included the TBAs in sensitization
- To date only 4 babies have being seen 2 in October 2010 and 2 in May 2011. The babies were sent home to report daily in KMC position for weighing and monitoring of feeds
- CHEWs conduct home- visits and trace defaulters
- The staffs in charge were advised to reach more babies through aggressive sensitization at the grassroots and frequent meetings with TBAs. Feeding and weights recorded in babies immunization booklets and kept with mothers. Staff were advised to maintain separate register at facility.
- No job posters/protocols on KMC; only Focused ANC materials displayed, MCH coordinator advised to supply facility and to be displayed prominently.

Score: 9.83/30

GH BUNGUNDU

- A 24/7 facility serves as reference centre for smaller BEOC and PHC around LGA.
- Commenced KMC services in February 2010 after charge nurse/midwife receive training and support materials from PRRINN –MNCH. She gave step down training to other hospital staff.
- Facility has cared for 40 babies in KMC
- Little or no contract with VDC and TBAs.
- Initial PRRINN-MNCH supplies are exhausted and facility retained one wrap which is given out to mothers as sample to copy
- No specific ward or space for KMC babies are nursed in lying-in ward and discharged home on mother's request and return on alternate days in KMC position
- Babies weight and salient information recorded on babies immunization records which mothers take home. Records available for perusal not well kept.
- Strengths: Facility takes referrals from smaller facilities. Staff very knowledgeable about KMC, routine care, resuscitation of newborn
- Challenges: No liason with VDCs, TBAs.
- Poor record keeping and utilization.

- Advice: Use mother craft to disseminate message of KMC. Reach out through facility administrator to VDC and TBAs. Use Morning Prayer at mosque to reach out to community especially fathers, improve record keeping with demonstration.

Score: 14.63/30

GH MARU

- 24/7 facilities, Nurse/midwife in charge started KMC after being trained in January 2010 and receive support materials from PRRINN-MNCH.
- To date only 3-4 babies in KMC. Mainly intermittent KMC and staying up to 2 weeks before mother's request for discharge due to long distance to home and high cost of maintenance while on admission.
- No display of Job Aids/ protocols
- No records whatsoever for team to peruse. All records for KMC are purportedly kept by the PMO in charge of the facility who was not around throughout the visit.
- Staff have no contact with community VDC and TBAs to sensitize them except through village Imam who announce for the LBW and pre-term babies to be brought to the hospital at morning prayers.
- Staff specifically requested for supervision and support.
- Staff displayed good knowledge of KMC and willingness to implement well if right conditions can be provided for work.

Score: 12.46/30

NAHUCHE PHC

- A 24/7 facility runs 3 shifts.
- Has a total staff strength of 10 who all were trained in KMC in February 2010.
- In April 2010 received materials from PRRINN-MNCH and immediately under took Community Mobilization to sensitize the community. KMC stated in May 2010.
- The facilities had nursed 21 babies to date in KMC - all the babies were delivered at the facility.
- The lying in ward is used to nurse the babies. Mothers mostly practice intermittent KMC the longest any mother stayed was three days before being discharged follow up care done at home depending on proximity of mothers home to facility by MSS midwife.
- Mothers are advised to bring babies for KMC follow up on days 3, 8, and 21
- Exclusive breastfeeding is practiced and where reflexes are poor the midwife teaches the mother to feed expressed breast milk using cup and spoon . Mothers are given 1 wrap as sample to make their own wrap and hospital wrap collected at follow up visit at home.
- Students from TSAFE School of Health Technology use facility for practical and receive instruction and guidance or KMC
- MSS midwife very knowledgeable and willing to positively implement KMC- she's currently pregnant and plans to nurse her baby in KMC position to set example and help fight stigmatization.

Score: 13/30

KATSINA STATE

DAURA GH

- All RM/RN were given stepdown training on KMC by the MD in charge in January 2010 and immediately commenced KMC after receiving all material support from PRRINN-MNCH. The MD donated some wraps when he was transferred out of the facility
- The facility is 24/7 runs 3 shifts has a KMC room within the lying in ward though not currently in use and is designated "baby friendly". The staff are frequently rotated and receive on the job training. Student CHWs and medical records are trained at the facility. Mother and babies normally discharged within 6 hours of birth. Babies on KMC are discharged on mothers request or when 2.3kg weighed then given appointment on alternate days for review and weighing. Sick babies are certified fit by doctor
- Strengths: staff well trained and knowledgeable on KMC beautiful display of posters, Jobs Aids/ protocols. Register available and maintained. All grey area were cleared especially weight and follow up and out comes. Good knowledge of routine care at birth and resuscitation
- Need further and and repeated training of staff
- Baby Bilal was in KMC position - 10 days old - held in KMC position by grandma Zainab while Mother Jamila is slowly recovering from post partum Eclampsia birth weight 1.000kg and current weight 1.200kg.

Score: 20.04/30

PHC ZANGO

- A 24/7 facility one staff RN/RM receive TOT training and gave step down training to 4 RN/RMs.
- KMC started thereafter in June 2010 when PRRINN-MNCH donated materials. Mother were sensitized at ANC mothercraft talks.
- To date 16 babies have being nursed, 14 in 2010 and 2 in 2011.Some were delivered at the facility and nursed for 3-4 days. Discharged on mothers request and then have weekly follow up for weight estimation and feeding. Babies on admission are weighed daily. No home visits conducted by staff
- Strengths: Staff have good knowledge of KMC, Routine care at birth and resuscitation.
- Beautiful display of Job Aids/ protocols Labour and lying-in ward neat and well lit
- Challenges: No interaction with TBAs and VDC CHWs are advised to follow up on defaulters since no home visits are conducted. A lot of descrepancies noted in KMC records –pointed out and staff introduced to daily and cumulative records.

Score: 13.54/30

ROGOGO BEOC

- A24/7 facility runs shifts.
- Has staff strength of 8. CHW in charge, 2MSS midwives, 3SCHWS and 2 JCHWs.
- Facility was designated "baby friendly".
- Nice display of job Aids/ protocol and assorted statistics.
- KMC started on 13 August 2011, 5 staffs were trained by PRRINN-MNCH who also gave material support. VDC was involved in sensitization of the community. Babies are nursed in children's ward with 9 beds and receive continous KMC.
- To date 4 babies have being nursed one was referred for special care to Zango GH with weight 1.000kg. The others were discharged after 4-5 weeks and follow up weekly or

forthnightly. Mother are encouraged to breastfeed babies on demand at least 8 times a day.

- Baby Isa,30 days old with mother Hauwa was seen at the ward in KMC position -weight 2000kg
- Strengths: Good knowledge of KMC and routine care at birth. Good display of job Aids and Records
- Challenges: poor client flow not very good Record maintenance

Score: 12.46/30

TURAI YAR'ADUA WOMEN AND CHILDRENS HOSPITAL

- 24/7 facility runs 3 shifts. The hospital was officially opened in 2009. Did step down for 4 colleagues in 2010 and immediately took off KMC after receiving support from PRINN-MNCH The initial take-off was over seen by Dr. Uwani.
- The hospital has an intensive care unit with radiant heaters, 4 incubators all in constant use 3 for inborn babies and 1 for BBA. 100 babies have received KMC to date 58 in 2010 39 in 2011.
- Intermittent KMC is practised in a separate room for inborn babies at 2 hourly feeding times
- Doctor decides when baby ready for discharge, seeks opinion of nurse/midwife No hard and fast weight even 1.4kg have being discharged when weight gain and progress is steady. Follow-up is done at OPD and ICU for weighing and care. 8 babies are currently on admission 2 receive intermittent KMC
- Strengths: Staff have good knowledge of KMC standard of care and make judicious use of available resources. Good records.
- Challenges: Man power, need of commence KMC talk at mother craft , initiate and sustain community visit/sensitization . Need to educate father to save costs by allowing and co-operating on KMC.
- No job Aids/ protocols displayed

Score: 18.42/30

FMC KASTINA

- 24/7 tertiary facility runs 3 shift
- All 8 staff from the special care baby unit had step down training by Dr. Muhydeen in 2010 and receive material supports from PRINN-MNCH KMC started on 8 August 2010 and have nursed 60 babies to date.
- 6 babies admitted to KMC upon visit. Babies receive intermittent KMC as there are no facilities for continues care. A KMC ward is in the completion stage with high profile gadgets. the mothers stay in a room outside SCBU but give KMC at the 2 hourly feeding times, 2 babies seen in KMC position. Good feeding techniques
- Challenges: Space, Man power (though is being addressed) no display of job aids/protocols
- Strengths: more intensive care available, staff maximize little resources and space available Good records. Staff highly dedicated
- MD- passionately committed .Took review team round KMC ward nearing completion and has improvised a lot to beat costs.

