

# An Innovative Intervention to Improve Respectful Maternity Care in Three Districts in Ethiopia

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## Research article

**Keywords:** Mistreatment, Disrespect, Abuse, Respectful maternity care, Quality improvement, Childbirth, Compassionate respectful care, Patient-centeredness, Experience of care, Ethiopia, Africa

**DOI:** <https://doi.org/10.21203/rs.2.18578/v3>

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# Abstract

**Background:** Mistreatment of women during facility-based childbirth is a major violation of human rights and often deters women from accessing skilled delivery in health facilities. In Ethiopia, mistreatment has been documented to occur in up to 49.4% of mothers delivering in health facilities. This study describes the development, implementation and results of a novel intervention to improve respectful maternity care in Ethiopia.

**Methods:** As part of a national initiative to reduce maternal and perinatal mortality in Ethiopia, we developed a novel respectful maternity care training module with three core components: testimonial videos, a skills-building session on communication, and onsite coaching. The respectful maternity care training was conducted in February 2017 in three districts within three regions of Ethiopia. Facility level solutions applied to enhance the experience of care for mothers as a result of the training module were documented. Safe Childbirth Checklist data measuring privacy maintained and birth companion offered during labor and delivery were collected over 27 months from 17 health centers and three hospitals in the three districts. Interrupted time series and a regression analysis were conducted to assess the significance of improvement.

**Results:** Data analysis showed significant improvement in the percentage of births with two elements of respectful maternal care—privacy maintained and birth companionship offered—following the respectful maternity care training, which was sustained beyond the project intervention (regression coefficients ranging from 18% to 77% for births with privacy and with birth companion offered). About 23 local solutions were devised and implemented in the health facilities that improved the experience of care for mothers.

**Conclusion:** This study suggests that integrating the respectful maternity care training into a district-wide quality improvement collaborative is effective in improving respectful maternity care. Use of a multi-pronged approach is especially helpful in enhancing respectful maternity care comprehensively. Testimonial videos helped providers to see their services from their clients' perspective, while quality improvement training and coaching helped them reflect on potential root causes for this type of treatment and develop effective solutions.

## Introduction

Increasing access to skilled care during childbirth is a key strategy for reducing maternal and perinatal mortality and morbidity (1). However, mistreatment is highly prevalent in health facilities globally (2–7). Mistreatment ranges from subtle negligence and abandonment to overt verbal or physical abuse. The Bowser and Hill framework is commonly cited to describe aspects of mistreatment during childbirth (4,6,8–12). These categories include physical abuse, non-consented care (including denial of birth companionship), non-confidential care, non-dignified care (including verbal abuse), discrimination based on specific attributes, abandonment or denial of care and detention in facilities.

These forms of mistreatment are major violations to human rights and discourage mothers from seeking care in their subsequent deliveries (3,4,8,9,13–19). In addition, mistreatment has been shown to negatively affect clinical outcomes (2,6,19,21). Such mistreatment can occur at the level of interaction between a client and a health care provider (HCP) or may result from health system failures, including supply constraints or the physical condition of facilities (3,12,22).

Ethiopia has a low facility-based delivery rate of only 26% (23). Systematic analyses of studies on mistreatment in Ethiopia have shown that among those utilizing facility-based care, almost half (49.4%) are experiencing neglectful or abusive care, with 13.6% reporting physical abuse and 16.4% reporting abandonment (24). Lack of training on interpersonal communication, poor working environments and high workloads are among the drivers of mistreatments (6,13,25). Such mistreatments tend to be accepted as the 'norm' both by the clients and HCPs and may not be raised as concerns (4,9,12,26–28).

Although birth companions provide emotional, psychological and social support, birth companions were not widely allowed in Ethiopia. Recent studies have shown that the presence of a birth companion is associated with improved outcomes for both the mother and the baby, including increased spontaneous vaginal delivery, shortened labor time and higher Apgar scores (20). In fact, mothers who felt that they received dignified and supportive care reported fewer newborn complications (19).

To address mistreatment in health care, the Federal Ministry of Health of Ethiopia (FMOH) focused on developing Compassionate, Respectful and Caring (CRC) health professionals as one of the four priority agendas of the Health Sector Transformation Plan (29). Although there is increasing documentation of effective interventions to reduce mistreatment globally (14,30), there are no studies that have shown effective interventions to reduce mistreatment in maternity care in Ethiopia.

The Institute for Healthcare Improvement (IHI) in partnership with the FMOH, integrated an approach to institutionalize respectful maternity care (RMC) into a large-scale maternal newborn health (MNH) focused quality improvement program. The RMC intervention aimed to empower HCPs through a life testimonial video-based training that also contained participatory discussion and reflection, a didactic session on communication skills, and onsite coaching to devise local solutions that can enhance RMC. This study describes its development and implementation and measures its effectiveness using programmatic data.

