Community-Based Care for Low Birth Weight Newborns:
The Role of Community Skin-to-Skin Care

Meeting Report
May 27, 2008 Washington, DC

EXECUTIVE SUMMARY

Saving Newborn Lives, ACCESS, and USAID sponsored a one-day consultation meeting to assess the state of the art of community-based skin-to-skin care (CSSC) for low birth weight (LBW) newborns. The specific objectives of the meeting were to:

- review the existing evidence on community-based skin-to-skin care,
- identify key knowledge and programming gaps, and
- recommend delivery approaches going forward.

The meeting featured an overview of what is currently known about the results of facility-based skin-to-skin care (SSC), presentations and discussions of five community-based SSC initiatives, and three working group sessions to discuss key findings and make recommendations for going forward.

The participants—key stakeholders from USAID, UNICEF, Saving Newborn Lives, USAID Cooperating Agencies, researchers, and field staff—agreed that the available evidence, drawn largely from facility-based experiences, conclusively demonstrates that skin-to-skin care is acceptable to mothers and communities (albeit not in all settings), and that SSC offers four major health benefits to newborns: (1) it is effective in preventing and treating hypothermia; (2) it increases the uptake and duration of breastfeeding; (3) it promotes weight gain; and (4) it reduces infection. Moreover, given that access to facility-based care is limited in developing countries and that nearly 60 percent of births occur at home, the participants concluded that the time has come to extend SSC beyond the facility and into the community.

A number of challenges and concerns were identified, however, with respect to this transition, principally:

- How to ensure quality CSSC, especially in providing adequate training for community health workers/volunteers and follow-up to monitor and guarantee continuity of practice.
- How to ensure that CSSC does not delay care-seeking in the case of danger signs.
- How to overcome various cultural, economic, and social obstacles.
- Filling in key knowledge and programming gaps to identify best practices.

Key questions that still need to be answered with more research and with better program monitoring and evaluation are:

- How much SSC is enough?
- When is SSC most effective?
- How much training and supervision are needed to ensure high coverage?
- How can programs promote maternal confidence in CSSC without causing delays in care-seeking for danger signs?
- What are the potential adverse effects of CSSC, if any?
- What program inputs are required for optimal CSSC use by mothers and what are the associated costs?

- What is the best way to incorporate CSSC into existing ENC efforts for maximum impact on newborn morbidity and mortality?

The meeting concluded with a number of recommendations:

1. Skin-to-skin care in the community should be carried out as part of a package of essential newborn care interventions and not as a stand-alone intervention.
2. Skin-to-skin care should be integrated into the existing health system, including health provider standards and practices to ensure that SSC is practiced pre-referral, at home (if referral is refused or not needed), during transport, and post-discharge. Where feasible, skin-to-skin care should first be initiated in a facility and then taken into the community. Where facility-based skin-to-skin care is not an option, CSSC can be promoted through community-based packages.
3. In some settings it is not programmatically feasible to provide CSSC to all babies after birth, and thus CSSC may sometimes be a targeted intervention for LBW babies only.
4. Further program research, with robust monitoring and evaluation of CSSC and outcomes, should be part of all community programs that include SSC.

INTRODUCTION

Saving Newborn Lives, ACCESS, and USAID sponsored a one-day consultation meeting on May 27, 2008 to assess the state of the art of community-based skin-to-skin care (SSC) for low birth weight (LBW) newborns. The objectives of the meeting were to review the evidence on community-based SSC, to identify key knowledge and programming gaps, and to recommend delivery approaches. There were 42 participants, including key stakeholders from USAID, UNICEF, Saving Newborn Lives, USAID Cooperating Agencies, researchers, and field staff (see List of Presenters and Participants, page 13). The conference featured an overview presentation of facility-based Kangaroo Mother Care (KMC) and presentations and discussions of five community-based SSC initiatives, followed in the afternoon by three working group sessions to discuss key findings and make recommendations for going forward (see page 10).

Part One of this report briefly summarizes the five presentations and discussions, Part Two summarizes the deliberations of three working groups, and Part Three presents the consensus recommendations which emerged from the meeting.

PART ONE: PRESENTATIONS AND DISCUSSIONS

Overview of Facility-Based Kangaroo Mother Care for Low Birth Weight/Preterm Babies

The meeting began with an overview of the key findings of studies of facility-based skin-to-skin care to answer the question: What is the evidence that SSC[1] works for LBW newborns? The studies evaluated the effects of SSC in five areas—mortality, temperature, breastfeeding, weight gain, and infections. This introductory presentation and discussion are summarized below.