Score: 19.5/30

YOBE STATE

SPECIALIST HOSPITAL DAMATURU

- Different cadre of staffs were trained on KMC including a doctor
- The PMO of the hospital gave his full support for the implementation of KMC, and is currently making effort to see that KMC ward is established
- Some level of commitment by midwives in the maternity ward
- Records on KMC could not be retrieved because it was locked as only in-charge has access to the area except during morning shift
- Their strength for implementation of KMC is training thy received and moral support from the management
- Greatest challenges is unwillingness of mothers to stay beyond 24hrs after delivery

Score: 8.12/30

FSP HOSPITAL DAMATURU

- Some trained KMC staffs were transferred
- Some staffs working in the maternity were not trained on KMC
- Poor record keeping, wrong reading of baby's weight
- No written protocols for feeding
- Poor follow up schedule
- Challenge facing the implementation is lack of cooperation from the mothers to stay for more than a day in the ward
- Bed fee is free in the hospital
- No mother doing KMC at the time of visit

Score: 7.31/30

GENERAL HOSPITAL POTISKUM

- The hospital was designated baby friendly
- KMC is well established in the facility
- There is total commitment in both managers and staffs at maternity and ANC towards KMC
- Follow up of babies on KMC is documented
- A mother on follow up for KMC was interviewed and was very happy to demonstrate how to wrap the baby in KMC position; and also very happy on how her baby survive as against her expectation before starting KMC
- The facility uses ON SITE KMC register
- Lack of adequate manpower and KMC kits

Score: 17.88/30

GENERAL HOSPITAL JAKUSKO

- The hospital was yet to start implementing KMC
- Most of trained staffs on KMC were transferred to another facility
- The remaining staffs show their willingness to commence KMC
- General record keeping is poor
- Poor utilization of the facility
- Lack of KMC KITS, non- compliance of mothers and shortage of KMC trained staffs are the challenges leading to the delay in implementing KMC

Score: 4.88/30

GENERAL HOSPITAL GASHUA

- Commence KMC implementation
- Few records on KMC was seen but there is poor documentation
- No plan for follow up
- Some job aids on asphyxia, neonatal convulsion seen on wall in labour ward
- Non-compliance by the mothers to stay in the hospital was also their challenges

Score: 11.92/30

FEDERAL MEDICAL CENTRE NGURU

- The MD of the hospital gave his full support for effective implementation of KMC by providing both material and moral support
- All staffs involved in KMC were committed
- The centre both practice intermittent and continuous KMC
- Eighty-two babies were managed on KMC over a year period
- Records for feedings are kept inside babies folder; but no existing feeding protocols on display
- Wrong recording of babies weight on discharge was noted
- The only centre with 8 incubators in use among the Yobe KMC centres
- KMC kits are their obstacle towards continuous implementation of KMC

Score: 17.33/30

KELLURI MCH

- Ownership of the KMC practice is displayed
- Staffs of the hospital routinely go to home visit
- Enrolled a client for KMC at home during home visit for intermittent KMC and babies was said to be coming for follow up in the facility with good weight gain but however no record to back the claim
- Their strength are staffs' commitment while their challenge for effective implementation was unwillingness of the mother to come and stay in the facility because of pressure from husband

Score: 12.46/30

GENERAL HOSPITAL GEIDAM

- KMC is well established in this facility
- A newly enrolled client was interviewed
- All staffs trained on KMC, head nursing and sub staffs are committed towards successful implementation of KMC
- The challenges facing the facility in implementing KMC are lack of KMC kits, and the maternity ward is too congested making it uncomfortable for mothers on KMC

Score: 17.06/30

GENERAL HOSPITAL DAPCHI

- Just started implementing KMC about 2 months ago
- Staffs show some commitment towards implementation
- The hospital is under staffed

- There is poor record keeping
- KMC kits are not available

Score: 7.58/30

BAYAMARI MCH

- Full participation of all staffs of the facility with a meeting before commencement of KMC
- The KMC was implemented about a year ago but only a client who had KMC was on record
- THEY HAVE A SEPARATE KMC ward with one bed.
- Home visit routinely done
- Poor record keeping
- Poor utilization of the facility by the community

Score: 10.83/30

YUNUSARI CHC

- KMC not yet implemented
- Lack of full commitment by the staffs trained
- General record keeping was poor
- Non-compliance by the mothers

Score: 2.17/30

Appendix 4.6: KMC progress monitoring tool and scoring

KANGAROO MOTHER CARE PROGRESS MONITORING TOOL (Version 4)

University of Pretoria and Kalafong Hospital
PO Box 667, Pretoria 0001, South Africa

Use of the instrument / tool:

- This instrument can be used for scoring KMC implementation in health care facilities providing maternity services.
- It can be used to score health care facilities before the implementation of KMC to get an impression of the situation at each facility.
- The questions marked with an asterisk should always be answered, even if the health care facility does not practise KMC.
- The main use of the tool is to assess progress with implementation of KMC after 6-12 months after the launch of the project or the introductory workshop to key health care workers.
- The aim of the tool is not to assess the quality of care rendered but to quantitatively measure the level of progress the institution had achieved in implementing KMC following training.

Guidelines for monitors / assessors:

- A monitoring visit using this tool may take between 1-2 hours to complete.
- If you talk to mothers, try to interview them without the presence of health workers.
- Attach baseline data to this form (if available).
- Request copies of all written documents related to KMC. If copies are not available, ask for permission to photograph the documents for record purposes.
- Ask for photocopies of samples of forms, registers and relevant material. If copies are not available, ask for permission to photograph the documents for record purposes. Be sensitive to ethical issues and patient privacy. Do not photograph records with patient names on.
- Ask for permission from the hospital or nursing services manager to take pictures of the hospital, staff or records. (Pictures of staff members are only to be taken if they also give their verbal consent.)
- Use a written consent form for each mother to be photographed. Pictures may only be used for reporting on the project and for educational purposes, but not for commercial purposes.
- Mark each of the documents you take away with a date and the name of the facility.
- Each monitor/assessor fills in his/her own checklist and the results are compared and consolidated afterwards on one checklist, which is then marked as "FINAL".

Instructions:

- Tick or cross only applicable boxes.
- Complete the **"comments"** and **"observations"** sections if something important or striking is mentioned or observed that may be informative to understanding a particular phenomenon.
- Where possible, complete **"specify"**, **"describe"**, **"explain"** and **"elaborate"** where the associated response is ticked.

Definitions:

- Health care facility: Hospital, community health centre or any other health care facility providing maternity services; also referred to as "the/your facility"
- Neonatal unit: Ward that has at least a (heated) room where babies are cared for in cribs and/or incubators (nursery / high care); it can also comprise a neonatal intensive care section (NICU)
- KMC space/ward: Separate room or area in another ward allocated for mothers and babies in KMC
- Continuous KMC: Baby is carried in the KMC position $\pm$ 24 hours per day
- Intermittent KMC: Baby is placed in the KMC position at least once or twice per day for at least 30-60 minutes
- Sporadic KMC: Baby is placed in KMC position less than once per day

The PRRINN-MNCH Programme is funded & supported by UKaid from the Department for International Development and the State Department of the Norwegian Government. The programme is managed by Health Partners International (HPI), Save the Children UK and GRID Consulting, Nigeria.

Name of assessor: ..…….. Date: ……...……

QUESTIONS 1–16

OBSERVATIONS TO DO AND QUESTIONS TO ASK HEALTH WORKERS

*1 HEALTH CARE FACILITY

1.1 Region: …….. LGA: ……..…

1.2 Name of facility (hospital / health centre): ……..……..

1.2.1 Estimated catchment population of the facility: .....

1.3 Name of KMC coordinator *(If there is no KMC coordinator, write the name of the nursing manager of the maternity or neonatal ward)*:

……...…….

Designation: ……..……

1.4 Other informant/s:

Name	**Designation**
……..	…….
……..	…….
……..	…….
……..	…….
……..	…….

1.5 Level of facility:

Community health centre / clinic	☐
Level 1 (District hospital)	☐
Level 2 (Regional hospital)	☐
Level 3 (Central / Tertiary / Teaching hospital)	☐
Other (specify)	☐ ……..……..……

1.6 Does your facility have baby-friendly status? Yes ☐ No ☐ Unsure ☐

1.6.1 If Yes, when did it get its status? …….

1.6.2 If No, are you planning to become baby-friendly?

Yes ☐ No ☐ Unsure ☐

1.6.2.1 Comments: ……

…….

*2 NEONATAL AND KANGAROO MOTHER CARE

2.1 Types of neonatal care available: *(Mark as many as applicable)*

Intensive care	☐
Incubators (used and unused)	☐
Warm cribs	☐
Ordinary cribs in a heated room	☐
Ordinary cribs in a non-heated room	☐
Other (specify)	☐ ……..……..……

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2.2 If intensive care is available, where is it done?

Neonatal intensive care unit (NICU)	☐
General intensive care unit (ICU) of hospital	☐
Other (specify)	☐ ……..…….
Not applicable	☐

2.3 If there are incubators in the neonatal unit:

2.3.1 How many are there (used and unused)? ……..

2.3.2 How many are in use? ……..

2.3.3 If none or only a few are in use, what are the reasons? …….

……..…

***3 SKIN-TO-SKIN PRACTICES**

3.1 How is a baby cared for in the first hour after birth in this facility? Could you explain the steps and procedures of what happens to the baby? *(Let the informant/s talk freely first and make notes)*

……..

……..

3.3.1 Skin-to-skin contact between mother and baby mentioned spontaneously?

Yes ☐ No ☐ **➔ *If Yes, go to Question 3.2***

3.3.1.1 If No, are *any* babies placed in skin-to-skin contact with their mothers during the first hour after birth?

Yes ☐ No ☐ Unsure ☐

(a) If Yes, which babies are placed in a skin-to-skin position?

……

3.2 Type(s) of kangaroo mother care practised:
(Mark as many as applicable; specify further as needed)

No KMC practised	☐ **➔ *Go to Question 4.4***
Intermittent KMC	☐ …….
Continuous KMC	☐ …….
Sporadic KMC	☐ …….
Other (specify)	☐ …….

4 HISTORY OF KMC IMPLEMENTATION

4.1 When was KMC started? …….

4.2 Tell us more about the process that was followed.
(Take notes and probe for the points below, if not mentioned)

Don't know ☐ ➔ Go to Question 4. 3

……..

……..

……..

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4.2.1 Was there a specific occasion or meeting where the decision to implement KMC was taken?

Yes ☐ No ☐ Unsure ☐

4.2.2 Approximate date: ……..

4.2.3 What was the occasion? ……...

4.2.4 Are there *written* minutes or a report of the decision?

Yes ☐ No ☐ Unsure ☐

(If Yes, ask if it would be possible to see a copy.)