## Methods

The MNH Quality Improvement Collaborative Context: IHI has partnered with the FMOH to reduce maternal and neonatal deaths by 30% through the introduction of district-wide quality improvement (QI) collaboratives. Program design details are published elsewhere (31). In brief the approach brings together facility teams from all facilities in the district for a 12- to 15-month period for a district-level improvement collaborative work. Target indicators representing key evidence-processes of MNH were selected by national and regional MNH leadership based on country wide priorities and available data and included two RMC focused measures related to birth companionship and privacy. The QI program commenced in

April 2016 with a facility leadership training in quality improvement to build leadership buy-in, followed by a baseline assessment of key MNH service inputs, processes, and outcomes using data from the previous 12 months (July 2015 to June 2016) to determine areas for improvement focus. During the first learning session (LS), in November 2016, QI teams from all facilities in the woreda were convened, trained in QI methods, and presented with the baseline assessment findings. QI teams were then supported to design QI projects to fill identified gaps in the baseline assessment. These teams pursued a collective aim of improving MNH by using the Model for Improvement where they generated and tested change ideas using multiple Plan-Do-Study-Act (PDSA) cycles in their local facilities during the time between LSs (action period) (32). Intensive QI coaching and MNH clinical mentorship occurred during each action period (Figure 1). When training gaps were found during the baseline assessment, HCPs received basic emergency obstetric and newborn care (BEmONC) training which included RMC orientation.

In this endeavor, IHI provided the QI training, the baseline assessment tool and supported facilities in conducting the baseline assessment. The coaching visits to the facility team were done by IHI Senior Project Officers (SPOs) while the BEmONC training was provided by Ethiopian Midwives Association in collaboration with IHI.

In close consultation with the regional health bureaus, three districts were targeted as prototype districts[1] by the project in Tigray, Oromia and Southern Nations, Nationalities, and People's (SNNP) Regions (Table 1).

### RMC Intervention

Design of the RMC videos: We conducted a focus group discussion (FGD) with IHI SPOs who had first-hand experiences as health care workers in rural settings. Focus group participants drew upon their experiences supporting and listening to pregnant women during community engagement activities, as clinical mentors and care providers having witnessed the disrespect and abuse that mothers face first-hand. In the FGD, we explored the current state of RMC-related issues in the program-supported districts. These findings were consolidated and key themes were identified. Three testimonial scripts were written to capture these key themes; these depicted a mother with normal delivery, another one with referral and emergency care, and an adolescent pregnant woman who experienced preterm labor (Annex 1). The scripts were three to four minutes long and translated into Amharic. Volunteer actresses were then trained to perform the scripts in video testimonials to protect patient confidentiality.

Delivery of the RMC Training Module: The videos were shown to participants during the second LS. Participants of this LS in the three districts are described in Table 2. The LS was attended by multidisciplinary health professionals, including facility leadership, MNH clinical providers, data managers, and health extension workers. The three videos were followed by participatory reflection and discussion. Participants were asked to reflect on the videos using questions depicted in Annex 2.

After the discussion, there was a short presentation on the prevalence of mistreatment in Ethiopia and a skills-building session on empathic communication and relationship development with patients (Annex

2). Following the LS, participants returned to their QI teams to develop change ideas or local solutions to enhance RMC in their facilities using multiple PDSA cycles. The importance of testing changes to enhance RMC was reinforced by facility coaches during action period coaching visits. Coaching visits also helped to collect data and assure the data quality. A minimum of three coaching visits happened per facility in each action period.

Data Collection: The measures targeted for improvement through this intervention were privacy maintained and birth companion offered during labor and delivery (L&D), as these were the only data readily available from the programmatic database. Monthly programmatic data indicating the percentage of sampled deliveries with privacy maintained and with birth companion offered were collected from the facilities in these three districts (17 health centers and three primary hospitals) from November 2016 until January 2019 for a total of 27 months. Data were sampled from 30 births in the previous month that had been monitored using the FMoH-adopted Safe Childbirth Checklist (SCC). A systematic sampling technique was used for facilities that have higher number of deliveries (Annex 3- SCC). For facilities with lower birth rates (30 or less), all the SCCs filled-in during the past month were reviewed. The IHI SPOs collected the data and entered it into the program database as part of their routine work. Even though the RMC training addressed all the seven categories of mistreatment, the programmatic database measured only the sampled births with privacy and those with birth companion. Hence, in this study we used these two measures to assess the effectiveness of the training module.

Change ideas tested at facilities were extracted from routine QI coach programmatic documentation and were evaluated based on quantitative criteria for “success” based on run chart rules (32). Those with higher degrees of success and with an RMC focus were extracted for this analysis.

