



IMPACT REPORT

Quality Improvement of Integrated HIV, TB, and Malaria
Services in Antenatal and Postnatal Care Programme
2020 - 2024

**Five Years of Improving Quality of Care
and Transforming Lives**

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LIST OF ACRONYMS & ABBREVIATIONS

ANC	Antenatal Care
CSR	Corporate Social Responsibility
EE	Economic Evaluation
FIFE	Facility Improvement Fund Equipment
FIGO	International Federation of Gynaecology and Obstetrics
GF	Global Fund to Fight AIDS, TB, and Malaria
HCF	Healthcare Facility
HCP	Healthcare Provider
HFA	Healthcare Facility Assessment
LMICs	Low- and Middle-Income Countries
LSTM	Liverpool School of Tropical Medicine
MNH	Maternal and Newborn Health
MoH	Ministry of Health
MT	Master Trainer
PhD	Doctor of Philosophy
PNC	Postnatal Care
QI	Quality Improvement
QIT	Quality Improvement Team
SSA	Sub-Saharan Africa
SS	Supportive Supervision
StBA	Standards-Based Audit
SUZA	State University of Zanzibar
UDOM	University of Dodoma
WCEA	World Continuing Education Alliance
WHO	World Health Organisation

EXECUTIVE SUMMARY

The Quality Improvement of Integrated HIV, TB, and Malaria Services in Antenatal (ANC) and Postnatal Care (PNC) programme (2020 – 2024) funded by Takeda's Global CSR Program through the Global Fund has strengthened health systems, improved maternal and newborn health outcomes, and fostered sustainable change across multiple impact dimensions.

Implemented in Kenya, Nigeria, and Tanzania, the programme's success has been driven by integrating innovative approaches such as blended learning, comprehensive health systems strengthening, and evidence-based decision-making.

The programme successfully trained 1,660 healthcare providers in ANC and PNC, equipping them with the skills to deliver integrated services for HIV, TB, and malaria. This included 185 healthcare providers trained as master trainers in ANC and PNC to ensure the sustainability of capacity-building efforts. Of these, 895 were trained in QI methodologies, strengthening health facility leadership and service delivery practices. Additionally, capacity strengthening was realised across the two local implementing academic institutions, the State University of Zanzibar and the University of Dodoma, with reported and evident project management and research capacity improvement.

The blended learning model, which combines online and face-to-face components, proved to be a cost-effective method for continuous professional development. This model facilitated training an additional 16,862 participants across 43 countries, further disseminating knowledge and improving healthcare delivery. Facility mentorship complemented the blended learning approach, providing continuous support and guidance to healthcare workers directly at their workplaces across the three countries.

To enhance health systems, 211 healthcare facilities across Kenya, Nigeria, and Tanzania were equipped with essential medical supplies and equipment, significantly improving service delivery. The programme successfully integrated HIV, TB, and malaria services into antenatal and postnatal care, leading to measurable improvements. One of the most notable outcomes was the increase in HIV testing rates among expectant mothers, reaching 100%, alongside a marked increase in malaria testing rates.

The programme's impact has been demonstrated in several areas. In terms of health and well-being, over 37,821 women accessed antenatal care services in the last quarter of 2024 alone, contributing to improved maternal and newborn health indicators. Beyond the numbers, the programme fostered positive attitudes and cultural changes, enhancing healthcare provider confidence and strengthening patient trust in service delivery. From an environmental perspective, the programme significantly reduced its carbon footprint by shifting training from travel-intensive face-to-face sessions to digital learning, thereby minimising travel-related emissions.

To sustain and expand these achievements, governments, policymakers, funding agencies, and healthcare partners are urged to strengthen partnerships with relevant stakeholders and continue investing in capacity-building initiatives for healthcare providers. Additionally, supporting data-driven decision-making will be vital in shaping policies and practices that enhance maternal and newborn health outcomes. Promoting equity in healthcare access will help ensure that all women and children receive the services they need, regardless of their socio-economic background.

This programme has established a strong foundation for improving the quality of maternal and newborn healthcare. By prioritising scalable, cost-effective, and impactful interventions, stakeholders can build on these successes to ensure that women and children across Africa continue to benefit from high-quality services.

INTRODUCTION

Context

Antenatal care (ANC) is essential for protecting the health of women and their unborn babies. Demand has increased and continues to do so in most parts of the world. Globally, it is estimated that just over seven (7) out of eight (8) pregnant women visit a healthcare facility for antenatal care on at least one occasion, and only 59% attend four times or more.¹ This presents missed opportunities to address the comprehensive health needs of women and babies. Underlying complications during pregnancy account for an estimated 27.5% of maternal deaths globally.

Many of the conditions associated with the direct causes of maternal mortality, such as HIV, TB and malaria, can be recognised and managed during pregnancy to prevent adverse outcomes for both the mother and her unborn baby. Additionally, most maternal and newborn deaths occur in the first week after birth, yet currently, it is estimated that only 48% of women and babies globally receive postnatal care (PNC).² Care following birth is critical for the mother's and her baby's survival, health and development.

