CICF Learning Series

Lea Mimba:

A Group Based Model for Antenatal Care in Kakamega County, Kenya

April 2019

Background

Many women in low and middle-income countries face gaps in access to high-quality ANC: they often do not receive the recommended services for a healthy pregnancy, experience poor quality of care, and are treated disrespectfully. Young and adolescent women, particularly first time mothers, tend to complete fewer ANC visits and seek care later in pregnancy than adult mothers. Shortage of medicine and supplies, insufficient skilled health providers, and heavy staff workloads reduce quality of care available and may create compassion fatigue in providers, translating to disrespectful treatment of pregnant women.[1] As a result, while most women attend at least one ANC visit (83%), just over half complete the four or more ANC visits (64%)[2] long recommended by the World Health Organization (WHO). New guidelines by the WHO in 2016[3] recommending a minimum of eight antenatal contacts pose even greater challenges.

In Kenya, most women attend at least one ANC visit (97%), and 60% of women complete the recommended four or more visits.[4] A higher proportion of adolescent girls do not utilize ANC or skilled care during delivery (only 49% of young people under age 20 received any ANC as compared to 60% between 20-34 years).[5] Kakamega County lags behind the rest of the country on several maternal and neonatal health indicators. Only 51% of women receive at least four antenatal visits, just over 20% receive any care during the first trimester of pregnancy, and slightly less than half (47%) deliver with a skilled birth attendant (national average: 61%).[6] One study found that the main barriers for using ANC were negative attitudes of clinic staff, long waiting times, and costs of health services and transportation.[7]

To address these challenges, Management Sciences for Health (MSH), in partnership with the Kakamega County Health Management Team (CHMT) and the Kenya Progressive Nurses Association (KPNA), implemented a tailored group ANC model—called Lea Mimba (take care of your pregnancy) pregnancy clubs—in six facilities across Kakamega County between August 2017 and March 2019.

Kakamega County has some of the highest maternal and newborn mortality in Kenya. **Only 51% of women** receive at least four antenatal visits, and **slightly less than half (47%)** deliver with a skilled birth attendant

Group ANC

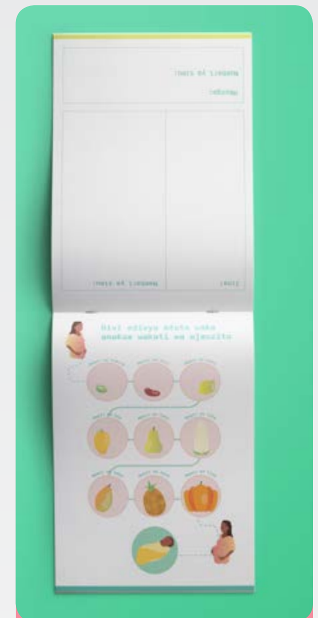
There is growing recognition that alternative models of care are needed to better respond to the needs of women for information and social support and to improve coverage and quality of ANC. Facilitated by a skilled health provider, group ANC provides an alternative model to traditional ANC where pregnant women can ask questions, share experiences, and socialize with each other, thus making it more responsive to women's social and emotional needs.[8] The group format provides a forum for women to share and gain knowledge, develop confidence, and build a sense of community. Group models can help support women's ability to enact healthy behaviors, and can contribute to shifting the power dynamic between women and health providers. While the limited evidence on group ANC shows health outcomes similar to traditional care,[9] in some settings group ANC has been shown to increase uptake of postpartum family planning, breastfeeding initiation and duration, health literacy, patient satisfaction, and health providers' motivation.[10] The expected effect is better use of and retention in both ANC and postnatal care, greater use of facilities for childbirth, and improved health outcomes for women and their newborns.

Project Overview

MSH and KPNA worked closely with the national ministry of health (MOH) and the CHMT to design the model for the context and develop appropriate materials, ultimately with scale-up in mind. MSH collaborated with M4ID, a social impact company, to use human-centered design methods to develop a contextualized group ANC model based on women's and health providers' needs, preferences, and expectations, while also taking into account national standards and guidelines for maternal and newborn health. Based on these findings, the Lea Mimba clubs included the following elements:

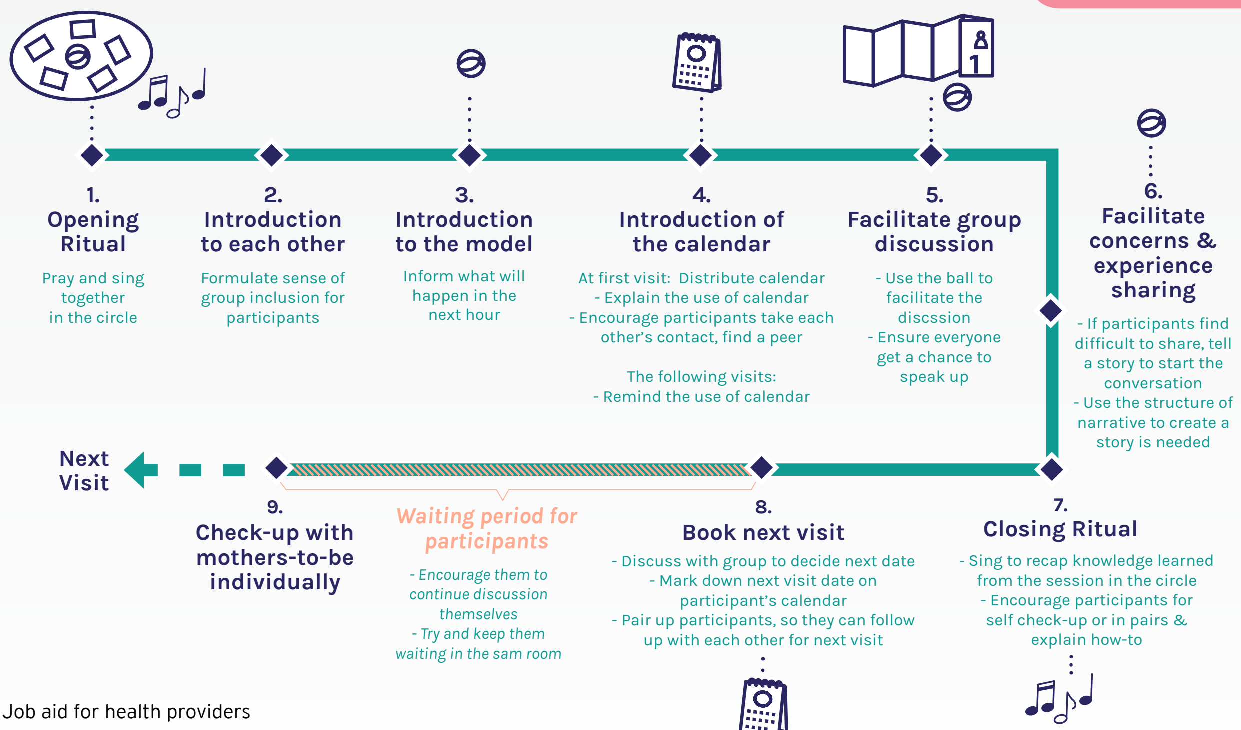
- **Grouping by gestational age:** Cohorts consisting of 8 to 10 pregnant women are grouped according to their gestational age. The same group of women and health provider meet over the course of their pregnancy.
- **An opening ritual and closing ritual:** Women and the health provider begin and end the group session by opening or closing a circular mat made of local materials; they recite a prayer and sing the Lea Mimba song.
- **Facilitated discussion:** The health provider uses picture cards to encourage discussion and share information and messages about maintaining a healthy pregnancy.
- **A chance to speak:** A ball is passed around the group, so that whoever has it has the turn to speak and others can listen to her.
- **Pairing of women:** Women are matched with a partner and exchange phone contacts to remind each other of the next appointment date.
- **Self-checks:** Each pair takes each other's weight and notes the blood pressure and weight in calendar books that track the progress of their pregnancy.
- **Individual consultation and exams:** Following the group session, each woman receives a clinical examination.

MSH, the MOH, and other stakeholders developed a package of implementation materials: a training curriculum, health care provider job aids, visual and tactile materials, and supervision, monitoring, and community engagement tools. At the request of MOH, the model followed the eight visits or contacts recommended by WHO: an initial booking visit (visit 1) followed by seven group visits (visits 2-8) covering topics outlined in its 2016 guidelines. The group sessions also engaged men as important partners in supporting a healthy pregnancy and the newborn baby, and they were invited as participants in visit 4 (birth preparedness) and visit 7 (family planning).



Calendar books contain a health record of a woman's blood pressure and weight and provides useful visuals to help women track their own health and the progress of their pregnancy.

Group ANC Navigator



Job aid for health providers

Implementation

MSH worked with national trainers to train KPNA staff to provide on-the-job training, and conduct mentorship and supportive supervision to support implementation of the group ANC model at six facilities, including one level 5 referral hospital; one level 4 county hospital; and three level 3 health centers.

KPNA supervisors provided peer mentorship twice a week at each project site, and a KPNA technical manager conducted supervisory visits with each facility three times a month.