Data Analysis: We conducted an interrupted time series and regression analysis using STATA version 13 to analyze the effectiveness of the intervention. In the regression analysis, we analyzed the short-term effect of the intervention which measures the first 10 to 11 months following the training (February/March to December 2017 during which direct project support occurred), while the long-term effect measures the impact of the intervention after the direct support ended. We used the Bowser and Hill mistreatment categories to label a ‘change idea’ as having a component that aims to enhance RMC. We presented the change ideas implemented in the facilities that successfully enhanced the experience of care for mothers as results.

[1] The prototype districts included two additional districts from each of Amhara and Afar which were engaged at a later time by the project (April 2017 and January 2019 respectively). These two districts were excluded from this analysis as the implementation time difference makes comparison difficult.

## Results

Quantitative results on privacy maintained and birth companion offered during labor and delivery (L&D): A total of 23,129 births took place during the 27 months of data collection (November 2016 to January 2019) in the 20 health facilities. On average, each of the targeted health centers attended 34 deliveries per month. Each primary hospital attended on average 96 deliveries per month (Table 3).

Figure 2 shows an interrupted time series for the percentage of sampled deliveries with birth companion by district. Figure 3 shows an interrupted time series analysis for the sampled percentage of deliveries where privacy was maintained by district. The first vertical lines indicate when the second LS in which RMC was introduced was conducted in the district of Oromia (February 2017) and in Tigray and SNNP (March 2017). Baseline data was collected from November 2016 (when the SCC was introduced) until February/March 2017. The second vertical line depicts the end of the direct project support in December 2017 (the fourth LS) while data collection continued until January 2019.

As shown in Table 4, a regression analysis in Tigray showed a significant increase in percentage of births with companion and privacy during the project period (increased by 18% from a baseline of -27%,  $P=0.001$ ) which was maintained in the long-term, a year after the end of the direct project support (increased by 27%,  $P<0.001$ ). In SNNP, there was a significant short-term effect on the percentage of births with companion and privacy (increased by 26% from a baseline of 1%,  $P=0.02$ ) while this was not sustained reliably in the long-term (-1%,  $P=0.94$ ). In Oromia, the short-term effect was not as remarkable (-46% from a baseline of -78%,  $P=0.02$ ) while the long-term effect was significantly remarkable on the percentage of births with companion and privacy (increased by 77%,  $P=0.002$ ).

Interventions deployed to enhance RMC: In addition to the outcome data, we assessed the change ideas tested in the facilities as part of improving overall MNH quality of care. Out of a total of 73 change ideas tested by the QI teams in these health facilities to improve MNH quality of care, 27 were related to RMC, and among these, 23 met the criteria for inclusion in the change package. A list of successfully tested change ideas related to improving the experience of care of mothers is shown in Table 5. In all the three districts, the pregnant women conference—where pregnant mothers come together monthly for a group counselling—was modified to include discussions on new efforts to maintain women’s privacy during L&D and encourage mothers to bring a birth companion. A tour of the L&D ward and a coffee ceremony were also incorporated into pregnant women conference sessions. To ensure the privacy of mothers during delivery, health facilities developed change ideas such as using screens, including those that are made from locally available materials.

During the reflection and discussion sessions following the videos, participants noted that the videos reflected the reality of women’s experience of care during birth and helped them see their services from their clients’ perspective. Examples of disrespect mentioned in the videos that resonated with HCPs included the lack of cleanliness in the facilities and the failure of HCPs to introduce their names to patients. The discussion with participants further revealed that testimonial videos appealed to their feelings and allowed them an opportunity to be ‘in their clients’ shoes’ and empathize with mothers.

## Discussion

Our results found that an RMC-focused intervention embedded into a district-wide QI approach led to significant improvement in the two measures of RMC. These changes were sustained for 13 months after the conclusion of the collaborative support in December 2017. The combination of RMC trainings embedded into the QI initiative helped HCPs both understand and address some of the systemic issues that contribute to mistreatment.

This study adds to the limited existing literature on successful strategies to improve RMC in sub-Saharan Africa in a sustainable manner. Our study also has important policy and programmatic implications. In particular, our results highlight that QI methods can be applied to identify and address root causes of disrespect in MNH. In combination with focused RMC skills building, quality improvement could address individual and system level barriers to RMC. As the intervention districts were distributed over the three agrarian regions of Ethiopia, the findings may be generalizable to other agrarian contexts.

The failure to allow a family companion during institutional childbirth is one of the deterrents to utilization of maternity care services in Ethiopia and other low- and middle-income countries (4). HCPs who had received the RMC training specifically recognized the importance of encouraging family support and companionship. This led to improvement in the practice of allowing family birth companionship in the intervention sites.

Less notable results were seen in both privacy and birth companion data in Oromia from October to December 2017. This may have been due to civil unrest that took place during this time, which affected the short-term effect in the regression analysis. In SNNP, long-term effect may have been affected by supply shortages of the SCC; in cases where the data is not recorded, it is assumed that services are not offered.