Most healthcare providers are trying to deliver quality care to women within a poorly supported health system with challenges including a shortage of staff, equipment, drugs and poor health system infrastructure.³ Current pre-service training often does not fully equip healthcare providers for their roles, and there is generally a lack of competency-based in-service (on-the-job) training available. This leaves many healthcare providers feeling poorly supported. ANC and PNC training content needs to be continuously improved to meet the health needs of mothers and babies in low and middle-income countries.

Against this backdrop, the Liverpool School of Tropical Medicine (LSTM), in partnership with the Global Fund to Fight AIDS, TB, and Malaria (GF) and with the support of Takeda's Global CSR Program, developed an implementation research programme designed to improve the availability and quality of ANC and PNC care, including the identification and management of integrated HIV, TB, and Malaria in these settings.

Changing The Face of Maternal and Newborn Health

The Quality Improvement of Integrated HIV, TB, and Malaria Services in ANC & PNC programme, funded by Takeda's Global CSR Program through the Global Fund, was a five-year initiative (2020-2024) implemented by LSTM. The programme aimed to enhance the availability and quality of integrated services for HIV, TB, and malaria during ANC and PNC in Kenya, Nigeria, and Tanzania. The programme worked to improve the region's maternal and newborn health outcomes

¹ <https://data.unicef.org/topic/maternal-health/antenatal-care/>

² <https://www.who.int/data/gho/data/themes/topics/topic-details/GHO/world-health-statistics>

³ <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0153391>

through capacity building, strengthening the healthcare system, and developing and using innovative approaches.

In line with the Global Fund Strategy 2017-2022 to invest in building sustainable and resilient systems for health and working closely with the relevant Ministries of Health (MoH) and country partners, the programme adapted, implemented, documented and disseminated innovative approaches to improving the screening, testing and treatment of HIV, TB and malaria in ANC and PNC and improved integrated service delivery at facility and community levels.

The programme aligned with existing health systems in the three countries, increasing capacity-building across all levels, providing support via facility-based interventions and technical assistance, and generating evidence to inform decision-making and policymaking.

This report highlights the programme's transformative impact, showcasing key achievements, lessons learned, and models for sustained progress.

KEY ACHIEVEMENTS

The Journey of Change

The foundational mission of the Quality Improvement of Integrated HIV, TB, and Malaria Services in the ANC & PNC programme was to integrate HIV, TB, and malaria services within ANC and PNC to address systemic healthcare challenges. The programme set new benchmarks in maternal and child health services across the focus countries by fostering strong partnerships, employing innovative training methods, and leveraging data-driven decision-making.

The programme's success is attributed to the collective efforts and commitment of a diverse group of stakeholders, including Ministries of Health from Kenya, Tanzania mainland, Zanzibar, and Nigeria, as well as implementation partners - State University of Zanzibar (SUZA), University of Dodoma (UDOM), and LSTM country teams (Kenya, and Nigeria).

These collaborative efforts have been crucial in driving the shared mission of improving maternal and newborn health outcomes by facilitating knowledge exchange, sharing best practices, and demonstrating the impact of partnerships.



Programme implementation countries

Key Programme Themes



Comprehensive Health System Strengthening: Building sustainable health systems through valuable partnerships and capacity-building efforts.



Innovative Approaches and Integration: Implementing blended learning models and mentorship programs to sustain quality healthcare services.



Evidence-Based Decision Making: Utilising robust data to inform policies and health interventions.

Programme Interventions

Strengthening Health Systems

Working across **211 health facilities** in **Kenya (61)**, **Nigeria (120)**, and **Tanzania (20 mainland and 10 in Zanzibar)** against an initial target of 90 facilities, the programme strengthened country health systems through capacity building of healthcare providers.

[A competency-based training package in essential components of ANC and PNC](#) enabled healthcare providers to identify and manage the health needs of mothers and babies during and after pregnancy with the integration of care across HIV, TB and malaria services. Comprising concepts of respectful maternity care and a holistic approach, this package supported the capacity building of core clinical competencies of healthcare providers and broader aspects of quality of care, including mental health and domestic violence. This was coupled with mentoring to ensure more lasting effects of capacity-building on individual healthcare providers and to support behaviour change, instilling an improved culture of care provision in facilities.

The ANC and PNC training package adopted an innovative [blended learning training approach](#) for the continued professional development of HCPs providing ANC and PNC services. This approach combined online study with face-to-face training. **1,660 healthcare providers** were trained, surpassing the programme target of 1,500.

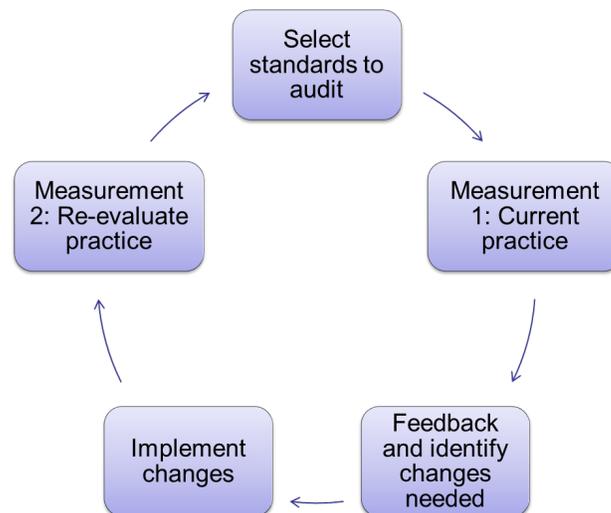
For sustained capacity-strengthening beyond the programme's funded period, master trainers (MTs) were identified and trained. The MTs played a pivotal role by providing high-quality training to fellow healthcare providers. They were responsible for delivering comprehensive training sessions, mentoring new trainers, and ensuring the training content was effectively communicated and understood. Their expertise and experience were essential for building HCP capacity and ensuring they were well-equipped to deliver quality care. **185 ANC and PNC master trainers** were trained (42 in Kenya, 118 in Nigeria, 15 in mainland Tanzania and 10 in Zanzibar), representing 246% of the target of 75.

