

c-MPDSR Endline Report

Executive summary

In January 2022, E4A-MamaYe began working with Kaduna State government and Population and Reproductive Health Initiative (PRHI) to design and implement a sustainable and scalable community Maternal, Perinatal, Death Surveillance & Response (c-MPDSR) model in Soba Local Government Area in Kaduna State. This report presents findings and analysis from an evaluation of the project in July 2022, which represented the end of the original project scope and funding.

C-MPDSR enables stakeholders to document, notify and review maternal and perinatal deaths occurring in the community and take appropriate actions towards preventing similar avoidable deaths in the future. Figure 1 illustrates the c-MPDSR model that was co-designed and now implemented in Soba and Yakassai communities Soba LGA, Kaduna State since December 2021. This model is an adaptation of previous c-MPDSR as it features integration of community-led social autopsy in addition to verbal autopsy.

The endline evaluation collected and analyzed data from Focus Group Discussions (FGDs) with community members and healthcare workers, triangulating these with data collected from health facility records on maternal and neonatal health indicators. A number of key findings were identified:

Health facilities remain a last resort but there are signs that referral pathways from home to facilities are stronger:

In the baseline, we identified that for maternal and neonatal healthcare most households would turn to sources of care such as chemists, traditional herbalists, and traditional birth attendants, before turning to health facilities, only doing so when other options have failed. In this endline assessment, it seems that home delivery is still the preferred option, but that in cases with complications, referral to the health facility occurs far sooner. Incidentally, it also appears that referral from one health facility to a higher-level facility is also more practiced, meaning that both delay 1 and delay 3 may have reduced.

Finances are a key barrier to seeking appropriate care:

Many respondents raised financial constraints as a key barrier to attending a health facility, as was also found in the baseline and midterm assessments. Some actions resulting from the social autopsies have helped this (e.g., free transportation from the National Union of Road Transport Workers, and healthcare workers being reminded that maternal and neonatal health services are free), but costs for medication, additional scans, consumables such as cleaning products, and transport for those who live more remotely, remain a constraint and contribute to seeking quick, easy, cheap fixes from other sources of care rather than the health facility.

Socio-cultural norms are still strong but there are signs of movement:

In the baseline, resistance to attending a health facility based on traditional, socio-cultural beliefs, such as that delivering at home is a sign of strength and going to a health facility is a sign of weakness and wasteful of limited financial resources, were reported to be upheld primarily by husbands and mothers-in-law. In this endline evaluation, it was found that the resistance of husbands seems to have reduced as they are now more supportive of women attending ANC and delivering in a health facility. It is likely that this is a result of actions developed in the social

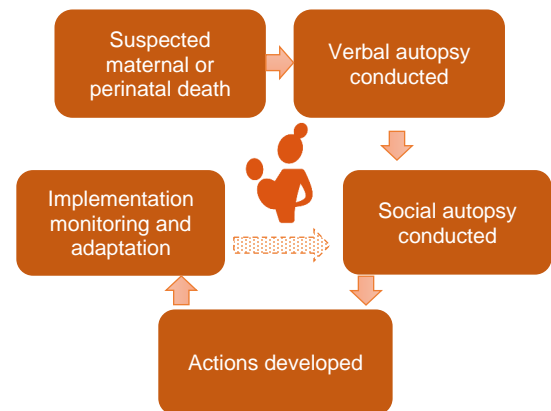


Figure 1: c-MPDSR model

autopsies that have placed pressure on men not to be seen to be stopping a woman attend the health facility or contributing to their death through such behavior.

Friendliness and competency of healthcare workers are the most changed and most important markers of trust:

While most respondents have reported a high level of trust of healthcare workers throughout this intervention, it appears that this has been strengthened further. Numerous respondents spoke to the increased friendliness of healthcare workers, and it was even verified by healthcare workers themselves who attributed higher levels of attendance to the better service they were offering. Healthcare workers also spoke of changes they had made to their practice that showed improved awareness of community member needs and competency of their actions.

Blame for maternal and perinatal deaths may have shifted from healthcare workers to families:

In the baseline, when asked about who is blamed for maternal and perinatal deaths, most respondents spoke of lack of competency of healthcare workers and divine will – that it was the mother or babies ‘time’ according to God’s will. However, though this sort of fatalism still ran strongly through the responses, in the endline evaluation many respondents also spoke of the negligence of families who refused or delayed seeking care from health facilities. Consequences of such negligence for husbands include being refused a wife in the future. Whilst identifying such negligence is important, E4A will work with Kaduna SPHCDA to ensure that c-MPDSR does not shift blame to family members, but instead helps to facilitate conversations that encourage different behavior in the future.

Work towards a scalable and sustainable model of c-MPDSR is ongoing:

Kaduna State government is impressed by the success of the c-MPDSR project in Soba and Yakassai communities and is eager to scale-up and sustain the intervention across the state. However, c-MPDSR is relatively expensive and for various reasons, is unlikely to be wholly funded by the state. E4A is supporting Kaduna SPHCDA to develop a transition plan and helping to identify other options to ensure the continuation of c-MPDSR in Soba and Yakassai and across the state. Until alternative funding is identified, E4A will support Soba and Yakassai to continue conducting social autopsies.

C-MPDSR needs to integrate greater consideration of gender norms to be truly transformative:

A number of the actions developed during social autopsies by community members were found to be encouraging harmful gender norms that limit the agency of women and girls. For instance, in the communities, conservative and patriarchal attitudes require women to get consent from a man, usually their husband, to visit the health facility for services such as antenatal care, health facility delivery, and post-natal care. Actions developed in the social autopsies found short-term solutions to work around issues that arise when a man is not available to give consent, rather than questioning the need for consent itself, thereby entrenching these harmful norms further. Under the new investment, E4A is committed to being gender-responsive and will work with Kaduna SPHCDA and Kaduna State Led Accountability Mechanism to find ways to integrate gender considerations into the tools and processes of c-MPDSR, with the aim to encourage more equitable gender norms.

Overall, the c-MPDSR project in Soba and Yakassai has shown that communities in Kaduna State can identify and discuss causes of maternal and perinatal deaths and come up with actions that save lives and improve the health of women and newborns. There is huge commitment to c-MPDSR in the state and E4A will continue to work with Kaduna SPHCDA to ensure that more communities have access to the life-saving work of c-MPDSR.

Contents

Executive summary	1
Acronyms	3
Introduction.....	4
The E4A-MamaYe Project.....	4
The c-MPDSR model.....	5
Design of the model.....	5
Implementation of the model.....	7
Methodology	8
Limitations	8
Key findings.....	9
Community norms and health seeking behaviour	9
Trust between communities and health facilities.....	17
Lessons learned.....	21
Conclusion	22

Acronyms

ANC	Antenatal Care
CAN	Christian Association of Nigeria
c-MPDSR	Community Maternal and Perinatal Death Surveillance and Response
CORPS	Community Oriented Resource Persons
E4A	Evidence for Action
FGD	Focus Group Discussion
HCW	Health Care Worker
KII	Key Informant Interview
LGA	Local Government Authority
MPDSR	Maternal and Perinatal Death Surveillance and Response
NIMC	National Identity Management Commission
NURHI	Nigeria Urban Reproductive Health Initiative
NURTW	National Union of Road Transport Workers
PHC	Primary Health Care
PNC	Post-natal Care
PRHI	Population and Reproductive Health Initiative

RMNCH	Reproductive, Maternal, Neonatal, Child Health
SA	Social Autopsy
SBA	Skilled Birth Attendance
SPHCDA	State Primary Health Care Development Agency
TBA	Traditional Birth Attendant
VCM	Voluntary Community Mobilizers
WDC	Ward Development Committee

Introduction

In Kaduna, Nigeria, 82% of women give birth at home without the services of skilled birth attendants (NDHS 2018). This is anticipated to have increased during the COVID-19 pandemic, with associated increases in maternal and perinatal mortality. C-MPDSR enables stakeholders to document, notify and review maternal and perinatal deaths occurring in the community and take appropriate actions towards preventing similar avoidable deaths in the future.

