RESEARCH

KHANDA NDI MPHATSO: APPLYING SOCIAL AND BEHAVIOUR CHANGE COMMUNICATION TO NEWBORN HEALTH IN MALAWI

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Abstract

Preterm babies in Malawi are not receiving adequate care, and social norms that undervalue small newborns are an important barrier to improved outcomes. In 2015-2016 the Ministry of Health and Save the Children piloted a campaign, *Khanda ndi Mphatso, Lipatseni Mwayi* (A Baby is a Gift, Give it a Chance) in two districts. The campaign targeted pregnant women and mothers of preterm babies as well as their male partners and their influencers. The image phase used a "branded" campaign to shift individual attitudes and community norms to increase the value of newborn lives. The tactical phase used an intense community engagement and social mobilisation component to promote specific health behaviours and encourage family and community support. We carried out a mixed-methods evaluation 13 months after implementation began to understand campaign effects. Using a quasi-experimental design, the evaluation compared basic implementation sites, which included campaign materials, mass media, and facility-based approaches, to comprehensive implementation sites, which added community-based activities. Data analysed included 247 quantitative interviews with pregnant women and mothers of preterm babies and 15 focus group discussions. We developed a measure of campaign dosage to explore dose-response, based on reported participation in campaign activities and recall of campaign materials. The intervention provided direction on future facility and community level strategies that are effective in addressing behavioural and social norms that negatively affect care and survival of preterm and low-birth-weight babies. The evaluation showed

that the campaign contributed to changes in injunctive norms around the care of newborns, increasing value for LBW and preterm babies, and encouraging social support. Adaptation of the *Khanda ndi Mphatso* campaign in other districts has the potential to shift social norms around care for newborns in Malawi.

Introduction

Newborns, especially preterm infants, are amongst the most vulnerable in society (Lawn & Kinney, 2014). Globally, 46% of all under-5 child deaths take place in the neonatal period (0-28 days); complications from preterm birth is the leading cause of all under-5 child deaths (van den Broek, Jean-Baptiste, & Neilson, 2014; World Health Organization, 2017). Around three-quarters of these newborn deaths occur within the first week of life, and are often associated with poor quality of care surrounding the birth or a lack of skilled care post-delivery, with most deaths attributable to preterm birth (PTB), low birth weight (LBW), infections, or complications during labour and delivery (UNICEF, 2018; World Health Organization, 2017).

In recent years, there have been global efforts to identify and scale-up effective interventions to reduce mortality and ensure these vulnerable babies survive and thrive (March of Dimes, 2012; UNICEF & WHO, 2014; WHO, 2018). One high-impact intervention is Kangaroo Mother Care (KMC), defined as early, continuous, and prolonged skin-to-skin contact (SSC) between the newborn and mother or other caregivers, exclusive breastfeeding, early discharge from the health facility, and close follow-up at home (WHO, 2015). Provision of quality KMC decreases mortality and morbidity in preterm and low birthweight infants through the provision of protection from infection; regulation of temperature, breathing, and brain activity; and encouraging of bonding between mother and baby (Conde-Agudelo & Diaz-Rossello, 2016; WHO, 2015).

One country that is taking concrete steps to address their high burden of neonatal deaths and implement KMC is Malawi. According to the latest global estimates, Malawi's neonatal mortality rate is 23 deaths per 1,000 live births (World Health Organization, 2017) and the country has the highest rate of preterm birth worldwide, with an estimated 18 percent of live births occurring before 37 completed weeks of pregnancy (Blencowe et al., 2012). Direct complications of prematurity account for 33% of neonatal mortality in Malawi (Liu et al., 2016).

Malawi was an early adopter of KMC, with the first national guidelines released in 2005 (the Republic of Malawi, 2005). Since then, they have scaled up availability of KMC services in all central and district hospitals, although the quality of KMC services is still not up to standard (Chavula et al., 2017). The Malawi Every Newborn Action Plan (Malawi ENAP), launched in 2015, demonstrates the Ministry of Health's prioritisation of newborn health by setting an ambitious agenda to end preventable deaths, with a specific focus on quality improvement and efforts to address preterm birth prevention and care interventions (Government of Malawi,

2015). Recognising that uptake of health-services and care practices for small and preterm infants may be slow due to individual attitudes, cultural norms, community beliefs and behaviours, the Malawi ENAP calls for prioritisation of advocacy, communication and social mobilisation and other community-based interventions to address beliefs identified as barriers to uptake of care practices and service utilisation (Government of Malawi, 2015).

Service availability and utilisation interacts with care seeking behaviours to produce desired outcomes. Research from rural Mangochi district in Malawi by Koenraads et al. (2017) found that caregivers often had negative attitudes toward PTB/LBW babies, believing them to be "weak, malnourished, ill, and developmentally delayed". Caregivers and health workers found that care for small babies can be difficult due to community stigma, discrimination, poverty, and inadequate services and linkage to care at the facility level. Studies examining community and health worker perceptions around PTB/LBW infants have found a gap in continuation of care for these infants after hospital discharge, possibly due to other household demands, a lack of community or family support, and stigma (Gondwe, Munthali, Ashorn, & Ashorn, 2014; Koenraads, Phuka, Maleta, Theobald, & Gladstone, 2017). Gondwe et al. (2014) found that the extra time for mothers to care for preterm newborns affected daily chores or other work, and men did not always help provide the needed care. A 2008 study in Malawi reported some of the main barriers to caring for preterm babies were poverty, the distance to health facilities, violence towards women, a lack of family support, and the low decision-making power of women (Tolhurst et al., 2008).

Recent efforts to better understand the effects of social norms (such as stigma) on behaviours show that while there is largely consensus about their strong relationship, there seems to be a variety of definitions as to what norms are and how to measure their influence on behaviour (Cislaghi & Heise, 2018). The simplest understanding is that social norms are "informal rules of behaviours that dictate what is acceptable with a given social context" (Cislaghi & Heise, 2018). A useful distinction can be found in Cialdini and colleagues (1991; 1998), who identify people's beliefs about what others do as ***descriptive norms***, and their beliefs about what other people in their reference group approve and disapprove of, as injunctive norms (Institute for Reproductive Health, 2018). In this context, we mostly refer to the latter, the injunctive norms, as a behavioural driver. The distinction between social norms and individual attitudes is also important. Individual attitudes or opinions are internal feelings, which may be unproven or irrational and can go along or oppose existing social norms – meaning people can behave according to a social norm even if they have an opposing personal attitude. Social and behaviour change approaches that are grounded in theory-based frameworks avoid identifying norm change in isolation but look at behaviours through an ecological lens to understand the multiple individual-level factors, as well as collective social norms and structural determinants, that can sustain harmful practices as described above with regard to PTB/LBW babies.

