Accelerating Adoption and Scale-up of Kangaroo Mother Care in Uttar Pradesh

Summary Report on Phase 1: Pre-sensing

July-August 2015

Grace Klaris, Stanford University
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**Useful Acronyms Defined:**

- **KMC:** Kangaroo Mother Care
- **UP:** Uttar Pradesh
- **LBW:** Low Birth Weight, defined as a birth weight of a liveborn infant of less than 2,500 g (5 pounds 8 ounces) regardless of gestational age
- **CHC:** Community Health Center
- **PHC:** Primary Health Center
- **ASHA:** Accredited Social Health Activist
- **ANM:** Auxiliary Nurse Midwife
- **NICU:** Neonatal Intensive Care Unit

1. **Background:**

KMC is a powerful low-cost innovation with potential for public health integration that has been proven to be superior to incubator care in reducing mortality and morbidity and improving neurodevelopmental amongst <2,000g infants. KMC scale-up has been identified as an important priority by the government of India and its acceleration can bend the curve of newborn survival in India and UP. However, going by global and national trends since the introduction of the KMC method, the power of this innovation has not been matched by enthusiasm in its implementation, and adoption has been poor. The problem, therefore, is lack of a robust model that will systematically and reliably address existing barriers in order to accelerate KMC scale-up in India and in UP with the ultimate goal of improving newborn survival state- and country-wide.
In order to develop a model for accelerating impact at scale, we need to: (1) Understand key barriers for the scale-up of KMC implementation, (2) Understand the socio-cultural-economic and systems context where the scale-up efforts will occur, and (3) Develop innovations and systems interventions that will help overcome the identified barriers and leverage enabling factors and opportunities in the given context.

Based on our current understanding of the KMC innovation, the community and the health system, we have developed an initial conceptual model, Model-0 and identified areas of innovation. We have laid out the formative research methodology that we will follow in order to co-develop a prototype model using the principles of user and community-centric design. The prototype model will then be piloted and refined, and subsequently implemented in the defined study area in the Lucknow sub-division of UP, consisting of 10 facilities and a population of 180,000 within their catchment area. The model will be evaluated against an adequacy criteria of >80% coverage of effective KMC. The evaluation will not only take into account summative outcomes, but also capture the implementation context in detail using an existing implementation research framework.

This project has been developed as part of collaboration between the National Health Mission, Government of UP, State Innovations for Family Planning Services Project Agency (SIFPSA) and Community Empowerment Lab, and in partnership with Laerdal Global Health, King George’s Medical University and Stanford University.

1.1 Context:

On July 16th, there was a conference held jointly by The Community Empowerment Lab, The National Rural Health Mission (NRHM), and the State Innovations in Family Planning Services Agency (SIFPSA) on accelerating adoption of KMC. One of the core components to ensure intervention sustainability is enthusiasm. Thus, it is necessary to leverage the influential position of stakeholders in order to spark momentum for KMC acceleration. Critically, this conference included stakeholders at all levels (i.e. policy makers, physicians, professors, community nurses, paramedics, etc.) in order to spark that motivation and create a network that will work together on KMC acceleration. After the conference, we identified a group of attendees that we believed would play a critical role in accelerating adoption of KMC and followed up with them in person.

These individuals are not just key stakeholders; they are gatekeepers as well. They provide insight into the social fabric of health care delivery and inform us on potential barriers or enabling factors for accelerating and sustaining KMC adoption.
The environment within which KMC will be implemented is another critical element of this project. As a result, the pre-sensing phase consisted of field visits and observations made within each of those implementation zones.

As a result, we conducted a pre-sensing phase as a precursor to the formative research.

Objectives of the pre-sensing phase:

1. Primary Objective
   - Gather basic information on the current practices, perception, context, and roles around KMC
   - Achieve a first-level understanding of what is currently happening both in the facility and in the community (i.e. the “as is” state of KMC)

2. Secondary Objective
   - Inform subsequent phases of research and design for accelerating adoption of KMC

2.0 Methodology:

1. Geographical selection:

We selected two districts for data collection: Lucknow and Raebareli. Two blocks were selected in Raebareli (Shivgarh and Bachhrawan) and one block of Lucknow (Mohanlalganj).

