



KANGAROO MOTHER CARE IN INDIA

OVERVIEW

The Government of India is committed to improving child health by prioritizing newborn care services that increase child survival. In 2014, the Child Health Division of the Ministry of Health and Family Welfare (MOHFW) released the *Kangaroo Mother Care and Optimal Feeding of Low Birth Weight Infants: Operational Guidelines* in an effort to implement kangaroo mother care (KMC) at the facility level. Another document, published in 2014, that included KMC was the *India Newborn Action Plan (INAP)*, which highlights KMC as a specific intervention recommended for small and sick newborns who weigh less than 2,000 g. One of the priority actions outlined in the INAP for KMC was the establishment of fully functional KMC units/wards in health facilities that provide newborn care services. The MOHFW allotted funds to each state for the adaptation of KMC spaces within the special newborn care units.

As more health facilities are expected to provide KMC services, data collection will be critical to monitor quality, identify gaps, and track services. Engagement of health care providers and the identification of champions will help foster the ownership of KMC as an effective intervention, speeding up the rate at which KMC services are adopted throughout the country.

Table 1. Status of kangaroo mother care in India by strategic area

Domain	Prior to and during 2014	2015–2017
Policy		
National Health Policy	In 2014, kangaroo mother care (KMC) was included in the <i>India Newborn Action Plan (INAP)</i> as a specific intervention recommended for reducing morbidity and mortality among small and sick newborns. One of the priority actions outlined in the INAP was the establishment of fully functional sick newborn care units (SNCUs) with attached KMC units/wards. The KMC coverage targets were set to 35% by 2017, 50% by 2020, 75% by 2025, and 90% by 2030 (India MOHFW 2014a).	<ul style="list-style-type: none"> The 2017 National Health Policy of India gives highest priority to reducing newborn deaths in the country. KMC was initiated as a pilot in a few sites in the country. Preliminary results demonstrated scalability and acceptance. Additionally, the MOHFW piloted an integrated approach to newborn care at the facility level through the Family-Participatory Care (FPC) model, which was taken for scale-up at all district SNCUs across India. The FPC model focuses on families as participants in newborn care, which includes skin-to-skin contact, breastfeeding, and identification of danger signs, all which are components of KMC.

Domain	Prior to and during 2014	2015–2017
National Guidelines	<p>The <i>Kangaroo Mother Care and Optimal Feeding of Low Birth Weight Infants: Operational Guidelines</i> (India MOHFW 2014b) include eligibility criteria for KMC, specifications for infant feeding, infrastructural requirements to establish a KMC ward, an institutionalization plan, monitoring plan, budgetary guidelines, and a communication strategy. Additionally, facility and community guidelines for KMC are included in several other training packages being used to train health personnel on newborn care.</p>	
Country Support/Implementation		
Levels and types of facilities implementing KMC	<p>The Government of India (GOI) aims to establish national, regional, and state newborn resource centers as centers of excellence for newborn care practices, including KMC. These centers will provide technical support to SNCUs and newborn stabilization units to initiate KMC services.</p>	<ul style="list-style-type: none"> • According to the minutes of the KMC Acceleration Partnership 2016 meeting, there were 630 SNCUs in India. The number of SNCUs has since increased to 712. Of these, 265 reported having a KMC unit (IIPS and Macro International 2017). However, only 15% have the recommended number of eight beds per unit. • In April 2017, GOI created a technical advisory group to recommend and support a strategy for scaling up KMC across the country. Two working groups have been constituted, led by the KMC Foundation, Gujarat, and the Postgraduate Institute of Medical Education and Research in Chandigarh, to develop KMC training modules and reporting tools. This work is in progress.
Percentage of low-birthweight newborns initiated on facility-based KMC		<p>There is no mechanism to collect data on KMC parameters at present. Data were submitted to the GOI by 18 states, which revealed that KMC was provided to 0–20% SNCU-admitted babies in 12 states and more than 20% SNCU-admitted babies in six states.</p>
Funding		<ul style="list-style-type: none"> • The KMC guidelines of the MOHFW contain a section on infrastructural and human resources requirements to establish KMC wards. The suggested budget is INR 266,100 (USD 4,119) for essential items (India MOHFW 2014b). Budgetary provisions have been made by the GOI in the annual health plans submitted by states to the GOI, and states have been informed of the federal management regulation head under which various components for establishing KMC wards can be budgeted. • Donor funding for KMC continues, with US Agency for International Development funds being channeled through Save the Children, John Snow Inc., IPE Global, and others. Norwegian funds are being channeled through the Norway India Partnership Initiative for establishing models of FPCs. UNICEF funding is utilized to coordinate efforts for developing KMC training materials and tools. • A budget of INR 100,000 (USD 1,548) was sent to each district to ensure that KMC units were made an integral part of the SNCUs (Srivastava 2016).

