

## Quality improvement activities result in more pregnant women initiating antenatal care in the first trimester of pregnancy at Memba Health Center

*Alcançar is a consortium comprising eight international and national organizations whose goal is to reduce maternal, newborn, and child mortality in Nampula Province, Mozambique. The consortium is led by FHI 360 and funded by the U.S. Agency for International Development (USAID) for 5 years (April 2019 – March 2024). Alcançar aims to establish Nampula Province as a model for improving provision and increasing use of high-quality, patient-centered maternal, newborn, and child health services by delivering a package of technical support to all levels of Nampula's health system. The project strategy includes innovative, evidence-based, quality improvement approaches to sustain and enhance health service delivery. Alcançar includes FHI 360 (prime), Dimagi, Ehale, Institute for Healthcare Improvement (IHI), Viamo, Associação de Jovens de Nacala (AJN), HOPEM Network, and PRONTO International.*



Memba Health Center

Photo: Eugídio Victorino

### PROBLEM OVERVIEW

Antenatal care (ANC) provides a range of health services to women during pregnancy and is an important practice for positive maternal and newborn health outcomes. The World Health Organization (WHO) recommends eight ANC contacts, with the first contact in the first trimester (up to 12 weeks of gestation), two in the second, and five in the third (WHO, 2016). The Mozambique Ministry of Health recommends at least four ANC visits and emphasizes that the first ANC visit occur early (during the first trimester) to ensure optimal health outcomes for women and newborns. In Mozambique in 2019, just 9 percent (138,469) of pregnant women had their first ANC visit during the first trimester, well below the annual target of 20 percent (MOH, 2020). In Nampula Province, 13 percent (38,536) of pregnant women initiated ANC during the first trimester (MOH, 2020); yet, in Memba District, within Nampula Province, just 9 percent (3,832) of pregnant women initiated ANC during the first trimester in the third quarter (July–September) of 2019 (DHIS2, 2019). Memba's lower rate of early ANC initiation relative to the provincial average was a cause for concern among health providers in Memba and the District Health Management Team because it indicated missed opportunities for improved monitoring, prevention, and treatment of health conditions during pregnancy. Additionally, late ANC initiation can make completing the four recommended visits more difficult, potentially negatively affecting pregnancy and birth outcomes for women and newborns.

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## PROGRAM/ACTIVITY DESCRIPTION

Alcançar supports all levels of Mozambique’s health system to use evidence-based quality improvement (QI) approaches and accurate data to identify problems, such as low early ANC initiation, and to implement solutions that strengthen the health system for sustained improvements in indicators and outcomes. The FHI 360-led consortium, supported by its partner, the Institute for Healthcare Improvement (IHI), is implementing an improvement collaborative in Nampula to initiate systemic reforms in maternal, newborn, and child health (MNCH) service delivery and to institute systems to sustain improvements in clinical quality and efficiency (Box 1). In the first program year, Alcançar and IHI delivered a package of QI training to all levels of the health system, producing a trained cohort of QI leaders, facilitators, and improvement advisors (called *especialistas em melhoria* in Portuguese). This team is now supporting health facilities and districts to identify, test, and scale health system improvements (“change ideas”) that contribute to the collaborative’s overall goal to reduce institutional maternal and newborn mortality by 30 percent. The first phase of Alcançar’s Improvement Collaborative is being implemented over 18 months in 35 health facilities (innovation facilities) in seven districts of Nampula Province, including Memba District. Trained health system leaders and facilitators, including Alcançar staff, are supporting each of the innovation facilities to identify change ideas that contribute to reduced mortality. Then, health facility staff implement, monitor, and test a package of tailored changes through plan, do, study, act (PDSA) cycles over a 12–18 month phase (Figure 1). QI teams share their experiences with other health facilities through learning sessions during the phase. At the end of the first phase, the facilities in the Improvement Collaborative will compile a package of change ideas proven to increase adherence to evidence-based clinical guidelines and to reduce maternal and newborn mortality. This change package will then be scaled up to additional facilities in the next phase.

Memba Health Center, one of the innovation facilities, serves a population of 65,405 people (INE, 2019). In November 2019, Alcançar trained two

### Box 1. QI definitions

**QI teams:** Multidisciplinary groups of service providers and management staff at health care facilities, data analysts, and health management staff who represent stakeholders involved in providing services to patients

**Improvement Collaborative:** An organized network of QI teams that includes clinical experts and QI experts who work together to select and test small-scale changes to rapidly achieve a common aim. Improvement Collaboratives help close the gap between what we know (evidence-based practices) and what we do (the way health care is commonly practiced).