The ANC and PNC manuals, associated materials, and the blended learning courses on the online learning platform were translated into Swahili to aid the learning and understanding of HCPs in Tanzania. This is anticipated to lead to a more equitable approach to learning and broader reach targeting health workers across East Africa, where Swahili is a first or second language. It will also contribute to the programme's sustainability and integration into national health training programmes.

Enhancing Quality of Care

The programme applied standards-based audits for continuous quality improvement (QI) in ANC and PNC services. Standards-based audits, a crucial component of the QI process, allowed facilities to assess their performance against established standards, identify areas for improvement, and track progress over time. Health facilities used this method to implement a continuous evaluation, auditing, and improvement cycle (see figure below).

Standards-Based Audit Cycle



The standards-based audit approach provided a clear framework for evaluating the quality of care, encouraging a culture of accountability and transparency within health facilities. Regular audits helped ensure that interventions were making a tangible impact on healthcare practices and outcomes, leading to better maternal and newborn care.

Following the success of the existing QI package and the deployment of the ANC and PNC courses in a blended learning format, the programme developed a three-part version of the QI course. This included self-directed learning through pre-recorded lectures and other materials via the World Continuing Education Alliance (WCEA) online teaching and learning platform, live group virtual learning sessions using the Zoom platform facilitated by experienced lecturers, and one-day face-to-face learning conducted in the host countries and led by a team of experienced trainers. **895 HCPs (96% of the target 930)** were trained in **QI methodology**, while **145 HCPs (193% of the target 75)** were trained as **QI Master Trainers** across the three countries.

Quality improvement teams run across supported health facilities in the three countries, completing at least **70% of planned QI cycles**. Most health facilities hold 1–3 quarterly meetings, with minutes recorded regularly.

Standards-based audit results



98% of participants increased their knowledge and confidence



88% of participants passed the self-directed learning assessment with a score of 70% or more



Mean increase of **41%** across all facilities, in performance against a standard



58% of facilities met their standards-based audit targets

Evidence-Based Decision Making

From the onset, implementation research was applied to evaluate the programme's effectiveness and efficiency and generate evidence to inform and scale up interventions and solutions to increase the availability and improve the quality of care for integrated HIV, TB, and malaria services during ANC and PNC.

The programme has contributed to open-access research publications, enhancing the evidence base for scaling up successful maternal and newborn health interventions, with **five (5) open-access papers submitted** for publication. **Four (4) programme abstracts** were also accepted to the **FIGO Conference** in Cape Town in October 2025. The abstracts cover stakeholder perspectives on implementing the ANC-PNC blended learning course, the barriers and facilitators to domestic abuse screening during ANC/PNC in Kenya and Tanzania, the prevalence and risk factors of domestic abuse and mental illness in pregnant and postpartum women in sub-Saharan Africa and improving the effectiveness of reproductive health in-service capacity-strengthening programs. Twelve other publications are being developed for submission by June 2025.

Through the work of three PhD candidates, programme-supported research continues to contribute to building health evidence to inform policy and practice. The systematic review of findings from the work of the three PhD candidates, each addressing critical aspects of maternal and newborn health care, are summarised below:

1. **Quality-Adjusted Coverage of ANC in Sub-Saharan Africa (SSA):** This research sheds light on the definitions, measures, and factors affecting the quality of ANC in Sub-Saharan Africa. Systematic review findings highlighted significant variations in how quality is defined and measured across different studies, with some prioritising the content of ANC services and others emphasising coverage and the intended health benefits of care. The review concluded that health outcomes (e.g., maternal and neonatal health) are more accurate measures of the quality of ANC services than the coverage of service content. This underscores the need for a shift from focusing solely on service provision to assessing the actual health benefits experienced by pregnant women. The review also pointed out that quality of care is influenced by multiple factors, including health infrastructure, health worker skills and attitudes, and socio-economic factors like education and income.

The findings recommended adopting a standardised set of indicators aligned with the WHO model to enhance the quality and utilisation of ANC services and measure ANC quality. These indicators should be aligned with women's health needs and the local disease burden. Investing in health infrastructure and community mobilisation was also recommended to improve ANC access and service delivery.