Domain	Prior to and during 2014	2015–2017
Research		
Major or program-based studies being conducted related to KMC currently		<p>The World Health Organization is conducting a multicentric study on feasibility of KMC on unstable babies. Two other studies are being conducted with research grants in the state of Haryana by the Society for Applied Studies and the Community Empowerment Lab in Uttar Pradesh. Studies have been undertaken by India's premier research body, the Indian Council of Medical Research, on community KMC. Several smaller research studies have been undertaken by the KMC Foundation of India and other medical colleges located in the states of Gujarat, Maharashtra, Tamil Nadu, and Andhra Pradesh.</p> <p>Some papers published on KMC practices include:</p> <ul style="list-style-type: none"> • “The presence of physician champions improved kangaroo mother care in rural western India” (Soni et al. 2016) • “Rolling out of kangaroo mother care in secondary level facilities in Bihar-Some experiences” (Neogi et al. 2016)
Knowledge Management		
Centers of excellence or state-of-the-art facilities for KMC/care of low-birthweight babies	KMC was introduced in 1994/95 in BJ Medical College and Hospital in Ahmedabad, Gujarat. King Edward Medical College (KEMC) in Mumbai and All India Institute of Medical Sciences (AIIMS) in New Delhi soon followed soon. Centers of excellence were established in 2003–2005 at the Postgraduate Institute of Medical Education and Research in Chandigarh, KEMC, Institute of Child Health and Hospital for Children in Chennai, Kalawati Saran Children's Hospital in New Delhi, AIIMS, and BJ Medical College.	The five centers of excellence that were established in 2003–2005 continue to be centers of excellence today. Additionally, there is a plan in progress to set up model KMC services in 25 regional and state resource centers by the end of 2017.
Training materials, curriculums, and international conferences	In 2006–2011, there were KMC training workshops held at centers of excellence during newborn week. In 2009, a training workshop on KMC was held at the annual conference of the National Neonatology Forum (NNF). The IX International Conference on KMC was hosted in India in Hyderabad, Andhra Pradesh.	<ul style="list-style-type: none"> • A working group was established at the request of the MOHFW. This group is developing KMC training manuals for health providers. • AIIMS developed smartphone apps for continuing education for the management of care for sick newborns based on standard treatment protocols, which include KMC components. • International KMC conferences were organized in India in 2009, 2012, and 2016.
Monitoring and Evaluation		
KMC indicators included in the national health management information system (HMIS)		Currently, there are no KMC indicators in the HMIS. The SNCU online software is the portal for data entry on SNCU activities and contains a yes/no indicator on KMC. However, it is not yet very reliable. As mentioned above, the GOI has constituted working groups to develop more appropriate indicators and mechanisms for data recording and reporting. Once finalized, these will be included in HMISs throughout the country.

Domain	Prior to and during 2014	2015–2017
Advocacy		
Professional organizations that endorse KMC		<ul style="list-style-type: none"> The NNF, Indian Academy of Pediatrics, Indian Association of Neonatal Nurses, Federation of Obstetric and Gynaecological Societies of India, and Trained Nurses's Association of India are some of the professional organizations comprising pediatricians, gynecologists and nurses that endorse KMC. These organizations promote KMC through sessions in conferences and workshops. The NNF developed accreditation guidelines for newborn units in the public and private sector, which include KMC services. A guideline and communication tool on KMC were developed by the NNF and are featured on its website. The KMC Foundation was formed after the IX International Conference of KMC in India with the objective of scaling up awareness, advocacy, and adequate practice of KMC.
Awareness campaigns		KMC is part of training programs. Although communication materials have been developed and are available for download from the GOI website, KMC has not yet been advertised or promoted through multimedia on a large scale.
Champions	<ul style="list-style-type: none"> Dr. Ashok Deorari, trainer Dr. Vinod Paul, head of pediatrics department for AIIMS, pushing newborn care interventions 	There are local champions with limited resources. Most of them are clinicians and practitioners, including Professor Shashi N. Vani, Dr. Rekha Udani, Professor Sushma Nangia, Professor Suman Rao, Dr. Ashok Deorari of AIIMS, and Dr. Ruchi Nanavati of King Edward Memorial Hospital and Seth GS Medical College in Mumbai.

Table 2. Demographic and Health Survey (DHS) proxy indicators for kangaroo mother care (India DHS 2005–6)

Identification of Low-Birthweight Babies	Characteristic	Percentage
Percentage of live births in the 3 years preceding the survey by mother's estimate of baby's size at birth, according to background characteristics	<i>Very small</i>	6
	<i>Smaller than average</i>	14.8
Percentage of births that have a reported birthweight		34.1
Percentage of babies weighing less than 2.5 kg among births with a reported birthweight		21.5
Initial Breastfeeding		Percentage
Percentage of children born in the past 2 years who started breastfeeding within 1 hour of birth		24.5
Percentage of children born in the past 2 years who started breastfeeding within 1 day of birth		55.3
Skin-to-Skin Contact		Percentage
Percentage of births that have skin-to-skin contact among most recent live births in the 3 years preceding the survey		N/A

*The National Family Health Survey, India (NFHS-2015–2016 has more recent data on some of the indicators listed above.