Pregnant women were assigned to a cohort based on their estimated delivery date during their first ANC visit. KPNA supervisors, health facility staff, or community health volunteers (CHVs) carried out follow-up phone calls to remind women in advance of their scheduled appointments. Health providers also called women who were running late or failed to show on the day of their scheduled appointments.

At the community level, MSH and KPNA worked with CHVs to sensitize a range of stakeholders. Through outreach events and community meetings, MSH and KPNA engaged with key influencers (village chiefs, religious leaders, teachers, among others) to share information about the Lea Mimba clubs and to stress the role of ANC in supporting the health of the woman and the newborn baby. A range of communication and branding materials were developed to support this outreach.

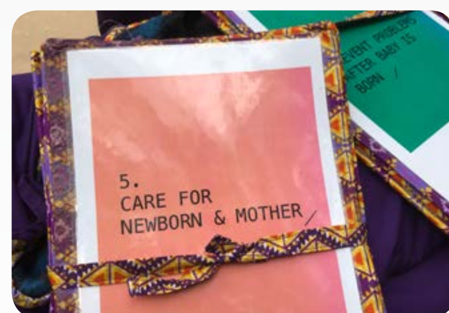
Women co-design the Lea Mimba pregnancy club.

CHVs along with KPNA staff and facility nurses also supported “community cohort meetings” at a location outside the health facility to bring together the same women three times during the course of their pregnancy to support income generation activities and linkages to existing social and economic support services.

MSH and KPNA conducted regular progress meetings with the CHMT and supported the CHMT to ensure that the county planned for financial and human resources investment for the model’s implementation and scale.

Over the implementation period, **1,652 women were enrolled** in the pregnancy clubs, with an average cohort size of 10.2 women

Women and health providers in a Lea Mimba club session.



Testing the model

Operations and implementation research was embedded in the project to answer the following question:

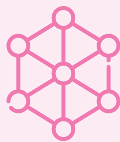
- Will implementation of a person-centered group ANC model improve quality of care, including women's experience of care, leading to increased ANC retention?

Secondary research questions included:

- What is the acceptability of the group ANC model among women and health providers?
- How does group ANC affect women's practices of healthy behaviors in pregnancy and post-partum?
- What operational requirements are needed to adopt, sustain, and scale the group ANC model?

A mixed-methods approach was used in the research, which included qualitative and quantitative methods. The research also collected information through observations and time diaries to assess workflow and context mapping. The research results were triangulated with project documentation. All data collected were anonymous and confidential. Each research participant provided oral and/or written consent before taking part in the study, and the Jaramogi Oginga Odinga Teaching and Referral Hospital Institutional Review Board provided ethical approval for the study.

Main Findings



Effect on ANC retention

The study found an improvement in the proportion of women who made four or more ANC visits in the six facilities. Of the women in the sample, 76.3% (95% CI: 67.6 - 84.5) completed four or more ANC visits (group and individual), and 69.6% (95% CI: 60.7% - 78.2%) completed three group visits, in addition to their first individual visit. This seems to be an improvement from the baseline value of 50% for the six facilities from the national health management information system (HMIS) and for Western Kenya at 51.3%. These figures should be interpreted with caution as they were measured differently. Survey data also showed an improvement in the percentage of women under 25 who reported attending four or more ANC sessions, from 69.4% at baseline to 80.5% at endline, although this may be subject to recall bias.

Effect on early ANC initiation

Across the six facilities, 22.4% (95% CI: 17.4% - 27.8%) of women attended early ANC (under 12 weeks pregnant). This represents a modest increase, compared to data from the 2014 Kenya Demographic and Health Survey (KDHS), which showed that, nationally, only 19.8% of women had commenced ANC under 4 months pregnant. These results should be treated with caution as definitions of early ANC differ between our study and the KDHS. This data is not statistically significant. Although early ANC initiation was encouraged through community sensitization events and by referrals from CHVs, the period of project implementation was too short to register improvements which may only be observed after the intervention has been sustained for an extended time.

Satisfaction with care

Satisfaction with ANC services among the survey respondents almost doubled from baseline to endline in all respondents (OR: 1.96; CI: 1.23 - 3.08), and this effect was even greater in respondents under age 25 (OR: 2.61; CI: 1.35 - 5.04). No evidence was found linking satisfaction and number of ANC visits. In addition, time diaries indicated that women attending group ANC spent substantially more time at the health facility compared to those receiving traditional ANC. There was substantial increase in time spent receiving education, in discussion, and connecting with other women and with the health provider. On average, at baseline, women attending traditional ANC received approximately 6 minutes of counseling by health providers, whereas women attending group ANC spent approximately 55 minutes in counseling, an 805% increase.