To address this, E4A-MamaYe (E4A) began working with Kaduna State government and Population and Reproductive Health Initiative (PRHI) to design and implement a sustainable and scalable community Maternal, Perinatal, Death Surveillance & Response (c-MPDSR) model in Soba Local Government Area in Kaduna State.

The intervention ran from December 2021 to July 2022 and was active for a total of 7 months. Recognizing the significant potential impact of c-MPDSR, implementation was accompanied by regular monitoring and evaluation activities that aimed to explore if c-MPDSR can be made more sustainable and scalable and improve health outcomes for women and babies. To determine this, the monitoring and evaluation focused on three result areas:

- Improved community norms and behaviour on health seeking (evidenced by increased SBA, ANC, and PNC attendance rates)
- Improved trust between communities and health facilities (evidenced through qualitative indicators)
- A scalable and sustainable model of CMPDSR is available at state level

As the intervention has now ceased direct implementation, an endline assessment has been conducted. The purpose of the endline assessment was to determine progress against the three result areas above. This report gives an overview of the findings of the endline assessment.

The E4A-MamaYe Project

E4A-MamaYe works to catalyze change by bringing together government, civil society, and health practitioners to use existing information and resources to:

1. Identify the reasons why women and babies are dying.
2. Agree on how available resources can be used most effectively to address these reasons.
3. Advocate for the changes needed.

As a result, government and health practitioners are better able to respond appropriately to the issues causing unnecessary deaths and injuries. This means women and children have better access to improved quality health services and more women having safe births.

The c-MPDSR model

Design of the model

The c-MPDSR model was co-designed with the Kaduna State Primary Health Care Development Agency (SPHCDA) with the aim to adapt c-MDPSR in a way that is cost-effective and sustainable from the outset. The co-design process involved a 3-day workshop with state actors involved in the implementation of the State's MPDSR. This meeting resulted in the design of the following model:

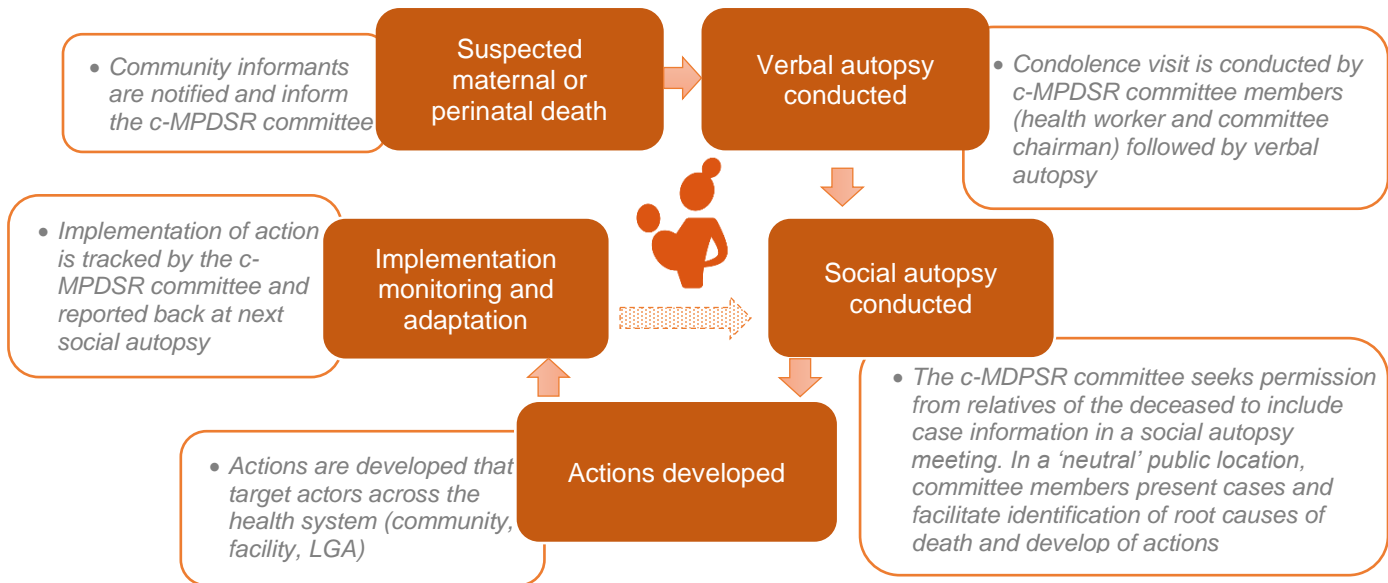


Figure 2: Current version c-MPDSR model (c-MPDSR committees include: PHC health workers, traditional birth attendants, traditional and religious leaders, women leaders, transport collective representatives, youth representatives, and other influential people (which vary per community)).

The Kaduna c-MPDSR model includes the following main features which are explained in more detail below:

- Integration of social autopsy in addition to verbal autopsy
- Health system integration of c-MDPSR
- Community-led implementation

Social autopsies (SAs) are a fundamental feature of the c-MPDSR model that we designed for Kaduna state. The intention of the SAs is to involve communities to discuss deaths and work together with local health workers to take action to reduce them. The SAs are intended to guide communities to identify barriers and collaboratively design solutions to enable the use of skilled birth attendants (SBA)BA and antenatal care (ANC), as ways to reduce maternal and perinatal mortality.

Integration within existing health system processes is essential for sustainability and cost-effectiveness. Existing complexities of Kaduna's health system were considered and resulted in the following adaptations of existing c-MPDSR models:

- Rather than hiring new staff, costs can be reduced by adding c-MPDSR activities to the roles of selected PHC health workers and Ward Development Committee members. For instance, healthcare workers can conduct verbal autopsies to determine the medical and sociocultural factors that were responsible for maternal and perinatal deaths.

- By ensuring health system actors from LGA and state level are included and kept up to date, issues identified, and solutions designed are likely to impact communities beyond those in which the deaths are discussed, enhancing cost-effectiveness of the approach.
- Working across multiple levels of the health systems allows identification of actions to streamline governance processes. For example, following discussions with Kaduna State Commissioner for Health and senior government officials, a decision was made to improve MDPSR coordination in the state. It was agreed that the State Primary Health Care Development Agency (SPHCDA) will lead c-MPDSR in the state with E4A collaborating with the agency's RMNCH Coordinator.

Community Leadership over implementation of c-MPDSR is important. In other current c-MPDSR approaches in the state, the community based MPDSR committee is constituted at the LGA level, and all decisions are taken at that level with little community participation. By contrast, in our c-MPDSR model, PHCs and communities are active members of the c-MPDSR committee.

Our team provided training to the c-MPDSR committee members on how to conduct verbal and social autopsy while recognizing sensitivities and enabling a safe environment in which community members feel comfortable discussing or being asked questions about departed loved ones. This was done by ensuring social autopsies were a no-name and no-blame space and facilitating conversations in a respectful and non-accusatory manner. C-MPDSR committee members received mentorship and support from E4A and PRHI to ensure social autopsies respect the dignity of the deceased and their family members as well as facilitate open discussion and identify solutions. Furthermore, well-known individuals in each community cluster are engaged as community informants to report deaths. Together, this ensures that communities are at the heart of the process and community based maternal and perinatal deaths are systematically tracked, counted, reviewed, and acted upon to address root causes.