Previous studies that have evaluated RMC-related interventions have shown the importance of a multifaceted approach, including training on RMC and addressing barriers of RMC (14,30,33). Studies conducted in neighboring countries such as Kenya and Tanzania, using a pre- and post-comparative evaluation study, showed reduction in mistreatment ranging from 7 to 66% (14,33). As we relied on available programmatic data, we were not able to show a specific reduction in mistreatment. However, our analysis shows significant increase in births where privacy was maintained and birth companionship was offered following the RMC training.

Our study has some important limitations. Ideally, we would have liked to interview community members directly as key informants to develop the video scripts. However, the videos were made in the initial stage of the project when we had not yet built the necessary level of trust with the local communities and were in a relative position of power to patients. Therefore, we opted to interview project staff who had extensive clinical mentorship, patient support, and community engagement experience as key informants to develop personas to characterize a sample of positive and negative experiences with the health system. The scripts were developed based on reported issues and mistreatment witnessed or experienced

in health facilities, and which providers have later confirmed. Scripts of persona testimonials were developed based on these actual experiences, and volunteer actors recited the scripts to protect confidentiality of actual users. As the project matured, we were able to supplement the videos by inviting community representatives to learning sessions to share their reflections on the video content, their personal experiences and priorities.

Since our analysis is based on available programmatic data, the study was not able to evaluate the status of RMC using all the seven Bowser and Hill's categories of mistreatment, which may require interviewing clients and observing their interactions with HCPs. That said, the reported measures were identified as priority problems encountered by mothers in Ethiopian settings and hence were selected by the FMoH to be included in the Ethiopian adapted Safe Childbirth Checklist (13,26,34–36). Despite this limitation, the RMC training module was specifically designed to address all seven mistreatment categories. In this study, we focused on two of the categories: ensuring privacy (non-confidential care) and allowing family companionship (non-consented care) due to the availability of programmatic data. Other domains of RMC may have been incorporated into change ideas across any of the target indicators. Further study exploring impact of interventions on all domains of RMC is warranted. Validated tools that help to measure person-centered maternity care are becoming increasingly available and can be used in the evaluation of intervention implementation (22).

In addition, as data were collected from the SCC, shortages of the form in some health facilities led to lower measurement of coverage even if privacy and birth companionship services were offered, contributing to underestimation of the impact. Finally, without a comparison district, it is possible that the results were related to other factors, including the national initiative on CRC (29). Attributing results to the RMC approach alone is difficult as integration within the QI initiative likely had a synergistic effect.

## Conclusion

This study suggests that integrating RMC training into a QI collaborative is effective in improving RMC. Use of testimonial videos are especially helpful as they appeal to the heart and remind HCPs of their moral obligation to treat mothers with dignity. Embedding this intervention within an ongoing QI effort enabled HCPs to look deeper into the care process and to reform it in ways that are genuinely family- and women-centered. Complementing RMC training with onsite coaching helped in institutionalizing RMC in the targeted facilities. These interventions could be replicated in similar settings to ensure mothers get the respectful care they deserve. Further studies would be useful to evaluate impact of such interventions on person centered maternity care comprehensively.

## List Of Abbreviations

ANC: Antenatal Care; BEmONC: Basic Emergency Obstetric and Newborn Care; CRC: Compassionate and Respectful Care; FGD: Focus Group Discussion; FMoH: Federal Ministry of Health; HCP: Healthcare Providers; IHI: Institute for Healthcare Improvement; L&D: Labor & Delivery; LS: Learning Session; MNH:

Maternal Newborn Health; PDSA: Plan-Do-Study-Act; PWC: Pregnant Women's Conference; QI: Quality Improvement; RMC: Respectful Maternity Care; SCC: Safe childbirth Checklist SNNP: Southern Nations, Nationalities, and Peoples; SPO: Senior Project Officer

## Declarations

**Ethics approval and consent to participate:** This research is part of a broader evaluation study that was reviewed and approved by the Ethiopian Public Health Association Scientific and Ethical Review Committee. The programmatic data confidentiality is maintained, as there are no identifiers of the clients nor on the providers.

**Consent for publication:** N/A

**Availability of data and materials:** The dataset is readily available upon request with permission of IHI.

**Competing interest:** The authors declare that they have no competing interests.

**Funding:** The project is funded by the Bill & Melinda Gates Foundation and Margaret A. Cargill Philanthropies.

**Author's contribution:** BMJ and HA led the analysis and report write-up of this study. HA, BB and MA are IHI's SPOs who facilitated the RMC session and collected programmatic data in the three districts. KN led the change package compilation. HM and NSP critically reviewed the manuscript for intellectual content. HM oversaw all aspects of study design, data analysis, and manuscript preparation. All authors have read and approved the final paper.