2. Respondent selection:

Respondents were chosen based on the list of attendees and their respective facilities from the KMC conference on July 16th. Additional respondents were selected based on availability within each facility.

3. Data collection

Qualitative data collection was used as the primary methodology. We conducted in-depth interviews with open-ended prompts, held a focus group, used photography and videos, and took direct field observations. When possible, interviews were audio recorded.

4. Analysis plan

All interviews were transcribed, manually coded, and then analyzed for a report summary.

5. Ethical concerns

All information included in this report will be confidential and personal identifiers will be removed. For all of the interviews, we received verbal consent to use their responses for the purposes of this project. Grace Klaris, the primary investigator for the pre-sensing phase, also received IRB-approval from Stanford University to conduct this research.

6. Team:

The primary investigator of this research is Grace Klaris. When necessary, Snigdha Verma and Swati Dixit acted as translators for interviews with individuals who did not speak English.
### Respondent Categories

<table>
<thead>
<tr>
<th>Community</th>
<th>CHC/PHC</th>
<th>District hospital</th>
<th>Key informants</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ASHAs</td>
<td>• ANMs</td>
<td>• Doctors</td>
<td>• Professors</td>
</tr>
<tr>
<td>• Community women</td>
<td>• Doctors</td>
<td></td>
<td>• Policy makers</td>
</tr>
<tr>
<td></td>
<td>• Nurses</td>
<td></td>
<td>• Public health professional</td>
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</tbody>
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### Data Collection Matrix (Community)

<table>
<thead>
<tr>
<th>Target Group</th>
<th>Method</th>
<th>Quantity</th>
<th>Clarification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHA</td>
<td>In-depth interview, brief interactions, and direct observation</td>
<td>5</td>
<td>N=5 (two in-depth interviews, one group interview with community women, and two brief interactions at a PHC)</td>
</tr>
<tr>
<td>Community stakeholders and users</td>
<td>Interaction and observation</td>
<td>N/A</td>
<td>No in-depth interviews were conducted with community members (other than group interview with ASHA). I mostly held brief interactions.</td>
</tr>
<tr>
<td>Recently delivered women</td>
<td>Direct observation</td>
<td>N/A</td>
<td>Observed women in the postnatal/KMC ward after delivery</td>
</tr>
<tr>
<td>Photography and video</td>
<td>Used to capture the perspectives, decision-making dynamics, practice of KMC, and general perception of community.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key administrative and functional stakeholders and decision-makers in the health system</td>
<td>In-depth interviews and interactions</td>
<td>3</td>
<td>N = 3 (includes one in-depth interview with one PHC faculty-in-charge, and two brief interactions with heads of CHCs)</td>
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<tr>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Nursing staff (CHC/PHC)</td>
<td>In-depth interview and direct observation</td>
<td>2</td>
<td>N = 2 (includes one in-depth interview, one brief interaction) Other nurses were observed during field visits</td>
</tr>
<tr>
<td>ANM</td>
<td>In-depth interview</td>
<td>2</td>
<td>Brief interviews with ANMs at Immunization camp</td>
</tr>
<tr>
<td>District hospital physician</td>
<td>In-depth interview and direct observation</td>
<td>2</td>
<td>N = 2 (includes one in-depth interview with a professor of Neonatology and one brief interaction with a junior doctor at a CHC)</td>
</tr>
<tr>
<td>Government officials/policy makers</td>
<td>In-depth interview</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Academia</td>
<td>In-depth interview</td>
<td>1</td>
<td>Individual was a professor economics at Lucknow University</td>
</tr>
<tr>
<td>Photography and video</td>
<td>Used to capture the perspectives, decision-making dynamics, practice of KMC, and general perception of community</td>
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### 3. Key themes
This section will explore the key themes that emerged from the pre-sensing phase and are relevant to KMC adoption. Those themes are: perception around KMC, current practices of KMC, roles,
barriers to adoption, and suggestions for improving adoption of KMC. For each theme, we will examine our observations through the lenses of four groups of respondents: providers, users, community stakeholders, and key informants. A brief description of each category is provided here.

Providers
As providers, these individuals play a role in delivering care to users (the mother). As we were only able to visit government facilities, we have excluded private facilities. Within government facilities, there are two tiers of provider: higher-level (doctors) and mid-level (nursing staff). We will discuss both levels of provider at CHC/PHC and tertiary facilities.