The project has been informed by ExpandNet's guidance on scaling up¹ to foster cost-effectiveness and sustainability. Project partners (E4A, PHRI, and the SPHCDA) are working from an agreed checklist of actions and considerations that inform and track progress towards scaling up. This has informed several actions:

- E4A engaged a well-regarded Professor of Community Medicine in the State as a consultant who led the process of the state and community entry for the CMPDSR model. Prior to the intervention, the consultant taught most of the senior government officials in the state, including the Honorable Commissioner of Health, and as such, is greatly trusted and respected. The consultant supports E4A in engaging the right people at State-level and ensuring the project is tailored to the context of Kaduna State.
- E4A engaged all state actors involve in the implementation of the State's MPDSR through (among others) a co-creation event. The meeting resulted in improved coordination of the State's MPDSR, and the endorsement of State stakeholders of the c-MPDSR model.
- E4A brought together LGA officials and community members to seek their buy-in prior to the commencement of the project. During this meeting the communities voted unanimously to support the project.

¹ ExpandNet is an informal global network of individuals from I/NGOs, academic and research institutions and government ministries who want to promote equitable access to high quality health and development interventions by expanding successful pilot projects.
<https://expandnet.net/scaling-up-framework-and-principles/>

- Regular partner coordination meetings are held with all stakeholders in the state to review and update the scalability and sustainability plan. Where required, adaptations are discussed and agreed at this meeting.

Implementation of the model

The following progress was made with implementing c-MPDSR in Soba LGA:

- The selection of two communities in Soba LGA was done in conjunction with Kaduna SHPCDA. Based on the number of maternal and perinatal deaths reported, Soba and Yakassai communities were selected. Soba community is larger and peri-urban compared to Yakassai, which is more rural and smaller in population. Both communities are in Soba Ward, under Soba LGA.
- Community entry and community dialogue activities were held to ensure permission to conduct the project and acquaint community leaders with the scope of the work
- A training of trainers was conducted with state MPDSR trainers to allow them to train community members in c-MPDSR.
- C-MPDSR committees in Soba and Yakassai were trained and are now meeting regularly and carrying out their responsibilities.
- Verbal autopsies identified 9 maternal deaths and 18 perinatal deaths (including stillbirths). Below is a summary of the maternal and perinatal deaths identified:

	# of suspected maternal / perinatal deaths notified²	% of suspected deaths notified within 48 hours	% of verbal autopsies conducted for suspected maternal / perinatal deaths	# of confirmed maternal / perinatal deaths identified
Maternal deaths	11	67%	100%	9
Perinatal Deaths	18	85%	100%	18

- Five social autopsies have been conducted – three in Soba community and two in Yakassai community. All the SAs were moderated by the respective Chairpersons of the c-MPDSR committee with support from the PRHI team and were well-attended, including by the SHPCDA representative (LGA Health Secretary), Soba LGA RH coordinator, Soba LGA M&E Officer, c-MPDSR committee members, community leaders, women groups, TBAs, health facility staff, and representatives of the bereaved families. The social autopsies included:
 - Discussion of the root causes of the deaths identified, for example: lack of ANC, lack of care and permission from husband, competition among the women to give birth to more children as a way for resource control, lack of resources to transport women to hospital in emergencies, early marriage, and patronage of “quackery private facilities”.

² Suspected maternal and perinatal deaths are deaths of women of reproductive age and newborns, respectively. They are notified to the c-MPDSR committee who then arrange for a verbal autopsy.

- Identification of action points. Key action points identified included: community sensitization on the need for ANC visits for all pregnant women to be conducted at social gatherings such as worship centers, community centers, and markets; men to make some savings towards supporting wives to go for ANC; men to support women to go for ANC and PNC; names and contact numbers to be shared of National Union of Road Transport Workers' (NURTW) drivers who will support transportation of pregnant women to health facilities; women to report their husbands who are not taking good care of them to the community leader for action; WDC and Health Secretary to create awareness about the available health insurance schemes to reduce the burden of healthcare on people; and community members are to report unqualified people providing health services to the village head who will escalate it to the Health Secretary. More information on the actions can be found below. We recognize that some of these actions uphold inequitable gender norms that future iterations of the c-MPDSR intervention will hope to address.

Methodology

A mixed methods study design was used for the endline evaluation of the intervention. We reviewed project documentation, analyzed health facility summary data from January 2021 to June 2022, and held six Focus Group Discussions (FGDs) with health care workers from facilities in the catchment areas and groups of men and women from the two communities.

All FGD participants signed informed consent forms. The FGDs were semi-structured, with interview guides developed by E4A and PHRI. The FGDs were recorded, transcribed verbatim, and translated into English by PHRI. E4A conducted the analysis using Microsoft Excel and coded the data into themes developed from the transcripts and the FGD guides, whilst also allowing new themes to emerge.

Health facility summary data were also analyzed using excel. Indicators were selected according to the M&E framework and presented as graphs to identify trends.

Limitations

Whilst conducting this endline review, a number of limitations were identified:

- Those conducting the FGDs were also involved in delivering the c-MPDSR project, as they had supported with the initial training of the c-MDPSR committee members and provided support to the facilitators of the social autopsies. Their closeness to the project may have led to a degree of social desirability bias, as participants of the FGDs may not have wanted to criticize their work so directly. Instead, they may have been more positive about the project in order to not offend or upset the FGD facilitators. It may also be the case that the opposite is true, that the improved relationship between community members and PRHI team members allowed FGD respondents to be more open and honest in their reports. As such, it is unclear how to view the FGD reports and have highlighted variations and inconsistencies in the narrative below.
- The quality of data collected from the health facilities in the catchment area is unclear. As mentioned below, it often does not align with reports from the FGDs, and during the dissemination of the endline findings with Kaduna SPHCDA it was suggested that when health facilities are busier the quality of their record keeping decreases. This makes it look like attendance has decreased despite the opposite being the case. We are unable to verify this suggestion, though through our ongoing work with Kaduna SPHCDA and with Kaduna SLAM we will try to establish what is happening and support necessary improvements.

Key findings

The findings are presented in line with the three result areas that the project seeks to impact:

- Improved community norms around health seeking behaviour (evidenced by increased SBA, ANC, and PNC attendance rates)
- Improved trust between communities and health facilities (evidenced through qualitative indicators)
- A scalable and sustainable model of CMPDSR is available at state level (evidenced through project documentation)

As the project's timescale is not long enough for us to see the impact of c-MPDSR reflected in a reduction in the number of deaths, the M&E framework focuses on the first two result areas. Improvements in health seeking behaviour, for instance increasing antenatal care coverage (ANC), skilled birth attendance (SBA), and post-natal care coverage (PNC), are likely to contribute to a reduction in the number of deaths, and therefore serve as outcome level indicators of the impact of the project³. Additionally, improved trust between communities and health facilities is an important part of health seeking behaviour and an effective component of an MPDSR model that upholds accountability.

Community norms and health seeking behaviour

This section first provides an overview of the actions that were developed during the social autopsies and community perceptions on their implementation progress and impact. It then presents findings in relation to key indicators that these actions are intended to impact – namely, antenatal care coverage, skilled birth attendance rate, and post-natal care coverage.

Actions taken

Example activities are listed below against the delay that actions aimed to reduce or overcome:

Actions designed to reduce Delay 1: Deciding to seek appropriate medical help for an obstetric emergency

In both Soba and Yakassai communities, it was agreed that health care workers (in particular, Community Health Extension Workers (CHEWs) and Junior Community Health Extension Workers (JCHEWS)), and religious, traditional and women leaders would conduct awareness raising and sensitization of community members on the importance of health facility utilization, ANC attendance, health facility delivery, and dangers of patronizing untrained persons. The awareness raising sessions have been held before and after religious gatherings and events such as naming ceremonies:

“In the mosques, imams give messages after preaching, they give messages on the importance of antenatal clinic to the woman. In the same way, in churches the pastors they also give their own contribution towards this. Their trust for the Limans and their pastors has led to them supporting the women to come for antenatal” (Soba, HCW, 5).