## Acknowledgement

We would like to extend our appreciation to the participants of this study from the three collaborative districts. The QI program is funded by the Bill & Melinda Gates foundation and Margaret A. Cargill Philanthropies. We thank our colleagues from Addis Continental Institute of Public Health who provided insight and expertise that greatly assisted with the analysis and manuscript preparation. We are especially indebted to Prof. Alemayehu Worku and Mr. Fitsum Tsegaye for their tireless support in the analysis of the data. We are also grateful to Jane Roessner, Naomi Fedna, and Angelina Sassi for their helpful manuscript reviews. Last but not least, we are grateful to Rhonda Klevansky who filmed the testimonial videos and Kedest Mathewos, Mahlet Lemma, and Blen Biru who participated in the testimonial videos.

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## Tables

**Table 1:** Number of health facilities and residing population in the three districts

Region	Catchment Population	Hospital	Health center
Tigray	107,081	1	5
SNNP	122,316	1	5
Oromia	213,032	1	7
<b>Total</b>	<b>442,429</b>	<b>3</b>	<b>17</b>

**Table 2:** Learning session two timing by region and participants

Region	Date	Participants by health facility			Total
		Hospital	Health center	Health posts	
Tigray	Mar 2017	11	23	37	71
SNNP	Mar 2017	7	27	35	69
Oromia	Feb 2017	10	29	20	59
Total		28	79	92	199

**Table 3:** Average birth volume of the targeted facilities

Region	Health center		Hospital		Total in 27 months
	Average/month	Std. dev.	Average/month	Std. dev.	
Tigray	25.6	13.9	72.5	10.3	5395
SNNP	48.2	17.5	89.4	8.4	8815
Oromia	27.7	15.0	126.6	15.6	8919
Total deliveries in the 20 facilities in the 27 months					23,129

**Table 4:** Percentage of births with companion and privacy regression analysis, by region

Tigray births with companion and privacy	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Time	-0.27	0.06	-4.8	P<0.001	-0.38	-0.15
Short term intervention effect	0.18	0.05	4.06	0.001	0.09	0.28
Long term intervention effect	0.27	0.06	4.8	P<0.001	0.15	0.38
Constant	1.85	0.22	8.39	P<0.001	1.39	2.31
SNNP births with companion and privacy	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Time	0.01	0.07	0.18	0.86	-0.13	0.16
Short term intervention effect	0.26	0.11	2.46	0.02	0.04	0.48
Long term intervention effect	-0.01	0.07	-0.08	0.94	-0.15	0.14
Constant	0.48	0.22	2.22	0.04	0.03	0.94
Oromia births with companion and privacy	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Time	-0.78	0.23	-3.39	0.003	-1.25	-0.30
Short term intervention effect	-0.46	0.18	-2.55	0.019	-0.83	-0.09
Long term intervention effect	0.77	0.22	3.48	0.002	0.31	1.24
Constant	3.8	0.93	4.08	0.001	1.87	5.75

**Table 5:** RMC related change ideas tested in the health facilities

Change idea (What?)	Change Idea (How?)
<p><b>Client engagement:</b> Enhancing the Pregnant Women Conference (PWC)</p>	<p>Enhance the PWC by having <b>open discussion</b> with the pregnant women about the continuum of care <b>and challenges they face</b>. <b>Pregnant women are encouraged to ask questions</b> and patients' stories (near misses and complications) are heard. Such stories were obtained from the Maternal Death Surveillance and Response team. Women are requested to bring their antenatal care (ANC) appointment card. ANC lab tests were provided as appropriate by taking lab reagents and equipment to the PWC site.</p> <p>The number of pregnant women who attended the conference and <b>their feedback is documented</b>. The facility head analyzes the data and <b>feedback from women is shared with the QI team weekly for decision making and as input in QI project design</b>.</p> <p>The content of message during PWC was modified to include <b>birth position preparedness, birth attendant preference</b>, availability of lab investigation at no costs, <b>opportunity for birth companion during labor and delivery, efforts to maintain the woman's privacy</b>.</p> <p>During the monthly PWC, <b>coffee ceremony</b> is added as a courtesy to mothers.</p>
<p><b>Reduce waiting time:</b> Give priority to pregnant women at card room and at the lab.</p>	<p>Health center head will inform/orientate <b>card room staff to give priority to ANC attendees</b>, and during health education of ANC attendees, <b>the card room staff will withdraw all ANC cards first reducing the waiting time</b>.</p> <p>Setting a system to obtain pregnant women medical records in advance based on their appointment week (Some used 12 month labelled box to put mothers' card based on the appointment month while others used an Excel-based tracking system).</p> <p>Staff orientation, especially to midwives, to send full lab investigations for all ANC 1 pregnant women with 'ANC' written on the top of the lab request form. <b>Lab technicians give priority</b> and take samples first from the ANC attendees once the form is received.</p>
<p><b>Reduce waiting time:</b> Avail ANC drugs in ANC room</p>	<p>Discussion was made among the QI team members and they reached consensus to <b>make ANC drugs available in the ANC room to eliminate the pharmacy service point</b>. The prescription is collected at the end of the day and given to the pharmacy department for drug management.</p>
<p><b>Confidential care</b> by dedicating a separate ANC room</p>	<p><b>Dedicating separate rooms for ANC</b>, Family planning and post-natal care in facilities where it used to be provided in a single room.</p>
<p><b>**Birth Companion:</b> inform Pregnant woman about the option of having a birth companion present during labor/delivery</p>	<p>Midwives inform the pregnant woman of this service and encourages her to identify and inform a birth companion of her own choice ahead of the onset of labor.</p>
<p><b>**Presence of birth companion during labor and delivery</b></p>	<p><b>The midwives allow laboring mothers to have a birth companion of their choice</b>. Mothers were informed of this change idea during monthly PWCs and ANC visits. The identified birth companion is informed on her/his role ahead of time.</p>
<p><b>Making the facility clean and attractive</b></p>	<p>Cleaning the health facility, the wards and the delivery couch. Creating attractive environment by making the compound green with signage for the different service points.</p>