4.2.4.1 Copy of written document seen Yes ☐ No ☐

4.2.5 Who was involved in the decision-making process? ……

……..……..

4.3 Monitor's / Assessor's impression of recall of history of implementation

Good recall ☐ Some recall ☐ No recall ☐

➔ ***Go to Question 4.5***

*4.4 *(If KMC is not implemented yet)* Has a formal decision for KMC implementation been made yet?

Yes ☐ No ☐ Unsure ☐

4.4.1 If Yes, describe: ……

……..……..……..…

……..……..

➔ ***Go to Question 9***

4.5 Did the facility do a baseline survey on the neonatal mortality and / or morbidity rates before starting with KMC?

Yes ☐ No ☐ Unsure ☐

4.5.1 If Yes, did the monitor/assessor receive a copy of the baseline data?

Yes ☐ No ☐ Unsure ☐

4.6 Did the chief executive officer of the hospital / the district health manager / head of facility sign a commitment or undertaking or agreement that s/he would ensure that KMC is implemented in the hospital?

Yes ☐ No ☐ Unsure ☐

4.6.1 If Yes, specify further (if necessary): ……

……..……..

5 INVOLVEMENT OF ROLE-PLAYERS

5.1 Who are the people who were initially involved in starting KMC?
(Let informant/s first talk freely; take notes and probe for the persons below, if they are not mentioned specifically)

……..

……..

5.2 What kind of support did you get from the following people:

District health manager / CEO / superintendent ……

Matron / Nursing service manager ……

Unit manager (neonatal unit or maternity) ……

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Clinician (doctor / medical or clinical officer) ……

5.3 Are there other people in the hospital from whom you got special support?

Yes ☐ No ☐ Unsure ☐

5.3.1 If Yes, who and what kind of support? ……..…..…

……...

6 RESOURCES

6.1 Did you get any allocations from the hospital or district budget to establish your KMC facility?

Yes ☐ No ☐ Unsure ☐

6.1.1 If Yes, what was the nature of the allocation / what was the money used for?

…..……..…

……...……..…

6.2 Did you have other sponsors? Yes ☐ No ☐ Unsure ☐

(Also probe for donations in the form of material, wraps, caps, furniture, paint, labour [e.g. for making the space pretty] etc from churches, or other community, volunteer or religious groupings, or individuals in the community)

6.2.1 If Yes:

Name of sponsor	**Nature of contribution**
……..	……..……..
……..	……..……..

7 KANGAROO MOTHER CARE SPACE: CONTINUOUS KMC

7.1 Is there a ward or special area in another ward allocated for KMC?

Yes ☐ No ☐ ➔ ***If No, go to Question 8***

7.7.1 If Yes, what is nature of the space available?

Separate ward / unit ☐

Space / Corner in another ward ☐

Other (specify) ☐ ……

7.1.1.1 If space or a corner in another ward is used, which ward?

Postnatal ward ☐

Paediatric ward ☐

Other (specify) ☐ ……

7.2 Number of KMC beds: ……..

7.3 Number of mother-baby pairs enrolled for KMC at the moment (i.e. how many KMC beds occupied?): ……..

7.4 Number of mothers having babies in KMC position at time of walk-through: …….. *(Must have been observed in person)*

7.5 *If there is no mother or baby in KMC, ask for records of the last baby that went through KMC.*

Records could be provided Yes ☐ No ☐

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7.5.1 If Yes, is there any evidence of KMC practised in records?

Yes ☐ No ☐

7.5.1.1 If Yes, what? ……

7.6 Are there any cribs removed in the KMC space / ward? Yes ☐ No ☐

7.7 How are babies tied in the KMC position? *(Mark as many as applicable)*

- Local cloth (e.g. *chitenje*) ☐
- Special triangle and blouse ☐
- Kalafong *thari* ☐
- Draw sheets ☐
- Towels ☐
- Other (specify) ☐ ……..……..

……..……..

7.8 Which of the following equipment or facilities are available in the KMC space?

- Low beds ☐
- Head rests or pillows for mothers to lean against ☐
- Chairs (comfortable?) ☐
- Other (specify) ☐ ……..……

……

7.9 For how many hours per day are the babies in the KMC position? …….. hours

7.9.1 When are the babies *not* in the KMC position? ……....

……...

7.10 Who decides when a baby is ready to go to (intermittent or continuous) KMC?
(Let informant talk first before ticking or probing) (Mark as many as applicable)

……..

- Routine for mother-baby dyads ☐
- Clinicians (clinical or medical officers) ☐
- Nurses ☐
- Patient attendants ☐
- Mother's request ☐
- Other (specify) ☐ ……..……..……..……

7.11 Which mothers or babies are *excluded* from going to KMC before discharge? *(Mark as many as applicable; specify further as needed) (Let informant/s first talk freely)*

……
……

- None ☐ ……..…..
- HIV+ mothers ☐ ……..…..
- Mothers with another infectious disease ☐ ……..…..
- Babies born outside the facility / before arrival ☐ ……..…..
- Babies below a certain weight (specify) ☐ ……..…..

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Babies above a certain weight (specify) ☐ ……..…

Other (specify) ☐ ……...…

7.12 What is the policy on the movement of mothers *with their babies in the KMC position*? (E.g. Do they walk around? Are they allowed to leave the ward? Where are they allowed to go and under what conditions? When do they leave their babies behind and when not?)

……..……..

……..……..

……..……..

8 NEONATAL UNIT OR NURSERY: INTERMITTENT KMC

➔ If there is no nursery or no KMC is practised in the facility, go to Question 9

8.1 Is intermittent KMC practised in the nursery?

Yes ☐ No ☐ Sometimes ☐ ***➔ If No, go to Question 9***

8.2 If Yes or Sometimes, describe when (i.e. criteria for eligibility): ……

……..……..

8.3 If Yes

8.3.1 Are there fixed times of the days that mothers practise intermittent KMC?

Yes ☐ No ☐ Sometimes ☐ Unsure ☐

8.3.1.1 If Yes or Sometimes, please describe: ……..

……..……..

8.3.2 Is there a written programme available for the times when KMC is supposed to be practised?

Yes ☐ No ☐ Unsure ☐

(If Yes, try to get a copy)

8.3.3 Are the times / occasions when it is recorded somewhere when a baby gets intermittent KMC?

Yes ☐ No ☐ Unsure ☐

8.3.3.1 If Yes, describe: ……..

8.4 Number of babies currently in nursery: ……..

8.5 Number of babies doing intermittent KMC: ……..

Observed ☐ Number: ……..

Verified from records ☐ Number: ……..

Verified from mothers ☐ Specify: ……..

8.6 *If there is no baby in KMC, request the records of the last baby that received KMC.*

Records could be provided Yes ☐ No ☐

8.6.1 If Yes, is there any evidence of KMC practised in records?

Yes ☐ No ☐

8.6.1.1 If Yes, what? ……

8.7 When is a baby eligible to start with intermittent KMC? (What criteria do you use to decide if a baby can start intermittent KMC?)

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……..……..
.
……..……..

8.8 Who decides when a baby is ready to start with intermittent KMC? *(Let informant/s talk first and make notes before ticking or probing) (Mark as many as applicable)*

……..

Clinicians (clinical or medical officers) ☐

Nurses ☐

Other (specify) ☐ ……..……..…

8.9 Where do mothers sit while practising KMC? ……..……..……..

……...

***9 FEEDING AND WEIGHT MONITORING**

9.1 Is there a place near or at the hospital where the mothers can stay / lodge while their babies are in the neonatal unit / nursery (before they start with KMC)?

Yes ☐ No ☐ Unsure ☐ Not applicable ☐

➔ If No or Unsure, go to Question 9.1.2

➔ If Not applicable, go to Question 9.2

9.1.1 If Yes:

9.1.1.1 Describe where the mothers stay: ……..……

……..…….

9.1.1.2 How far is the place from the neonatal unit / nursery? ……..……...

……..……..…

9.1.1.3 Is it possible for mothers to come for *all* feeding sessions at night?

Yes ☐ No ☐ Unsure ☐

➔ Go to Question 9.2

9.1.2 If No or Unsure:

9.1.2.1 What are the reasons why mothers don't have a place to stay at the hospital?

……

……

9.1.2.2 What happens if a mother cannot come for all the feeds?

……..……...

……..…….