³ Outcomes, I. et al. (2003) "Reducing Maternal Mortality and Morbidity", National Academies Press (US), p. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK222105/> (Accessed: 26 April 2022).

“Much awareness is being done, awareness whether by day or night. There are CV [community volunteer], there are like informants, there are CHIPS [community health influencers promoters and services]” (Soba, male, 2).

In Soba, one of the contributory factors of low attendance at ANC was identified as husbands withholding consent for their wives to attend ANC or not being available to give that consent when needed. To overcome this, in addition to saving money to allow women to attend ANC and the health facility for delivery, men must give standing permission or identify someone else to give permission to allow women to attend ANC and the health facility for delivery. To support this, in Soba community grooms-to-be must now sign their consent to allow their brides-to-be to attend ANC and utilize the health facility when they get pregnant. This consent will be signed on a form with WDC letterhead that is completed when the couple go for a genotype test at the health facility to determine their blood group. This form must then be presented to religious leaders before marriage. The form has been distributed and is now in use.

“If a man marries, we will inform him about ANC, we will give the document that if his wife is pregnant, she will be coming for ANC” (Soba, male, 1).

“The coming of this organization gave me understanding and created awareness to the people to come for ANC. I even tell woman that if her husband didn’t support her, they report him to me” (Soba, male, 1)

“As a result of the program now the men have been enlightened and they support their women and some even go to the hospital with their women and will be with them during ANC” (Yakassai, female, 10)

This action will likely contribute to improving ANC attendance. However, the project team is aware that despite offering a short-term solution it is underpinning unhelpful social norms that limit women’s agency to decide for themselves. In the next phase of the c-MPDSR work, E4A will work with Kaduna SPHCDA to adapt elements of the intervention to be more gender-responsive with the aim of transforming these restrictive norms.

A number of actions have also been taken in order to reduce patronage of unskilled and traditional sources of care, thereby hopefully reducing delays in seeking appropriate medical help as per ‘delay 1’. At the start of the intervention, it emerged during the community entry activities that at least one TBA was transfusing blood:

“They will not bring her to the health facility, when the labor sets in, they will decide to call someone to transfuse blood at home, while they are at it, you will hear that the person has passed on” (Soba, HCW, 2)

In response, the WDC invited all private practitioners in Soba Ward for a meeting. The meeting also included the LGA RH coordinator and various community mobilization groups (c-MPDSR community informants, Voluntary Community Mobilizers (VCMs), Community Oriented Resource Persons (CORPS), Nigeria Urban Reproductive Health Initiative (NURHI) mobilizers). During the meeting, the WDC educated all participants on danger signs, emphasized the need for referrals, the importance of sensitization and mobilization of pregnant women for ANC. The WDC informed private practitioners about the mishaps and mismanagement of women and children going on across the communities. The private practitioners admitted that they were engaged in many wrong practices, which they committed to stopping going forward. The WDC revealed that any reported case will not be taken lightly, and penal measures will be taken, even if they have to present themselves to the governor of the state. Since this meeting, no further cases have been reported.

“Some private clinics that people go to that were closed down because they did not have license, so the number of maternal mortalities has reduced, it is not as high as it used to be before” (Soba, HCW, 1).

“I noticed that they had a meeting with them, especially Faiza’s house, they held a meeting with her with respect to what they do, now many women have returned to the health facility” (Soba, HCW, 2).

Another action taken following the social autopsies was for the WDC and health secretary to create awareness about the available health insurance schemes, most of which cover all maternity services, including scans and consumables. The Basic Contributory Healthcare Provision Fund was introduced to participants, and they were encouraged to get their National Identity Management Commission (NIMC) cards as it is a condition for enrolment into the program.

Actions designed to reduce Delay 2: Reaching an appropriate obstetric facility

In Soba, NURTW drivers have committed to transporting pregnant women to health facilities. The contacts of the three drivers were shared during the c-MPDSR committee meeting and have since been printed and distributed among the mai anguwa's, religious leaders, and pasted in the health facility and in the Sarki's palace.

"Before, people are afraid of what they spent on transportation to take a woman to the hospital. But now this challenge no more exists. By God's grace the union will come and carry her" (Soba male 3)

Actions designed to reduce Delay 3: Receiving adequate care when a facility is reached

In Soba, members of a local CBO have found out their blood type and committed to donating regularly as well being available in cases of emergency:

"Also, whenever a pregnant woman is bleeding and there is an emergency need for transfusion, even if it is at night, they committed to donate their blood for free" (Soba, HCW, 5)

"We are very happy for the coming of this organization. Before they came, you get few people that will help when someone's wife doesn't have sufficient blood. But now, you can get many people; people do come to the hospital themselves to inquire if there is someone in need of blood, they will give" (Soba, male, 3).

During the social autopsies, a key barrier to women attending health facilities for delivery was the prospect of not finding a healthcare worker present or being attended to by a male attendant. Health care workers have been reminded that they must attend their shifts, and the health team is to ensure that there is always a female healthcare worker available, including on each night shift.

"Because of this, at night by 2am or 3am, there are women that will brought to the hospital and will be received and will deliver here. There is no time that they don't receive" (Soba, male, 4).

Additionally, it has been reiterated that no community member is to pay for services relating to ANC and delivery, pregnant women will only be required to provide consumables (e.g., syringe and needles, detergents) to be used directly for them when the health facility is out of supply. When consumables are to be purchased, they will be prescribed for patients to go and buy outside the health facility from local chemists. The project understands that even if ANC services themselves are free, the potential need to buy consumables adds a financial barrier for some families. E4A will continue to work with Kaduna SPHCDA and with the Kaduna State Led Accountability Mechanism (SLAM) to improve stock levels of consumables and encourage families to sign up to the BHCPF, an insurance scheme that would cover the cost of consumables.

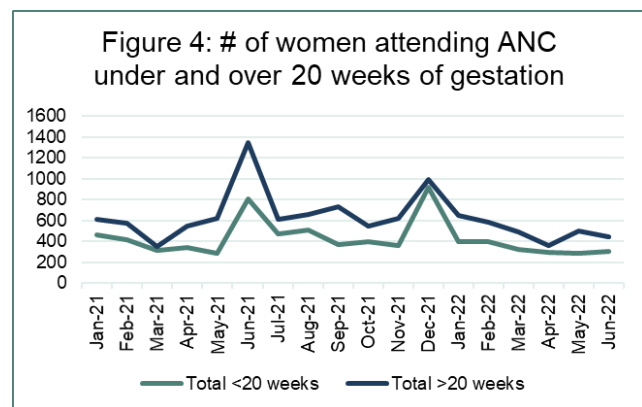
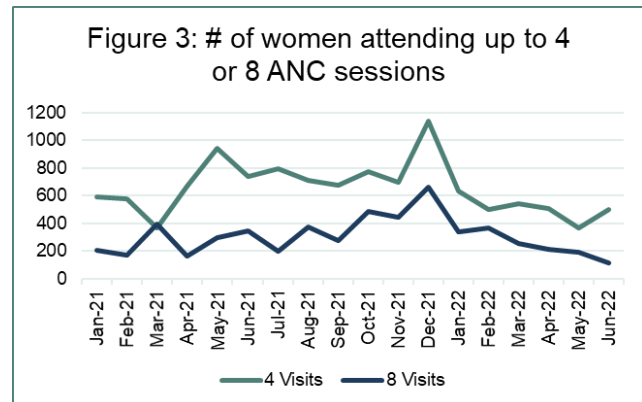
Finally, during the social autopsies, it was observed that most healthcare workers in the community were not from Soba. It was then mentioned that community members that are qualified to study in health institutions did not get admission. This was likely because the process of admission to the school of nursing is politicized and dependent on the reputation of candidate's references. As such, the son of the Chief in Soba, a dean in one of the health institutions, helped to get eight community members admission into health institutions to study to become healthcare workers.