- 2. Domestic Abuse and Mental Illness among Pregnant and Postpartum Women:** This research explores the prevalence and risk factors of domestic abuse and mental illness among pregnant and postpartum women in sub-Saharan Africa. The findings revealed high rates, with domestic abuse affecting 35.7% of women and mental illness affecting 26.0%. The review showed a strong correlation between intimate partner violence and the prevalence of mental health issues like perinatal depression and anxiety. Key risk factors for both domestic abuse and mental illness included lower educational levels, younger age, unplanned pregnancies, and lack of social support, highlighting the urgent need for interventions that address these social determinants and integrate mental health support into ANC and PNC services. Addressing domestic abuse during pregnancy requires a multi-faceted approach, including educating both women and their partners, reducing alcohol misuse, and supporting women with unplanned pregnancies. Cultural norms, fear of disclosure, and economic vulnerability were significant barriers to screening for domestic abuse.

This research highlights the need for systemic improvements in healthcare settings, such as creating safe spaces and refining screening protocols to better address domestic abuse during pregnancy and postpartum.

- 3. Effectiveness of Blended Learning vs Face-to-Face Training for Healthcare Providers:** This research assessed the effectiveness of blended learning versus traditional face-to-face training approaches for strengthening healthcare provider capacity. The review found that blended learning was as effective as face-to-face training in improving healthcare provider knowledge and skills, with a notable advantage in cost-effectiveness. While face-to-face training showed more direct interaction and engagement, blended learning allowed for broader scalability and cost savings, making it an appealing option in resource-constrained settings. Additionally, blended learning was associated with improved confidence and clinical practice, such as better handling of obstetric emergencies.

Blended learning was found to be a viable and cost-effective solution for large-scale health provider training in LMICs, especially when logistical or financial constraints make face-to-face training challenging. However, blended learning programs should include sufficient interactive elements for optimal effectiveness to ensure sustained engagement and knowledge retention.

Gaps from the systematic reviews contributed to research questions that were addressed in each of the PhD projects. The PhDs will make unique contributions to training methods for maternal and newborn health workers in SSA, implementation of mental health and gender-based violence

prevention and management strategies during ANC/PNC and measurement of effective coverage and quality of care during ANC/PNC in SSA.

The programme also conducted a feasibility study of the blended learning approach to strengthening HCP capacity for ANC and PNC, with findings published in the BMC Medical Education Journal in 2025.

A baseline assessment and subsequent endline evaluation were conducted in Kenya to examine the economic impact of blended learning on improving the quality of integrated HIV, TB, and malaria within ANC and PNC. Study findings, now in advanced stages of manuscript preparation, established that while the cost of implementing the BL training varied from country to country, the direct cost per participant was lower than that of a five-day face-to-face training.

INNOVATIONS DRIVING PROGRESS

Blended Learning and Facility Mentorship

The **blended learning model**, combining online and face-to-face components, proved to be a cost-effective method for continuous professional development. This approach allowed healthcare workers in different regions to access training without geographical barriers, ensuring comprehensive and hands-on training. The flexibility and scalability of this approach make it particularly valuable in low-resource settings where traditional training opportunities are limited. Additionally, **mobile technology** allowed learners to access materials offline, ensuring that the training was sustainable and could be continued even in areas with limited internet connectivity (83% of QI course learners accessed online content via mobile phone).

To complement the blended learning, the programme deployed **facility mentorship**, where healthcare workers received continuous support and guidance from programme-trained mentors directly at their workplaces. The mentorship training package included supporting the application of workshop learning on ANC, PNC, and QI to the clinical area. It also covered maintaining and progressively improving the quality of MNH at the health facility level and building the capacity of first- and second-level providers to manage unfamiliar or complicated maternal and newborn cases, referring them when appropriate, while improving the motivation of healthcare workers by providing technical support.

A total of **1,038 mentors and mentees have been supported**, representing 115% of the target 900 (155 experienced HCPs were trained as mentors in the three focus countries and consequently supported 883 mentees from the focus HCFs, either by face-to-face or virtual mentoring sessions).

Integration of HIV, TB, and Malaria Services

Integrating disease-specific services into maternal health platforms led to measurable improvements, including increased malaria testing from 15% to 21% in Kenya and up to 65% in Zanzibar.

Integration addressed the interconnected health challenges pregnant women and newborns faced. The programme's baseline assessments in 2020 revealed variations in the availability of services, with HIV and Malaria services being more widely available in some countries than others. Integrating these services into routine maternal care ensured a comprehensive approach

to health, addressing the multiple needs of women and children during pregnancy and the postnatal period. Furthermore, integrating services presented opportunities for health system strengthening, particularly in resource-limited settings, where the need for more efficient and comprehensive care is most urgent.

Standards-Based Audits

The programme utilised standards-based audits for continuous quality improvement. This method allowed facilities to assess their performance against established standards, identify areas for improvement, and track progress over time. Regular audits helped ensure that interventions were making a tangible impact on healthcare practices and outcomes.

Translation into Local Languages

The programme translated training materials into local languages to ensure accessibility and understanding. This was crucial in regions where healthcare workers might not be proficient in the primary language of instruction. By providing materials in local languages, the programme ensured that all participants could fully engage with the content and apply it in their practice.