Several social behaviour change communication (SBCC) interventions in Malawi have applied SBCC approaches to reach women of reproductive age, pregnant women, and caregivers with interventions promoting child survival through immunisation, hygiene, and prevention and treatment of common childhood illnesses. This includes the national *Moyo ndi Mpamba* campaign ("Life is precious"), implemented between 2011 and 2016 by the USAID-funded Support for Service Delivery Integration (SSDI) project, (SSDI, 2011, 2016). Limited attention, however, was given to increasing the value of newborn life and addressing misperceptions and stigma against PTB/LBW newborns. In fact, no intervention in Malawi had focused specifically on pregnant women at risk for preterm birth or women who have given birth to premature babies.

To address these gaps, the Ministry of Health (MOH) and Save the Children developed and piloted *Khanda ndi Mphatso* ("A Baby is a Gift"), an SBCC campaign focused on pregnant women and mothers of PTB/LBW babies. The campaign set out to improve newborn health by shifting norms around the value of newborns and promoting KMC for PTB/LBW babies. The campaign aimed to change individual attitudes and community norms of PTB/LBW babies: increasing the perceived value of these children, and improving the overall understanding of how to care for such babies. Building from the *Moyo ndi Mpamba* campaign efforts, the campaign sought to address the social context behind preterm birth, hoping to redress any harmful cultural beliefs that could impact the care and survival of PTB/LBW children.

This paper documents the effect of the *Khanda ndi Mphatso* SBCC interventions targeting individual attitudes, injunctive norms and social support for PTB/LBW babies, with a focus on understanding the contribution of community-based activities within a multi-channel approach.

Description of the *Khanda Ndi Mphatso* Campaign

The campaign brand was designed to build on everyday positive attitudes of a baby as a gift, with the aim of increasing value for newborn life. The overall branding including visual image, symbols and slogan *Lipatseni Mwayi* ("Give the baby a chance") - aimed to reposition newborn health and inspire Malawians to provide the necessary care to newborns and in particular small babies. It intentionally linked to the broader, national-level *Moyo ndi Mpamba* campaign in order to leverage existing SBCC work that had previously been undertaken by a USAID-funded service delivery and communication project (SSDI, 2011).

The campaign's primary target audiences were pregnant women and mothers who recently delivered a PTB/LBW. Secondary target audiences included those with the most influence on the knowledge, attitudes and behaviour of the primary audience, including family members, community members, and health care providers (Table 1). The hypotheses underlying the campaign were: 1) increased knowledge among pregnant women, mothers of PTB/LBW babies, and their partners will lead to increased acceptance of KMC as effective way to save these babies; 2)

increased access to information and dialogue about PTB/LBW and KMC among pregnant women will lead to increased uptake of services and KMC maintenance; 3) increased community dialogue will lead to improvements in social norms around PTB/LBW babies and KMC acceptance; 4) increased community social norms will lead to increased social support for pregnant women to be accepting of KMC and for parents of PTB/LBW babies to seek appropriate health care (through a pathway of changes); and 5) increased social support for pregnant women and women with PTB/LBW babies will improve care seeking for antenatal, delivery, and postnatal care for the needs of their PTB/LBW infants and themselves.

Table 1: *Khanda Ndi Mphatso* Target Audiences and Focus for Change

Audiences	Focus for Change
Pregnant women*	• Knowledge of causes of LBW/premature babies. • Knowledge of KMC.
Mothers of PTB/LBW babies*	• Early initiation of KMC. • Adherence to KMC practices (skin-to-skin, feeding, etc.) in the facility and continued practice in community. • Completion of follow-up visits.
Family (husbands, mothers-in-law, other)	• Social support uptake of services. • Social support for and participation in KMC.
Community (community action groups, village leaders, religious leaders, KMC veterans)	• Provide accurate information on preterm birth and KMC, address harmful social norms. • Provide social support for the uptake of KMC and other maternal and newborn health (MNH) services.
Health providers (nurses/clinicians; health surveillance assistants)	• Effectively communicate information on KMC during ANC to encourage initiation and adherence. • Provide effective post-discharge counselling on KMC. • Provide quality follow-up care at the health facility and within the community (through health surveillance assistants).

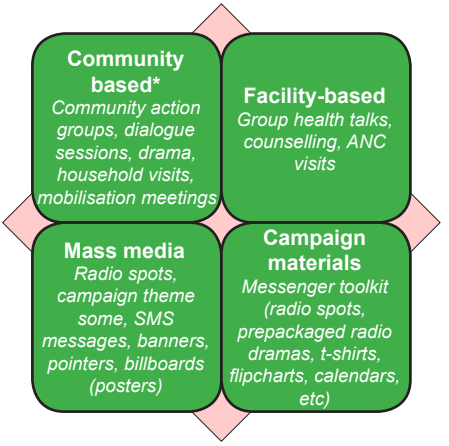
**Primary audience*

The campaign strategy was divided into two phases. First, the ***image phase*** aimed at shifting individual attitudes and community norms, increasing the value of newborn lives (regardless of size) and mobilising pregnant women, male partners, family members, and providers. This phase focused on branding the campaign with specific materials such as a logo, the campaign theme song, messenger buttons and t-shirts, posters and billboards. Second, the ***tactical phase*** promoted specific health behaviours, with an emphasis on increasing demand for early initiation of facility-based KMC and continued KMC practice after discharge and encouraging family and community support. Activities and materials included road shows and an intense community mobilisation and dialogue component reinforced through radio spots, a messenger toolkit (with flipcharts and a takeaway calendar) and SMS (short message service). Strategies, including campaign messages, were developed using a participatory approach and based on formative research.

Implementation - The *Khanda ndi Mphatso* campaign was piloted in Machinga and Thyolo districts in the southern region of Malawi from November 2015

to December 2016. These districts were selected based on criteria outlined at a stakeholder workshop convened in February 2015 by the MOH's Health Education Unit and Reproductive Health Directorate and Save the Children (SC). Selection criteria included: 1) high birth volume; 2) well-established KMC services to ensure that there is quality supply to meet increased demand; 3) ongoing community-based maternal newborn health intervention implementation; 4) at least one district with SSDI interventions and other partner support for KMC services. Machinga was one of 15 target districts of the *Moyo ndi Mpamba* campaign and had a community-based presence in addition to the national media campaign (SSDI, 2016). In both districts, community action groups (CAGs) were already present and active, as is the case throughout most of Malawi (Donahue J, 2006); pre-existing CAGs were trained under SSDI. Save the Children was implementing concurrent activities in both districts' hospitals, which had well-established KMC units to strengthen the quality of facility-based care for small and sick babies in both districts (Save the Children, 2016). There are distinct differences between the two districts in terms of religion and cultures. The Yao tribe, a large proportion of whom are Muslim, dominates Machinga. In contrast, Thyolo is dominated by the Lomwe tribe, the majority of whom are Christian.

