Development of a National Routine Reporting System for Kangaroo Mother Care (KMC) Services in Malawian Health Facilities

Background

Malawi has been systematically scaling up KMC services since the intervention was first introduced in 1999. In 2005 KMC for preterm and low-birth-weight (LBW) babies became national policy, and by 2011 KMC was reportedly established in all central- and district-level hospitals as well as several first-level health facilities. However, routine service data were limited and of poor quality due to the lack of a national system of standardized indicators, registers, and reports. A register and monthly report form to track KMC services had been developed, but the tools were difficult to fill in, included more data than was needed for routine reporting, and were not widely available.

Save the Children supported the Malawi Reproductive Health Directorate and Central Monitoring and Evaluation Department (CMED) to develop and pilot a simplified, user-friendly national KMC register and reporting tool designed to generate a set of core indicators for tracking KMC implementation and making clinical and management decisions to improve the quality of KMC services in Malawi. This brief describes the revised indicators and tools and explains the steps taken to develop, pilot, and roll-out a national routine reporting system for facility-based KMC in Malawi. It also shares lesson learned and summarizes next steps.

KMC Routine Reporting Development Process

The national routine reporting system for KMC was developed in four phases.

PHASE 1: Prioritize data elements and indicators

Starting in September 2014, Save the Children reviewed and reduced the existing list of 32 data elements on Malawi's KMC reporting form using the list of global KMC indicators from the KMC Acceleration Partnership[1] to help identify priority elements and adapting them to Malawi's context and needs.

PHASE 2: Revise the register and reporting form

From November 2014 to January 2015, Save the Children worked with CMED to develop the new user-friendly register and monthly reporting form. Revisions were based on the prioritized data elements identified in Phase 1 and informed by existing 'user-friendly' antenatal and maternity registers.

PHASE 3: Conduct pilot testing

In February 2015 the KMC tools were introduced in 21 facilities (13 hospitals and eight health centers) across all five zones for a two-month trial. At midpoint, supervision was conducted to evaluate progress. At the end of the trial, feedback was solicited from facility staff.

PHASE 4: Revise and finalize tools

In May 2015 the KMC register and reporting tool were revised and finalized based on the feedback from the pilot phase. Detailed instructions for how to fill the register were developed, and the full package was approved by CMED for printing and distribution.

New KMC register design

Improvements to the KMC register included the following:

- *Data standardization*: The original KMC register provided little guidance on what information to include in each column; thus, it was difficult to standardize data collection and quality. The new register provides pre-coded responses for health providers to circle in relevant columns and gives clear direction on what information should be recorded in open fields (e.g. "record weight in grams").

A CMED official briefs healthcare providers in a district hospital on use of the new KMC registers.

- *Page summaries*: The new register features a page summary tool (particularly useful in high-volume facilities) to tally up just those data elements needed for monthly reporting with minimal errors.
- *Improved follow-up tracking*: Follow-up, a critical component of KMC, was difficult to track with the original register. When babies received follow-up care at a facility other than the one at which the mother gave birth, the original register's record often remained incomplete, and cases may have been double-counted. The revised register allows providers to distinguish follow-up cases from new cases, identify the follow-up facility (if different), and enter the contact information for the health surveillance assistant (HSA) to encourage a link with community-level follow-up.
- *Clarified reporting for facilities with and without inpatient services*: The new register separated enrollment for inpatient and ambulatory[2] KMC and simplified reporting for facilities without inpatient KMC service options.
- *Detailed instructions for register use*: A set of detailed instructions for completing the register was developed and is printed inside the register.

Revised national routine reporting system for KMC

The final version of the national reporting system captures eight data elements (six from facilities with inpatient KMC and two from facilities without inpatient KMC) and five core indicators (additional indicators can be calculated using the data elements as needed) (Table 1). These essential indicators track KMC implementation and inform clinical and management decision-making to improve the quality of KMC services. The KMC register is designed such that only these eight data elements are tallied and reported, while the remaining information recorded is meant for use at the facility level.

At the district level, statistical clerks will enter data from the KMC monthly report into the DHIS2 (Malawi's health information system platform) for all reporting facilities, and the DHIS2 will automatically calculate the core indicators using data from the KMC monthly report and the maternity report (for information on live births and LBW/preterm births).

National roll-out

The national roll-out of the finalized register and monthly report is expected September-October 2015. Staff from CMED and Save the Children will orient KMC focal points in each district and providers at district-level and central hospitals (sisters in-charge for the neonatal/KMC units and statistical clerks). The districts will then brief other facilities in their districts through their routine supportive supervision visits.