Facility Improvement Fund Equipment (FIFE)

Baseline health facility assessments (HFA) were conducted during the inception phase in each of the three focus countries to understand the 'readiness' of the health system to provide integrated ANC and PNC. The assessments provided relevant information for contextualising the programme, including the availability of the infrastructure, equipment, drugs, vaccines and consumables required to deliver all components of integrated ANC and PNC, including HIV, malaria and TB screening, prevention and management.

In Kenya, the HFA was conducted in 61 healthcare facilities (HCF) in Vihiga, Garissa, and Uasin Gishu counties. In Nigeria, the HFA was conducted in 120 HCFs, 60 in Kaduna State and 60 in Oyo State. In Tanzania, the HFA baseline was conducted in 30 HCFs, 20 in the Dodoma region and 10 in Unguja and Pemba, Zanzibar.

Following the baseline HFA, 211 facilities in [Kenya](#), Nigeria, [Tanzania](#) mainland, and [Zanzibar](#) received assorted medical equipment to support the delivery of integrated ANC and PNC.

"I am so happy today because LSTM has been able to think about us and brought this equipment, which will help to reduce maternal and neonatal morbidities and mortalities. Through this and other support from LSTM, we have been able to narrow down our capacity gaps in terms of staff knowledge and skills, quality of care and equipment supplies; we thank you, LSTM." - Veronica Musiega, County RH Coordinator, Vihiga County, Kenya.

"This equipment will change lives. For years, we have struggled to provide adequate care with limited resources. Today, I see a brighter future for the mothers and babies in our community." - Maria, a midwife from a dispensary in Chamwino District, Tanzania.

Knowledge Management and Learning (KML) Events

The programme introduced annual Knowledge Management and Learning (KML) events in 2022. These events were used to highlight programme results, share lessons learned across teams and key stakeholders in supported countries, and plan for subsequent programme years. The first two

KML events were held in [September 2022](#) in Liverpool and [September 2023](#) in Nairobi, respectively. The [third and final KML event](#) was held in Zanzibar in October 2024.

The KML events facilitated policy dialogues, including PhD candidates presenting their research findings to key stakeholders, such as Ministry of Health representatives and international partners. These dialogues emphasised the importance of evidence-based approaches in shaping health policies and strategies, ensuring that the programme's contributions were integrated into national health agendas.

PROGRAMME IMPACT

Programme Impact in Numbers

Healthcare Providers

- 1,660 healthcare providers trained in ANC and PNC, equipping them with the skills to deliver integrated services for HIV, TB, and malaria.
- 185 healthcare providers trained as master trainers in ANC and PNC
- 895 healthcare providers trained in QI methodologies, strengthening health facility leadership and service delivery practices.
- 145 healthcare providers trained as master trainers in QI methodologies.
- 1,038 healthcare workers mentored and supported through structured facility-based mentoring programs, ensuring continued professional development and capacity-building.
- 16,862 participants from 43 countries have taken the quality improvement course through the online learning platform, with a 45% pass rate, increasing knowledge dissemination.
- 26,439 participants in 16 countries have taken the ANC/PNC course on the online learning platform, further increasing knowledge dissemination.

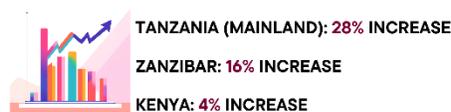
1,660 HEALTHCARE PROVIDERS TRAINED IN ANC AND PNC

MASTER TRAINERS TRAINED IN ANC AND PNC **185**

895 HEALTHCARE PROVIDERS TRAINED IN QUALITY IMPROVEMENT METHODOLOGY

MASTER TRAINERS TRAINED IN QUALITY IMPROVEMENT METHODOLOGY **145**

ANC ATTENDANCE



HIV TESTING DURING ANC



100%

Pregnant Women and New Mothers

- 37,821 women attended ANC at the close of 2024, increasing access to high-quality maternal healthcare services and improving pregnancy and newborn health outcomes.
- 427, 762 women and children received integrated care at health facilities across the three countries
- 53,936 women were tested for proteinuria, blood sugar, and haemoglobin at ANC1 over the programme period. Testing at ANC1 for proteinuria, blood sugar, and haemoglobin was 100% throughout the monitoring period in Tanzania mainland and Zanzibar, and 60 - 90% in Kenya.

- HIV testing among women attending ANC for the first time increased from 60-80% at baseline to 100%.
- More women now receive care earlier in pregnancy, reducing complications and improving their maternal health compared to baseline.

Health Facilities

- 211 health facilities provided with essential equipment through the facility improvement fund across Kenya, Nigeria, and Tanzania, enabling the delivery of high-quality services.

Governments and Policymakers

- Four (4) Ministries of Health supported to integrate quality improvement methodologies into service delivery.

Country Implementing Partners

- The State University of Zanzibar (SUZA) and the University of Dodoma (UDOM) have demonstrated and reported enhanced internal research capacity through programme support for two faculty members to pursue their PhDs and strengthened project management and implementation capacity.

Economic Impact

The programme has significantly reduced training costs by adopting blended learning approaches. Combining online study with face-to-face training has cut the need for extensive travel and accommodation expenses. The design of the blended learning package cost USD 21,261 across three countries. While implementation costs varied, the direct cost per participant was lower than a five-day face-to-face training.