District leaders identified three traditional authorities (TAs) within each district; area development committees (ADC) then selected one group village headman (GVH) – a cluster of approximately 10 villages – within each TA to serve as 'comprehensive' sites receiving the full SBCC campaign package including mass media as well as facility - and community-based activities. The remaining communities in each district received a basic SBCC package in which messages were delivered through mass media and at the facility, but community-based activities were not implemented. Throughout the paper, we refer to these as the comprehensive and basic packages, respectively. We implemented a wide range of



*-Implemented in 'comprehensive' communities only

Figure 1: Summary of *Khanda ndi Mphatso* Campaign Strategy and Activities

Table 2: Dosage Mapping by Campaign Activity or Material

Campaign Material/Activity	Description	Audience	Dose*
Mass media activities			
Radio Spots (Image & Tactical)	Image: Aimed to increase the value of small newborns. Used at community-based events, in facility waiting rooms. Tactical: Promoted KMC as a family/community effort (aired on national radio stations; MBC, ZBS, Yoneco, Radio Islam and Times Radio).	Pregnant women, mothers of PTB/ LBW babies, family, community leaders and members.	2x60 sec spots on 6 stations between 2-4 times per day (4,002 total aired) from December 2015 to June 2016.
Campaign theme song (Image & Tactical)	Audio: A love song from parent to child (produced by Ethel Kamwendo). Aired on national radio stations. Music video: A series of images of babies cut to the campaign theme song aired on National TV stations.	Pregnant women, mothers of PTB/ LBW babies, family, community leaders and members.	Audio: Aired on radio from April - June 2016 on 5 radio station 1598 times (average of 533 times per month). Music Video: 5-minute theme song 20 times per month for 3 months on 3 channels.
Billboards (Image)	Branded billboards placed in the centre of districts featuring the campaign logo with the following messages: • KMC – Love, Care, Bright Future • KMC is the best give you can give to your preterm baby.	Community leaders and members.	3 billboards – 1 in Thyolo and 2 in Machinga.
SMS messages (Tactical)	Pre-packaged reminder and reinforcement messages KEY MESSAGES: • Nkhanda ndi Mphatso lipatseni mwayi. • Nkhanda ndi munthu ngati aliyense lingachepe bwanji. • Kangaroo; mphatso yopambana kwa mwana wobadwa masiku osakwana. • Aliyense atha kubereka mwana wosakwanira masiku. • Ndi udindo wa aliyense kutengapo mbali kusamalila mwana wobadwa masiku wosakwana. • Kangaroo: Chikondi, Chisamaliro, Tsogolo lowala	Pregnant women and families discharged from the KMC ward.	952 women registered (Jan-May 2016); 6 messages delivered 22,576 times.
Roadshow (Tactical)	A large entertainment activity aimed at increasing awareness through interactive drama, quiz, performances, and role-plays.	Community members and family members.	6 road shows (3 per district in July 2016) with 19,000 participants.

Facility-based activities			
Roll up banner (Image)	Branded banners strategically placed at health facilities featuring messages: You can find out more about KMC here; KMC; Love, Care, Bright Future.	Pregnant women, mothers of PTB/ LBW babies, family members.	15 banners produced in 2 designs. Banners were posted at all 12 target health facilities and some banners were used during the launch.
Posters (ABS boards) (Image)	Posted at health centres.	Pregnant women, mothers of PTB/ LBW babies, family & community members.	1000
KMC pointers (Image)	Posted in communities to show where to go to find information on KMC.	Pregnant women, mothers of PTB/ LBW babies, family & community members.	30
Health Talks (Tactical)	Health workers were trained to include campaign messages during the health talks at their facilities to antenatal mothers, during routine education to KMC mothers in the ward and upon discharge from KMC Units.	Pregnant women, mothers of PTB/LBW babies.	Six health facilities with 111 Health facility staff and 63 HSAs.
Individual counseling (Tactical)	Health workers were encouraged to use the SBCC skills in counselling when admitting and discharging mothers and also during follow up care.	Pregnant women, mothers of PTB/LBW babies.	111 health facility staff members and 63 HSAs.
Community-based activities			
Community discussions and dialogue/ mobilisation meetings (Tactical)	Community discussions had five structures: traditional leaders, religious leaders, HSAs, CAGs and KMC veterans. CAGS were expected to conduct community discussions and home visits to KMC mothers. Religious leaders were expected to use their sermons as a platform but also use any other forums they have. Traditional leaders were expected to sensitise the community about the existence of the campaign and introduce all campaign messengers; Veteran mothers were expected to conduct home visits to discharged KMC mothers. All the structures were expected to join the CAGs for the community discussions.	Family members, community leaders and members.	The campaign followed 6 CAGs but trained a total of 37 community groups. There was no prescribed frequency of meeting.
CAG home visits (Tactical)	The CAGs were expected to provide regular counselling to the mothers providing KMC.	Pregnant women, mothers of PTB/ LBW babies, family members	5415 home visits conducted.

Campaign materials			
Chitenje (Image)	Branded chitenje (traditional cloth) with the message: "KMC- Love, Care, Bright Future"	Branded Messengers and CAG members as give away.	2,500 distributed
T-Shirt (Image)	Branded t-shirts for community events with the message: "KMC - Love, Care, Bright Future"	Branded Messengers and CAG members.	2,050 distributed
Branded messenger badges (Image)	Badges given to campaign messengers with the message: "You can ask me more about KMC".	Branded Messengers and CAG members.	200 placed in toolkits
KMC flipchart (Tactical)	The flipchart uses a story format to illustrate the benefits of KMC. *Included in the messenger toolkit and used as a job aid by health workers in antenatal care and PNC postnatal care wards, and community-based messengers in community group discussions.	Branded Messengers and CAG members.	200 flipcharts given in toolkits
Messenger toolkit (Tactical)	The toolkit developed for health providers, educators, and community leaders (campaign messengers) to help them plan educational discussion sessions. Includes radio spots, repackaged radio drama series, digital stories, take home cards/ calendars, facilitator guide.	Branded Messengers and CAG members.	500 toolkits (not all toolkits received the flipcharts, badges, etc); 338 messengers trained in Thyolo and 430 in Machinga (768 Thyolo).
Take-home card/calendar (Tactical)	A resource is given at discharge from KMC containing critical information on KMC benefits and schedule of follow up visits to the health facility.	Parents of PTB/LBW babies.	580 calendars and cards

Source: Data for the dosage component have been extracted from various internal reports. * signifies the dose considerations which included: time period; number reached; how many messages; how many times repeated.

activities and communication channels to create a "surround-sound" effect, in which one channel reinforced another (Figure 1; Table 2). Figure 2 provides a timeline of implementation by activity. Radio and TV spots were broadcast at the district level and nationally. In comprehensive communities, community-based activities were implemented through 768 trained 'messengers' (338 in Machinga and 430 in Thyolo), which comprised primarily by CAGs and KMC veterans (mothers who had practised KMC), as well as traditional leaders, religious leaders, and Health Surveillance Assistant (HSAs). The CAGs were expected to conduct community discussions and home visits to KMC mothers. During advocacy visits, religious leaders were motivated to use their sermons as a platform as well as any other forums they had; traditional leaders were motivated to sensitise the community about the existence of the campaign and introduce all campaign messengers. The KMC veterans and HSAs were expected to conduct home visits to discharged KMC mothers. All messengers were expected to join the CAGs for community discussions.