9.2 Is there a *written* feeding policy or protocol for babies in the neonatal ward / nursery and in the KMC space? *(Get a copy to take along or take a picture)*

Yes ☐ No ☐ Unsure ☐

9.2.1 If Yes, could a copy be provided? Yes ☐ No ☐

9.3 Are there job aids for feeding available in the neonatal ward / nursery and in the KMC space? *(Get a copy or take a picture)*

Yes ☐ No ☐ Unsure ☐

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9.3.1 If Yes, where is/are this/these aid/s kept? *(Mark as many as applicable; comment further as needed)*

In a cupboard	☐	……
In a file at the nurses' station	☐	……
Displayed on the wall	☐	……
Other (specify)	☐	……

9.4 Feeding records: *(Request to see the records of babies)*

9.4.1 Are there regular recordings of *each* feed for *each* baby?

Yes ☐ No ☐ Unsure ☐

9.4.2 If Yes, what is recorded for each feed? *(Mark as many as applicable)*

Time of feed	☐
Volume of feed (if expressed breast milk and/or formula is used)	☐
Nurse's notes	☐
Clinician's notes (medical or clinical officers)	☐
Other (specify) ……	☐

……

9.5 Records of weight:

9.5.1 Are all babies weighed regularly?

Yes ☐ No ☐ Unsure ☐

➔ If No or Unsure, go to Question 9.6

9.5.2 If Yes:

9.5.2.1 How often are they weighed?

More than once every day	☐	
Once every day	☐	
Every two days	☐	
Twice per week	☐	
Once per week	☐	
Other	☐	Specify: ……

9.5.2.2 How and where is the weight recorded? *(Observe and let informant/s first talk freely before probing below)*

……

……

Special weight book	☐	
Ward register	☐	
Other	☐	Specify: ……

9.6 Scale:

9.6.1 Type of scale:

Manual	☐	Brand name: ……
Electronic	☐	Brand name: ……
Other	☐	Specify: ……

9.6.2 Increments:

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5 grams	☐	50 grams	☐	
10 grams	☐	100 grams	☐	
20 grams	☐	Other (specify)	☐	……..……..……..…

➔ ***If no KMC is practised in the facility, go to Question 12***

10 RECORDS IN USE FOR KMC INFORMATION

10.1 What kinds of general records are being used for recording KMC information?
(Mark as many as applicable) (If it is not a standardised record, attach copies or pictures of forms or a few pages of a register/book, with names crossed out)

Official register provided by the Ministry / Health Directorate	☐
Special KMC register or collective record kept for all babies who receive(d) KMC	☐
Discharge scoring sheet	☐
KMC daily notes	☐
Other special form for every single KMC baby (e.g. as part of file)	☐
Discharge letter *with information on KMC*	☐
Road to health chart / booklet *with information on KMC*	☐
Other (specify) ……	☐

10.2 Can figures be provided on how many babies received *intermittent* KMC in a particular period?

Yes ☐ No ☐ Unsure ☐ Not applicable ☐

➔ **If No or Unsure or Not applicable, go to Question 10.3**

10.2.1 If Yes:

10.2.1.1 Can it be calculated, how many hours per day a baby received intermittent KMC?

Yes ☐ No ☐ Unsure ☐

10.2.1.2 Can it be calculated, for how many days a baby received intermittent KMC?

Yes ☐ No ☐ Unsure ☐

10.2.1.3 Can a baby's daily weight gain while receiving intermittent KMC be calculated?

Yes ☐ No ☐ Unsure ☐

10.2.2 *Note for monitors: Look very carefully at any statistics and see if you can find any anomalies (e.g. no or fewer babies in KMC some months, evidence of poor record keeping, etc). Discuss your observations with the informant/s and try to find reasons for any anomalies.*

……..

……..

……..

……..

10.3 Can figures be provided on how many babies received *continuous* KMC in a particular period?

Yes ☐ No ☐ Unsure ☐ Not applicable ☐

➔ **If No or Unsure or Not applicable, go to Question 10.4**

10.3.1 If Yes:

10.3.1.1 Can it be calculated, for how many days a baby received continuous KMC?

Yes ☐ No ☐ Unsure ☐

10.3.1.2 Can a baby's daily weight gain while receiving continuous KMC be calculated?

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Yes ☐ No ☐ Unsure ☐

10.3.2 *Note for monitors: Look very carefully at any statistics and see if you can find any anomalies (e.g. no or fewer babies in KMC some months, evidence of poor record keeping, etc). Discuss your observations with the informant/s and try to find reasons for any anomalies.*

……

……..

……..

……..

10.4 Can audit figures or statistics for *at least one year* be provided containing evidence of sustained KMC practice? *(E.g. how many babies went through KMC, how many babies in each LBW category, average/mean birth weight, average/mean discharge weight, average/mean number of days babies spent in hospital, survival rate [number and percentage])*

10.4.1 For intermittent KMC	Yes	☐	No	☐	Unsure	☐	N/A ☐
10.4.2 For continuous KMC	Yes	☐	No	☐	Unsure	☐	N/A ☐
10.4.3 Only KMC in general	Yes	☐	No	☐	Unsure	☐	N/A ☐

10.5 Are there any statistics on KMC displayed somewhere (e.g. on a wall)?

Yes ☐ No ☐ Unsure ☐

10.5.1 If Yes, describe: ……..……

10.6 Are there official channels through which KMC is reported to different levels of management on a regular basis?

Yes ☐ No ☐ Unsure ☐

10.6.1 If Yes, elaborate: ……..……..……

……..…..

11 KMC EDUCATION

11.1 Is there a *written* checklist for all the procedures to go through when a mother and her baby are admitted to the KMC space?

Yes ☐ No ☐ Unsure ☐

11.1.1 Elaborate: ……..……..

……

11.2 What written and audiovisual information on KMC is available for mothers? *(Get copies or pictures of each if it is not standard material provided by the government or the implementation project)*

Posters	☐	Which posters? ……..…….
		……..…….
Brochures / Information sheets	☐	Describe: ……
		……..…….
Video/DVD	☐	Describe: ……
		……..…….
Other	☐	Specify: ……..……
		……..…….

11.3 Is verbal education related to intermittent and/or continuous KMC provided to mothers? *(Let informant/s first talk freely, before probing the points below)*

Yes ☐ No ☐ Unsure ☐

……

……..

11.3.1 If Yes, at what point / when? *(Mark as many as applicable; describe further)*

Antenatal care	☐	…….
During transport to hospital	☐	…….
Immediately after birth	☐	…….
While baby is in nursery	☐	…….
When mothers and baby are transferred to / start KMC	☐	…….
Other (specify)	☐	…….
		…….

11.4 Is there a daily or weekly educational or recreational programme for mothers in KMC?

Yes ☐ No ☐ Unsure ☐

11.4.1 If Yes, describe: *(Include a copy if available)* …….

……..

***12 DOCUMENTS**

12.1 What general statements like a vision and mission are visibly displayed in the hospital?

……..

12.2 Are there special vision and mission statements for the neonatal unit / nursery / maternity (under which KMC is practised)?

Yes ☐ No ☐ Unsure ☐ **➔ If No or Unsure, go to Question 12.3**

12.2.1 If Yes, do any of these statements mention KMC?

Yes ☐ No ☐ Unsure ☐

12.2.1.1 If Yes, describe *(or include a document or picture as evidence):*

……..

12.3 Are there any *written* policies, guidelines or protocols regarding the practice of KMC?

Yes ☐ No ☐ Unsure ☐

➔ If No or Unsure, go to Question 13

12.3.1 If Yes:

12.3.1.1 For what type of KMC are the policies, guidelines or protocols meant? *(Mark as many as applicable) (Get copies or pictures)*

Intermittent KMC	☐	…….
Continuous KMC	☐	…….
Other	☐	Specify: …….

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12.3.1.2 For which target groups? *(Mark as many as applicable; describe further as needed) (Get copies or pictures)*

General instructions for ward	☐	……
For nurses	☐	……
For clinicians	☐	……
For patient attendants	☐	……
Other	☐	Specify: ……..……
		……

12.3.1.3 Where do these guidelines, policies or protocols come from?

Taken over as is from examples provided during training	☐
Taken over as is from other institutions' documents	☐
Adapted from examples provided during training	☐
Adapted from other institutions' documents	☐
Original policy/protocol/guidelines developed locally	☐
Other (specify) ……..…	☐

……

12.3.1.4 Who drafted or adapted the policy, protocol or guidelines? *(Let informant/s talk first before ticking or probing)*

……..……..

……

One person	☐	…….
Group of persons	☐	Specify: ……
		……

12.3.1.5 Was the draft policy, protocol or guidelines distributed further for comments?

Yes ☐ No ☐ Unsure ☐

(a) If Yes, to whom? ……

……

***13 REFERRALS, DISCHARGE AND FOLLOW-UP**

13.1 Who decides when a baby is ready for discharge?

Clinicians (clinical or medical officers)	☐	
Nurses	☐	
Patient attendants	☐	
Mother's request	☐	
Other	☐	Specify: ……..……..

13.2 What criteria are used to decide if a baby is ready to be discharged?
(Let informant/s first talk freely before probing the points below)

……..……..……

……..……..……..

Baby has reached certain weight	☐	Specify: ……..……..
Baby gains weight consistently	☐	Specify: ……..……..

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Mother is willing to continue KMC ☐ Specify: ……..

Other ☐ Specify: ……..

……..

13.3 Is a special discharge scoring sheet used to help with the discharge decision?

Yes ☐ No ☐ Unsure ☐

13.4 Where are the majority of preterm / LBW /KMC babies followed-up after discharge from hospital?

At the hospital where baby has been born ☐ ➔ ***Go to Question 13.5***

At hospital nearest to mother's home ☐ ➔ ***Go to Question 13.6***

At the nearest community centre / clinic ☐ ➔ ***Go to Question 13.6***

Other ☐ Specify: ……

……..……

➔ ***Go to Question 13.6***

13.5 If babies are followed up at the hospital where they have been born:

13.5.1 Where are they followed up?

In the KMC space/ward ☐

At the nursery/neonatal unit ☐

At the outpatients department ☐

Other (specify) ☐ ……

13.5.2 Are records kept of follow-up visits? *(Take a blank copy or take a picture)*

Yes ☐ No ☐ Unsure ☐

13.5.2.1 If Yes, specify/describe: ……

13.5.3 Until what weight are they followed up at the hospital? ……..

13.5.4 What is the follow-up rate of babies? (What percentage of babies are brought back to the hospital for review?)

……..……. Not known ☐

13.5.5 What measures are in place to ensure that babies are brought back to the hospital for review?

……. None ☐

……..……..