<b>Tour to the L&amp;D ward</b>	During the fourth ANC visit, <b>tour to the labor and delivery ward</b> is organized to help mothers get familiar with the setting before labor. During the highest turnout of ANC attendees (which usually happens to be on the market day), the head of the facility and the midwife in charge will host a tour to the labor and delivery ward for those on the fourth visit. This usually lasts for 10-20 minutes where questions and comments are addressed. The names and numbers of attendees is registered in a designated template.
<b>Change idea (What?)</b>	<b>Change Idea (How?)</b>
<b>Maternity waiting home (MWH)[1]- Creating home like environment:</b> cultural coffee ceremony, allowing prayers	During their stay pre-delivery, they are looked after daily, vital sign checked, and provision of structured lesson plans for health education. The health center provides <b>supplies for coffee ceremony. Prayers and cultural celebrations are allowed.</b>
	Organize community contribution drives to <b>equip and supply the MWH</b> on a regular basis.
	Growing cereals within the health facility compound which is used to <b>support running costs for MWH.</b>
<b>**Use screen during labor &amp; delivery process</b>	<b>Make bed screen available</b> and use it during examination of each of the PW in the labor ward.
	<b>Use clean screen</b> in the labor room to provide privacy for women receiving care in the delivery ward.
<b>**Use of reminder</b>	Posting the SCC on the wall of the labor ward which prompts to check for danger sign, to wash hands and use glove during exams, <b>to encourage birth companion be present and maintain privacy during labor and birth.</b>
	The midwife in charge of the delivery room will <b>make the SCC available.</b> When a laboring mother is admitted, <b>the duty midwife files the SCC</b> in the mother's folder and uses the SCC as a reminder of care to be given. As she gives the care per the SCC reminder, she ticks on the SCC to confirm care provision.
<b>**Use of Spot Checks to Reduce Variation</b>	<b>Daily retrospective monitoring of SCC use for every delivery.</b> The duty midwives review the daily delivery cards. She checks if the SCC was used and discuss with the team areas for improvement.
	<b>Onsite coaching of the duty midwife by the Medical director and MNCH head.</b> The medical director coaches the nurse/midwife on the job once per week randomly to ensure they are filling the checklist according to the standard and the existing scenario. They provide real-time feedback to the nurse/midwife.
<b>Postnatal care home like environment:</b> arrange coffee ceremony and provide porridge to the delivered mothers	It is customary to celebrate with a coffee ceremony and to eat porridge following a birth of a baby. Hence, utensils and supplies for coffee ceremony and for making porridge is provided to the birth companion and other family members to celebrate together.
<b>Transporting delivered mothers and newborns</b>	Pregnant women in labor <b>and newly delivered mothers with their newborns are transported back to their home by ambulance</b> so that they are encouraged to give birth at health facility for future births.

\*\*concepts related to birth companionship or privacy.

[1] Maternity waiting home is a room within the health facility dedicated for pregnant mothers who live far from the facility to come and stay when their due date approaches until labor ensues.

\*\* Change ideas related to provision of birth companion of choice and maintaining privacy during labor and delivery.