Additionally, the programme has strengthened healthcare facility infrastructure and service delivery by providing essential equipment via FIFE. This fund has enhanced long-term efficiency by ensuring that healthcare facilities are well-equipped to deliver high-quality services, with 211 healthcare facilities across Kenya, Nigeria, and Tanzania receiving essential equipment, which has been crucial in improving service delivery.

Attitudinal Impact

The programme has significantly increased trust and confidence among healthcare providers in delivering integrated ANC and PNC services, which has, in turn, strengthened patient-provider relationships. This is best illustrated in the words of ANC and PNC clients in the stories of impact section below.

Environmental Impact

The programme has significantly reduced its carbon footprint by minimising international and domestic travel for training and supervision. This was achieved by adopting a blended learning approach combining online study with face-to-face training.

Additionally, the programme has optimised the use of digital platforms for training and mentorship, significantly reducing the reliance on paper-based materials, thereby conserving resources and reducing waste. The use of digital tools has not only been environmentally friendly but also cost-effective, allowing for broader reach and scalability.

Understanding and Awareness Impact

The programme has increased healthcare provider awareness of the integration of HIV, TB, and malaria services into routine ANC and PNC care. This integration has been crucial in ensuring pregnant women receive comprehensive care that addresses multiple health needs. By leveraging data and evidence, stakeholders have made informed decisions that enhance the quality and efficiency of healthcare services.

The programme has raised community awareness of the importance of early antenatal care attendance and postnatal follow-up. This increased awareness is evidenced by the rise in ANC1 attendance rates across implementation countries (4% increase in ANC attendance in Kenya, 16% in Zanzibar, and 28% in Tanzania).

Health and Well-Being Impact

The programme has significantly improved maternal health indicators, including reducing maternal mortality rates across target facilities. Enhanced ANC and PNC attendance rates have contributed to better pregnancy outcomes and increased uptake of integrated HIV, TB, and malaria services, with a 4% increase in ANC attendance in Kenya, 16% in Zanzibar, and 28% in Tanzania. Improved early detection and management of high-risk pregnancies have also contributed to reduced neonatal mortality rates across supported facilities. The programme has strengthened emergency obstetric and newborn care capabilities for HCPs through targeted training and resource provision.

Cultural Impact

The programme has significantly strengthened community engagement and trust in healthcare services, which has helped reduce barriers to maternal healthcare access. This is best illustrated through testimonials from service beneficiaries. Ashura Iddi, a resident of Mpwapwa Town Council of Dodoma, Tanzania, shared her positive experience at Kingale Health Centre, *"I have come here for delivery. The doctors have received me well, and I have experienced quality services."* This feedback highlights the programme's success in fostering a welcoming and supportive environment for expectant mothers.

Additionally, the programme has improved gender-sensitive service delivery by addressing barriers to seeking maternal healthcare, particularly in rural and underserved areas. By enhancing cultural competency among healthcare providers, the programme has led to more patient-centred care and increased service utilisation, evidenced by the increase in ANC attendance across the three countries.

Policy Impact

The programme has significantly strengthened collaboration with Ministries of Health in Kenya, Nigeria, and Tanzania, paving the way for policy shifts in integrated ANC/PNC service delivery. This collaboration has been crucial in embedding sustainable service improvement frameworks within subnational and national maternal and newborn health strategies. Adopting QI methodologies into the health facility management process has ensured that continuous quality improvement processes are maintained at the facility level.

Additionally, through the annual knowledge management and learning (KML) events, the programme has consistently advocated for sustainable financing and policy prioritisation of maternal health interventions. The programme's influence is also seen in the potential policy

impact of studies conducted by programme-supported PhD candidates, providing valuable evidence to inform policy decisions and improve maternal health services.

STORIES OF IMPACT

The programme's impact is best demonstrated through the voices of the implementing partners, healthcare workers and women who directly benefit from interventions across the three countries.

Implementing Partner Perspectives

Dr Leonard Katalambula, Implementation Lead at the University of Dodoma, reflects on the programme's depth, saying,

“For one project to sponsor three or four PhDs is remarkable. This approach ensures that graduates return with the skills to strengthen our healthcare systems,” emphasising that such investment in post-graduate education within academic institutions is crucial for sustainability.

Zainab Suleiman, a programme-supported PhD student from the State University of Zanzibar (SUZA), expresses gratitude for the programme's impact on her skills as a health researcher, saying,

“I was once hesitant about qualitative research, but now I feel equipped and confident to undertake it, thanks to this training.” Zainab's experience reflects the broader value of exposure to diverse research methodologies, which empowers researchers to tackle complex health challenges comprehensively.

Health Worker Perspectives



Iliya Aishatu is a Registered Nurse Midwife in charge of the ANC and the Maternity Unit at Katari Primary Health Centre, Kaduna State, Nigeria. Iliya received training in Quality Improvement in 2021 and was trained as a QI Master Trainer in the same year. She received training in ANC/PNC and related mentorship in 2022.

“The training has played an essential role in my day-to-day services. Any service I render is an action from the point of the training. I constantly remind myself to render services based on the training I received, not as I used to. Most significantly, the ANC/PNC training was a complete refresher of my professional skills as a midwife.”