13.6 What measures of communication are in place to inform a health centre of a baby's discharge from hospital? *(Specify further if necessary)*

None ☐ ……

Phone call, fax or e-mail to health centre ☐ ……

Phone call, fax or e-mail to district office ☐ ……

Referral letter given to mother or guardian ☐ ……

Other (specify) ☐ ……

13.7 Are home visits done? Yes ☐ No ☐ Unsure ☐

13.7.1 If Yes:

13.7.1.1 Are *all* babies visited or *only some*? All ☐ Only some ☐

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(a) If Only some, which babies are visited? ……..…

……

13.7.1.2 Who does the home visits? *(Describe further where needed)*

Community health workers (CHWs)	☐	……..……..…. ……..……..….
Community-based surveillance volunteers (CBSVs) / Health surveillance assistants (HSAs)	☐	……..……..…. ……..……..…. ……..……..….
Nurses (community health, public health)	☐	……..……..…. ..……
Community health officers (CHOs)	☐	……..……..…. ……..……..….
Other (specify)	☐	……..……..…. ……..……

13.8 Are babies transported to your hospital in the skin-to-skin (KMC) position?

Always ☐ Sometimes ☐ Seldom ☐ Never ☐

13.9 Are babies transported from your facility to another in the skin-to-skin (KMC) position?

Always ☐ Sometimes ☐ Seldom ☐ Never ☐

➔ ***If KMC has not yet been implemented in the facility, go to Question 15***

14 STAFF ORIENTATION AND TRAINING

14.1 How many staff members were originally trained in KMC *outside* your facility?

Don't know ☐

Total: …….	**Number**
Managers (e.g. district health offices, matron)	……...
Clinicians (clinical or medical officers)	……...
Nurses / Midwives	……...
Patient attendants	……...
Other (specify) (e.g. cleaners, volunteers) …….. ……	……...

14.2 What kind of awareness and educational activities did you have in your facility to introduce KMC to staff members?

None ☐

……..……

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14.3 How many staff members have up to now been fully trained in KMC *inside* your facility?

Don't know ☐

Total: …….	**Number**
Managers (e.g. district health officers, matrons)	……...
Clinicians (clinical or medical officers)	……...
Nurses / Midwives	……...
Patient attendants	……...
Other (specify) ……..	……...

……

14.4 Number of staff members trained in KMC who still work with KMC: ……

14.5 How often do you get new staff in the maternity of neonatal unit? ……..

……..

14.6 Is there a special orientation programme for new staff who will work with KMC?

Yes ☐ No ☐ Unsure ☐

14.6.1 If Yes:

14.6.1.1 What is the nature of this orientation? *(Describe further as needed)*

Oral presentation	☐	……
Written documents to study	☐	…….
Audiovisuals (e.g. video, CD, DVD)	☐	…….
Other (specify)	☐	…….

14.6.1.2 What evidence is there of this programme? *(Mark as many as applicable)*

Programme outline available in writing	☐	
Notes used in programme available	☐	
Health workers confirmed training verbally	☐	
Signed in-service or training records	☐	
Other (specify)	☐	…….
		…….

14.7 Is there a long-term plan in the hospital or district to get all health workers trained and updated in KMC?

Yes ☐ No ☐ Unsure ☐

14.7.1 If Yes, is this plan *written*? Yes ☐ No ☐ Unsure ☐

14.8 Are there plans to link KMC with other initiatives such as Essential Newborn Care or the Baby-friendly Hospital Initiative?

Yes ☐ No ☐ Unsure ☐

14.8.1 If Yes, with which initiatives?

Initiative	**Nature of link**
……..	……..
……..	……..
……	……..

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14.9 Do students do practical work in your maternity or neonatal unit?

Yes ☐ Some ☐ No ☐ Unsure ☐

14.9.1 If Yes or Some:

14.9.1.1 Which students?

Nursing ☐

Medical ☐

Nutrition ☐

Other ☐ Specify: ……..……..

14.9.1.2 Are any of them trained in KMC?

Yes ☐ Sometimes ☐ No ☐ Unsure ☐

(a) If Yes or Sometimes, how systematic is the training? Is there a specific programme or are they only trained on the job?

Systematic (specify) ☐ …….

Apprenticeship / On the job ☐

Other (specify) ☐ ……..….

(Ask to see a written copy of a programme if it exists. Take a copy or a picture)

***15 STAFF ROTATIONS**

15.1 Which nurses rotate between day and night shifts in the maternity or neonatal unit?

All ☐ Some ☐ None ☐

15.1.1 If Some, who does not do day/night shift? …….

15.2 Are staff members rotated between different wards in the hospital (e.g. between maternity, surgery, male ward, female ward, etc)?

Yes ☐ No ☐ Unsure ☐

➔ If No or Unsure, go to Question 16

15.2.1 If Yes:

15.2.1.1 Are all or only some of the staff members rotated?

All ☐ Some ☐

15.2.1.2 Which of the following cadres are rotated?

Managers (nursing etc) ☐

Clinicians (clinical or medical officers) ☐

Nurses ☐

Patient attendants ☐

Other (specify) ☐ ……

15.2.1.3 Is there a core of staff in the neonatal unit or maternity ward where KMC is practised that is not rotated to other wards?

Yes ☐ No ☐ Unsure ☐

(a) If Yes, describe: ……..…...

15.2.1.4 How often do rotations take place?

Every month ☐

Every 3 months ☐

Every 6 months ☐

Every year ☐

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Other (specify) ☐ ……

***16 STRENGTHS AND CHALLENGES**

16.1 What do you think are the strengths in your facility that facilitated implementation (made implementation easier)?

Not applicable / Not yet implementing KMC ☐ ➔ *Go to Question 16.2*

……

……

16.2 What are / were the barriers / obstacles to the implementation of KMC?

……

……

➔ ***If KMC has not yet been implemented in the facility, go to Question 18.1***

QUESTION 17
QUESTIONS TO ASK MOTHERS (if there are any)

17.1 *(Verbal education related to intermittent and/or continuous KMC)* Did you get any education on KMC at any time?

Yes ☐ No ☐ Unsure ☐

➔ ***If No or Unsure, go to Question 17.2***

17.1.1 If Yes

17.1.1.1 Who gave you the education?

Nurse ☐
Doctor ☐
Patient attendant ☐
Nutritionist ☐
Other (specify) ☐ ……

17.1.1.2 When did you get your KMC education?

……

(Mark as many as applicable; describe further as needed)

Antenatal care ☐ ……
During transport to hospital ☐ ……
Immediately after birth ☐ ……
While baby was in nursery ☐ ……
When mother and baby were transferred to / started KMC ☐ ……
Other (specify) ☐ ……

17.1.1.3 What did the nurse / doctor / patient attendant / nutritionist / ……. tell you about KMC?

……

17.2 Was your baby born inside or outside the hospital? Inside ☐ Outside ☐

17.2.1 If the baby was born outside the hospital: How did you or the guardian hold your baby when the baby was transported to hospital?

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……

Put in a special incubator ☐

Swaddled and held in horizontal position ☐

Skin-to-skin in the KMC (upright) position ☐

Other (specify) ☐ ……

QUESTION 18
GENERAL OBSERVATIONS AND IMPRESSIONS

18.1 Impressions regarding the intensity of involvement of senior management (superintendent, medical manager, CEO, nursing service manager/matron) in establishing KMC (past or future)

A lot of involvement and/or support (moral, material, etc) ☐

Some involvement and/or support (moral, material, etc) ☐

Neutrality / Little support / Resistance ☐

18.1.1 Comments: ……..……..

18.2 Impressions of mothers' compliance with KMC? (I.e. do they always practise it or not?)

Mothers are diligent in carrying their babies in the KMC position ☐

Mother carry their babies in the KMC position some of the time ☐

Very little of KMC actually practised by mothers ☐

18.2.1 Comments: ……..……..

*18.3 Impressions of the quality of data captured in records

Excellent ☐

Average (only minimum requirements) ☐

Poor ☐

18.3.1 Comments: ……..……..

*18.4 Impressions regarding the quality of the follow-up system

Well-developed (written proof could be supplied) ☐

Partly developed (no written proof but strong evidence of a well organised system) ☐

Non-existent ☐

18.4.1 Comments: ……..……..

*18.5 Other comments and observations (e.g. observe "well-being" of mothers doing KMC, fixing baby, homeliness of space/ward etc)

……

……

……

……

……

……

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……

……

18.6 Comments for hospital *(Use this as basis for giving immediate feedback to hospital, either verbally or on separate sheet)*

18.6.1 GENERAL IMPRESSIONS OF MONITOR/ASSESSOR

(Organise your comments around the following headings: General; KMC practice [including feeding]; Documentation and protocols; Involvement of management [different levels])

……

……

18.6.2 RECOMMENDATIONS FOR CONSIDERATION

(Organise your comments around the following headings: General; KMC practice [including feeding]; Documentation and protocols; Involvement of management [different levels])

……

……

……

……

……

……

……

18.7 Ideas for policy makers and health authorities

……

……

……

……

……

……

……

……

…… ……

NAME OF MONITOR / ASSESSOR Signature

……

Date

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KMC scoring (to be completed after progress monitoring tool completed at each site)