However, due to the way client flow was designed in facilities, wait times increased during group ANC (from 67.3 minutes mean waiting time in traditional ANC to 156.9 minutes in group ANC).. Upon arrival for group ANC, women's time consists of waiting for group ANC to begin, attending the group session, and then queueing again (or in some cases, queueing prior to the group session) for clinical examinations.

Effect on women's knowledge and healthy behaviours

The evaluation survey found no difference in the women's knowledge of ways to improve or maintain health between baseline and endline. Qualitative data, however suggests otherwise: women across all age groups found the most important aspect of participation in Lea Mimba to be the interactive learning, focusing not only on the what, but also on the why. Qualitative data suggests that having this knowledge caused positive shifts in attitude and behaviour (such as healthier practices and feelings of self-efficacy), which may lead to more sustainable, positive behaviours.

Survey respondents were also almost twice as likely to have made two birth preparations at endline compared to baseline (95% CI: 1.24 – 3.05), an improvement from 33.0% to 48.9%. However, there was no evidence suggesting that higher attendance at group ANC sessions influenced knowledge and practice of healthy behaviours.

The following key themes emerged from qualitative interviews and focus group discussions, illustrating the positive changes that may be attributed to the model:

- **Learning:** The results show that the knowledge gained by the women through the Lea Mimba sessions was highly valued by both women and health providers. In particular, women valued the practical tips about maintaining their health and that of their newborn. Learning was bidirectional in nature whereby health providers and women learned from each other.
- **Social support:** The results suggest that solidarity among women in the groups was fostered by sharing experiences and giving each other encouragement. Some reported that they had maintained these relationships even outside the group sessions. Health providers also seemed to gain some satisfaction from developing closer relationships with women and provided them with services that are closer to what they perceive as high quality.
- **Attitudinal and behavior shifts:** Women and the stakeholders reported that participating in Lea Mimba helped them change behaviours to support a healthy pregnancy and newborn baby. Women across all age groups (adolescent, young and older women) remarked how the knowledge they had gained from the health providers and from sharing experiences with other group members led to actual changes and improvements in their lives. They also reported feeling empowered and more confident about their ability to do things they previously felt they could not do.

Some of us, when you get pregnant, there are challenges you face; sometimes she doesn't eat, vomits, spiting saliva, but when we meet, everyone shares her challenge ... And when she comes next [for the appointment] and she has had a change, she shares it during the next visit.

Young woman

That one whereby we were taught on how to save money. This is because from my first pregnancy's experience, I did not save money to buy clothes for the baby and transport costs before the baby was delivered, but for this one, I was taught and I prepared myself early. I bought the baby's clothes early and saved some cash for delivery costs.

Older woman

You learn a lot when hearing from these mothers, at least you hear what goes on in the community.

Health provider

Challenges:

The following challenges were experienced in the implemtation of the project:

- **Timing and scheduling of sessions:** Waiting times at the health facility for members of the Lea Mimba clubs increased in general, as often women would come to the facility early and then would have to wait for the session to begin. In addition, some facilities were short-staffed, and the health providers had to respond to emergency situations, thus delaying the group session.
- **Ensuring fidelity to the model:** At a few sites, multiple nurses facilitated one cohort, often due to staffing shortages and scheduling challenges. As a result, consistent membership was not maintained.
- **Self-care checkups:** These were inconsistently performed across the six project sites, and although most women had their blood pressure and weight recorded in their calendar books, they may not have understood the meaning of the measurements.
- **Engaging male partners:** Although male partners were encouraged to attend Lea Mimba club sessions, findings from the qualitative data and reports from project staff indicate that very few men attended, thus limiting their involvement in the model.
- **Staff shortage and turnover:** Staff trained on facilitating Lea Mimba transferred to other health facilities, so there was a constant need to train new staff, leading to gaps in coverage. The shortage of staff and turnover also affected the continuity of membership of the group and the establishment of relationships and social support.
- **Logistics and environment:** Because of logistical challenges, including rainy season, long distances, and home responsibilities, some of the women had trouble getting to Lea Mimba, or arrived late to sessions.
- **Phone follow-up challenges:** Some of the phone numbers provided by women for follow-up sometimes did not work, leaving staff unable to call them to remind them of the next scheduled Lea Mimba session.
- **Expectation of incentives:** Women expected incentives for participation in the project (transport allowance, meal, or baby clothes or a blanket), perhaps because other maternal health initiaves in the county provide such compensation. Lack of incentives may have contributed to women's disappointment and dropping out of the program.