[Read Iliya's full story about her improved skill and confidence in delivering quality ANC and PNC services and supporting her colleagues' learning.](#)



Marcel Martha is a Registered Nurse Midwife in charge of the ANC and Labour Ward at Narayi Primary Health Centre, Kaduna State, Nigeria. Marcel received training in ANC & PNC in 2022 and was trained in QI in 2023.

“The training has improved my counselling skills and accuracy in completing antenatal cards during client booking. It has also enhanced my skills in using the partograph to inform the delivery process, proper documentation, and prompt client referrals.”

[Read Marcel's full story about her improved skills in delivering quality ANC and PNC services.](#)

More perspectives from healthcare workers are available via the links below:

[Oyo State, Nigeria](#) (2022); [Oyo State, Nigeria](#) (2021); [Kaduna State, Nigeria](#) (2021)

Oladeji Adenike is a Nurse at Alafara Primary Health Care Centre in Oyo State, Nigeria, trained by the programme in ANC and PNC. In the video below, she shares her training experience. She explains how her training has benefited her clients, improved nurse-patient relationships, and built the case for complementary state investment in refurbishing the health facility to deliver quality health services.



In Dodoma, Tanzania, feedback from health workers and service users alike speaks to the impact of capacity-strengthening through training and provision of essential equipment through the programme, as illustrated in the video below.



ANC and PNC Service User Perspectives



Ashura Iddi, a resident of Mpwapwa Town Council of Dodoma, Tanzania, sought ANC and delivery services at Kingale Health Centre in Dodoma, saying,

“I have come here for delivery. The doctors have received me well, and I have experienced quality services.”

[Read the full story of the programme’s impact on delivering quality maternal health services in Tanzania.](#)

In Oyo State, Nigeria, women seeking ANC and PNC services expressed their satisfaction and appreciation for services that protected them and their children against malaria, TB, and HIV, as well as screening and treatment for sexually transmitted infections such as syphilis and Hepatitis, as shown in the video below.



In Kenya, 357 healthcare providers from 61 health facilities in Vihiga, Garissa, and Uasin Gishu counties completed ANC and PNC training. The impact video below shares some of the outcomes of this capacity strengthening.



This overall impact has been seen in Nigeria, [Tanzania mainland](#), [Zanzibar](#), and [Nigeria](#), with 1,457 health workers trained in ANC and PNC and 895 providers trained in quality improvement methodologies, strengthening health facility leadership and service delivery practices.

The Global Fund has also documented the programme’s integrated approach and impact on supporting mothers-to-be and newborns, as shared in [Catherine Nyiva's story](#) from Vihiga County, Kenya.

Programme Podcast Miniseries

In collaboration with the Connecting Citizens to Science podcast, the programme developed two themed podcast miniseries to share implementation insights and lessons learnt through conversations with policymakers from local Ministries of Health, health professionals and local research leaders from collaborating universities.

1. Podcast Miniseries One: [Engaging Communities in Improving the Quality of ANC/PNC in Africa](#)
2. Podcast Miniseries Two: [Transforming Maternal and Newborn Health](#)

CHALLENGES AND LESSONS LEARNED

Barriers Overcome

Several barriers were identified and addressed to ensure the successful implementation of the programme. Proactive measures were taken to address and overcome barriers, ensuring that healthcare workers were well-trained, facilities were adequately equipped, and the quality of care was consistently high. An overview of the barriers and the measures taken to address them are summarised below.

1. **Staff turnover:** The frequent transfer of trained personnel disrupted continuity of care. To mitigate this, the programme focused on government ownership and ongoing mentorship. By involving local governments and providing continuous mentorship, the programme ensured that new staff members were quickly brought up to speed and that the quality of care remained consistent.
2. **Lack of essential equipment:** The programme's baseline assessments revealed equipment and service delivery deficiencies limiting the effective delivery of ANC and PNC services. To complement critical gaps, the programme included capacity-building activities, such as training healthcare workers and providing essential medical equipment. The programme provided essential medical equipment to 211 facilities, 234% of the original target of ninety.
3. **Inconsistent training opportunities:** The programme identified a lack of training opportunities, particularly in remote areas. To overcome this, the blended learning approach was introduced, combining self-directed learning, facilitated virtual sessions, and face-to-face training. This model allowed healthcare workers in different regions to access training without geographical barriers, ensuring comprehensive and hands-on training.
4. **Infrastructure challenges:** Inadequate infrastructure was another barrier to service delivery. The programme conducted quarterly reviews and audit cycles to improve health facility infrastructure. By continuously monitoring and improving infrastructure, the programme ensured facilities were better equipped to provide quality care.
5. **Inconsistent availability of clinical guidelines and essential equipment:** The availability of clinical guidelines and essential equipment was inconsistent across countries. The programme addressed this by providing additional training on using technology, ensuring better infrastructure and resource allocation, and providing ongoing mentorship. This approach contributed to standardising the quality of care across the countries.

Lessons Learned

- **Blended learning is effective:** Digital learning platforms combined with limited face-to-face training maximise training reach while minimising costs and disruptions to service delivery.
- **Mentorship is crucial for sustainability:** Facility-based mentoring ensures continued professional development and retention of best practices.
- **Data-driven decision-making strengthens impact:** Real-time monitoring and evaluation drive continuous improvements and inform policy decisions.
- **Government ownership enhances sustainability:** Strong government engagement is essential for embedding program gains into national health strategies.