Table 1. Summary of data elements and core indicators in national routine reporting for KMC

Data elements reported by facilities *with* inpatient KMC	Data elements reported by facilities *without* inpatient KMC	Core indicators
1. Number of babies initiated on facility-based KMC 2. Number of babies initiated on facility-based KMC who were referred in 3. Number of babies discharged alive from facility-based KMC 4. Number of babies who died before discharge from facility-based KMC 5. Number of babies who left against medical advice (absconded) from facility-based KMC 6. Number of LBW babies initiated on ambulatory KMC	7. Number of babies initiated on KMC and referred 8. Number of babies initiated on ambulatory KMC	1. *KMC initiation rate*: # of babies initiated on KMC (inpatient and/or ambulatory) per i) 100 live births at health facility and ii) 100 LBW/premature babies identified at health facility 2. *KMC referral completion*: proportion of babies who were initiated on KMC and referred who completed referral and initiated on facility-based KMC 3. *Survival to discharge*: proportion of babies initiated on facility-based KMC who are discharged alive 4. *Death before discharge*: proportion of babies initiated on facility-based KMC who died before discharge 5. *Left against medical advice*: proportion of babies initiated on facility-based KMC who left against medical advice or absconded

Lessons learned

- *Involving the health management information systems (HMIS) unit of the Ministry of Health (CMED) from the outset is critically important.* The original register was developed without engaging CMED staff, and as a result, it was not endorsed or supported as part of the national system. Throughout the development and roll-out process of the new register, this group intentionally worked hand-in-hand with CMED technical staff, and sign-off on the final version of the register and monthly reporting form was their responsibility.
- *Prioritizing indicators and data elements suitable for routine reporting is an essential first step in minimizing the data collection and reporting burden.* The HMIS system in Malawi is already overwhelmed, and KMC is just one of many interventions to be monitored. The first phase of reviewing and prioritizing KMC data elements helped hone in on what data are required and eliminate elements not suitable for routine reporting, reducing the number of reported data elements from 32 to 8.
- *Global consensus on what indicators are important for tracking programs helps to prioritize what is collected at country level (where often the tendency is to add more to the system).* The timely availability of global guidance on recommended indicators for KMC, developed by the KMC Acceleration Partnership, helped facilitate the prioritization process in country.
- *Engaging end-users (facility and HMIS staff) in the development and testing of the registers and reports helps ensure user-friendly tools.* The pilot-testing phase of the development process was instrumental in identifying areas that needed clarity or revision. It ensured that the final register aligns well with the service delivery context, captures information considered most relevant by providers, and is straightforward to complete.
- *Development of a national routine reporting system is an iterative process and requires substantial and sustained time and investment in terms of human resources.* The time and resources required to develop and roll out a system for routine reporting is often underestimated. The process to develop, test and refine the register and reports for KMC has involved multiple staff from Save the Children (globally and in the country office) and has taken more than a year. It will take additional time and investment to support the implementation of the reporting system and encourage data use at national, district, and facility levels.

Next steps

The national system will require ongoing support to produce useable, quality data to inform decision-making. The following are priority next steps to support Malawi's KMC monitoring system:

- Integrate the reporting forms and indicators into the DHIS2 (ongoing).
- Develop dashboards for data analysis and use at the district level so that data entered at the facility level into the DHIS2 is immediately accessible by credentialed users.
- Develop templates for health facilities to encourage presentation and use of data on KMC service delivery at the facility level.
- Conduct a KMC data quality assessment.

1 http://www.healthynewbornnetwork.org/page/measuring-kmc-implementation

2 In Malawi babies weighing >1800 to <2000g are initiated on ambulatory KMC, so they are not admitted to the facility for inpatient KMC. Instead, they are kept at the facility for 48 hours like any other newborn and initiated on KMC during that time. When the 48 hours are finished, they are released from the facility, but families are told to return for follow-up 2 to 3 times a week until the baby is 2000g. After that, they are told to return to the facility once weekly until the baby reaches 2500g.