Users:
The category of “user” includes both the mother and her family. Her family can act as either a supporter or a barrier in her receiving care.

Community Stakeholders
Among community stakeholders, the ones we were able to interact with were ASHAs and ANMs. On the grassroots level, these are the individuals catering to the health needs of the community. The ANM’s role is more focused on holding immunization camps; however, she engages in counseling the women as well. She is the first point of contact for pregnant women at a health facility, so she provides initial guidance on the woman’s pregnancy (mainly nutrition). ASHAs receive less formal training than ANMs but take on a wide range of responsibilities as health advocates. Each ASHA looks after a population of 1000 women/families.

Key informants:
This group consists of individuals who are not directly involved in the healthcare system but are potential stakeholders in KMC adoption. They include policy makers, professors, and public health professionals.

3.1 Perception around KMC
In this section, we will explore the current perceptions around KMC from the provider, user, community stakeholder, and key informant perspectives.

Provider:
1. Doctors
We were unable to gather information on the perception of Doctors at the CHC/PHC level. This is an area that needs to be explored in the formative research phase.

At the tertiary care level, the doctors we interviewed had a positive perception KMC but this is not reflective of all physicians. For example, one respondent said, “I am convinced but other doctors are not.” When prompted further on why others are unconvinced, the respondent stated “They need
more evidence on the benefits and on what the mothers want. Right now, they don’t push it enough.” Throughout the conversation, it was clear that this respondent believed KMC was an effective tool for helping LBW babies; however, the rest of her team did not express the same enthusiasm. Both respondents had attended the KMC conference and identified that meeting as a source of motivation for their positive perception of KMC. More investigation needs to be done to explore why certain doctors are unconvinced and what enabling factors would shift their opinions.

2. Nurses

The two nurses we interviewed were both strong advocates of KMC. One respondent who attended the KMC conference had became motivated to spread awareness around its practice. When asked about her opinion on KMC, she described herself as a “very big fan” and spoke confidently about its benefits and procedure. From our interaction, it was clear that her perception of KMC was focused on care for “low temperature babies.” For example, she said, “If temperature is below normal, we suggest it (KMC).” KMC was never brought up as a possible intervention for all newborns.

In contrast, a respondent from PHC- Bachhrawan perceived KMC to be applicable for all babies. She said, “I put all babies on the mother’s chest,” indicating that she perceives it as an appropriate intervention for all newborns. She spoke enthusiastically about KMC because she had seen many of the benefits firsthand (i.e. weight gain, more regulated breathing, easier attachment/feeding, reduced bleeding).

Users:

We were unable to gather direct information on the perception of women and families around KMC. However, we received some second-hand accounts from providers about community perception.

One tertiary care doctor reported that many women believe KMC to be substandard care. The respondent explained that there were educational videos distributed in her facility that demonstrated KMC in places like Africa. As a result, women believe KMC is used only when better resources are not available. In a tertiary facility, they expect to receive better care than a low-resource setting like Africa, so they do not respond positively when KMC is recommended.

Another respondent offered a similar explanation for this community attitude. He said, “People assume that western practices are superior and better for life-saving.” Furthermore, “unless KMC is considered a part of modern science, it will not be accepted by communities.” These interactions
indicate that KMC is not perceived as aspirational for the users. Because they only learn about
KMC in the context of low-resource settings, they are unconvinced that it is optimal for their
babies.

Further investigation is needed to understand women’s perception of KMC. In-depth interviews
with mothers and their families should be collected.

Community Stakeholders
From our interactions with ASHAs and ANMs, we concluded that there was a neutral attitude
towards KMC unless the facility was particularly motivated around KMC. In the observed CHCs,
ASHAs and ANMs did not have much awareness around KMC. For example, when prompted
about her knowledge of KMC, one ASHA did not recognize the word “KMC” but later, she
mentioned learning about “Mother Kangaroo Care” during a recent training on LBW babies.
However, at the PHC-Bachhrawan where the faculty-in-charge had implemented a KMC ward and
openly promoted its use, one ASHA said “I will tell other ASHAs about KMC because now I know
it is good for the baby.” Her perception of KMC was influenced by the positive attitude of the other
faculty and staff and enabling environment.