## Figures

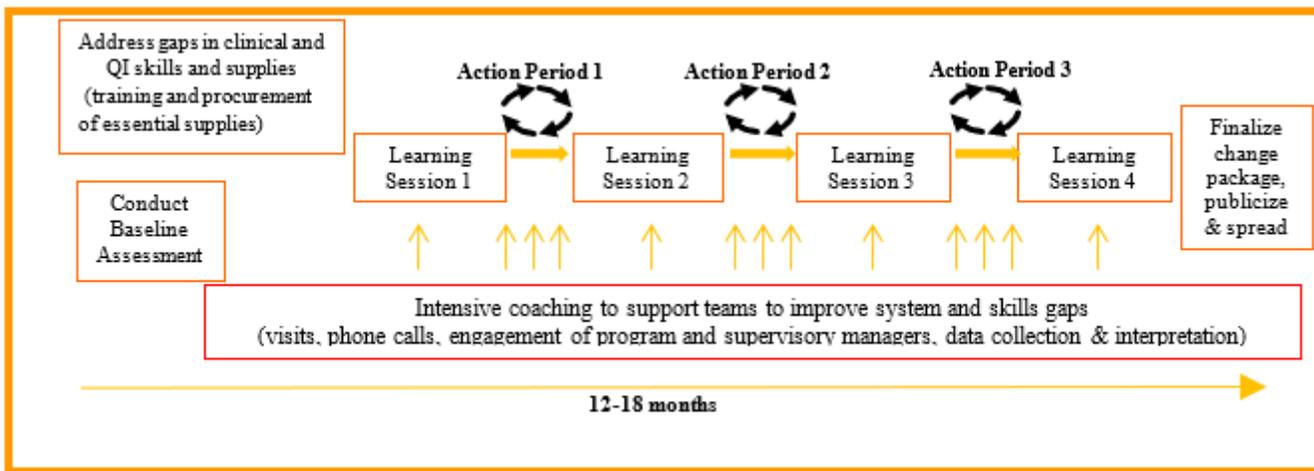
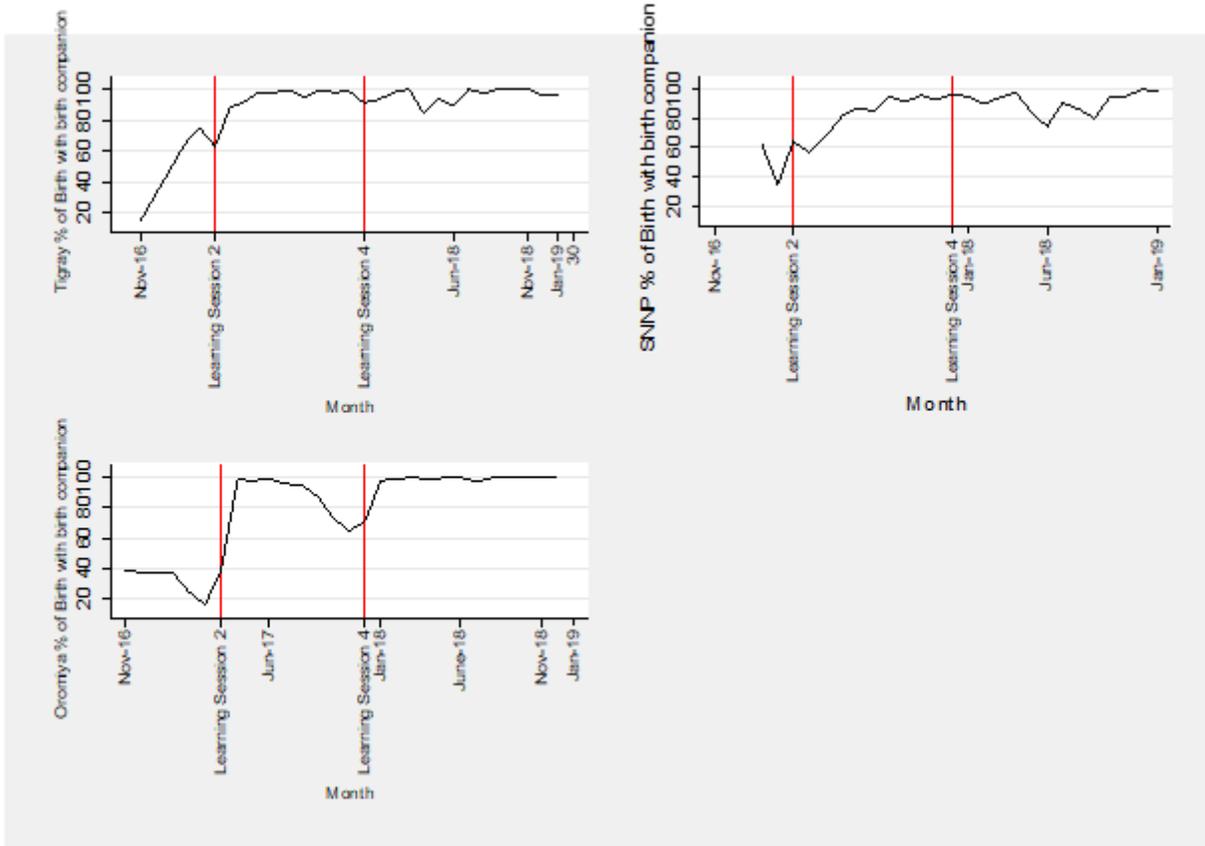