Presentation 1

Kangaroo Mother Care: The Evidence for Facility-based KMC and the Rationale for Application in Community Settings
Joseph de Graft-Johnson, Save the Children USA/ACCESS

Over 200 studies have been conducted on skin-to-skin care. Using six of the most relevant studies the presenter discussed the impact of SSC on LBW mortality. Two of the six mortality studies cited by the presenter demonstrated a 40 percent mortality reduction (from 70 percent to 30 percent and from 90 percent to 50 percent) in newborns weighing less than 1500 grams, and one of these studies showed a 20 percent reduction in newborns over 1500 grams. Both studies had a "before" and "after" research design that did not control for all possible confounding factors, so the observed difference might be due to chance. The other four studies did not show any significant difference in mortality. The lack of a significant reduction in neonatal mortality through SSC compared to incubator care means at the very least that SSC is as good as incubators in its effect on mortality. It is important to note that babies were put into SSC care after stabilization and also that the sample sizes were too small to detect significant differences in mortality.

[1] This report uses the phrase skin-to-skin care (SSC) to refer to skin-to-skin contact *plus* breastfeeding. To describe skin-to-skin care *in community settings*—community-based skin-to-skin care—the report uses the acronym CSSC. Where necessary to accurately describe a specific intervention, the report retains the terminology of the presenters.

The evidence of the effects of SSC on temperature showed almost no fluctuation in temperature in SSC babies and considerable swings in temperature for babies not receiving SSC. A comparative study of SSC and incubator re-warming of hypothermic newborns showed that within the same time period a higher proportion of SSC-warmed babies reached normal body temperature faster than incubator-warmed babies.

The four breastfeeding studies found that; (1) the daily volume of milk for SSC babies was 640 ml vs. 400 ml for the control group (i.e., babies managed in incubators); (2) breast-fed babies fed 12 times a day vs. 9 times for control babies; (3) 77 percent of SSC babies were breastfeeding at discharge vs. 42 percent for the control group; and (4) 55 percent of SSC babies were breastfeeding after 6 weeks vs. 28 percent for control babies.

In two studies of weight gain, SSC babies gained more weight (15.9 grams and 21.3 grams respectively) than those in the control group (10.6 grams and 17.7 grams). The studies also showed that SSC babies were discharged from the hospital 3-7 days earlier.

Finally, there were lower rates of serious and nosocomial illness among SSC newborns as compared to control newborns. Five percent of SSC babies had a serious illness vs. 18 percent in the control group, and the rates of respiratory infection in the SSC and the control group were 5 percent and 13 percent respectively. Regarding nosocomial infections, the rate for SSC babies was 3.4 percent vs. 6.8 percent in the control group.

The presentation identified **six operational issues** that must be addressed when introducing and expanding community-based skin-to-skin care (CSSC) in developing countries:

- Is CSSC feasible and safe to initiate at home?
- How do we ensure appropriate and adequate breastfeeding?
- How do we monitor adequacy of weight gain?
- Who coaches the mother and other family members?
- What is the timing and frequency of the coaching?
- What and who provides supportive supervision?

Based on these studies, the presenter concluded that SSC has a positive impact on four key newborn health factors—warmth, breastfeeding, weight gain, and reduced infection—that SSC is as good as incubator care, and that the evidence supports implementing facility-based SSC. Moreover, given that access to facility-based care is limited in developing countries, that nearly 60 percent of births occur at home, and that over two-thirds of all low birth weight babies are either late preterm (>= 35 weeks) or weigh at least 2000 grams—the presenter argued that the time has come to take SSC into the home.

Discussion: The highlights from the discussion were as follows:

- The evidence of the advantages of SSC vis-à-vis morbidity is very strong.
- Facility-based SSC can't simply be translated "as is" to the community without first laying a foundation, which should be based on assessing the acceptance and potential obstacles (economic, cultural, etc.), strategies for integrating SSC into existing essential newborn care (ENC) efforts, training and monitoring of community health care workers, and provisions for follow-up.
- Post-discharge follow-up is essential to ensure and enable that SSC continues at home.
- In the community, promoting SSC should stress the necessity to seek care from qualified providers if the newborn exhibits any danger signs.