Implementation construct	Progress marker	Instrument items
1. Creating awareness *(2 points maximum)*	Number and type of (senior) managers involved in implementation process (in relation to size of facility)	Special persons who take specific effort in promoting KMC including management, professionals, driving forces (contact person, KMC coordinator, other champion) *1.5 points* Impressions regarding the intensity of involvement of senior management in establishing KMC (past or future) *0.5 points*
2. Adopting the concept *(2 points maximum)*	Minuted decision to implement KMC or recall by leaders of occasion and date of decision	Knowledge of the original decision to implement KMC. If KMC not yet implemented: has a formal decision been taken? *2 points*
3. Taking ownership *(6 points maximum)*	Allocation of space	Practice of intermittent KMC in the neonatal unit/nursery *1 point* Special area or ward for continuous KMC 24h per day *1 point*
	Ability to lodge mothers	Lodger facility for mothers to stay *0.5 points*
	Procurement of equipment	Special equipment or facilities enhancing the practice of KMC *0.5 points*
	Removal of cribs	All cribs/cots removed from KMC ward *1 point*
	Information for mothers	Availability of brochures/information sheets/posters/ videos *1 point*
	Other resources	Allocations from the hospital budget to establish KMC *0.5 points* Allocations from other partners to establish KMC *0.5 points*
4. Evidence of practice *(7 points maximum)*	Evidence of the KMC position	Intermittent KMC practiced in high care *1 point* Intermittent KMC practiced in postnatal ward *1 point* Separate KMC ward or area *1 point* Mothers observed with infants in KMC position *1 point*
	Orientation for new staff	Face-to-face or written orientation to KMC *1 point*
	Records that document KMC	Specific KMC records in use *1 point*
	Ability to provide data for KMC	Records used for calculating rates, weights, etc *1.5 points*
5. Evidence of routine integration *(7 points maximum)*	Further evidence of KMC position	Mothers can demonstrate KMC position to others and support *1 point*
	Evidence of KMC nutrition	Written feeding policy for babies in the KMC ward *1 point*
	Evidence of KMC discharge and follow up	Written evidence of follow up system in place, record-keeping *3 points*
	Evidence of KMC included in policy and protocol documents	KMC appears in facility statements and policies *0.5 points* Existence of guidelines and protocols regarding the practice of KMC *1.5 points*
6. Evidence of sustainable practice *(6 points maximum)*	Documented results	Facility records show ongoing KMC practice for at least 1 year *2 points*
	Evidence of staff development	Plan in place to ensure all staff receive KMC training *1 point* Evidence that staff have received KMC training in the past year *1 point*
	Score on the first 5 constructs (divided by 12)	Score on the first 5 constructs will influence sustainability *2 points*
MAXIMUM TOTAL SCORE		*30 points*

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Appendix 4.7: Kangaroo Mother Care Definitions

Facility-based Kangaroo Mother Care (KMC)
KMC is the *early*, *prolonged*, and *continuous* skin-to-skin contact between the mother (or substitute) and her baby, both in hospital and after early discharge with support for positioning, feeding (ideally exclusive breastfeeding), and prevention and management of infections and breathing difficulties.

In KMC, a baby is undressed down to the nappy and hat and/or socks and placed on a caregiver's bare chest. A blanket or wrap is placed over the mother and baby for warmth. KMC is indicated for preterm and low birth weight babies but can be done with any baby who does not need recurrent resuscitation. In settings where there is adequate equipment and staff to ventilate and monitor babies, it is possible to do KMC with a ventilated baby. In low-resource settings, these babies may need to be monitored more closely in an incubator if they need recurrent resuscitation. In settings with limited and equipment the balance of risks may favor KMC but this has not been systematically studied. KMC is continued until it is no longer tolerated by the baby or until the 40^{th} week of postnatal gestational age.

KMC has been shown to have several benefits for premature babies and their mothers. It has a significant mortality benefit in babies <2000g, it helps babies breathe and sleep better, gain weight more quickly, and have more stable temperatures. Mothers who practice KMC have been shown to have better milk supplies and less depression.

Intermittent KMC
Intermittent KMC refers to recurrent but not continuous skin-to-skin contact between mother and baby with the same support from health workers as continuous KMC. It is practiced when the caregiver is unable or unwilling to practice continuous KMC in a health facility, or the baby is unstable. The time of intermittent KMC can range from once to a few times a day over a variable number of days. High quality trials in low-resource settings have not been done to determine the minimum amount of time needed to practice intermittent KMC to retain the benefits of continuous KMC.

Post-discharge KMC (also known as ambulatory KMC)
Discharge from facility-based KMC when the baby is feeding well, growing, and stable and the mother or caregiver demonstrates competency in caring for the baby on her own, either after admission or after on-site initiation. Continuous KMC is maintained at home with an agreed upon schedule for follow-up visits at the hospital, outreach clinic, or at home, to monitor the health of the baby. Post-discharge KMC should not be referred to as community KMC since it is initiated and links to a facility-based KMC service.

Skin-to-skin care
Skin-to-skin care is recommended for all babies immediately after delivery to ensure warmth and continued for the first 24 hours. This routine care should not be confused with continuous or intermittent KMC.

Community-initiated skin-to-skin care / KMC
Community-initiated skin-to-skin care refers to the practice of continuous KMC being initiated and continued at home. It is also called community KMC but it doesn't necessarily link to the full package of supportive care. It has been practiced in settings where referral to a health facility is challenging or not possible. Currently there is insufficient evidence for scaling up this form of KMC. A full package of community-initiated KMC (with appropriate training, support and monitoring) is being tested in different settings (e.g. Ethiopia, Malawi for babies over 2000g) and may provide convincing evidence for this intervention in the future.

Skin-to-skin positioning for referral
Small babies who are identified at home or in facilities without capacity to care for preterm babies and need to be referred to a higher level health facility should be placed in the skin-to-skin position. Community health workers and staff in facilities without KMC units should at least be trained on KMC benefits and positioning if not the full package of care.

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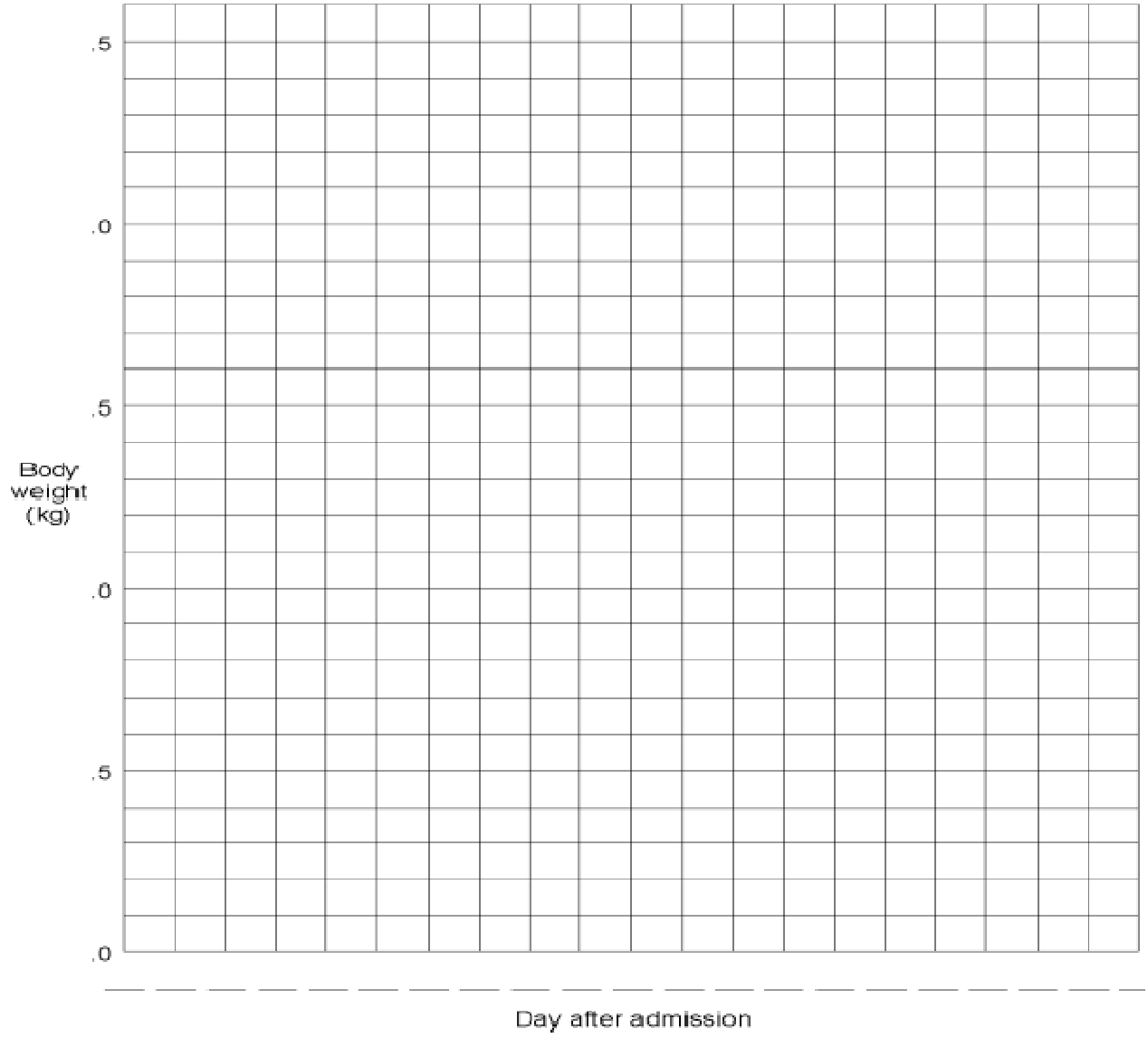
Appendix 4.8: Job aid for determining appropriate weight gain

This is a blank weight chart that can be used to monitor the weight of a sick or small baby. On the horizontal axis are spaces to record the number of days after admission. The vertical axis is for the weight in kilograms, stepped in 100-g increments and marked in 500-g increments, but the exact weight has been left blank so that the chart can be used for any baby irrespective of the starting weight.

If the baby's birth weight is known, mark it as day 0. Mark the admission day and fill in the starting weight at the appropriate level. Ensure that enough space is left on the vertical axis of the chart to plot initial weight loss since babies lose weight at first. Chart the baby's weight while hospitalized, and calculate the weight gain/loss. The baby should be gaining at least 10g / kg / day before discharge.

Name	Weight on admission
Age at admission	Weight on discharge



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Appendix 4.9: Job aid for feeding

Developed by Elise van Rooyen, Kalafong Hospital, University of Pretoria, 2008.