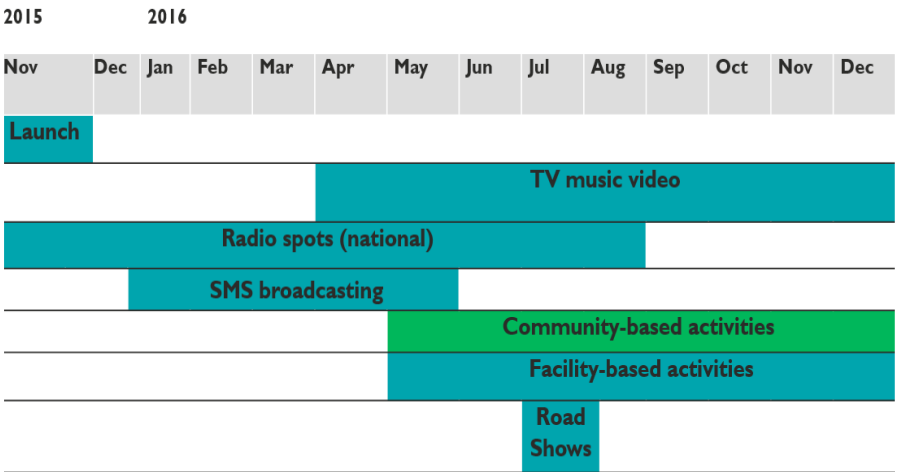


Figure 2: Implementation Timeline for Main *Khanda ndi Mphatso* Activities in Pilot Districts

Methods

We undertook an evaluation to 1) document the effects of the SBCC campaign on shifting social norms and care practices for PTB/LBW babies; 2) assess the appropriateness of campaign channels for the local context and understand the additional contribution of community-based activities; and 3) identify constraints, areas for improvement, and recommendations. The evaluation explored the following questions: 1. How appropriate were communications channels to effectively deliver interventions within the local context? 2. What was the reach and recall of different campaign channels and content areas? 3. What was the contribution of the community-based activities to expected outcomes? 4. What were the effects of the campaign on social norms and social support for PTB/LBW newborns? The evaluation employed structured interviews of pregnant women and mothers of PTB/LBW babies in communities receiving the comprehensive SBCC package and in communities receiving the basic package, along with focus group discussions in comprehensive areas with pregnant women, mothers with infants recently discharged from KMC, community action group members, and husbands of KMC mothers. All data collection was carried out by the Institute for Management Development and Social Analysis (IMDSA), the evaluation partner, with SC staff providing additional support for monitoring and quality assurance.

Quantitative

A quasi-experimental, post-test only comparison group design was employed. Selected measures of campaign content recall, knowledge, beliefs, and social support

regarding preterm babies were compared between primary audience members in target communities exposed to the comprehensive package and primary audience members from similar communities exposed to mass media and facility-based interventions.

Table 3 describes the domains explored quantitatively and the metrics used for each. Due to resource limitations, we had a sample size of 120 pregnant women and KMC mothers (60 per group, per district, 240 total). This sample provided >80% power to detect a 30% difference between groups, assuming an alpha level of 0.05 and a two-sided test. Pregnant women were sampled using non-probability (convenience) methods from facility maternity waiting for homes and antenatal clinics and interviewed at the facility. Pregnant women attending ANC or staying at maternity waiting homes on the day of the survey at selected facilities were administered a short screening form to obtain details on where women lived (comprehensive or basic communities). All pregnant women residing in comprehensive or basic communities who provided consent were eligible for the interview; data collectors continued approaching potential participants until reaching the required sample size. Mothers of PTB/LBW babies discharged from facility-based KMC from August 2016 to January 2017, who resided in comprehensive or basic communities, were randomly sampled from the KMC registers at Machinga and Thyolo district hospitals. Data collectors contacted selected mothers, and then interviewed them in their homes after obtaining voluntary informed consent. Qualitative interviews were happening concurrently; supervisors ensured that pregnant women or KMC mothers who participated in focus group discussions (FGDs were not eligible for the quantitative interviews).

Table 3: Quantitative Measures

Domain	Quantitative Metrics
Exposure to campaign activities and materials	• Percent who had heard of the campaign. • Percent reporting participation in campaign activities by type. • Percent reporting exposure to campaign materials by type.
Recall of campaign messages	• Percent who recalled specific campaign messages (by message).
Knowledge and beliefs/ social norms around preterm babies and KMC	• Percent who believe KMC is an effective way to save preterm/LBW babies. • Percent who reported changing their thoughts about preterm babies due to something they had seen or heard in the campaign. • Percent who reported changes in community beliefs around preterm babies due to the campaign.
Community and family support (*KMC mothers only*)	• Percent reporting receiving family support to practice KMC post-discharge. • Percent reporting community members (outside the family) offered support post-discharge. • Percent reporting community is supportive of KMC.
Male involvement (*KMC mothers only*)	• Percent reporting husband participated in KMC counseling. • Percent reporting husband practised KMC in a facility.

Questionnaires were developed in English and translated into Chichewa. Six data collectors were trained for four days by the IMDSA consultants; training included one day of pre-testing the tools. Data collectors used tablets with CS Pro 6.3 templates to collect quantitative data; hard copies of the questionnaire were used as a backup where necessary.

Data were analysed in Stata 14. Frequencies were calculated for background characteristics and selected measures. We present results in Tables 5-8 by respondent type (KMC mothers, pregnant women) and disaggregated by intervention group (comprehensive versus basic). Differences between intervention groups were tested using Pearson's chi-squared test and p-values less than 0.05 were considered statistically significant. We developed a measure of campaign dosage to explore dose-response, based on reported participation in campaign activities and recall of campaign materials:

- *Low dosage*: No participation in campaign activities and recalled one or no campaign materials.
- *Moderate dosage*: Participated in at least one campaign activity or recalled two or more campaign materials.
- *High dosage*: Participated in at least one campaign activity *and* recalled two or more campaign materials.