CHALLENGES

- One of the major challenges in accelerating KMC uptake has been the motivation of health care providers to practice and advocate for this initiative.
- Increasing KMC coverage depends on designating spaces for KMC in the district hospitals in the sick newborn care units (SNCUs). There are funding gaps to cover the adaptation of KMC spaces in existing facilities and the costs of KMC spaces in new facilities.

LESSONS LEARNED

- The active role of the MOHFW has been critical in India: It designated two working groups to help accelerate the scale-up of KMC services. One of these working groups is drafting KMC indicators that will be included in the health management information system.
- Local effectiveness data for KMC are important for engaging health professionals in KMC programs.

FUTURE ACTIONS

- The Government of India established a technical advisory group comprising two working groups that will develop capacity-building and monitoring and evaluation tools for KMC.
- Funding has been allocated for KMC, but more SNCUs will designate space for KMC and provide KMC services.
- The regional and state newborn resource centers will guide states in implementing KMC and maintaining its quality.

DOCUMENTS AND RESOURCES

Document Title	Link to Document
<i>Kangaroo Mother Care and Optimal Feeding of Low Birth Weight Infants: Operational Guidelines</i> (2014)	www.nrhmorissa.gov.in/writereaddata/Upload/Documents/Operational_Guidelines-KMC_&_Optimal_feeding_of_Low_Birth_Weight_Infants.pdf
<i>India Newborn Action Plan</i> (2014)	www.newbornwhocc.org/INAP_Final.pdf
KMC poster: Kangaroo Mother Care India Network	www.kmcindia.org/images/kmc-poster.pdf
“Experience with Kangaroo Mother Care in a Neonatal Intensive Care Unit (NICU) in Chandigarh, India” (2009)	https://link.springer.com/article/10.1007%2Fs12098-009-0024-2
“The Presence of Physician Champions Improved Kangaroo Mother Care in Rural Western India” (2016)	https://onlinelibrary.wiley.com/doi/abs/10.1111/apa.13445
“Rolling Out of Kangaroo Mother Care in Secondary Level Facilities in Bihar-Some Experiences” (2016)	http://www.ijph.in/article.asp?issn=0019-557X;year=2016;volume=60;issue=4;spage=302;epage=308;aulast=Neogi
“Efficacy of Skilled Based Teaching Program on Kangaroo Mother Care among Postnatal Mothers in a Rural Tertiary Care Teaching Hospital of Central India” (2016)	http://ajner.com/HTMLPaper.aspx?journal=Asian%20Journal%20of%20Nursing%20Education%20and%20Research;PID=2016-6-3-9

Document Title	Link to Document
“Initiating Kangaroo Mother Care in Facilities in Limited Resource Settings” (2017)	https://www.sciencedirect.com/science/article/pii/S2214999617303223
“Community Based Kangaroo Mother Care for Low Birth Weight Babies: A Pilot Study” (2017)	http://doi.org/10.4103/ijmr.IJMR_603_15

REFERENCES

1. International Institute for Population Sciences (IIPS) and Macro International. 2007. National Family Health Survey (NFHS-3), 2005–06: India: Volume I. Mumbai: IIPS.
2. India Ministry of Health and Family Welfare (MOHFW). 2014a. *India Newborn Action Plan*. New Delhi, India: MOHFW.
3. India MOHFW. 2014b. *Kangaroo Mother Care and Optimal Feeding of Low Birth Weight Infants: Operational Guidelines*. India: MOHFW.
4. Neogi SB, Chauhan M, Sharma J, Negandhi P, Sethy G. 2016. Rolling out of kangaroo mother care in secondary level facilities in Bihar-some experiences. *Indian J Public Health*. 60(4):302–8. doi: 10.4103/0019-557X.195864.
5. Parmar VR, Kumar A, Kaur R, et al. 2009. Experience with kangaroo mother care in a neonatal intensive care unit (NICU) in Chandigarh, India. *Indian J Pediatr*. 76(1):25–8. doi: 10.1007/s12098-009-0024-2.
6. Srivastava R. 2016. UP hospitals to fight infant mortality with mom’s magic touch. *Hindustan Times*. September 7.
7. Soni A, Amin A, Patel DV, et al. 2016. The presence of physician champions improved kangaroo mother care in rural western India. *Acta Paediatr*. 105(9):e390–5. doi: 10.1111/apa.13445.
8. Wasnik AM. 2016. Efficacy of skilled based teaching program on kangaroo mother care among postnatal mothers in a rural tertiary care teaching hospital of central India. *Asian Journal of Nursing Education and Research*. 6(3):331–6. doi: 10.5958/2349-2996.2016.00062.8.

This document is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the terms of the Cooperative Agreement AID-OAA-A-14-00028. The contents are the responsibility of the Maternal and Child Survival Program and do not necessarily reflect the views of USAID or the United States Government.