- It is normal for small babies to lose approximately 10% of their birth weight during the first 7 to 10 days of life. (If a baby weighs 2,00kg it can lose up to 200g and it falls within normal limits.)
- Birth weight is usually regained by 10 – 15 days of life depending on the birth weight and the prematurity of the baby. If the baby was sick during the first week of life it may take longer for the baby to regain the birth weight.
- Calculate feeds using the birth weight until the infant starts gaining weight. Do not calculate the feeds on the current weight if it is less than the birth weight. As soon as the baby starts gaining weight the feeds are calculated according to the last and highest weight. Feeds volume should never be decreased when an infant loses weight.
- Increase the volume of milk in increments of 15 - 20 ml/kg body weight per day until the baby reaches 180 ml/kg body weight of breast milk per day or use Table 1 as guide to increase the volume.

Table 1: Amount of milk (or fluid) needed per Kg/day and age in days

Birth weight	Feed every	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
500 – 1000g	2 hours	75 ml/kg	90/ml/kg	100ml/kg	110ml/kg	120 ml/kg	135ml/kg	150ml/kg	165ml/kg	180ml/kg
1001-1500g	2 / 3 hours	70ml/kg	85ml/kg	100ml/kg	115ml/kg	130ml/kg	150ml/kg	165ml/kg	180ml/kg	
1501-2500g	3 hours	60ml/kg	80ml/kg	100ml/ kg	120ml/kg	140ml/kg	160ml/kg	180ml/kg		
> 2500 g	3 hours	60ml/kg	90ml/kg	120ml/ kg	150ml/kg	180ml/kg				

- The amount of breast milk needed per feed according to the infant's weight and age in days can be calculated or read from Table 2.
- Continue to increase the volume of milk as the baby's weight increases to maintain a volume of 180 ml/kg body weight of breast milk per day.
- It is preferable to feed infants weighing less than 1250 grams 2 hourly, providing 12 feeds per day. This is not always practical and often mothers cannot keep up with feeding their infants every 2 hours especially during the night. A practical solution to this problem is to feed the infant 2 hourly during the day from 6h00 to 18h00 and then change to 3hly feeds during the night. This provides 10 feeds per day and the infants usually do very well on this schedule. See Table 2 for a schedule where an infant is placed on 10 feeds per day and where the feeds are already calculated for convenience sake.
- The volume of feeds in infants receiving formula milk can be reduced to a total of 150 ml/kg/day.
- If weight gain is inadequate (less than 15 g/kg body weight per day over three days):
    - Make sure that the infant is getting the correct volume and number of feeds per day.
    - If the infant does not complete the feeds increase the number of feeds and decrease the volume – increase feeds to 10 or 12/day.
    - If this does not work consider inserting a nasogastric tube.
    - Also look whether the infant is not cold and that the mother is keeping the infant skin-to-skin. Infants will not gain weight if their body temperature is too low.

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    - If the infant is still not gaining weight and breast milk fortifiers are available this may be added. If fortifiers are not available consider giving hind milk to the infant. Hind milk is high in fats and has a higher caloric value than fore milk.

- Ideal weight gain for small infants is 20 – 30 grams per day or 140 – 210 grams per week. The minimum accepted weight gain is 15 grams per day (105 grams per week) but it should improve as the infant gains strength.
- It is good to weigh the baby as often as possible while in the ward.
    - If the scale is electronic and weighs in increments of 20 grams, babies should be weighed every day.
    - If the scale weighs in increments of 50 grams, babies should be weighed twice a week.
    - If the scale is mechanical then babies should be weighed once or twice a week.
- If an infant has a very or extremely low birth weight it may help to feed the baby hourly by cup, especially if there are no nasogatric tubes available. They receive 24 small feeds every hour. See table 2

Table 2 : Approximate amount of breast milk needed per feed by weight and age in days

BW in Kg	No of feeds	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Total Volume / day →		75 ml/kg	90/ml/kg	100ml/kg	110ml/kg	120 ml/kg	135ml/kg	150ml/kg	165ml/kg	180ml/kg
0.8	24	2.5	3.0	3.3	3.7	4.0	4.5	5.0	5.5	6.0
0.9	24	2.8	3.4	3.8	4.1	4.5	5.1	5.6	6.2	6.8
1.0	24	3.1	3.8	4.2	4.6	5.0	5.6	6.3	6.9	7.5
0.8	12	5.0	6.0	6.7	7.3	8.0	9.0	10.0	11.0	12.0
0.9	12	5.6	6.8	7.5	8.3	9.0	10.1	11.3	12.4	13.5
1.0	12	6.3	7.5	8.3	9.2	10.0	11.3	12.5	13.8	15.0
Total Volume / day →		70ml/kg	85ml/kg	100ml/kg	115ml/kg	130ml/kg	150ml/kg	165ml/kg	180ml/kg	
1.1	12	6.4	7.8	9.2	10.5	11.9	13.8	15.1	16.5	
1.2	12	7.0	8.5	10.0	11.5	13.0	15.0	16.5	18.0	
1.3	12	7.6	9.2	10.8	12.5	14.1	16.3	17.9	19.5	
1.4	12	8.2	9.9	11.7	13.4	15.2	17.5	19.3	21.0	
1.1	10	7.7	9.4	11.0	12.7	14.3	16.5	18.2	19.8	
1.2	10	8.4	10.2	12.0	13.8	15.6	18.0	19.8	21.6	
1.3	10	9.1	11.1	13.0	15.0	16.9	19.5	21.5	23.4	
1.4	10	9.8	11.9	14.0	16.1	18.2	21.0	23.1	25.2	
1.5	10	10.5	12.8	15.0	17.3	19.5	22.5	24.8	27.0	
Total Volume / day →		60ml/kg	80ml/kg	100ml/ kg	120ml/kg	140ml/kg	160ml/kg	180ml/kg		
1.5	8	11.3	15.0	18.8	22.5	26.3	30.0	33.8		
1.6	8	12.0	16.0	20.0	24.0	28.0	32.0	36.0		
1.7	8	12.8	17.0	21.3	25.5	29.8	34.0	38.3		
1.8	8	13.5	18.0	22.5	27.0	31.5	36.0	40.5		
1.9	8	14.3	19.0	23.8	28.5	33.3	38.0	42.8		
2.0	8	15.0	20.0	25.0	30.0	35.0	40.0	45.0		
2.1	8	15.8	21.0	26.3	31.5	36.8	42.0	47.3		
2.2	8	16.5	22.0	27.5	33.0	38.5	44.0	49.5		
2.3	8	17.3	23.0	28.8	34.5	40.3	46.0	51.8		
2.4	8	18.0	24.0	30.0	36.0	42.0	48.0	54.0		
2.5	8	18.8	25.0	31.3	37.5	43.8	50.0	56.3		
Total Volume / day →		60ml/kg	90ml/kg	120ml/ kg	150ml/kg	180ml/kg				
2.6	8	19.5	29.3	39.0	48.8	58.5				
2.8	8	21.0	31.5	42.0	52.5	63.0				
3	8	22.5	33.8	45.0	56.3	67.5				
3.5	8	26.3	39.4	52.5	65.6	78.8				

#To give 10 feeds per day the mother must feed her infant 2hourly during the day starting at 6h00 in the morning until 18h00 in the evening, thereafter she switches to 3 hourly feeds during the night.

NB *If the weight gain is still poor and the infant is older than 14 days old, consider increasing the milk volume to 200 ml/kg body weight per day. This need discussion with a consultant or person experienced in the care of preterm infants

Source: Adapted from Kangaroo Mother Care – A Practical Guide and Managing Newborn Problems, WHO guides, 2003

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Appendix 4.10: Short curriculum for KMC orientation

SUGGESTED HALF-DAY TRAINING CURRICULUM FOR KANGAROO MOTHER CARE

TIME / MIN	THEME	OUTCOMES (What participants should demonstrate)	CONTENT	TEACHING METHODS / ACTIVITIES	MATERIALS NEEDED	LESSON MATERIAL
10	Introduction		• Welcome, housekeeping			
50	What is KMC?	• Understanding the concept of KMC • Knowledge of the components of KMC • Knowledge and understanding of the benefits of KMC	• Introduction • History of KMC • Definition of KMC • Why call it KMC • Components of KMC • Different types of KMC • Benefits of KMC (to baby, mother and facility)	• Powerpoint slides (history) • Brainstorm and discussion of definition, components and benefits	• Poster • Slides • Flipchart	• KMC Training Manual • PEP manual • WHO KMC practical guide
40	Basics of KMC	• Understanding how to practice the kangaroo mother care method • Understanding the importance of different support structures • Producing criteria for intermittent and continuous KMC • Demonstrating how to secure a baby in the KMC position	Practical aspects of KMC: • Physical, emotional & educational support needed from hospital staff • Support of family members & health workers during & after discharge • Secure the baby in the KMC position	• Video • Demonstration (securing baby) • Brainstorm (criteria for intermittent & continuous KMC)	• Video • Slides • Wraps • Handouts	• KMC Training Manual
15			**BREAK**			
30	Feeding practices	• Understanding correct feeding practices in KMC • Identifying wrong feeding practices • How to support mothers with the feeding of their babies	• Practical aspects of feeding premature infants: - Expressing breast milk - Feeding techniques • Growth monitoring of LBW babies	• Brainstorm • Discussion • Demonstration (correct and wrong feeding practices)	• Slides • Handouts	• KMC Training Manual • WHO KMC practical guide • WHO managing newborn problems guide
40	KMC practice	• Being familiar with KMC	• Reports by workers in existing KMC units OR • Visit to a KMC unit if training venue is near to such a unit	• Reporting • Demonstration	• Slides • Video • Posters	