Figure 1

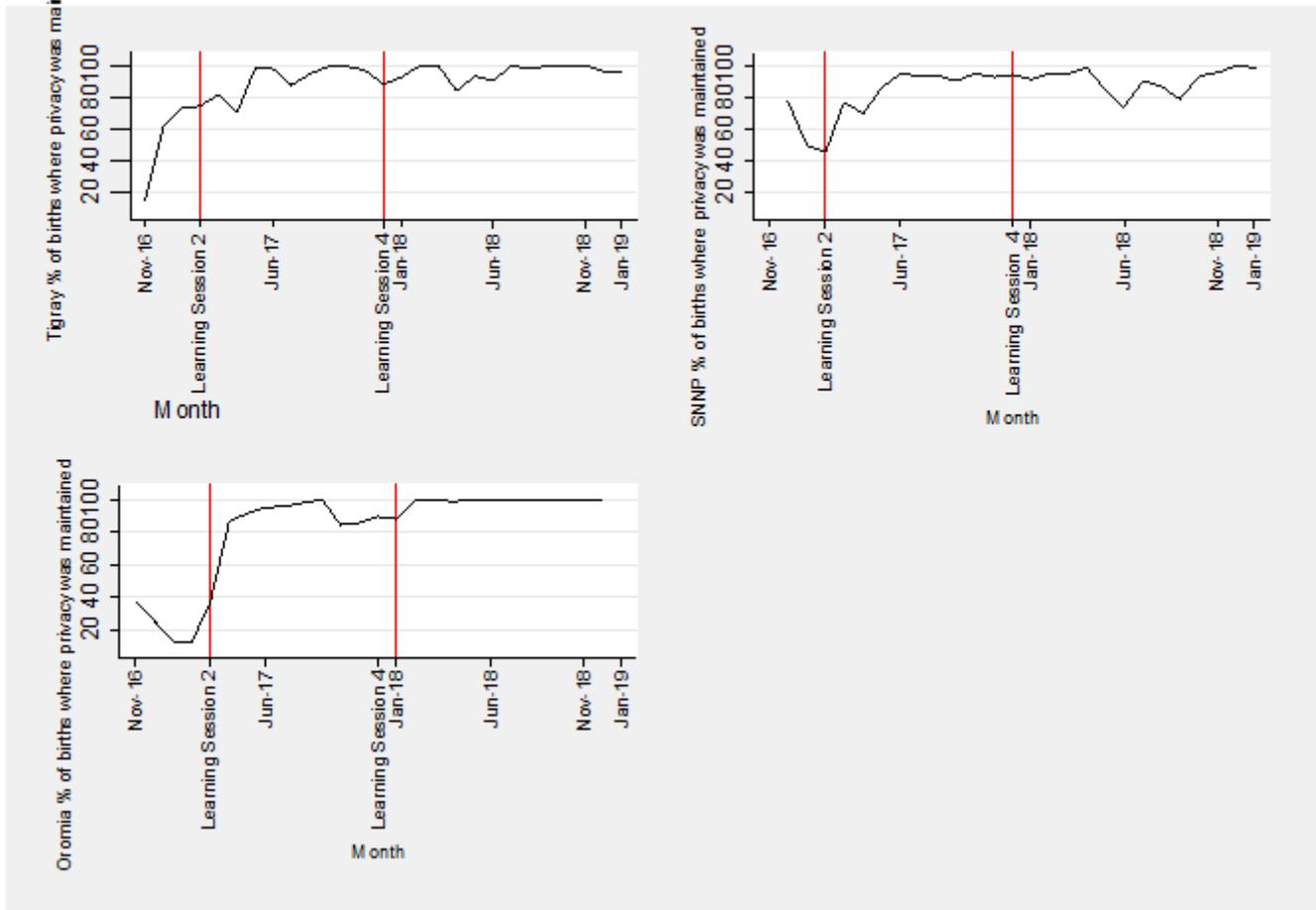
District-wide quality improvement approach of IHI



**Figure 2**

Percentage of births with companion allowed in three regions in Ethiopia

**Figure 3: Percentage of births with privacy maintained in three regions in Ethiopia**



**Figure 3**

Percentage of births with privacy maintained in three regions in Ethiopia

## Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Annex1ScriptsoftheTestimonies.docx](#)
- [Annex2slidesonRMC.pptx](#)
- [Annex3SafeChildbirthChecklist.pdf](#)