Key informants:
Of the key informants, all of the respondents who had attended the KMC conference were strong
advocates for KMC. Their positive attitude toward KMC did not stem from personal experience but
rather from the information gathered at this meeting. Each informant referred back to the
conference as sparking their enthusiasm around the cause.

3.2 Current practices around KMC
This section will describe the current practices of KMC that were observed during field visits and
discussed in our interviews.

Providers
1. Doctors

We did not observe doctors at the CHC level practicing KMC in any capacity. We were not able to
conduct any in-depth interviews with doctors at this level, so we cannot conclude on whether our
observations reflect their actual practices. More investigation is needed surrounding doctors at this
level of care.

At the district hospital level, we observed a fairly high level of awareness around KMC; however
its practice was not observed to be routine. At this level, KMC is taught more than it is practiced.
One respondent doctor reported teaching KMC to her medical students, but its scope is limited. The
respondent stated, “My lecture is only an overview,” emphasizing the need for more in-depth information about KMC. Moreover, the same respondent reported personally advocating the practice of KMC in her NICU ward, but stating that other doctors do not do the same.

During a visit to her NICU, the respondent doctor was observed yelling at staff nurses for placing a low birth weight baby under a heat lamp but neglecting to turn on the lamp. She openly scolded, “This baby should be receiving KMC.” From these observations, we concluded that the doctor’s advocacy of KMC did not necessarily translate into its practice within the facility. Moreover, there are posters about KMC around the facility, but those posters are in English. These findings indicate that KMC awareness is fairly significant within tertiary care facilities, but its practice is still minimal.

In the same visit to the NICU, we observed a senior neonatologist educating new mothers about the practice of KMC. She demonstrated the procedure and engaged in role-playing to further elaborate its practice. The discussion was a part of “Breastfeeding Awareness Week,” which consisted of various talks and educational lectures to new mothers on breastfeeding and other healthy behaviors. Our observations at this lecture further indicated that the practice of KMC in the tertiary facility is more focused on increasing awareness rather than actual practice.

![Photo 1](Photo 1.png) ![Photo 2](Photo 2.png) ![Photo 3](Photo 3.png)

Photo 1: LBW baby that was supposed to receive KMC. Photo 2: Dr. Mala Kumar educating new mothers on how to take care of their newborn. Photo 3: Poster about KMC in tertiary care hospital.

2. Nurses

At the CHC level, we observed a spectrum of practices around KMC among nursing staff. One respondent nurse stated, “If temperature is below normal, we suggest it (KMC).” The respondent was unable to articulate exactly how she suggests KMC (i.e. the proper procedure), so more information is needed to further understand her statement. During a field visit, we observed one
nurse demonstrate KMC with a new mother (see video), where she wrapped the baby on the mother’s chest then immediately took the baby off. This demonstration indicated that the nurse had a basic understanding of the KMC procedure but perhaps did not understand why she was doing it.

At this CHC, we observed the nurses primarily using an Embrace warmer to regulate newborn temperature. During our first visit to the CHC, a nurse respondent demonstrated the use of an Embrace warmer to illustrate its practice. She said, “We use it for all babies.” However, another nurse interrupted the conversation to say, “We only use it for low-temperature babies.” This debate was not settled, so more information is needed on how this warmer is used in the facility. When we observed the delivery of a normal weight baby, the baby was immediately put in an Embrace warmer post-delivery. The woman left with her family and baby within two hours of delivery and did not take the Embrace warmer with them. We could not collect information on where these wraps had come from or the nurses’ understanding of their purpose. We did not observe the delivery of any low-temperature, low birth weight, or premature infants, so we cannot confidently determine how those situations are handled in the facility. From our interactions with the nurses, we hypothesize that KMC is suggested for those cases, but further investigation is needed to confirm the scope of its practice.

At the PHC with a newly implemented KMC ward, the nurses informed us that they practice KMC on all babies. We were unable to observe this directly, so our information is limited to one interview with a nurse respondent. From our interaction, we deduced that it is standard practice in their facility to put the baby on the mother’s chest immediately after delivery. We could not gather information on the duration of skin-to-skin care or what extent of counseling is given to the mothers. When we asked the nurse respondent how she was able to convince mothers to stay in the facility for the required duration of time, she said, “I warn them of the bad things that could happen if they leave.” From our observations in the facility, we observed a much higher quality of care, services (i.e. food, privacy, comfort), and positive attitude of the staff than other facilities we had visited.