Universal Community Skin-to-Skin Care

Two studies promoted community-based universal skin-to-skin care which reaches all newborns regardless of their birth weight (as distinct from targeting only LBW newborns). These studies were conducted in regions of high neonatal mortality in India and Bangladesh. A third presentation updated an ongoing community-based maternal and newborn care intervention, also in Bangladesh, that recently integrated SSC into its community package. A summary of all three presentations, along with the discussions which followed each one, is presented below.

Presentation 2

Experience from Shivgarh India with Skin-to-Skin Care and Community-based Essential Newborn Care
Vishwajeet Kumar, King George University/John's Hopkins University

The Shivgarh program tested the hypothesis that applying a culturally appropriate intervention to modifiable high-risk newborn care practices (with an emphasis on hypothermia) within a very high neonatal mortality rate community could lead to substantial improvements in targeted high-risk newborn care practices and thereby reduce neonatal mortality. The program was implemented in a culturally conservative region with one of the highest neonatal mortality rates in India.

The intervention package was developed by examining home-based care practices, evaluated against the evidence of risk factors for neonatal mortality. Common practices that were potentially harmful, preventable, within the community's control, and amenable to behavior change were targeted in the intervention. Thus a set of ideal practices—birth preparedness, hygienic delivery, immediate newborn care, thermal care including skin-to-skin care, breastfeeding, and care-seeking from trained providers—formed the core of the program, which had three target populations: community stakeholders, newborn stakeholders, and households. The primary intervention was carried out by community-based health workers after seven days of training, followed by supportive supervision.

The **key lessons learned** were as follows:

1. The original hypothesis was confirmed: the package of CHW-promoted household newborn care practices, which included SSC, substantially and significantly reduced neonatal mortality.
2. Participatory formative research was critical to identify high-risk practices and design an acceptable and effective strategy.
3. Effective behavior change must take socio-cultural considerations into account and target multiple levels (households, existing newborn care providers and stakeholders, community stakeholders) in order to influence individual and group behavior.
4. Skin-to-skin care should be universally advocated as an enabler of early and essential breastfeeding and thermal care. It is an empowering strategy for behavior change as it enhances the mother's and family's sense of control over the health of the newborn.
5. Skin-to-skin care is compatible with continuum of care and should be complemented with facility SSC.

Discussion: Additional key points from the discussion were that:

- CSSC should be promoted in the context of reducing morbidity as well as improving health.
- CSSC should always be promoted as part of a broader ENC package and not in isolation.
- Even though it is a simple technique, promoting CSSC, even as part of an ENC package, requires considerable effort and resources.

For further information on this study refer to: Darmstadt, GL, et al. Introduction of community-based skin-to-skin care in rural Uttar Pradesh, India. *J Perinatol.* 2006 Oct;26(10):597-604. Epub 2006 Aug 17.

Presentation 3

Community Kangaroo Mother Care (CKMC): Why Experts Think It Is Not Ready
Nancy Sloan, Mount Sinai School of Medicine

Findings were presented from a recent randomized control trial from Bangladesh where universal community KMC (CKMC) was promoted as part of essential newborn care taught to pregnant and postpartum mothers by community nutrition workers. (CKMC was the term used to describe an intervention consisting of community-based skin-to-skin care for all babies, including exclusive breastfeeding.) There was no overall difference in neonatal mortality between the intervention and the control group (where CKMC was not promoted). The presenter acknowledged that there were problems with training the nutrition workers and implementing household counseling on CKMC, with the result that CKMC messages were not universally provided as per intervention protocol.

Using modeled birth weight data, the study showed a neonatal mortality rate reduction of 63 percent among babies weighing 2000g or less who received CKMC compared to those who did not. The presenter noted, however, that there were potential biases in the analysis of LBW babies under 2000g and advised caution in interpreting the benefits for small babies. Her study also showed that the daily duration of CKMC practiced decreased over time, ranging from average of 4.5 hours on the first two days to about half an hour on day 15.

In closing, the presenter mentioned **several concerns** that arose from the study, including the following:

- Promoting CKMC, without diligent effort to promote timely care-seeking for danger signs, might give mothers false confidence and lead them to delay seeking medical attention for danger signs.
- In subgroup analysis, there was some suggestion that CKMC was associated with increased diarrhea.
- Inadequate training of health providers in CKMC could lead to incomplete or inadequate instructions, leading to poor implementation (inadequate hours), and questionable thermal regulation, thereby undermining the potential to improve survival, health, and growth.

The presenter urged that both the risks and benefits of community-based SSC be communicated and the current best evidence used in making decisions. The presenter closed with a call for more scientific evidence of impact and safety, urging in particular that programs pre-test CSSC to make sure implementation is adequate before any intervention is scaled up. Dr. Sloan also suggested that programs which introduce CSSC include rigorous monitoring and evaluation components to provide the evidence needed for scaling up.