We analysed recall of messages, individual beliefs and perceived social norms (injunctive norms) around PTB/LBW and social support received by dosage level, independent of the intervention group. We applied a chi-square test for linear trend; p-values less than 0.05 were considered statistically significant.

Qualitative

FGDs were conducted with mothers of KMC babies (three FGDs), pregnant women (three FGDs), community members and CAGs (five FGDs), and husbands of KMC mothers (three FGDs). Mothers of KMC babies were identified through inpatient KMC registers at district hospitals and identification of these women assisted in identifying husbands. Pregnant women were selected from health facilities in the target communities with the help of the facility in-charge (at the facility) and Health Surveillance Assistants (HSAs). Community members were recruited from their households and invited to the discussions with the help of the village headman and community-based campaign messengers/CAGs. Pregnant women and KMC mothers who had participated in quantitative interviews were not eligible for FGDs.

FGD guides were developed in English and translated into Chichewa. Two research assistants conducted the FGDs (a facilitator and a note taker). The FGDs had a minimum of nine and a maximum of 12 participants. Topics explored with each group are summarised in Table 4. Qualitative data were captured using a voice recorder application on the tablets. Interviews were translated and transcribed into English by trained transcribers and imported into NVIVO version 9.0 (Melbourne,

Australia) for coding and analysis. The evaluation team created a coding framework based on recurrent and priority themes in the data. Thematic coding was applied to all transcripts and identified themes were explored using a systematic constant comparative approach, wherein the research team carried out coding and analysis to systematically generate theory (Glaser, 1967).

Table 4: Topics Explored Qualitatively, by FGD Participant Group

Participant Group	Topics Explored
KMC mothers	• Knowledge and beliefs around PTB/LBW. • Knowledge and awareness of KMC. • Experience with KMC. • Awareness of and participation in a campaign. • Perceptions of campaign's effect on community beliefs and practices around PTB/LBW.
Pregnant women	• Knowledge and beliefs around PTB/LBW. • Knowledge and awareness of KMC. • Awareness of and participation in a campaign. • Perceptions of campaign's effect on community beliefs and practices around PTB/LBW.
Community members and CAG	• Involvement in community action groups. • Involvement in campaign activities and feedback on materials. • Perceptions around what aspects of campaign activities at the community level were most useful and why. • Perceptions of campaign's effect on community beliefs and practices around PTB/LBW.
Husbands of KMC mothers	• Knowledge and beliefs around PTB/LBW. • Knowledge and awareness of KMC. • Awareness of and participation in a campaign. • Perceptions of campaign's effect on community beliefs and practices around PTB/LBW.

Ethical Considerations

The evaluation received an exemption from full ethical review by the National Health Services Research Committee (NHSRC) in Malawi as data were collected as part of programme activities, of minimal risk to participants, and not considered human subjects research. The evaluation was also reviewed by Save the Children's Ethical Review Committee and was determined to be non-human subjects research. Participation was completely voluntary and written informed consent was obtained for all participants.

Results

Quantitative interviews were completed with 124 women who had practised facility-based KMC and 123 pregnant women attending ANC (Table 5). About three-quarters of women were 30 years or younger and most had completed primary education or higher. The majorities were married, and most women

reported agriculture/farming or self-employment as their occupation. Background characteristics of KMC mothers and pregnant women were largely similar between the comprehensive and basic groups, with the exception of lower education levels among pregnant women from the basic communities.

Table 5: Background Characteristics of KMC Mothers and Pregnant Women by Intervention Group

Background Characteristics	KMC Mothers (N=124)			Pregnant Women (N=123)			Total (N=247)
	Comp (n=66)	Basic (n=58)	*p*	Comp (n=61)	Basic (n=62)	*p*	
Age							
<20 years	27%	19%	0.53	26%	15%	0.26	22%
20-30 years	44%	47%		59%	66%		54%
>30 years	29%	35%		15%	19%		24%
Marital Status							
Married	71%	86%	0.04	93%	92%	0.75	85%
Single/divorced/ widowed	29%	14%		7%	8%		15%
Education Level							
No education	9%	12%	0.59	2%	23%	0.00	11%
Primary or higher	91%	88%		98%	77%		88%
Occupation							
Agriculture/farming	44%	50%	0.76	41%	44%	0.53	45%
Self-employed/ business	24%	22%		34%	32%		28%
Salaried	12%	7%		16%	10%		11%
Other	20%	21%		8%	15%		16%
Notes: Comp = Comprehensive; p = p-value							

Campaign Reach and Exposure

Seventy per cent of women interviewed had heard of the campaign (Table 6). Knowledge of the campaign was significantly higher among KMC mothers and pregnant women in communities in comprehensive sites (97% and 67%, respectively) compared to KMC mothers and pregnant women in basic communities (72% and 45%, respectively). Health facility staff and radio were the main sources of campaign information cited overall, while community discussions were also frequently cited in comprehensive areas. Participation in campaign activities during the last six months of implementation was higher in comprehensive areas in general and among KMC mothers (Table 6) in particular. Reported exposure to campaign materials was highest for KMC posters and t-shirts, followed by flip charts, theme song, billboards, and radio spots.

Table 6: Recall of Participation in Campaign Activities and Exposure to Campaign Materials among KMC Mothers and Pregnant Women by Study Group

Campaign Activities and Materials	KMC Mothers (N=124)			Pregnant Women (N=123)			Total (N=247)
	Comp (n=66)	Basic (n=58)	*p*	Comp (n=61)	Basic (n=62)	*p*	
Campaign Knowledge							
Heard about "*Khanda ndi Mphatso*"	92%	72%	0.00	67%	45%	0.01	70%
Campaign Activities							
Community discussions	47%	9%	0.00	18%	6%	0.05	21%
Roadshows	50%	7%	0.00	10%	6%	0.49	19%
Community action groups	39%	3%	0.00	10%	0%	0.01	14%
Sermons with religious leaders	30%	16%	0.05	23%	2%	0.00	18%
Home visits	67%	40%	0.00	13%	3%	0.05	31%
Participated in at least one campaign activity	89%	48%	0.00	41%	13%	0.00	49%
Campaign Materials							
KMC banners/posters	86%	55%	0.00	51%	5%	0.00	50%
KMC t-shirts	82%	29%	0.00	36%	11%	0.00	40%
Flipchart	71%	33%	0.00	25%	5%	0.00	34%
Theme song	58%	29%	0.00	21%	18%	0.62	32%
KMC billboards	53%	26%	0.00	28%	3%	0.00	28%
Radio spot	41%	16%	0.00	18%	16%	0.78	23%
SMS messages	11%	3%	0.13	7%	3%	0.39	6%
Recall of 2 or more materials	91%	52%	0.00	54%	18%	0.00	54%
Notes: Comp = Comprehensive; p = p-value							

Qualitative data supported quantitative findings on exposure and recall of the campaign and messages. Some respondents seemed more conversant with the term "Kangaroo" (referring to Kangaroo Mother Care) than the *Khanda ndi Mphatso* campaign itself. For instance, many respondents, pregnant women/recent mothers and community members, spoke of the benefits of KMC but had to be asked directly what the message was of the *Khanda ndi Mphatso* campaign. Many could then recall the slogan "a baby is a gift" and quickly linked that idea to KMC. KMC mothers expressed a desire to continue teaching other mothers of LBW or premature babies, as well as relatives and community members, about the advantages of KMC. Women mentioned that support from the community on continued care for these babies also came from village committees. Respondents mentioned helping others with LBW or

preterm babies by encouraging them to treat a child as a gift through protecting it (by engaging in KMC practices) and ensuring delivery occurred at the hospital.