Service level outcomes

Antenatal care coverage

During the social autopsies, a number of cases were presented that included women who had not attended ANC, which was identified as a contributing factor to the maternal and / or perinatal death. As a result, a number of actions were developed to encourage and facilitate pregnant women to attend ANC regularly. For instance, CHEWs, JCHEWS, women leaders and religious leaders have been raising awareness, men must give consent for women to attend ANC ahead of being allowed to marry them, the village head in Soba has requested women to report to him if their husbands do not allow them to attend ANC, and traditional sources of care such as traditional birth attendants (TBAs) have been sensitized on the need for women to attend health facilities for ANC.

Data collected from the local health facilities on the number of women attending up to 4 or 8 ANC sessions is presented in Figure 3. The graph indicates that the number of women attending ANC does not appear to have improved over the course of the intervention. This is in contrast to what was reported in the FGDs with healthcare workers and groups of men and women from the two communities. In the FGDs, participants all agreed that ANC attendance had increased:



“We ourselves we can see changes in the health facility because compared to the number of women that use to come for antenatal before, the women have increased” (Soba, HCW, 7)

“There is increased number of women accessing antenatal care now and you don’t need to persuade them they go willingly” (Soba, female, 4)

“Antenatal care utilization has increased a lot and we are very pleased” (Yakassai, HCW, 4)

“I myself I have a very stubborn friend who has four wives and insisted that none of his wives will go for ANC at all. But as a result of this awareness, they now attend ANC with his children even” (Yakassai, male, 5)

As Figure 4 shows, the number of women presenting for ANC under 20 weeks of gestation, as recommended by the WHO and encouraged during the awareness raising conducted, has not increased according to the health facility data. Again, the data collected through the FGDs does not align. Most respondents across all 6 FGDs held asserted that women attend ANC early, with most attending before 20 weeks of gestation.

“Initially, they will not come to ANC until maybe they are about to deliver. But so far, with the help of the project, they have started coming to ANC on time” (HCW, Soba, 3)

“With the support from this organization, instead of commencing at 7 to 8 months, now it 2,3 and even 4, they will start attending” (Yakassai, HCW, 4)

According to the FGD data, there may also have been a shift in terms of the care women are willing to receive. In the baseline assessment conducted ahead of this intervention, it was found that women would resist taking drugs such as folic acid due to a belief that they make the baby bigger, and others due to potential side effects.

“In the past, they just keep it aside, they do not drink it because they feel it will make the baby big in the womb. Now, we do not have cases of anemia and others, they take their medications” (Soba, HCW, 8)

“The women are realizing the importance of TT [Tetanus Toxoid injection for pregnant women]. Honestly in the past, when they come, we have to force them. But now, honestly, when they come to the health facility, by themselves, you will hear them say, “Mrs., that injection, up till now, I have not received it” honestly” (Soba, HCW, 9)

With regards to barriers to attending ANC that persist, despite ANC being free there remains a challenge for those who cannot afford transport to a facility, or fear being requested to do additional scans that are not included in the free healthcare package and may also require visiting a facility further away entailing more transport funds.

“The woman wants to go for ANC, but if there is no money for transport some will not be able to go especially if the place is far from the PHC. We have such kind” (Soba, male, 7)

“I want to add that the coming of women to the facility for ANC, there are women who want to come but can't afford the hospital bill. Someone will come and be given medication beyond her money and will not go back” (Soba, female, 12)

“If they asked her to go and conduct an ultrasound, if she meets the husband and he doesn't have the money, she doesn't do the ultrasound, that will be all over” (Yakassai, male, 8)

Socio-cultural norms were also raised, with examples shared of them persisting as well as being overcome:

“There are some things that you inherit from your parents and ancestors that people are practicing. Something like, if they say go for ANC, they will say no; rather they will soak some herbs (traditional medicine)” (Soba, male, 8)

“Some women want to come [to ANC] but the men don't and truly the program has led to change in mindset” (Soba, female, 5)

“The older women will say what is the importance of attending this antenatal, it is to soak this and drink, soak this and drink. Now in Yakassai, people are more enlightened because of this organization that came and has sensitized them some more” (Yakassai, HCW, 2)

As with all of the data, there may be an element of social desirability bias, particularly given the variation with the health facility records. However, several respondents reported that more women are attending ANC but that the same increase hadn't been seen regarding delivering in a health facility:

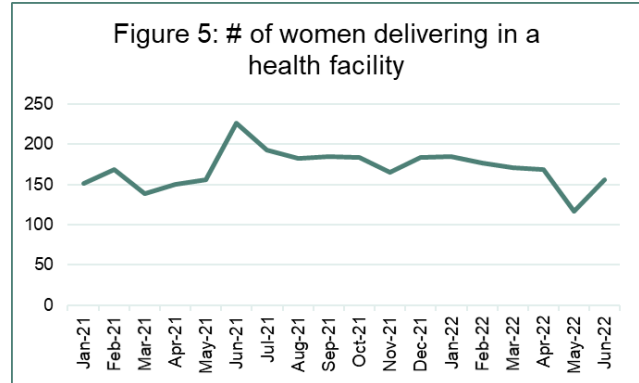
“With the awareness campaign there has been positive change now, and the only thing now is convincing them to deliver their babies at the facility this is the process we are working on achieving with women, but they do access antenatal care” (Soba, female, 2)

“If she prefers home she will deliver at home, but in the past, they will even refuse the check-up saying what are they checking there is nothing to check. And some will visit maybe just once” (Soba, female, 4)

It would be strange for the social desirability bias to apply only to ANC and not health facility delivery, which suggests that the FGD data may be more faithful to the truth, raising questions about accuracy of the health facility records. During a meeting with PRHI and Kaduna SPHCDA to disseminate and discuss the data collected through the endline assessment, it was raised that data quality at health facilities may decrease as they become busier. This would suggest that the slight decline seen in the number of women attending ANC in Figure 3, may actually be a result of poorer record keeping as there are more women attending. This is speculation though and requires further interrogation.

Skilled birth attendance rate

Examples of actions taken to improve the skilled birth attendance rate in these communities have included awareness raising, availability of NURTW drivers who have committed to transporting pregnant women to health facilities, and the need for a female healthcare worker to always be available. As Figure 5 shows, however, according to health facility data the number of women delivering in a health facility has not increased. The trend has remained reasonably consistent over the last year, aside from a dip in May 2022.



Participants in the FGDs gave a mixed response. A number of respondents spoke of an increase in the number of women delivering in a health facility:

“The delivery or the rate of delivery in the CHC has greatly increased” (Soba, HCW, 3)

“Women now deliver most in the hospital. I can say” (Soba, Male, 3)

“The last 6 months honestly, our deliveries have increased” (Yakassai, HCW, 8)

However, many respondents also reported that most *“women prefer to deliver their babies at home”* (Yakassai, female, 10):

“Truly the majority deliver at home, that is the truth. Even myself, I prefer to deliver in my room” (Soba, female, 8)

In the baseline, there appeared to be a high degree of norm expectation - people know what is expected of them by “outsiders” and so answer appropriately about what is ‘expected,’ but in fact their actions are counter to this, and when probed about what “others” do, they give a lot of insight into why the coverage is in fact so low. This seems to have reduced considerably in this endline assessment as respondents gave personal preferences that were not aligned to expected norms. This is encouraging and suggests that FGD responses were more open and honest than previously, perhaps due to the strengthened relationship between the community and PRHI team members who conducted the FGDs,

As found in the baseline and mid-term review, going to a health facility for delivery is still often seen as the last resort:

“There usually delay at home. When a woman is in labor, they will wait to see what God will do because giving birth in the hospital should be the last option” (Soba male 6)

“To be frank some women don’t usually visit the hospital only if they have a problem” (Yakassai female 2)

Despite this, several respondents shared cases of family using an NURTW driver to take a pregnant woman to a health facility, and of TBAs bringing women to a health facility. It is possible though most women begin delivering at home. Nevertheless, it appears the referral pathway from home to the health facility has been strengthened and utilized more so than previously:

“I am a witness as well because my daughter was taken to a TBA and because of her condition, one of the union drivers was called upon and immediately he came and took us to the facility” (Soba female 10)

“Since this program came truly, most TBAs in go and see the situation the woman is in, she will tell the woman to follow her to the hospital. Some will tell you they don’t have money, the TBA will persuade her that it won’t be impossible, let us go” (Yakassai, female, 10)

“I was there when we went to pick the woman up I called on Lado the tall driver and we took her to the hospital to save her life. The husband was thankful, if she was at home she would have died” (Soba, female, 6)

In this way, health facilities remain a last resort, but there is perhaps a shift to making the decision to go to a health facility earlier in the delivery than previously, perhaps as a result of increased knowledge of danger signs, ease of getting to the health facility thanks to the NURTW, and a better relationship with healthcare workers.

In the FGDs, lack of finances remains a key barrier to attending the health facility for delivery:

“The reasons for their non-delivering at the hospital, they will be charged money, they will spend five thousand naira they had rather call a TBA whom they will give a token of just one thousand” (Soba, female, 4)

“Most of the problem is the money. When they come to the health facility, they are asked to buy hypo, omo, klin [delivery consumables]. It is about 1500 or 1000 naira” (Yakassai, HCW, 11)

“Some are also afraid of coming because they feel they will spend a lot of money” (Soba, HCW, 2)

Though running alongside this barrier is the preference for delivering at home, which is primarily driven by traditional and socio-cultural beliefs:

“For some it is their belief, she feels if she comes to deliver in the facility, she is incapable, unlike the woman that delivers at home” (Soba, HCW, 5)

“You will hear people asking you where you deliver and then the response will be in her room. Everyone will praise her for it and congratulate her” (Soba, female, 4)

“The norm or custom or tradition is that they don’t go to the hospital for delivery. Someone will be seeing this as something to be proud of. Yes, she will be proud that she is brave” (Yakassai male 10)

In Soba and Yakassai, one of the main barriers to delivering in a health facility noted in both the baseline and the mid-term review was the potential to be served by a male attendant. In this endline review, the topic of male attendants was only raised in Yakassai, where some respondents reported that health facilities have changed their shift patterns to ensure a female attendant is always present:

“We have made progress because they were told that there will be females in the facility as many of them did not like to deliver because there were majorly male health workers when they come” (Yakassai, HCW, 6)

“Now they brought a woman, so the women now feel freely and we thank God there are female health workers available to attend to your need and the health workers are doing their best now” (Yakassai, female, 10)

“With the coming of this program, we adjusted the duty roaster, in the duty schedule; we now have women on duty at any time. This is what has motivated them some more, but before this program, they did not use to come this much” (Yakassai HCW 4)

Though, the presence of female healthcare workers does not seem to be consistent across the community:

“I want to thank the program for their efforts, but we want female who will be around for night and day” (Yakassai, female, 1)

“The only problem is at night and because the female health workers don’t do the night shifts” (Yakassai, female, 4)

In Soba community, safety concerns because of the security situation were raised as a key barrier to attending the health facility during the night:

“Because of the insecurity, if the labor set in at night, they had rather just remain at home even if it means they lose her because they are afraid to lose more people if they have to go out” (Soba, female, 6)

Another respondent shared an example of getting help to overcome this:

“There was a woman that was in labor, and it was late at night. We were told there are bandits lurking around, so we asked for about five motorist and we brought her here and they deliver the baby the following day” (Soba, female, 5)

Many of the examples shared above have utilized the NURTW driver(s) to take a pregnant woman to a health facility or reference another action taken as a result of the social autopsies. Whilst these actions might not have resulted in an increase in the number of women delivering in a health facility, many respondents indicate that the social autopsy actions and resulting changes in behaviour have been lifesaving:

“Honestly, for us maternal mortality has reduced a lot in Yakassai community because a lot of them come to the facility to deliver” (Yakassai, HCW, 2)

“In the past, women die because of giving birth at home. Presently, they are going to hospital, and we have seen reduction of such a lot” (Soba, male, 8).

“From the past six months the maternal mortality rate has reduce and it is like every woman now bags her baby” (Soba, women, 11)

“Because of the impact of this organization, there is a reduction in perinatal death” (Yakassai, HCW, 4)

“Truly, we have reduction. There is reduction in the death of newly born babies” (Yakassai, male, 1)

As mentioned above, it may be that the referral pathway between home and the health facility has been strengthened, resulting in fewer deaths. At present, it is not possible to verify this as deaths at home have not been counted before, but the results from the FGDs give a strong indication that this is the case.

Post-natal care attendance

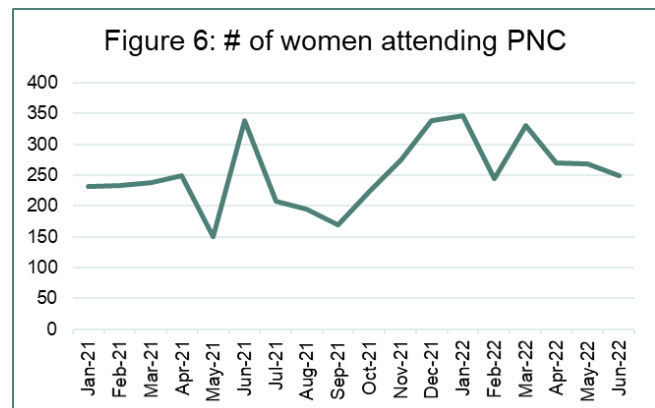
Actions listed above are intended to also improve PNC attendance; for instance, ANC sessions and delivering in a health facility include encouragement to attend PNC, and awareness raising actions taken by CHEWs, JCHEWS, and women and religious leaders also include messages on PNC attendance.

The data from health facility records indicates that there has not been an increase in PNC attendance, which has instead fluctuated considerably over the course of the project. The data collected during the FGDs was also uncertain, with some respondents suggesting PNC attendance had decreased, and others reporting it had increased, including attendance by those who had delivered at home:

“Immediately, on the same day, some will clad themselves and come to the health facility to be examined; if she doesn’t deliver in the facility, even if it is at home, she will come to the facility” (Soba, HCW, 6)

“The reason they come for post-natal, and we have recorded this progress is because there is awareness that has been created which they didn’t have before” (Soba, HCW, 5)

“Truly they do come for post-natal even when they deliver at home. Before this project they don’t come for post-natal, they will say they deliver safely and why will they come to the facility” (Soba, female, 4)



“Even where they deliver at home, as soon as they deliver, they come to the health facility on the same day so they and their newborn can be examined” (Yakassai, HCW, 2)

As mentioned above, not all respondents agreed. Those in Soba community cited resistance from husbands and / or mothers-in-law:

“Most of the challenge is from the husband’s mother, they have a community belief that if she delivers and comes out immediately, it is a problem, she remains indoors and after 40 days, she can come to the health facility” (Soba, HCW, 4)

“Especially a mother-in-law, she might stop her from going for post-natal care, she will say that the daughter in law already deliver safely why will she want to visit the facility” (Soba, female 11)

“Some men also feel that when the wife delivers safely there is no need for that and he will feel she is being extravagant with money” (Soba, female, 4)

In both Soba and Yakassai, respondents spoke of resistance to immunizations:

“Most of them know that if they come for postnatal, their children will be immunized, and some of them do not believe that their newborns should be injected” (Yakassai, HCW, 11)

“Some of them are discouraged, they feel that once immunization is done for their baby, they will have some side effect in the body or leg of the baby” (Yakassai, HCW, 9)

“They don’t like coming because after the injection given to the children on the lap makes them have fever so they don’t like coming” (Soba, female, 6)

The effect of the project on PNC remains ambiguous, but there are indications that its importance is more widely recognized than previously and more women are seeing a need to attend even if they did not deliver their baby in the health facility. This is positive, and hopefully speaks to a growing awareness of the benefits of health seeking behaviour.