Recommendations

The following recommendations can further refine and improve the model to make it more responsive and support improved, quality care.

Design of the model

1. Organisation of community cohort meetings: These were organised and led by the health facility staff and CHVs. While the health providers can organise the initial meeting, women can hold subsequent meetings themselves.
2. Partner involvement: Experience clearly indicates that inviting male partners to one or two group sessions is not working; CHVs can reach out to men in the community. In addition, women through Lea Mimba sessions can identify and discuss strategies of how to involve men in pregnancy care.
3. Grouping women by age: More design and research are needed to understand whether women would most benefit from young/adolescent-only or mixed age groups; some adolescents indicated a preference for having older women while others feared speaking up in mixed groups.
4. Self-checks: Incorporating low-literacy devices or tools can encourage women to self-check blood pressure, which may work better. It is also important to support women in understanding the meaning behind these numbers.

Implementation and roll-out

1. Scheduling: Adjust schedules to ensure adequate staffing of group sessions. to possibly include utilizing off-duty providers to conduct sessions or holding sessions in the afternoon once the morning rush has cleared.
2. Attendance and adherence: Use longitudinal data monitoring tools to capture group ANC sessions; unless longitudinal registers are already in place, develop longitudinal tools to track women across sessions to ensure adherence and track attendance over time.
3. Staff shortages: Facilities can use CHVs to begin sessions and lead self-measurement until the health provider is available.

Conclusion and Next Steps

While the study showed promising results on the acceptability and effects of the group ANC model in Kakamega County, results were limited in other areas. The implementation period was short, and more time is needed to understand the full effects of the model.

In many respects, group ANC is a “disruptive innovation” that changes how primary health care services are traditionally provided (quick, queue-based transactions). As a result, careful consideration must be given on how to accommodate this new model, in terms of scheduling, workflow and routines, staffing and rotations, infrastructure, and other management considerations, to introduce, sustain, and scale group ANC. Managers will need to incorporate continuous feedback and evaluation to make adjustments and address challenges as they arise. A dedicated quality improvement team comprised of different types and levels of health care providers can work together to adapt the group model to their site. Work and patient-flow mapping at the facility level will help uncover any nuances in flow that need to be changed.

Group ANC may not be feasible in all contexts, and it may not meet the needs of all pregnant women. Further studies and modifications are needed to identify the model’s feasibility in different contexts and to understand the health system changes that will be needed for scale and sustainability.

Women with calendar books.

Footnotes

1 Simkhada B, Teijlingen ER van, Porter M, Simkhada P. Factors affecting the utilization of antenatal care in developing countries: systematic review of the literature. J Adv Nurs. 2008;61(3):244-260. doi:10.1111/j.1365-2648.2007.04532.x

2 WHO | World Health Statistics 2015. WHO. http://www.who.int/gho/publications/world_health_statistics/2015/en/. Accessed April 9, 2019

3 WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience. Geneva: WHO; 2016.

4 Kenya National Bureau of Statistics M of H. Kenya Demographic and Health Survey. https://dhsprogram.com/pubs/pdf/FR308/FR308.pdf. Published 2014. Accessed April 9, 2019.

5 Fact sheet, Adolescent and Youth Sexual and Reproductive Health in Kenya. undated. https://www.afidep.org/download/Fact%20Sheet%20-%20AYSRH%20final.pdf

6 Kenya National Bureau of Statistics M of H. Kenya Demographic and Health Survey. https://dhsprogram.com/pubs/pdf/FR308/FR308.pdf. Published 2014. Accessed April 9, 2019.

7 Mason L, Dellicour S, Ter Kuile F, et al. Barriers and facilitators to antenatal and delivery care in western Kenya: a qualitative study. BMC Pregnancy Childbirth. 2015;15. doi:10.1186/s12884-015-0453-z

8 Sharma J, O'Connor M, Rima Jolivet R. Group antenatal care models in low- and middle-income countries: a systematic evidence synthesis. Reprod Health. 2018;15(1):38. doi: 10.1186/s12978-018-0476-9

9 Sandall J, Soltani H, Gates S, et al. Midwife-led continuity models versus other models of care for childbearing women. Cochrane Database Syst Rev. 2015;(9):CD004667. doi: 10.1002/14651858.CD004667.pub4

10 Hoope-Bender P, Kearnes A, Caglia J, et al. Group Care: Alternative models of care delivery to increase women's access, engagement, and satisfaction. https://cdn2.sph.harvard.edu/wp-content/uploads/sites/32/2014/09/HSPH-Group5.pdf. Published May 2014

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