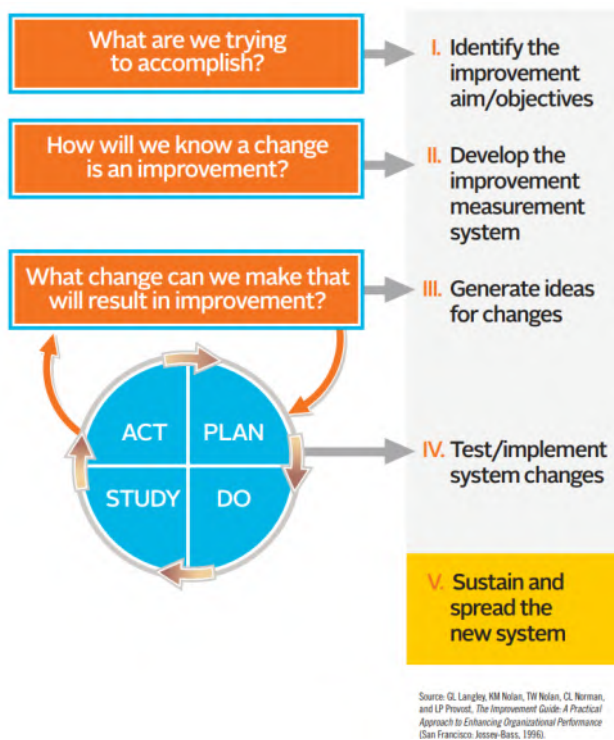
**Improvement leaders:** Health system leaders at district, provincial, and national levels trained in QI leadership who direct the QI activities occurring within the health system

**Improvement facilitators:** District and provincial QI leads and Alcançar technical staff trained in QI facilitation who coach, mentor, and facilitate improvement processes at the facility level

**Improvement advisors:** District QI leads who have advanced knowledge and skills on the improvement model, enabling them to work with, motivate, and train frontline workers to achieve and maintain successful change

health providers in Memba District as improvement advisors and four members of Memba’s District Health Office as QI facilitators. To quickly apply what they had learned during the training, the QI team identified a change idea that the facility staff could implement and monitor over time to quantify its impact on specific outcomes. Memba Health Center’s first aim was to improve early ANC initiation. The team designed and tested several context-sensitive change ideas to increase early ANC initiation beginning in December 2019.

Figure 1. The plan, do, study, act cycle



At the community level, the team:

- Established goals for the number of pregnant women that community health workers—known as agentes polivalentes elementares (APEs)—and traditional birth attendants (TBAs) who work for Memba Health Center should refer to ANC services
- Launched a door-to-door campaign by APEs and TBAs to communicate the importance of initiating ANC during the first trimester
- Integrated comprehensive ANC services into clinical outreach (mobile brigades), where facility-based health providers, including maternal and child health (MCH) nurses, provided integrated health services within the community
- Increased frequency of mobile brigades to weekly

At the Memba Health Center, the team:

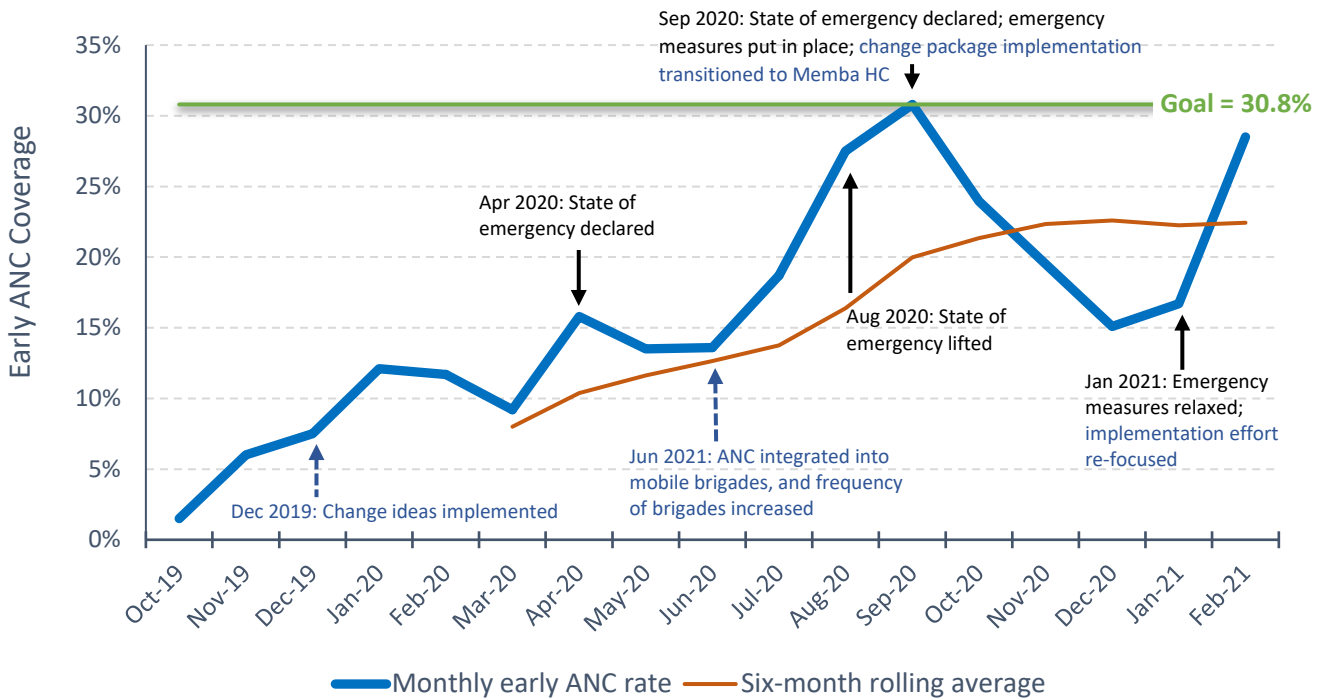
- Trained MCH nurses in the early diagnosis of pregnancy using physical examination and assessment of presumptive signs and symptoms
- Set targets for clinicians to screen for cases of amenorrhea (absence of menstrual period) in all women of childbearing age and refer to ANC services, if indicated
- Had MCH nurses give daily morning talks to clients in the general waiting area seeking services in the facility about the importance of initiating ANC during the first trimester