Discussion: The following points were made during the discussion:

- Ideally, there should be robust evaluation, with statistical rigor, in future CSSC studies and program learning.
- An ideal cadre of CSSC trainers and promoters might be satisfied mothers who have successfully practiced SSC.
- In moving forward with CSSC, researchers and programmers need to ensure and monitor timely care-seeking for newborn danger signs and monitor the incidence of reported diarrhea (which may or may not be a sign of early breastfeeding).

For further information on this study refer to: Sloan, L. Nancy et al. Community-based Kangaroo Mother Care to prevent neonatal and infant mortality: a randomized controlled trial. *Pediatrics*, Volume 121, Number 5, May 2008.

Presentation 4

Community Kangaroo Mother Care in ACCESS Bangladesh
Lubana Ahmed, ACCESS

This presentation was an update on how community-based SSC was integrated into an ongoing community-based maternal and newborn health program implemented by USAID's ACCESS program in Bangladesh. In early 2008, CSSC was added to the household counseling package provided by community counselors through home visits and to the community mobilization activities of various community groups. The program is implemented through local NGOs and promotes linkages with referral services.

Initial formative research with community groups determined that initiating CSSC at home was acceptable to a majority of the people interviewed. CSSC was subsequently incorporated into refresher training for counselors and TBA training. Early results show that mothers have accepted CSSC and are practicing this behavior. The men are yet to adopt the behavior.

Discussion: Participants in the discussion made the following points:

- For maximum uptake, effectiveness, and sustainability, the best way to introduce community SSC is in tandem with facility-based programs (where possible).
- Even when CSSC is part of a community ENC package, it takes time to educate the mothers and implement it in the community.
- There are relatively few costs when CSSC is integrated into an existing community-based program.

Targeted Skin-to-Skin Care

In one program described at the meeting, CSSC was targeted only at LBW babies. The presentation on this program, implemented in the Kanchapur district of Nepal, is summarized below.

Presentation 5

Nepal—Community-based Care for Low Birth Weight Babies:
The Role of Community Kangaroo Mother Care
Neena Khadka, ACCESS/Save the Children USA

The Nepal CSSC efforts, conducted in the Kanchanpur district, were carried out as part of a larger community-based program, and assessed the feasibility of using female community health workers (FCHWs) to identify low birth weight neonates and to provide them with home-based care and support. With respect to CSSC, a key question was whether the practice would be acceptable to mothers and their families. After a district-level training of trainers, FCHWs were trained to do "extra" postnatal care visits for LBW babies to include weighing, use of thermometers, hand washing, breastfeeding, SSC, counseling, and recording/reporting. In addition, staff at referral sites were also trained in essential newborn care, including SSC, and efforts were made to provide an SSC room or area in referral facilities. After a baseline survey was conducted in July 2006, the program was evaluated 15 months later in October 2007.

The **key findings** regarding SSC were as follows:

1. The percent of FCHWs with adequate SSC skills rose from 72 percent in late 2006 to 86 percent nine months later.
2. **Positive perceptions** of CSSC included the following: (1) it resulted in an increase in a baby's weight without any cost or the need for any medicine; (2) it was easy to keep the baby warm and to breastfeed, and the amount of breast milk increased; (3) "My baby gained weight," "did not cry," "looked healthy," "did not fall sick"; (4) the mother did not have to go to work outside the home, got rest, and was able to do some household duties.
3. **Problems with CSSC** included: (1) some women reported that it was uncomfortable to carry the baby all the time, especially in warm weather, that there were difficulties going to the toilet, and that they had aches in their back, chest, shoulders, or waist; (2) in some cases the baby's cord got infected or they got skin rashes; (3) it was difficult to provide SSC at night (mothers were afraid of smothering the baby or it was uncomfortable to lie down); (4) other children required attention but there was no family support.
4. The **main reasons reported for not doing SSC** were: (1) warm weather (with sweating posing a problem); (2) no support for keeping the baby in the SSC position (in part because the mother and baby are considered untouchable during the postnatal period); (3) work load and absence of a mother-in-law made it difficult to sustain SSC; (4) the mother was too "shy"; (5) cord infection; (6) fathers not providing SSC; (7) fear of being soiled with urine or stool.