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Malawi KMC Register, Revised 2015

HEALTH FACILITY KMC REGISTER

Month: ______________________ **Year:** ______________________

#	FACILITIES WITH INPATIENT KMC					FACILITIES WITHOUT INPATIENT KMC			FUP	ENROLLMENT DATA FOR ALL BABIES								FACILITY-BASED KMC CASES ONLY							FOLLOW-UP											NOTES
	KMC INITIATION					KMC INITIATION & REFERRAL			Follow-up	MOTHER'S INFORMATION		DATA FOR BABY AT KMC INITIATION						STATUS AND WEIGHT OF BABY AT DISCHARGE FROM FACILITY BASED KMC							FOLLOW-UP CONTACTS		1st FOLLOW-UP			2nd FOLLOW-UP			3rd FOLLOW-UP			Comments
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Sr. #	Type of KMC *(circle one)*		Referred in		Name of referring facility (if applicable)	Initiated and referred	Initiated on AMB	Name of facility baby referred to (if applicable)	Follow-up case	Mother's name	Mother's address (village) & phone #	Baby date of birth		Birth Weight *(actual weight in grams)*	Date KMC Started		Weight KMC Started	Vital status at discharge		Weight at Discharge	Mother absconded?		Date of discharge (or death/ abscond)		Name of follow-up facility (if appl)	HSA name & number	Date of visit		Weight (g)	Date of visit		Weight (g)	Date of visit		Weight (g)	*Use this space to record relevant information/ comments*
	FKMC	AMB	Y	N								dd	mm	Wt (g)	dd	mm	Wt (g)	ALIVE	DEAD	Wt (g)	Y	N	dd	mm			dd	mm	wt (g)	dd	mm	wt (g)	dd	mm	wt (g)	
	FKMC	AMB	Y	N		I&R	AMB		F									ALIVE	DEAD		Y	N														
	FKMC	AMB	Y	N		I&R	AMB		F									ALIVE	DEAD		Y	N														
	FKMC	AMB	Y	N		I&R	AMB		F									ALIVE	DEAD		Y	N														
	FKMC	AMB	Y	N		I&R	AMB		F									ALIVE	DEAD		Y	N														
	FKMC	AMB	Y	N		I&R	AMB		F									ALIVE	DEAD		Y	N														
	FKMC	AMB	Y	N		I&R	AMB		F									ALIVE	DEAD		Y	N														
	FKMC	AMB	Y	N		I&R	AMB		F									ALIVE	DEAD		Y	N														
	FKMC	AMB	Y	N		I&R	AMB		F									ALIVE	DEAD		Y	N														
	FKMC	AMB	Y	N		I&R	AMB		F									ALIVE	DEAD		Y	N														
	FKMC	AMB	Y	N		I&R	AMB		F									ALIVE	DEAD		Y	N														
Summary	# FKMC	# AMB	# REF			# I & R	# AMB											# alive	# dead		# absc															

Malawi KMC Monthly Summary Report, Revised 2015

KMC monthly summary report Month:_____ Year:_____ Health Facility name:_____			
No.	**KMC eligibility data (tallied from Maternity register and already in DHIS2)***	**Data Source**	**Number**
A	Number of LBW babies	Maternity register (newborn column)	
B	Number of pre-term babies	Maternity register (newborn complications)	
C	Total number of LBW and pre-term babies (A + B)	A plus B	
No.	**KMC service data (tallied from KMC register)**	**Data Source**	**Number**
1. FACILITIES WITH INPATIENT KMC			
1	Number of babies initiated on facility-based KMC	KMC register Column 2	
2	Number of babies initiated on facility-based KMC who were referred in	KMC register Column 4	
3	Number of babies discharged alive from facility-based KMC	KMC register Column 19	
4	Number of babies who died before discharge from facility-based KMC	KMC register Column 20	
5	Number of babies who left against medical advice (absconded) from facility-based KMC	KMC register Column 22	
6	Number of LBW babies initiated on ambulatory KMC	KMC register Column 3	
2. FACILITIES WITHOUT INPATIENT KMC			
7	Number of babies initiated on KMC and referred	KMC register Column 7	
8	Number of babies initiated on ambulatory KMC	KMC register Column 8	

Proposed indicators (based on this report)

#	Indicator	Calculation	Value
1	**KMC initiation rate**: # of babies initiated on KMC (inpatient or ambulatory) per i) 100 live births at health facility and ii) 100 LBW/premature babies identified at health facility	(#1+#5+#7)/ i) # live births from HMIS-15 & ii) C	
2	**KMC referral completion**: proportion of babies who were initiated on KMC and referred who completed referral and initiated on facility-based KMC	#2/#6	
3	**Survival to discharge**: Proportion of babies initiated on facility-based KMC who are discharged alive	#2/#1	
4	**Death before discharge**: Proportion of babies initiated on facility-based KMC who die before discharge	#3/#1	
5	**Left against medical advice**: Proportion of babies initiated on facility-based KMC who left against medical advice (absconded)	#4/ #1	

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