Respondents highlighted the benefits of participating in a community discussion, noting some of the issues discussed during community meetings with CAGs, including tools such as radios and calendars to share information and generate dialogue. While many of the respondents, particularly KMC mothers, stated they learned about KMC practices at a hospital and encouraged the continuance of messages at facilities, FGD participants also suggested that more people could be reached if health educators were to visit communities more frequently (in case some expectant or new mothers did not attend antenatal/postnatal care at a facility that promoted KMC messages), while others mentioned that KMC messages could be strengthened by using KMC mothers as examples and advocates.

Recall of Campaign Messages and Appropriateness of Channels

Recall of specific campaign messages was significantly higher among both pregnant women and KMC mothers from comprehensive communities compared to basic communities (Table 7). KMC mothers had higher levels of message recall than pregnant women regardless of the intervention group. Overall, close to two-thirds

Table 7: Recall of Campaign Messages among KMC Mothers and Pregnant Women by Study Group

Recall of Campaign Messages	KMC Mothers (N=124)			Pregnant Women (N=123)			Total (N=247)
	Comp (n=66)	Basic (n=58)	*p*	Comp (n=61)	Basic (n=62)	*p*	
A baby is a gift. Give it a chance.	92%	64%	0.00	53%	35%	0.06	62%
A baby is just like any other person and should be valued as such.	92%	57%	0.00	56%	50%	0.52	64%
KMC is the best gift you can give to your preterm baby.	92%	55%	0.00	59%	21%	0.00	57%
Providing KMC for a preterm baby yields love, care, and a bright future for the baby.	92%	55%	0.00	54%	21%	0.00	56%
Anyone can give birth to a preterm baby, regardless of their age, medical condition, etc.	89%	53%	0.00	48%	32%	0.08	56%
Giving birth to a preterm or low birthweight baby is not a curse or punishment.	64%	41%	0.01	28%	15%	0.07	37%
It is everybody's responsibility to play a role in caring for a preterm baby.	91%	50%	0.00	53%	23%	0.00	55%
Male involvement in KMC is crucial.	85%	52%	0.00	44%	21%	0.01	51%
Recall of 3 or more messages	98%	66%	0.00	57%	29%	0.00	63%
Notes: Comp = Comprehensive; p = p-value							

(63%) of women interviewed could recall three or more campaign messages when prompted. CAG members perceived the campaign approach to be a success because messages targeted the whole community (not just women) and were reinforced at facility and community levels at the same time.

> *"Before we were only depending on the hospital alone, some [mothers] were hiding themselves not going to the hospital and the babies would die because of no proper care. But since we came, when we see in our village that someone is pregnant…we monitor her regularly until she delivers and when we know that the baby is premature we start right there counselling her and the child lives",* **CAG member, Machinga**.

Individual Attitudes, Injunctive Norms, and Social Support

Quantitative data showed that KMC mothers and pregnant women in comprehensive areas were significantly more likely to report changes in their own

Table 8: Injunctive Norms, Community and Family Support and Male Involvement among KMC Mothers and Pregnant Women by Intervention Group

	KMC Mothers (N=124)			Pregnant Women (N=123)			Total (N=247)
	Comp (n=66)	Basic (n=58)	*p*	Comp (n=61)	Basic (n=62)	*p*	
Beliefs and Injunctive Norms							
Believe KMC is an effective way to save PTB/LBW babies.	100%	100%	NA	80%	55%	0.00	84%
Changed thoughts about PTB/LBW due to campaign.	65%	40%	0.01	36%	13%	0.00	39%
Reported changes in community beliefs around PTB/LBW babies due to campaign.	79%	22%	0.00	41%	11%	0.00	39%
Community and Family Support							
Reported family support to practice KMC post-discharge.	94%	79%	0.04	-	-	-	-
Reported community members offered support post-discharge.	59%	36%	0.01	-	-	-	-
A reported community is supportive of KMC.	65%	52%	0.13	-	-	-	-
Male Involvement							
Reported husband participated in KMC counseling.	24%	7%	0.01	-	-	-	-
Reporting husband practised KMC in a facility.	17%	5%	0.04	-	-	-	-
Reported husband practised KMC in a community after discharge.	48%	46%	0.83	-	-	-	-
Notes: Comp = Comprehensive; p = p-value							

thoughts about preterm babies due to the campaign (Table 8). Results were most striking for injunctive norms, in which 79% of KMC mothers and 41% of pregnant women in comprehensive areas perceived changes in community beliefs around preterm babies due to the campaign. Compared to KMC mothers in basic areas, KMC mothers in comprehensive areas also reported receiving significantly higher levels of support (or approval) from family members (94% compared to 79%) and from other community members (59% compared to 36%). Levels of reported male involvement in KMC counselling and skin-to-skin practice while in the facility were low overall, but significantly higher among KMC mothers in comprehensive communities compared to KMC mothers in basic communities (24% compared to 7% for KMC counselling and 17% compared to 5% for skin-to-skin practice). Reported levels of male involvement in KMC practice in the community after mothers returned home was higher, close to 50%, and similar between comprehensive and basic communities.

Qualitative results showed that community leaders perceived that the campaign had positively changed the value attached to PTB/LBW babies and allowed all key players in the community to participate in discussions around providing care and supporting families of PTB/LBW babies:

> *"People used to laugh at other people when they have a pre-term baby but now those things have ended, people are now able to discuss with others…",* **The village headman, Machinga**.

KMC mothers reported being able to extend their support beyond those who have recently delivered PTB/LBW babies to the community-at-large, through other forums such as village bank groupings, ANC session, and spread a message of hope by sharing their successful experiences with KMC with others. Some participants reported that village chiefs had introduced by-laws in their villages such as imposing a fine for anyone found to laugh at KMC mother or their babies. KMC mothers pointed out that they are not being laughed at as before the campaign because people are now aware that KMC is a common practice and that husbands and family relations were engaged and supportive.