SUSTAINABILITY AND SCALING UP

The sustainable scale-up and adoption of cost-effective and sustainable models are paramount to delivering on the promise of Sustainable Development Goal 3 and the specific targets relating to maternal and child mortality by 2030.

Implementing this integrated ANC and PNC programme has demonstrated the effectiveness of facility mentorship for quality improvement, blended learning and the use of technology and data-driven approaches as sustainable and cost-effective models for ANC and PNC workforce capacity building and improved service delivery.

By **institutionalising quality improvement through partnerships with Ministries of Health** and capacity-building for long-term impact, African governments can adopt strategic approaches to improve the quality of ANC and PNC services. Using standards-based audits and facility mentorship for continuous quality improvement will ensure that facilities assess their performance against established standards, identify areas for improvement, and track progress over time. Regular audits will help ensure that interventions are making a tangible impact on healthcare practices and outcomes.

Scaling up **integrated approaches that address health inequities** guided by the WHO's ANC model to improve maternal health outcomes presents an excellent opportunity to reach more women and children. Through group antenatal care, mentorship for healthcare workers, and addressing social determinants of health, African countries can improve the quality of care and address health disparities across rural and urban areas. This includes improving individual and community education and health facility infrastructure in hard-to-reach and underserved areas to ensure that care is accessible to all women and children, regardless of their social or economic background.

Using **harmonised data-driven approaches**, such as introducing scorecard systems to track key reproductive and maternal health indicators, will enable countries to continuously monitor progress and hold stakeholders accountable for providing resources for and delivering quality care. Harmonising national health systems and ensuring data integration by digitising health data systems creates unified national health data platforms that facilitate real-time reporting and effective decision-making. This approach presents enormous sustainable benefits when scaled up across countries and the region.

The **blended learning** approach is flexible and scalable, particularly in low-resource settings with limited traditional training opportunities. The combined self-directed learning through virtual and face-to-face training will allow healthcare workers in different regions to access training without geographical barriers, ensuring comprehensive and hands-on training over time, particularly beyond the life of donor-supported programmes.

Key to the success of the blended learning approach is the availability and use of **mobile technology** for learners to access materials offline. This ensures that the training is sustainable and can be continued even in areas with limited internet connectivity. This approach will continue to help bridge the gap in training opportunities, especially in remote areas.

THE LEGACY OF QUALITY IMPROVEMENT

The success of this programme sets a precedent for quality-driven and integrated interventions to address the urgent and lifesaving health needs of women and children. Continued collaboration with Ministries of Health, consistent mentorship, and adopting evidence-based practices will be essential to ensure sustained impact.

Call to Action

We invite stakeholders, policymakers, and partners to support ongoing efforts to improve maternal and newborn health across Africa. Together, we can build resilient health systems that provide quality care to every mother and child.

We encourage stakeholders to support ongoing maternal and newborn health efforts through strong partnerships, investments in health workforce capacity building, data-driven approaches, promotion of equity and sustainable financing.

1. **Strengthening Partnerships:** Stakeholders are urged to continue fostering strong partnerships with Ministries of Health, international organisations, and local communities. These collaborations are essential for sustaining and scaling up successful interventions.
2. **Investing in Capacity Building:** There is a need for ongoing investment in capacity-building initiatives for healthcare workers. This includes training, mentorship, and providing essential resources to ensure that healthcare providers are well-equipped to deliver high-quality maternal and newborn care.
3. **Supporting Data-Driven Approaches:** Stakeholders are encouraged to support data-driven approaches to monitor and evaluate the impact of health interventions. This includes investing in robust data collection systems and using data to inform policy and practice.
4. **Promoting Equity in Healthcare:** It is crucial to address health inequities by ensuring that maternal and newborn health services are accessible to all women, regardless of their social or economic background. Maternal and child health stakeholders should advocate for policies and programmes that prioritise marginalised and underserved populations.
5. **Sustaining Financial Support:** The return on investment in maternal and child health is multi-fold, impacting multiple areas. Continued financial support through domestic and international funding is critical for the sustainability of maternal and newborn health

programs. Stakeholders are called upon to commit to long-term financing to ensure MNCH programs continue to have a positive impact.

CONCLUSION

The programme has demonstrated significant and measurable impacts across attitudinal, economic, environmental, capacity, health, cultural, and policy dimensions. By integrating quality improvement methodologies, strengthening healthcare provider capacity, and fostering government ownership, the programme has laid the foundation for sustained improvements in maternal and newborn health outcomes.

This impact has been far-reaching across multiple sectors, strengthening healthcare systems, improving maternal and newborn health, and influencing policies. The benefits have been felt at scale, from individual healthcare providers, clients seeking health services, and academic institutions leading health research to inform national health policies, ensuring sustainable improvements in service delivery.

Continuing mentorship, advocacy for policy integration, and expansion of blended learning approaches will ensure these gains are institutionalised and scaled across more African countries and regions. Strengthening partnerships and sustaining stakeholder engagement will be critical to maintaining the momentum for long-term impact in maternal and newborn health services.