Trust between communities and health facilities

Data to inform this intended outcome of the intervention was mostly drawn from the FGDs. In the FGDs, we asked participants questions on the relationship between healthcare workers and the community and how this had changed, as well as broader questions on the enablers and barriers to attending health facilities. We then analyzed the content of the responses to identify which markers of trust (including honesty, competency, reliability, respect, assurance of treatment when needed, willingness to accept drawbacks, and loyalty^{4 5}), or lack of trust, were most common, and whether there was evidence that this had shifted during the course of the project.

Through this process, it became clear that the friendliness and perceived competency of healthcare workers were most important and had changed most, and that these two markers were viewed interchangeably.

⁴ Petschonek, S., Burlison, J., Cross, C., Martin, K., Laver, J., Landis, R. S., & Hoffman, J. M. (2013). Development of the just culture assessment tool: Measuring the perceptions of health-care professionals in hospitals. *Journal of Patient Safety*, 9(4), 190–197. <https://doi.org/10.1097/PTS.0b013e31828fff34>

⁵ Gopichandran, V., & Chetlapalli, S. K. (2013). Dimensions and Determinants of Trust in Health Care in Resource Poor Settings - A Qualitative Exploration. *PLoS ONE*, 8(7). <https://doi.org/10.1371/journal.pone.0069170>

“In the past the health workers are disregarded because of their ill attitude to people but now with the program, health workers attend to them competently, they are doing their best as expected” (Soba, female, 3)

“Honestly, our relationship with them is not like before because when she comes to deliver, you do all that you are supposed to do and she is please, you do not despise her, you do all that is expected to make her pleased” (Yakassai, HCW, 3)

“We have recorded progress, many women come because the health workers are friendlier and more receptive. Now the attendance is higher” (Yakassai, HCW, 6)

It is interesting that these (and other comments) on the improved friendliness of healthcare workers are coming from healthcare workers themselves, showing an acknowledgment of a need to shift their own behaviour to improve utilization of the health facilities. One healthcare worker in Soba acknowledges this:

“We have recorded progress because in the past, even we the health workers, we had our own problems; a woman might want to come to the facility, but she will say the health worker is troublesome, I will not go. Now, we have made them like family, like friends, whatever, they want, we do for them and in time, so we have made progress” (Soba, HCW, 10)

The project also seems to have changed some healthcare worker’s attitude towards work:

“This program has made me to be more inquisitive, whenever I hear that a woman dies, I ask, I hope it is not during childbirth? If I am told that it is from childbirth, I must go to find out the cause of that death” (Soba HCW 8)

“Now, you yourself don’t want it to be said that someone died because of you, whether baby or mother, so you do everything according to the process laid down, it is unlike before” (Yakassai HCW 3)

Specific examples were shared of how healthcare workers have changed their practices to improve the quality of care they provide:

“During the social autopsy, we were told to desist from using oxytocin to augment a normal labor. Now, we know that the problem we encounter of women bleeding results from giving these things before labor, you see we have made progress” (Soba, HCW, 6)

“We should not insist on attending to what is beyond us. In the past we didn’t really use to practice that much, but the support from this organization has made us to realize the importance of referral- Refer to a higher health facility what you beyond your level of management” (Yakassai, HCW, 8)

“Like I said, ensuring we maintain our shifts and also a lab technician should know he is a lab technician and pharmacy maintain his duty post, not that when a pregnant woman is brought to deliver, and the person to take the delivery is not available, he would assume her, no, the organization says people should stick to what they have been trained for” (Yakassai HCW 2)

“Instead of doing trial and error, you refer, so that there is no problem resulting from your action and because of this, we are experiencing improvements” (Yakassai, HCW, 4)

These improvements in the quality of care provided are considerable and will likely have had a lifesaving impact.

Assurance of treatment also came through strongly (more so in Yakassai), with the implication that knowing there will be a healthcare worker present increases trust that it is worthwhile to visit the health facility.

“There are those that are brought like 2 am or 3am; at any time patients are received here; there is no time that they don’t receive” (Soba, male, 4)

“Now there are health workers in the night, but before you don’t get” (Soba, male, 7)

These changes in how healthcare workers practice and their attitude towards community members appear to have had a positive effect on the relationship between healthcare workers and the community:

“Truly because of the relationship the health workers have with the community, you will hear everybody saying he wants his daughter to read a health-related course to become a health worker” (Soba, male 12)

“What is happening is that now the community people think well of the health workers that once a patient comes there is no doubt they will be treated well” (Soba, male, 9)

“Now we thank God there is a good relationship between the people and the health workers. The way they were, they have change” (Yakassai, female, 3)

We also looked specifically at blame to better understand who, if anyone, is blamed when there are mortalities. In the baseline assessment, there seemed to be a tendency to blame healthcare workers for adverse events, though at the same time most recognized a divine will element to the cases as well – believing that a death is God’s will. In the endline assessment, there are still some who believe healthcare workers would be blamed and divine will remains strong, though there are more who now question if there was negligence on the part of the family:

“There are changes, after the social autopsy they came and said they didn’t know that that is how things are and they now understand that some of the things that happen is as a result of their negligence, they use to think it was our lapses, but they have realized that it is their negligence” (Yakassai, HCW, 4)

“Because in the past, they did not know that if they are- if a woman dies from childbirth, they just attribute it to fate- that is what God willed, it was her time. Now, they have began to understand that their negligence also contributes to this” (Soba HCW 8)

“Many people in the community when a husband refused to take his wife to the hospital will conclude he killed the wife” (Soba, male, 11)

“Such home will be regarded as illiterate and ignorant and don’t have understanding regarding issues of health” (Yakassai, female, 3)

In cases such as this, there are consequences for being blamed for a death:

“They will reprimand and advise him to avert future occurrence, pointing out to them that if they had acted on time, this would have been averted” (Soba, female, 6)

“If he allows the woman to die and he didn’t do anything, then when he decided to take another wife they will not want to give him. This has led to the reduction of maternal mortality” (Soba, female, 2)

“They will take measures on them; the village head will call the family head to discuss with them or even call them to order” (Yakassai, female, 1)

This recognition of how a family’s delay to seek appropriate care (or ‘negligence’) can lead to mortalities was not present in the baseline assessment. This is a marked shift in how community members view their own role and its potential to contribute negatively to the health of their families. E4A will work with Kaduna SPHCDA to ensure that c-MPDSR does not shift blame to family members, but instead helps to identify negligence and facilitate conversations that encourage different behavior in the future.