> *"People cannot laugh at you because it's [KMC] becoming common. But before if you carry your child you couldn't have gone far",* **KMC mother, Machinga.**

> *"Husbands were not supportive but because of this campaign, some they are supportive. Relations also support. People have learned and this campaign is good and it should continue",* **KMC mother, Thyolo.**

Discussions with CAG members and with husbands appear to corroborate the reports from KMC women about increased social support. CAG members reported they were able to strengthen male involvement by organising discussions with husbands of women who had delivered a low birth weight baby. They also reported

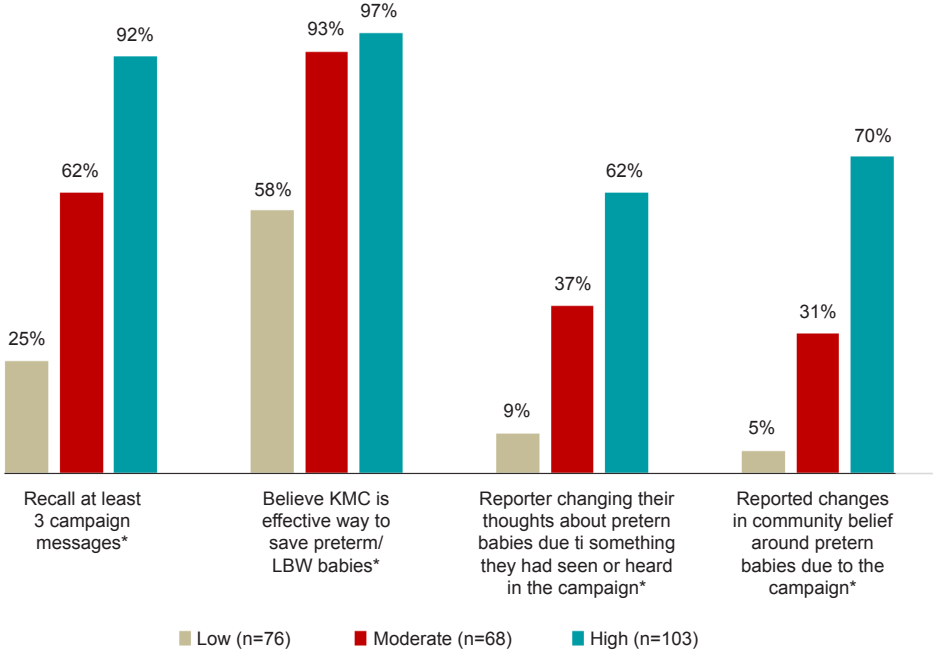
the campaign had changed beliefs and misconceptions around PTB/LBW.

> *"We can say that we have changed because at first, it was only the mother and the guardian taking care at the hospital. Now we as the husband, we are also taking part together with the mother. This is the change."* **KMC husband, Thyolo.**

> *"I started practising KMC at the hospital; it wasn't hard because we were in a separate room and the only people that were there were me and my wife… Nothing at all can stop men from practising KMC at the facility as long as there is a separate room for the males".* **KMC husband, Machinga.**

Campaign Dose Response

Of the 247 KMC mothers and pregnant women interviewed, 31% (76) were classified as receiving a low dose of the campaign, 28% a moderate dose (68) and 42% (103) a high dose. When compared by intervention group, KMC mothers in comprehensive areas had the largest proportion in the high dose category (84%),



**-Chi-square test for trend <0.05*

Figure 3: KMC Message Recall, Beliefs and Changes in Thoughts Around PTB/LBW by Campaign Dosage Category among KMC Mothers and Pregnant Women

followed by KMC mothers in basic areas (38%) and pregnant women in comprehensive areas (34%). Pregnant women in basic areas had the lowest campaign dose (6% in high category). We found a consistently strong relationship between the intensity of exposure (dose) of the campaign and response (Figure 3). Recall of campaign messages, belief in KMC effectiveness, and changes in thoughts and beliefs due to the campaign were significantly higher among those with a high dose of campaign materials and activities. Differences by dose appeared strongest for reported changes in personal thoughts and injunctive norms.

Discussion

The *Khanda ndi Mphatso* campaign aimed to shift individual attitudes and community norms around the value of newborn life, no matter how small, and encourage supportive action by and for affected families. To our knowledge, this is the first SBCC campaign to focus attention on these most vulnerable newborns (Nayar, Stangl, De Zalduondo, & Brady, 2014; WHO, 2017). Despite a short implementation period, the evaluation showed surprisingly strong results and clearly demonstrated the added value of community-based activities. We found a strong positive relationship between campaign dosage and reported beliefs and social support. Our results provide evidence that multi-channel or blended approaches that combine mass media, interpersonal communication, and community engagement can yield better results (Farnsworth et al., 2014; Naugle & Hornik, 2014; Randolph & Viswanath, 2004). In particular, community-based activities were critical for generating meaningful dialogue and supportive action at the community level, as has been shown in other studies (Farnsworth et al., 2014).

Unsurprisingly, recall of campaign exposure and participation was highest among those most affected by preterm birth – namely mothers of small babies – regardless of intervention site (comprehensive or basic). In campaign dosage analyses, KMC mothers reported the highest dosage overall, driven largely by KMC mothers from comprehensive areas where more than 80% were classified exposed to a high dose. Mothers who had delivered a PTB/LBW baby and practised KMC had higher levels of recall of specific campaign messages than pregnant women in both areas. This could be because the messages were more salient to them rendering KMC mothers more likely to recall specific messages compared to pregnant women. The most compelling evidence for the added value of the community-based components of the campaign comes from reported personal attitudes and injunctive norms around preterm birth. Positive shifts in individual beliefs and injunctive norms were significantly higher in comprehensive areas compared to basic areas and most striking for perceived changes in community beliefs around preterm birth, where the differences between intervention groups were wide for both KMC mothers and pregnant women. Qualitative data reinforced the finding that community dialogues were important in shifting attitudes. While our results showed some evidence of improved male involvement in caring for

preterm babies and their mothers while in the facility, levels were still low, even in areas with the more intensive community-based activities. Changing gender-related norms may require more time and need additional, complementary strategies to prompt uptake of recommended behaviours (Cislaghi & Heise, 2018; Randolph & Viswanath, 2004; Rimal R. N., 2015).