We were unable to observe nurses at the tertiary level; thus, the formative research phase should address this area.
Users:

We were unable to conduct in-depth interviews with mother and families about their practice of KMC. The only information we could collect was from observations gathered from our field visits. At a newly implemented KMC ward in a primary health facility, we observed four mothers practicing KMC with their newborns. All women were lying in bed and using different wraps to give continuous skin-to-skin care to their babies. Occasionally they would stop to breastfeed. From our observations, they seemed comfortable and at ease. When we engaged in brief interactions with the mothers, they were hesitant to speak (most likely because we were with a group of people), but they did tell us that they were happy to do KMC and knew it was for the health of their baby. At the other CHCs we visited, we did not observe any practice of KMC. All newborns were generally placed next to the mother in her bed.

At the tertiary level, we observed one mother practicing KMC to a LBW baby in the NICU. She was seated in a chair and covered in a wrap.
Community stakeholders:

We did not observe the ASHAs we interacted with to be practicing KMC in any capacity. They had all recently received a 5-day training on how to care for low birth weight babies, where KMC was briefly discussed. We could not conclude if they ever discuss KMC with pregnant women.

At the PHC with a newly implemented KMC ward, we observed an interaction in which the faculty-in-charge told two ASHAs to spread awareness about KMC. They agreed, but there was no discussion of how they would do this.

When prompted about KMC, the ANMs were unfamiliar with the practice, so we concluded that they had not been involved in any training similar to that of the ASHAs nor was it spoken about in their community.

Key Informants:

The key informant respondents are not involved in the practice of KMC.

3.3 Roles of Stakeholders:

This section will seek to explain the current roles individuals have in their respective environments along with the potential roles they could have in KMC.

Provider:

1. Doctors

At the CHC/PHC level, we observed doctors primarily dealing with general patient check-ups. On one field visit, we shadowed a female physician for an hour. Her office was completely filled with patients. Verbal consultation was conducted in front of the other patients, but physicals were done behind a curtain. The average time of each interaction between doctor and patient was three
minutes. The doctor appeared patient and spoke kindly to each woman. The interaction was brief but cordial. From our observations, we concluded that doctors do not play any role in the delivery or post-delivery care of women unless there is a complication. During one visit when we watched a woman give birth, we did not observe any doctor present at any point before discharge. During our field visits, we rarely observed doctors interacting directly with nursing staff. They were mostly constrained to their office seeing patients.

At this level, we did not observe doctors currently playing a role in KMC nor do they perceive themselves as playing a role in its practice. However, we were not able to conduct any in-depth interviews with doctors at this level, so further investigation is needed to understand their potential role in KMC adoption.

At the tertiary care level, doctors play a more prominent role in counseling their patients and interacting with nurses. During our field visit to a tertiary care facility, we shadowed a neonatologist while she did rounds in the NICU. There, we observed her speak directly to every nurse working in the unit. In one instance, a nurse had neglected to turn a heat lamp on for a LBW baby. The neonatologist spoke firmly to the nurse, saying, “This baby should be receiving KMC.” She was visibly angry and proceeded to reprimand the nursing staff. After this interaction, the neonatologist engaged in a special event for “Breastfeeding Awareness Week.” She greeted a room of newly delivered mothers and introduced the program. The interaction was engaging and enthusiastic.

During the program, different physicians took turns role-playing different scenarios in front of the mothers. The neonatologist also took part in this portion of the program. The mothers were attentive and asked questions throughout the program. These observations indicate that physicians at a tertiary care facility are more directly involved with patients and nursing staff than at primary or secondary care facilities. We were unable to observe a delivery at a tertiary care unit, so more information is needed on the involvement of doctors in deliveries at this level of care.
2. Nurses:

At the CHC/PHC level, there are typically 4-5 nurses per facility. During one visit to a CHC, we spent the morning shadowing the nursing staff. During that time, the nurses were mostly occupied with administrative tasks and bookkeeping. When a patient did enter the nurses’ office, the interaction was observed to be casual and at times, cold. On one occasion a patient entered the office, but none of the nurses noticed. One researcher informed the nurse that there was a patient waiting and she motioned the patient in without looking up from her work. The interaction was brief and the nurse quickly waved the patient out. During all of our visits, the nurses did not interact much with patients or other doctors in the facility. When asked about what they deal with most, one respondent replied, “Deliveries.”