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TIME / MIN	THEME	OUTCOMES (What participants should demonstrate)	CONTENT	TEACHING METHODS / ACTIVITIES	MATERIALS NEEDED	LESSON MATERIAL
40	Danger signs, discharge criteria and follow-up	• Knowledge of danger signs • Understanding the practice of KMC as part of the continuum of neonatal care • Understanding discharge criteria • Design of a sustainable follow-up programme	• LBW aspects to consider • Hypothermia prevention Danger signs • Discharge criteria • Follow up • Transportation	• Brainstorm • Small group discussion • Power point presentation • Discuss examples used in other hospitals/countries	• Flipcharts • Handouts • Slides	• KMC Training Manual • WHO KMC practical guide • WHO guide: managing newborn problems • WHO guide: Thermal protection of the newborn
60	**LUNCH**					
TOTAL TIME: 215 minutes (Excluding lunch)						

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SUGGESTED ONE-DAY TRAINING CURRICULUM FOR KANGAROO MOTHER CARE

TIME / MIN	THEME	OUTCOMES (What participants should demonstrate)	CONTENT	TEACHING METHODS / ACTIVITIES	MATERIALS NEEDED	LESSON MATERIAL
10	Introduction		• Welcome, housekeeping			
30	KMC pre test (Optional)	• Knowledge of KMC before training	• Test • Participants each get a number	• Anonymous completion of test	• Pre test questionnaires • Powerpoint slides	Example of tests in • KMC Training Manual • PEP manual
60	What is KMC?	• Understanding the concept of KMC • Knowledge of the components of KMC • Knowledge and understanding of the benefits of KMC	• Introduction • History of KMC • Definition of KMC • Why call it KMC • Components of KMC • Benefits of KMC (to baby, mother and facility)	• Powerpoint slides (history) • Brainstorm and discussion of definition, components and benefits	• Poster • Slides • Flipchart	• KMC Training Manual • PEP manual • WHO KMC practical guide
15	**BREAK**					
60	Basics of KMC	• Understanding how to practice the kangaroo mother care method • Understanding the importance of different support structures • Producing criteria for intermittent and continuous KMC • Demonstrating how to secure a baby in the KMC position	Practical aspects of KMC: • Different types of KMC • Physical, emotional & educational support needed from hospital staff • Support of family members & health workers during & after discharge • Secure the baby in the KMC position	• Video • Demonstration (securing baby) • Brainstorm (criteria for intermittent & continuous KMC)	• Video • Slides • Wraps • Handouts	• KMC Training Manual
40	Feeding practices	• Understanding correct feeding practices in KMC • Identifying wrong feeding practices • Knowledge of how to support mothers with the feeding of their babies	• Practical aspects of feeding premature infants: - Expressing breast milk - Feeding techniques (nasogastric tube, cup, direct breastfeeding) • Growth monitoring of LBW babies	• Brainstorm • Discussion • Demonstration (correct and wrong feeding practices)	• Slides • Handouts	• KMC Training Manual • WHO KMC practical guide • WHO managing newborn problems guide
40	KMC practice	• Being familiar with KMC	• Reports by workers in existing KMC units, OR • Visit to a KMC unit if training venue is near to such a unit	• Reporting • Demonstration	• Slides • Video • Posters	•
60	LUNCH					

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TIME / MIN	THEME	OUTCOMES (What participants should demonstrate)	CONTENT	TEACHING METHODS / ACTIVITIES	MATERIALS NEEDED	LESSON MATERIAL
40	Danger signs, discharge criteria and follow-up	• Knowledge of danger signs • Understanding the practice of KMC as part of the continuum of neonatal care • Understanding discharge criteria • Design of a sustainable follow-up programme	• LBW aspects to consider • Hypothermia prevention Danger signs • Review of criteria for Intermittent and continuous KMC • Discharge criteria • Follow up • Transportation	• Brainstorm • Small group discussion • Power point presentation • Discuss examples used in other hospitals/countries •	• Flipcharts • Handouts • Slides	• KMC Training Manual • WHO KMC practical guide • WHO guide: managing newborn problems • WHO guide: Thermal protection of the newborn • KMC National guidelines of Malawi
15	**BREAK**					
30	KMC post test (optional)	• Knowledge of KMC after training (Optional)	• Post test • Discussion of the correct answers • Participants use the same number as before • A comparison of the pre and post test results used as part of evaluation of training is possible	• Anonymous completion of test •	• Post test questionnaire	Example of tests in • KMC Training Manual • PEP manual
5	Closure		• Housekeeping			KMC workbook
TOTAL TIME: 435 minutes						

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Appendix 4.11: KMC admission and discharge criteria

Adapted from E van Rooyen: Kalafong Hospital KMC Admission and Discharge Criteria, April 2011

Admission Criteria regarding Babies:

1. Infants with a weight of less than 2500 g or infants with gestational age less than 37 weeks gestation may be admitted in the KMC unit.
2. Infants who are oxygen dependent are accepted – oxygen is given by nasal prongs and will be weaned during their stay in the KMC unit.
3. Infants who are on tube feeds are accepted. Transition from tube to cup and to breastfeeding will be made in the KMC unit.
4. Infants should be on full oral feeds. No intravenous fluid therapy is allowed in the KMC unit except if the infant needs to receive a blood transfusion for anaemia.
5. Infants on oral antibiotics will be accepted as long as they are stable and responding to the treatment.
6. Infants that were recently discharged from the KMC unit and did not thrive at home may be readmitted to the KMC unit.

Admission Criteria regarding Mothers:

1. Mothers must be willing to practice KMC on a continuous basis in order to be admitted to the unit.
2. Family members may practice KMC in the unit if the mother is unable to do so.

Discharge Criteria regarding Babies

1. Infants with a birth weight of more than 1550g must regain their birth weight before they can be considered for discharged.
2. Singleton babies with a birth weight of less than 1550g must reach a weight of 1500 – 1550g.
3. Twins or triplets – discharge can be considered when the smallest baby has reached a weight of more than 1600g.
4. Babies should also be on breast or expressed breastmilk cup feeds.
5. Infants should gain approximately 15 to 20 grams per day over a period of 4 days.
6. Infants who were oxygen dependent should be off all oxygen, day and night, for 3 complete days.

Discharge Criteria regarding Mothers

1. Mothers should be given appropriate counselling before discharge and knowledge of follow-up visit schedule.
2. Mother should have a socio-economic support system available.
3. If expressing breastmilk, mother should be able to express 20-30ml at a time.
4. If breastfeeding, mother is able to position baby onto breast and baby latches well.
5. Mother should be confident in handling, feeding, bathing, changing baby and positioning in KMC.
6. Mothers should be practicing KMC consistently. If she is not placing the baby in the KMC position she should not be allowed to go home.
7. If a mother intends to go back to her rural home and does not intend in bringing the baby back to the follow-up clinic, try to delay discharge. If this is not possible, ensure extra counselling is provided.
8. Mothers who are ill should have recovered or there should be someone to help take care of the baby at home.

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Appendix 4.12: An example of a KMC follow-up document

From WHO guide: *Kangaroo Mother Care: A practical guide*, WHO, 2003

An example of how information on KMC can be added to the follow-up record:

Date of visit	../../....	../../....	../../....	../../....	../../....	../../....	../../....	../../....
Age								
Weight weight gain								
Feeding method								
Average daily duration of skin-to-skin contact								
Complaints								
Readmission to hospital								
Weaned Date Age (in days) Post-menstrual age Weight			Reasons for weaning and other comments					

These data will provide basic information for daily baby care and process and outcome indicators for programme monitoring.

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Appendix 4.13: Identifying low birth weight babies using foot size

More detail available: Marchant T, Jaribu J, Penfold S, Tanner M, Armstrong Schellenberg J. Measuring newborn foot length to identify small babies in need of extra care: a cross sectional hospital based study with community follow-up in Tanzania. BMC Public Health 2010;10:624.[13]

MEASURING NEWBORN FOOT LENGTH

to identify small babies at risk

Sensitivity and specificity of two operational foot lengths (<7cm and <8cm), Day 1

Tanzania				
	Feet	Sens (95% CI)	Spec (95% CI)	PPV
veryLBW (<1500g)	<7cm	75% (36-113)	99% (97-99)	0.43
LBW (<2500g)	<8cm	**84% (76-93)**	**60% (55-64)**	0.24
Premature (<37 wks)	<8cm	91% (82-99)	58% (53-62)	0.15

Uganda				
LBW (<2500g)	<8cm	**94 (89-99)**	**71 (69-76)**	0.31

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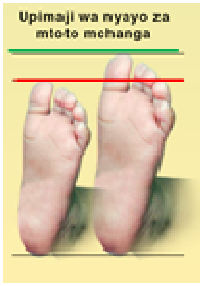
Sensitivity and specificity of foot length <8cm, day 5

Uganda				
	Foot length	Sensitivity % (95% CI)	Specificity % (95% CI)	PPV
LBW (<2500g)	<8cm	81 (70-93)	86 (82-89)	0.98

Tanzania				
	Foot length	Sensitivity % (95% CI)	Specificity % (95% CI)	PPV
LBW (<2500g)	<8cm	59 (37-81)	80 (74-86)	0.93
Prematurity	<8cm	71 (44-98)	79 (73-85)	0.97

Part of the community volunteer counselling card

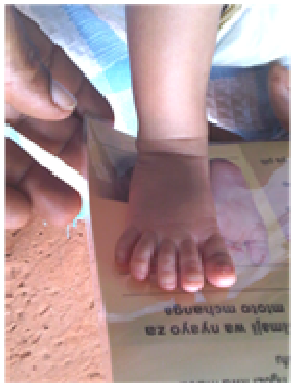


Recommendations

Babies with feet below the red line should attend their health facility because they are 'Njiti' (local term for very small baby);

Babies with feet above the red line but below the green line recommended for skin-to-skin care at home because they are LBW;

Babies with feet larger than the green line have normal birth weight.



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