Factors that may have contributed to the results of the campaign include the strategic leverage of an existing, successful national level SBCC campaign, *Moyo ndi Mpamba*, implemented at national level and in 15 target districts (including Machinga). A 2016 evaluation of the *Moyo ndi Mpamba* campaign found high levels of exposure to the campaign in target districts, with more than 70% of men and women of reproductive age reporting participation in at least one campaign activity (SSDI, 2016). Campaign exposure was significantly associated with positive social norms and health care practices, including higher gender equitable beliefs, joint decision making between men and women, and improved modern contraceptive use and antenatal care practices (SSDI, 2016). The *Moyo ndi Mpamba* campaign created a fertile ground that allowed the *Khanda ndi Mphatso* campaign to leverage the significant brand recognition during the image phase. The broadcasting intensity of the radio spots during both the image and tactical phase may have contributed to the high recognition and recall of the campaign effort (Randolph & Viswanath, 2004). While the community component deserved more intense monitoring, its recall by many audience members as one of the sources of KMC information and dialogue shows that this is an effective channel to use.

Other factors aiding success included efforts to improve quality of care for small babies in both districts. Starting in 2014 and continuing alongside the SBCC campaign, Save the Children supported a district-led quality improvement and mentorship approach in both districts to improve quality of care for newborns, with a focus on strengthening the quality of hospital-based KMC services creating mechanisms for shared learning. Mentorship improved capacity of district hospital nurse-midwives and clinicians and the refurbishment of neonatal units (nursery and KMC units) led to notable improvements in access to equipment and supplies for advanced newborn care (Save the Children, 2016, 2017). These investments were documented to improve quality of care and provider attitudes towards neonates and positioned Save the Children for effective campaign implementation by fostering relationships with district and community leaders (Save the Children, 2017). It may be that better quality KMC in facilities may have enhanced the visibility of KMC practices and preterm babies in the community, creating an enabling environment for the campaign.

Limitations

Several limitations should be considered when interpreting our findings. The evaluation design was constrained by lack of comparable quantitative baseline data and limited time and resources, resulting in a relatively small sample size of

pregnant women and KMC mothers for the main comparisons and did not allow for comparisons in results between the two pilot districts. As quality improvement efforts were happening concurrent to the campaign in both districts, our evaluation cannot demarcate the contribution of quality of care improvements on the awareness of KMC or the perception of PTB/LBW. Pregnant women were recruited for the quantitative component using convenience sampling that could result in a biased sample given that they could potentially have had greater exposure to facility-based SBCC activities (Hedt & Pagano, 2011). The significant difference in education levels between pregnant women in the comprehensive and basic areas may be associated with or could at least partly explain reported exposure and recall of campaign messages. However, when the analysis was restricted to only those with primary education or higher, the pattern of results was similar, with pregnant women from comprehensive areas having higher exposure and recall of messages than women from basic areas. Participation in campaign activities, exposure to materials and recall of specific campaign messages were ascertained using prompted questions that may have resulted in over-reporting of campaign engagement and knowledge of individual messages. However, because the questions were posed in the same way to both intervention groups, the observed differences cannot be explained by differential recall bias.

Limitations with the qualitative emerge largely from the sampling strategy and the possibility of social desirability bias. By using community mobilisers to identify and recruit participants, we may have selected those who were well known by the mobilisers and therefore had either more exposure or more positive experiences with the campaign. During discussions, participants may not have felt comfortable disclosing negative views of preterm birth; this may also reflect changing injunctive norms in the communities of interest.

There were notable limitations in campaign implementation. The implementation period was relatively short overall and had just six months of community-based activities. Despite this, the campaign showed strong results, perhaps a testament to the strong community-level engagement already established through the *Moyo ndi Mpamba* campaign and the intensity of the community-based activities themselves. While the campaign was implemented for a short duration (17 months), the progress in changing social support and injunctive norms indicate that the expected changes in care practices as articulated in the campaign's theory of change would follow. Other limitations to the campaign included the sequencing of activities, which resulted in missed opportunities for greater synergy and reinforcement. The activities used at low intensity, such as the road shows, might have been much more effective if used with more repetition and over a longer time span. The activities with high intensity for a short time span, such as the SMS push messages, unfortunately, did not link to more interactive interventions to engage around such messages. The linkage between these activities is a critical component of influencing behaviour change. Campaign reminders, such as billboards, can be an expensive choice when operating only in two districts and should be reconsidered in the future. Another

important lost opportunity was more intensive engagement with religious leaders who are natural allies to newborns. While they were initially part of the SBCC strategy, targeted activities were dropped during implementation due to project limitations.

Programmatic Implications and Future Directions for Implementation

Our results and lessons learned through implementation have several important programmatic implications for Malawi and other similar settings. Higher cost components, specifically billboards, roadshows and SMS messages should only be scaled up if resources allow for adequate dosage. Other high costs elements, such as T-shirts, while effective in creating brand awareness, could be implemented more strategically to limit costs. This campaign was of relatively short duration; longer-term campaigns should phase their messaging and campaign materials with messaging that builds and responds to gains made in knowledge and shifting of norms.

Save the Children is continuing its support to Thyolo and Machinga district health offices to lead district-based exchange visits amongst communities. District Health Promotion Officers are working with CAGs from comprehensive sites to share their lessons with CAGs in areas of the district where the community-based component of the campaign is now being introduced. The aim of the exchange visits is for the District Health Promotion Officers to reach a wider catchment area with the hope of continuous engagement with traditional leaders, families and community members with messages that are focused on valuing newborns with emphasis on the preterm and low birth weight babies who are highly marginalised in the communities (Koenraads et al., 2017; Tolhurst et al., 2008). The visits will engage CAGs that are already working within communities to adopt and continue engaging communities in valuing the newborn within their community mobilisation work.

The implications of this campaign and the evaluation results should also inform global efforts underway for newborn health. The Every Newborn Action Plan, a World Health Assembly resolution, has a specific milestones calling for a shift in social norms around the value of newborn life (UNICEF & WHO, 2014). Efforts to take forward the Every Newborn milestone, such as WHO's Quality of Care Network initiative, have not yet adequately integrated social norms and community engagement (WHO, 2018). Thus, global partners and national governments should consider the lessons from the campaign and determine if appropriate to implement an adapted campaign in their context. There is also a gap in the SBCC literature around the perceptions of newborn life and related-social norms as well as limited evidence for newborn health around mass and social media activities and community mobilisation (Nayar et al., 2014), WHO, 2017). The findings of this evaluation demonstrate the need for further research in these areas.

Conclusion

Despite a short implementation period, the *Khanda ndi Mphatso* SBCC campaign achieved improvements in injunctive norms around the care of the newborn, increasing value for low birthweight and preterm babies and social support for mothers. Community-based activities were critical in generating meaningful debate, discussion, and social support from communities and families. Adaptation of the *Khanda ndi Mphatso* campaign in other districts has the potential to shift social norms around care for newborns in Malawi. Lessons learned in the process of developing, implementing, and evaluating the campaign should be considered when taking this approach forward in other districts or settings.

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