During the delivery we observed at a CHC, the nursing staff was present during labor but did not interact much with the mother after delivery. During the delivery, we observed the nurses yelling at the woman’s family to leave the labor room. The nurses also yelled at the mother on a couple occasions while she was in labor. After delivery, the nursing staff wrapped the baby in an Embrace warmer, recorded the delivery in their book, and left the mother and family in the postnatal ward. Ultimately, the time spent between mother/family and nurse was brief.

During each of our interactions with the nursing staff at this facility, they often complained about the families they worked with. One respondent said, “Illiterate families are the biggest problem because they do not understand what we are saying.” This theme was repeated in nearly all of our interactions with the nursing staff.

We were unable to shadow nursing staff at the tertiary care level. However, from our visits with doctors in those facilities, we concluded that nurses were familiar with but not proficient in the practice of KMC. All nurses had a positive outlook on KMC despite fairly minimal knowledge about its technicalities.

In general, the nurses did not perceive themselves as educators of KMC. Two of our nurse respondents saw themselves as advocates of KMC, but I observed notable differences between these two respondents. One respondent (a nurse in the PHC with a newly opened KMC ward) rarely used the word “KMC” during our interview but she spoke confidently about practicing it. She said, “I practiced it before the ward opened.” “I put all babies on their mother’s chest,” pausing to elaborate: “The baby shouldn’t be delivered on a tray.” She proceeded to tell us of all the benefits she had observed from her experience doing this. “The uterus contractions are better, feeding is easier, and breastfeeding is better.” She was particularly enthusiastic when speaking about how
much weight each baby gained after being put on its mother’s chest. Our interaction indicated that the nurse gained motivation to advocate for KMC because of her personal experience practicing it.

In contrast, a respondent at a CHC (a nurse who had attended the July conference), spoke equally as enthusiastically and confidently as the other nurse, but she did not practice it personally. When prompted about her practice of KMC, she appeared proud and said, “If temperature if below normal, we suggest it.” She repeated the word “KMC” multiple times throughout the course of our conversation and told us, “There are so many benefits.” She proceeded to systematically list all of the things she had learned at the KMC conference. However, our interaction and further observations indicated that this respondent is not practicing KMC in her facility.

The contrast between these two respondents highlights a problem in which the word “KMC” has been disconnected from its practice. To emphasize this point further, we collected a video of one nurse demonstrating KMC on a new mother. Although the nurse repeatedly said the word, “KMC,” what she showed me was not KMC at all because she removed the baby from the mother’s chest immediately after wrapping it. There is even a sign on the door stating, “Kangaroo Mother Care,” but I did not observe any mothers practicing.

Indeed, there are additional key differences in environment that influence what role nurses play in KMC. In the PHC with the new KMC ward, the faculty-in-charge was motivated and enthusiastic about KMC awareness. It had above-average facilities and friendly staff. We also observed a particularly high level of monitoring present in that facility. On multiple occasions, the faculty-in-charge would ask an ASHA in his facility, “How many women did you take to deliveries last week.” He informed us that he regularly tests his staff with similar questions to ensure accountability. These are all enabling factors for the practice of KMC.

Lastly, a critical component of a nurse’s role is her training. Many of our interviews highlighted training as being an enabling factor for a nursing staff. One key informant said, “more frequent
training helps nurses stay motivated. We need to train nurses on how to interact with mothers, not just the content. We need to show them how to show compassion.” Our interactions with nurses validated this statement. On discussing training, one nurse respondent said, “Doctors are the ones currently getting trained. We should include nurses more because when nurses are enthusiastic about something, women are more willing to do it.” In regards to KMC specifically, she said, “Nurses should be educated about all the benefits of KMC.” These interactions indicate that improved nurses training would strengthen the role of nurses in KMC adoption by fostering confidence, enthusiasm, and motivation.