### PROGRAM/ACTIVITY OUTCOMES

Implementation of these change ideas began in December 2019. The Memba Health Center QI team’s efforts resulted in an increase in the proportion of women who had their first ANC visit during the first trimester, from 1.6 percent in October 2019 to 28.5 percent in February 2021 (Figure 2). The six-month rolling average<sup>1</sup> steadily increased during the period, with shifts that may have been in response to the imposing and lifting of COVID-19 restrictions. There was a notable increase in early ANC when the mobile brigades increased frequency and integrated ANC between June and September 2020. In September 2020, the district QI team transitioned primary responsibility of the change package implementation to Memba Health Center, and the intensity of the activities decreased, resulting in a flattening of the six-month average early ANC rate. The QI team monitored the data and decided to refocus their efforts to ensure ANC initiation continued to increase toward the goal.

<sup>1</sup> A six-month rolling average is calculated by averaging the previous six months of data. Rolling averages smooth out the highest and lowest monthly values to show the overall trend over time.

**Figure 2. Percent of women with first ANC at ≤ 12 weeks of pregnancy in Memba Health Center**



Source: DHIS2 data for Memba Health Center (2019-2021)

Dr. Nalcil Biassone, the Memba District Medical Chief and improvement advisor at Memba Health Center, described the process of implementing the QI activities:

“This project was created in order to ensure that there are more smiles from mothers in the maternity ward. One of the main objectives of this project was to increase the percentage of pregnant women who start their first ANC with gestational age less than or equal to 12 weeks. This was a tremendous challenge for the Memba Health Center, as we had an overall coverage of 1.6 percent in the October 2019 baseline, and we intended to increase this percentage to 30.8 percent in September 2020.

We were implementing the ideas of change through the use of the quality improvement model, and we did several PDSA cycles to obtain our results. The first change idea that we implemented was the targeting of TBAs and APEs, who are our strong collaborators. With this change, some TBAs were able to bring up to 18 women in their first trimester of pregnancy per month to the health center, which for us was quite satisfactory. Another change idea used was setting targets for clinicians

to screen for cases of amenorrhea in all women of childbearing age attended by him, to then refer to the ANC office. The monitoring of data in the logbooks was essential for the success of this project, as well as weekly meetings for the analysis and discussion of our PDSA.

Because of the COVID-19 pandemic, it was necessary to change strategies in order to avoid groups of people and also to increase the number of women who start the first ANC early, so we introduced door-to-door campaigns through TBAs and APEs.

... Using mobile brigades to offer services of MCH in the community ... was when there was an explosion in the number of women who start the first ANC early. We started with talks in the community to explain in detail the importance of starting ANC early and later offered the services, which aroused curiosity in women to participate in consultations. And as a result of this change idea, we started to receive more women referred by those who had made their first ANC in the community, which was an unprecedented fact, since previously it was difficult to find women at the Health Center in Memba in their first trimester of pregnancy, but now in a single day, it was possible to receive five women.”

## CONCLUSIONS

The strengthened capacity within Memba District to implement QI approaches and to use data and PDSA cycles has empowered health system staff within the district and at Memba Health Center to help pregnant women get the care they need to have a healthy pregnancy. Based on the improved results at Memba Health Center, Alcançar has expanded the use of the change idea for increasing early ANC initiation to two other facilities in Memba District—Mazua and Cava health centers. To date, Alcançar has implemented a full training package on QI methodology and has launched the Improvement Collaborative in 35 health facilities across seven districts in Nampula. The facilities and districts have participated in two collaborative learning sessions, with the final session of the first phase scheduled for June 2021. This is the story of one change idea from one health center. Best practices from all 35 health facilities will be documented, packaged, and shared with other

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Memba Health Center QI teamwork

Photo: Eugénio Victorino

health facilities, and experienced facility, district, and provincial health system staff, supported by Alcançar, will assist the new facilities in implementing the proven change package and testing it at scale.

## REFERENCES

- World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience. World Health Organization, 2016. Available at: <https://www.who.int/publications/i/item/9789241549912>
- Ministério de Saúde (MOH). Anuário Estatístico de Saúde 2019. 2020. Available at: <https://www.misau.gov.mz/index.php/anuarios-estatistico>
- Sistema de Informação de Saúde para Monitoria e Avaliação (SISMA). DHIS2 Data. 2019-2021.
- Instituto Nacional de Estatística-INE/Moçambique, Resultados Definitivos Censo 2017. Maputo. 2019.