Key lessons learned were:

1. FCHWs could become competent in ENC, including CSSC.
   Assessing and ensuring the capacity of the referral health facility in providing SSC was essential.
3. The additional postnatal visits required for this program may be a challenge to overburdened community cadres, such as FCHVs in this Nepal setting.
4. SSC messages through campaigns would increase SSC use.

Discussion: Key points made during the discussion included:

- The quality of CSSC depends on close monitoring and supervision by health workers, who need to provide families with counseling and support during home visits.

- Policymakers will need to know the costs associated with CSSC; there is cost data but it cannot be shared at this point.
- Promotion of SSC at home must not give false confidence to mothers of LBW babies but should emphasize care-seeking for danger signs to avoid delays.

SSC Trial of Improved Practices

Another presentation described a recent CSSC trial of improved practices in Ghana. The purpose of the trial was to determine whether women would be willing to practice SSC as part of an ENC package and whether they would be willing to practice SSC for an LBW baby. A summary of the presentation follows.

Presentation 6

Promotion of Skin-to-Skin Care: NEWHINTS Intervention Trial, Ghana
Alessandar Bazzano & Betty Kirkwood,
NEWHINTS/London School of Hygiene & Tropical Medicine

The NEWHINTS skin-to-skin trial of improved practices (TIPs) was a feasibility study to determine whether all mothers would be willing to practice SSC as part of ENC package irrespective of their baby's birth weight and whether they would be willing to practice SSC for an LBW baby. The results showed that including universal CSSC as part of an ENC package may be difficult because few women in TIPS actually did this. On the other hand, women did indicate that if given certain messages—that SSC for LBWs is recommended by doctors and if they are shown pictures of Ghanaian women in the city practicing this behavior—they would be willing to practice SSC for an LBW newborn.

Other **key findings** from this trial were that:

1. Messages should emphasize that SSC for LBW babies is only temporary (for a few days or weeks) and does not obviate the Ghanaian cultural practice of carrying the baby on the mother's back.
2. Any program should emphasize that other local women have been using SSC for LBW babies and the babies like it.
3. Mothers should be made aware that SSC is recommended by doctors and medical authorities and that there is an SSC ward in the local hospital.
4. Elderly women and grandmothers should be involved in promoting and supporting CSSC.

The presenter concluded that based on this feasibility study, the program will not promote universal CSSC but will promote targeted CSSC to mothers with LBW babies.

Discussion: Participants made the following points:

- While the ideal approach would be to start SSC at the facility level and then extend it into the community, we also need to take advantage of existing community level MCH programs if we are to reach LBW newborns in the foreseeable future.
- Formative research is important to inform community-based programs planning to implement CSSC.

PART TWO: WORKING GROUP DISCUSSIONS AND RECOMMENDATIONS

Following the presentations, three working groups met to discuss the most important findings and to make recommendations for going forward. Each group focused its discussion on a key question:

Group 1: Should CSSC be recommended for all babies as a key strategy to reach LBW babies (universal CSSC), or should it be implemented specifically when a newborn is identified as small or LBW (targeted)?
Group 2: What approaches should be included in CSSC programs?
Group 3: How can we bring facility-based SSC closer to home and link it effectively to the community?

GROUP 1: Should we recommend targeted or universal CSSC?

The participants in Group 1 agreed that SSC would have benefits for all babies, although they also noted the need to consider context and circumstances in answering this question. While some programs have targeted only LBW or small babies for logistical or other reasons, the group felt that SSC should be provided to all babies from birth for two reasons: (1) because of the benefits to all babies (regarding warmth, breastfeeding, and bonding), and (2) to ensure that small or LBW babies receive SSC *during the first hours and days*, especially when they might not otherwise be identified as small or LBW at birth or in the first day. Once identified as small or LBW, newborns should then be "targeted" to receive SSC on a continuous basis for the period determined by the program (e.g., weight gain, baby "kicks out").

Thus, the group felt that universal SSC should be recommended unless there were specific reasons to do otherwise, such as a health system's ability to weigh all babies at birth. The government of Nepal, for example, plans to provide all FCHVs with weighing scales to identify LBW babies, and in this context targeted SSC could be used. The Newhints (Ghana) trial offers another example of circumstances where providing only targeted SSC for LBWs would be appropriate. The Newhints formative research, including trials of improved practices (TIPS), found that community health workers would face obstacles in changing to routine (universal) SSC practices. But even then, the TIPS intervention suggested that community health workers would at least be able to increase SSC acceptance and use for LBW babies.