Users

The health decisions of mothers and families are largely dictated by their perception of low and high quality care. During one discussion with nurses and an ASHA, the ASHA told us that women would rather go to a private clinic because it “cost something” and they associate price with high quality. Another nurse interrupted to say, “They take us for granted,” because they think it is lower level care. In fact, one respondent suggested that government facilities “charge something” because it might make women more likely to go. Cost and pricing can shape a woman’s mentality around a given health intervention. This theory was echoed by one of our key informants, a professor of economics. He explained that, “A raise in price is a signal of communication to the existing produce, which can spark new entry into the market.” Even in remote village, this communication still occurs.” Further investigation is needed to understand how family perception of cost and pricing affects their role as a healthcare user.

A major theme that emerged out of discussions of mothers and families was counseling. Although we were not able to talk to mothers/families directly about this issue, it was discussed in various interviews. One key informant explained that health care interactions “should be focused on the mother,” and that KMC should be about “bridging the gap between government and mothers through constant counseling.”

Community Stakeholders:

At the community level, we observed the ASHAs as playing the largest role in educating and counseling women. Because the interaction between doctor/nursing staff and patient is limited, we noticed that mothers typically rely on the community health workers for advice and support. Our interactions with the ASHAs indicated that they enjoy the role as community advocate. One ASHA said, “I like doing things for society,” and all of the ASHAs expressed general contentment with their work.

However, our interactions indicated that the ASHA’s role is limited by family beliefs and attitudes. In one interview with an ASHA, the ASHA informed us that a woman did not want any more babies, so she asked the ASHA to help her get her tubes tied. The mother-in-law forbade this action and threatened her daughter, forcing the ASHA to cut ties with the family.
In addition, all of the ASHAs we spoke to expressed dissatisfaction with their current pay. Although they never directly indicated money as being the primary source of motivation, it became clear that the ASHAs are more incentivized to take women to immunization camps and institutions for delivery because of the extra compensation.

Currently, ASHAs and ANMs do not perceive themselves as playing a role in KMC. They do, however, see themselves as educators, health advocates, and integral parts of the community. During our focus group with an ASHA and a group of community women from many generations, the ASHA was clearly proud of the way she has influenced the lives of these women. Without prompting, the ASHA said, “I have known the women for many years and have been present at the delivery of almost all of the children in their families.” During this discussion, we brought up the idea of having additional meetings for pregnant women and community stakeholders to discuss health concerns or topics. The ASHA then suggested the idea of having all of the women over to her house for tea for counseling. She reported accompanying the woman on multiple occasions for check-ups or ultrasounds (two services that do receive extra compensation). Other ASHAs had also reported accompanying women on lengthy trips for doctor’s visits. These interactions indicate that although ASHAs are motivated by monetary compensation, certain ones are willing to forgo the cost for helping the community.

Many of our other interviews pointed to grassroots involvement as playing the biggest role in KMC adoption. One informant said, “India has plenty of money and talent but grassroots involvement and sustainability must be built in.” Another respondent said, “we need to start at grassroots level first.”

**Key Informants**

From our interactions with key informants, we concluded that there are many potential roles for these stakeholders in the adoption of KMC. For all of the individuals who had attended the KMC conference, it will be important for the formative research team to follow up with them throughout the research process. One respondent was inspired by the conference to initiate a KMC ward in his own facility. Self-motivation, it seemed, was the unifying trait among stakeholders who could potentially have the biggest impact on KMC.

One respondent, in describing the Indian government, said “It is more about what I am than what I want to do,” and described the system as “person-driven not system driven.” He went on to explain, “If people are motivated, things can change…but is rare to find someone self-motivated enough to enact change.” The specific roles of these individuals is unique to their job and participation in the project and cannot be discussed due to confidentiality concerns.
3.4 Barriers to adoption of KMC

Providers

1. Doctors

We were not able to conduct in-depth interviews with doctors at the CHC/PHC level, so further investigation is needed to understand their perceived barriers to adopting KMC. Our direct observations indicate that a big barrier or doctors at this level is limited patient and nurse interaction. The doctors we observed were all overburdened with patients, so they did not have the bandwidth to do anything besides routine check-ups such as counseling on KMC. Formative research should also evaluate the perception of doctors at this level to understand if that is a potential barrier as well.

At the tertiary level, a barrier to adoption among doctors is their perception of KMC. One respondent stated, “Doctors are not convinced, so they don’t push it (KMC).” When asked what was underlying this perception, the respondent discussed how KMC is not present in their textbooks, so it is not perceived as a medical intervention. The same respondent explained that “universal acceptance” among the consultants in her facility would be the first necessary step to adopting KMC. We were not able to gather sufficient information on more barriers to adoption in this group. More investigation is needed.