A scalable and sustainable model of c-MPDSR is available at state level

As mentioned above, the project was informed by ExpandNet's guidance on scaling up⁶. In line with this, scalability and sustainability were embedded in the design of the c-MPDSR model and in how we worked with the SPHCDA and PRHI. The results of this work are ongoing, but the current status is detailed below:

- E4A, PRHI, and Kaduna SPHCDA have had several meetings to discuss the scale-up and sustainability of the c-MPDSR intervention. Kaduna state is currently implementing c-MPDSR in all 23 LGAs in the state with the support of the UNFPA. Given that, through the social autopsies, the c-MPDSR model has generated actions across the health system, it is being discussed for integration into the existing UNFPA approach. Current UNFPA-supported c-MPDSR does not include a social autopsy and no action has been generated to address the sociocultural cause of death in the community. The state is particularly enthusiastic about the model, given that the social autopsy has yielded many positive changes across health system.
- A sample budget for c-MPDSR implementation in a ward was developed with all the key steps reflected, from community entry to the annual review meeting, for adoption by the state. A total sum of #1,637,500 would be needed annually to implement the c-MPDSR model in a ward based on the budget drawn. The state pledged to support some activities in the drawn budget, such as the community entry process to further reduce the annual budget. However, the state's initial plan to leverage the UNFPA funding to implement the c-MPDSR model in at least two additional wards was not successful as UNFPA insisted on using the fund to complete the scale-up of its c-MPDSR to other LGAs; this was when UNFPA was implementing in eighteen of the 23 LGAs.
- c-MPDSR has already been included in the Annual Operating Plan 2022 (AOP), and it has been recently updated to include social autopsy but currently, there is no budget line. It was agreed, though, that state ownership is key to sustainability and thus a budget line will need to be created for the state's contribution to c-MPDSR even if partners such as UNFPA will continue the support of the c-MPDSR implementation for now. During the dissemination meeting of the endline results, it was agreed that Professor Clara, the PRHI lead, will lead advocacy to the honorable commissioner for health to ensure the inclusion of c-MPDSR as a budget line and Kaduna SLAM will continue to advocate to ensure that the budget line is created in the state health sector AOP.
- A 12-Man committee has been set up by the honorable commissioner for health, the committee comprising staff of the SMOH, SPHCB, members of the state MPDSR Streeting committee, UNFPA, PRHI and E4A representatives. The committee is chaired by the Director of Family and Community Health SPHCB and are to determine the worst performing LGAs from the HHS report of 2020⁷ and the RMNCH scorecard and produce an implementation plan, explore different funding sources, and develop a work plan for the c-MPDSR model.
- A transition plan was started during the dissemination meeting since E4A has stopped funding PRHI for the implementation of the c-MPDSR model in the two communities. However, this plan was not concluded as most participants were pushing for the meeting to end so they can attend the Friday prayer, despite the

⁶ ExpandNet is an informal global network of individuals from I/NGOs, academic and research institutions and government ministries who want to promote equitable access to high quality health and development interventions by expanding successful pilot projects.

<https://expandnet.net/scaling-up-framework-and-principles/>

⁷ KDGHS MICS Household Survey 2020

time and date being scheduled by the state. It was agreed during the meeting that the state will engage with other interested MDAs in the state (especially, Ministry of Women's Affairs and Social Development, and the Ministry of Local Government and Chieftaincy Affairs) to request their support in c-MPDSR implementation in the state. A virtual meeting has been scheduled with the state and PRHI for Friday, 19th August to finalize the transition plan.

Overall, progress towards a scalable and sustainable model of c-MPDSR being available at state level is ongoing.

C-MPDSR is relatively expensive, and it requires substantial commitment from the state or LGA government for it to be sustained and scaled up. With reduced government budgets due to domestic and global crises it is not feasible for state governments to handle all costs involved in delivering the intervention. E4A will continue to work with the state to identify other options to ensure the continuation of the c-MPDSR project in Soba and Yakassai and will support the communities to continue conducting social autopsies until December 2022.

With regards to scaling up, substantial funding would need to be available for this to be achieved. This is unlikely to be made available by the state, but again, E4A will continue to work with Kaduna State to identify other options to support this. For instance, E4A is currently working with PRHI to compile all the tools and training packages used during the implementation of c-MPDSR in order to make these available as a Global Public Good. This would mean all documentation needed to set up and run a c-MPDSR project would be available via the MamaYa website, allowing any organisation to implement c-MPDSR anywhere.

There is huge interest in the c-MPDSR project both in the state institutions and in communities. Seven communities in Soba LGA were impressed with the c-MPDSR activities in Soba and Yakassai communities and solicited for their own c-MPDSR project. Two out of the seven communities, Tashan Icce and Gimba, have reported one maternal and three perinatal deaths through a TBA and community member, and verbal autopsies have been carried out for all the reported deaths, with support from Soba community c-MPDSR committee and PRHI. This shows the demand for c-MPDSR, highlighting this alongside the project's successes will be key to securing further investment in this work.

Lessons learned

A number of lessons have been identified during the course of the project's implementation and research. Below is a selection of the key lessons that have been identified:

- Engagement of a consultant from within the state has been important to relationship building with state government stakeholders: E4A engaged a well-regarded Professor of Community Medicine in the state as a consultant who led the process of the state and community entry for the c-MPDSR model. Prior to the intervention, the consultant taught most of the senior government officials in the state, including the Honourable Commissioner of Health, and as such, is greatly trusted and respected. The consultant's support to E4A by engaging the right people at state-level and ensuring the project is tailored to the context of Kaduna State has been vital to the project's current success.
- The centrality of engendering community participation in addressing the social determinants of maternal and perinatal mortality cannot be overemphasized. C-MPDSR provides an effective strategy for facilitating that participation and it has shown that community members are willing and ready to participate in any activities that will address the maternal and perinatal deaths in their communities if they are properly engaged in an enabling environment.
- Social autopsies have allowed men and women to discuss topics that were previously sources of mistrust or misunderstanding between couples. While, perhaps at individual family level these conversations may be suppressed, having female peers in numbers at social autopsy gatherings emboldens them to articulate their concerns, for instance regarding permission to attend ANC and provision of funds. However, observation of the SAs also identified the need to improve on the attendance and participation of men to strengthen male involvement in identifying and implementing action points.

- To maintain current levels of participation in the SAs, the sessions must start on time. The first SA held in Soba started almost 3 hours later than planned as some important stakeholders were late. Given that everyone gives their time to this work voluntarily, it is hugely important that their time is respected. The PRHI observation of the SAs had the same recommendation, as well as advising to shorten the session to avoid attrition and fatigue among participants.
- The c-MPDSR committee members should be trained further in order to lead the social autopsies to ensure sustainability of the project. Their facilitation skills need improvement to be able to guide the discussion with a clear delineation of the contributory factors to the deaths along the 3 delay models. Sometimes the discussions digressed to unrelated or less important issues rather than focusing on identifying the factors leading to the maternal and perinatal deaths.
- Social autopsies conducted thus far, were successful as there was sustained attention and contributions by community members through all the sessions. Commitments made during the discussions suggests that community members are willing to tackle the challenges of maternal and perinatal death at their own level.
- The sustainability of the project requires a longer project implementation time to allow for more efforts and further training of the c-MPDSR committee on facilitation skills to conduct the social autopsies. In order to have necessary time to improve facilitation skills and thereby contribute to the sustainability of the intervention, further investment is needed to extend the project and provide resources for the training and mentoring required.

Conclusion

The c-MPDSR project has proven that communities in Kaduna State can identify and discuss causes of maternal and perinatal deaths and come up with actions that save lives and improve the health of women and newborns. Despite maternal and perinatal deaths being a sensitive topic, and the deep rootedness of the various religious and socio-cultural norms that can contribute to these deaths, the project has shown that facilitating a discussion and allowing communities themselves to lead the design and implementation of solutions is effective. Actions such as imams and pastors raising awareness of health seeking behaviour, the NURTW providing free transportation for pregnant women at any time of day or night, and CSO members donating their blood may all have had a lifesaving impact. Whilst it has not been possible to see this impact in the records of health facilities, the testimonies shared in the FGDs attest to the project's success.

Moving forwards, E4A will continue to support the conducting of social autopsies in the two communities until December, alongside working with Kaduna SPHCDA and SLAM to identify a sustainable future for c-MPDSR in Soba and Yakassai communities, and Kaduna State more broadly.