Group 1 made three recommendations:

- SSC is recommended as part of the ENC package for all babies at the time of delivery and into the early postnatal period, with priority objectives being immediate/exclusive breastfeeding, thermal control, weight gain, and preventing infection.
- SSC should be linked to postnatal care visits and referral to facilities.
- SSC, provided routinely to the extent possible, is specifically recommended for "targeted" populations:
    - Sick babies during transport
    - "Small" babies (preterm/LBW) as long as required/feasible.

GROUP 2: What approaches should be included in CSSC programs?

Group 2 discussed whether CSSC should be a stand-alone initiative or implemented as part of an ENC package, the cultural barriers to SSC and how to overcome them, the ideal duration of SSC,

and what the appropriate indicators would be for monitoring and evaluating an SSC program. In the end the group made a number of recommendations:

- Implement CSSC as part of an ENC package and not as a stand-alone intervention.
- Promote CSSC with appropriate links to a facility.
- Ensure clear messages for families to always seek immediate care when danger signs are recognized.
- Continue SSC for "as long as possible" or until the baby signals discomfort by "kicking–out" of the SSC position.
- With respect to CSSC guidance, be sure to take into account such factors as the developing country environment, the need for links to a facility, the community infrastructure needed for SSC, and the need to identify indicators for monitoring and evaluation.
- Take care not to put too much responsibility on community health workers

GROUP 3: **How can we bring facility-based SSC closer to home and link it effectively to the community?**

There was a consensus that the ideal approach would be to begin with SSC in a facility and then transfer it to the community or home. But in cases where this was not possible, then it could be started simultaneously at both or begun in the home (with a CHW or equivalent). A key concern with home-based SSC is how to provide monitoring and follow-up.

Group 3 identified a number of current knowledge gaps that will require additional research before moving forward, including:

- How long should SSC continue?
- What is the minimum amount of SSC that makes it beneficial?
- What support do mothers need?
- What are the costs involved in introducing CSSC into lower level peripheral facilities to bring it closer to the home?
- Do we need a designated SSC provider or can this be done by existing CHWs?

PART THREE: GENERAL RECOMMENDATIONS FROM THE MEETING

Based on the presentations, the group work, and discussions during the plenary, the following general recommendations emerged from the meeting:

1. There is enough evidence to demonstrate that skin-to-skin care: (1) is effective in preventing and treating hypothermia; (2) increases the uptake and duration of breastfeeding; (3) promotes weight gain; and (4) reduces infection.

2. There is evidence to demonstrate that skin-to-skin care is acceptable to mothers and communities, albeit not in all settings. The approach to implementation does need to be country-specific.

3. Skin-to-skin care in the community should be carried out as part of a package of essential newborn care interventions and not as a stand-alone intervention.

4. Skin-to-skin care should be integrated into the existing health system, including health provider standards and practices to ensure that SSC is practiced pre-referral, at home (if referral is refused or not needed), during transport, and post-discharge. Where feasible, skin-to-skin care should first be initiated in a facility and then taken into the community. Where facility-based skin-to-skin care is not an option, then community-based SSC can be promoted.

5. In settings where it is programmatically feasible to identify LBW babies, skin-to-skin care can be targeted to LBWs only, while immediate drying and wrapping should be promoted for all babies. In settings where LBWs cannot be easily identified, SSC should be a universal message where feasible and acceptable. Ideally, postnatal care would target LBW babies for continuation of skin-to-skin care according to locally established criteria, such as weight gain or "kicking out."

6. Further program research, with robust monitoring and evaluation of SSC and outcomes, should be part of all community programs that include SSC. The consensus that emerged from the discussions was that evaluation and documentation should include:

    - the impact of CSSC (within ENC or other maternal/newborn packages) on newborn morbidity and mortality.
    - duration and timing of SSC for LBWs to improve (morbidity) outcomes, e. g, "dose-response."
    - timeliness of care-seeking for newborn danger signs.
    - incidence of diarrhea or other potential adverse effects.
    - program inputs required to achieve optimal SSC use by mothers.
    - incremental costs and cost-benefits of CSSC.
    - satisfaction of mothers and families with SSC, including constraints and solutions or enabling factors, of mothers and families.

    Much remains to be learned about effective strategies. A few key questions that still need to be addressed are:

    - How much SSC is enough?
    - When is SSC most effective?
    - How much training and supervision are needed to ensure high coverage?
    - Does CSSC delay care-seeking?

LIST OF PRESENTERS AND PARTICIPANTS

Presenters

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