2. Nurses

Among nurses at the CHC/PHC level, we observed an enabling environment to be one of the biggest factors in effective KMC adoption. An enabling environment consists of: a motivated staff at all levels, vocal advocacy of KMC, high quality of services, and effective monitoring. For example, in the facility where nurses routinely practiced KMC, the faculty-in-charge was visibly motivated and engaged with all members of his staff. We observed him call nurses and ASHAs by their name and ask or test them directly about their work. We highlighted motivation and monitoring as being two key factors in enabling nurses to practice KMC effectively. Moreover, quality of services played a significant role as well. The facility offered free food, comfortable beds, and privacy for all women in the KMC ward.

We observed interactions between nurses and women to be friendly and polite. This is important because many of our interviews indicated that a large barrier to KMC adoption is that women and families do not stay in the facilities long enough to practice it. One nurse respondent said, “We always suggest families stay at least 24 hours, but they usually only stay 12.” However, our direct observations demonstrated a larger discrepancy. After giving birth, a woman left within two hours of delivery. Thus, getting families to stay in the facilities is a barrier for nurses to practice KMC effectively.

Users
Among women and families, the main barriers fell under two categories: personal beliefs/attitudes and unfavorable environment.

**Personal Beliefs/Attitudes towards KMC:**

We were unable to conduct in-depth interviews with women and their families, so further investigation is needed to understand their personal beliefs and attitudes. However, we received second-hand accounts that provided important information. One respondent (a doctor at a tertiary care facility), stated that, “Women see KMC as “substandard care.” When asked where this perception came from, the respondent explained that the facility provides educational videos for mothers about KMC, but all of them show KMC being done in places like Africa. She explained that women believe KMC is used only when better resources are not available. In a tertiary facility, women expect to receive better care than a low-resource setting like Africa, so they do not respond positively when KMC is recommended.

**Unfavorable environment**

We observed another barrier to adoption among women is the environment in which they are practicing KMC. In many of facilities we visited, women received little privacy after delivering. In one CHC, there was not enough space for a postnatal ward, so women had to share the space with men. The procedure of KMC requires women to expose their chests while the baby is being secured. This lack of privacy in certain facilities could be contributing to women’s unwillingness to practice KMC. One respondent (a doctor at a tertiary care facility) quoted, “shyness” as one of the problems in getting women to do KMC. Moreover, women do not stay in the facilities after their delivery for more than a few hours. We observed one woman leaving within two hours of giving birth; so practicing KMC continuously in the facilities is a challenge. We perceived the many reason women leaving the facility prematurely was due to the unfavorable environment. Aside from one KMC ward we visited, most post-natal areas were cramped and uncomfortable.

**Community stakeholders**

At this time, we perceive the biggest barrier for adoption of KMC among ASHAs and ANMs is insufficient training on KMC. Although they had all recently received training on LBW babies, they were not able to speak confidently about KMC when prompted. Further investigation is needed to explore if there are any mental blocks or perceptions that could be acting as barriers to adoption of KMC.

**3.5 Recommendations/Suggestions**

This section outlines some of the suggestions and recommendations for effective KMC adoption that emerged from our interactions and observations. For the purposes of this section, we have
divided the section into two broad areas in which the intervention would take place: community and facility.

**Community**
- Hold weekly or monthly meeting/gathering that includes ASHAs, ANMs, and pregnant women to counsel them on a “topic of the week” or just general concerns.
- Train ANMs on KMC and have them counsel women at the immunization camps in the clinic on KMC.
- Create learning tools on tablets that can be used by ANMs or ASHAs to educate women on KMC.

**Facility**
- More effective KMC training for nurses
- Hold a nurses conference where “champions” can share their experiences and empower other nurses to be advocates as well
- Provide KMC ward like the one at the PHC with services to incentivize women (food, television, comfortable beds)
- Checklist for newborn care that includes KMC
- “KMC Awareness Week” that includes programs like role-playing, educational talks, lectures, and discussions about KMC
- Include KMC checklist in NICU monthly report
- Create more effective educational videos that are in the local language and display western cultures practicing KMC