Question 1: *How have systems thinking approaches and tools been incorporated in activities to improve health equity? Were these approaches useful in achieving health equity goals? If so, what are the pathways by which these approaches helped to address the root causes of inequity?*

Unraveling Health Inequities: The Transformative Power of Targeted Interventions in ANC Services

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HEALTH SYSTEMS STRENGTHENING ACCELERATOR

Context

Tanzania's health system has been guided by a decentralization by devolution (D by D) strategy since the late 1990s, enabling local government authorities to customize health and social welfare programs to better fit the needs of local communities. A significant concern remains the low rate of antenatal care (ANC) clinic attendance before 12 weeks among pregnant women, a health indicator that was identified as requiring urgent improvement, where at a national level, only 27 percent of pregnant women attend ANC clinic before 12 weeks. The Tanzania Health Sector Strategic Plan V (HSSP V) mandated that at least 60 percent of pregnant women should be attending ANC clinics before 12 weeks by 2025, a national target. The root causes for low ANC early attendance are (1) low pregnancy screening rates at health facilities, with healthcare providers not viewing early ANC as a priority; (2) a lack of awareness on the need for early clinic attendance, (3) poor linkage of women with a positive urine pregnancy test (UPT) to ANC clinics; and (4) a lack of awareness among community members on the need for early clinic attendance.

To address the lack of data-driven decision making in maternal and child health (MCH), Data.FI/Tanzania applied a situation room[1] approach based on stakeholder engagement to conduct root cause analysis, identify problems, and develop locally identified interventions that are geared towards improving performance of the selected indicator. Government officials who oversee health portfolios at the primary healthcare level engage implementing partners (IPs) and representatives of health facilities in enhanced data review at regularly held, participatory situation room meetings. This health systems strategy offers a sustainable and integrated solution to achieving health equity, as it considers the complex interactions and dependencies within the health system.

Activity Description

Data.FI/Tanzania uses a standardized data review process in weekly situation rooms meetings that display data from the national health information systems, performance data from health facilities, and updates on quality improvement (QI) action plans. Two regions with poor MCH outcomes, Dodoma, and Dar es Salaam, were prioritized. Each council identified their local targets based on the baseline data and developed action plans during the regular data reviews aimed to improve early ANC coverage among pregnant women to 60 percent.

Data.FI leverages a pre-existing government-owned information system (iMES—the Tanzania Integrated Monitoring and Evaluation System) as analytical platform for data visualization. The health sector led consensus building on priority indicators for improving MCH in the two regions. Data.FI used tools such as a logic framework to assist government officials to prioritize a suite of indicators. Rather than imposing predefined change packages, Council Health Management Teams (CHMTs) participate in design workshops to identify local solutions and formulate QI initiatives. The goal is to increase early ANC coverage among pregnant women to achieve the national target of 60 percent.

During implementation, the CHMTs use the Plan-Do-Study-Act (PDSA) cycle to test and refine their change ideas. Regular meetings are held to monitor indicator performance, led by the council medical officer. Data.FI provides QI coaching and interprets data to assess the impact of action plan implementation. Results are documented in data use briefs to improve data quality and evidence-based programming.

The health teams in the selected councils of Chamwino District Council (DC), Dodoma DC, Kinondoni Municipal Council (MC), and Temeke MC, Council Health Management Teams (CHMTs) were engaged in design workshops and identified locally sourced solutions for the prioritized indicators. Health managers were trained in QI tools that helped CHMTs identify challenges and develop change ideas. As change ideas were being tested using the PDSA cycle, the CHMTs met on a regular basis to monitor indicator performance under the leadership of the council medical officer. Interpretation of the data focused on review of action plan implementation and impact in councils where performance was improving—and also where performance was lagging.

To interpret these data, the Data.FI staff provided QI coaching to determine whether change ideas should be expanded, reviewed, or dropped. In addition, the Data.FI team worked with the CHMTs to document QI results in data use briefs for wider stakeholder sharing, with the goal of improving data quality and use for evidence-based programming. Data.FI/Tanzania collaborated with the President's Office, Regional Administration and Local Governance (PORALG) that led the QI interventions, and conducted monitoring, follow-up, and mentorship of CHMTs. UNICEF supported training of CHMTs on data review and design of QI initiatives. HIV IPs—Management and Development for Health (MDH) in the Dar es Salaam region and the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) Tanzania in the Dodoma region—provided regular supportive supervision and mentorship visits to all health facilities within their councils for implementation and scale-up of the QI initiatives.

Through stakeholder engagement, system-thinking approaches, and local solutions, Data.FI/Tanzania aimed to improve health equity and achieve targeted improvements in MCH outcomes in Dodoma and Dar es Salaam.

Activity Impact

By understanding the barriers to health equity, and addressing the root causes of inequity, our activity has made significant strides in improving health outcomes and promoting equity within the health system. We identified key challenges, such as limited community awareness of early booking for ANC clinics, poor laboratory-to-ANC clinic linkages for UPT-positive clients, and insufficient health facility outreach.

Each council set targets for their local context and to align with the national target for improvement. Kinondoni and Temeke set targets of 30 percent; Dodoma CC 35 percent; and Chamwino 60 percent, respectively.

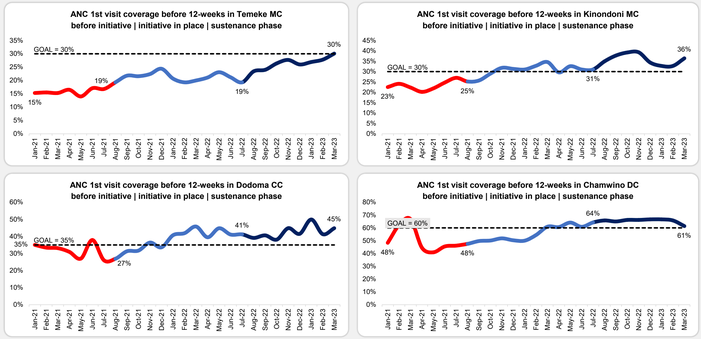
From September 2021 to June 2022, these strategies resulted in significant progress; all councils exceeded their targets, indicating the profound effect of these interventions on health outcomes. These actions increased community awareness, bolstered UPT-positive linkage, and strengthened health facility outreach.

To ensure these gains were not transient, the councils adopted a "focused and data-driven supportive supervision" method. This innovative approach encourages the consistent implementation of identified strategies, the expansion of successful ideas, and continuous community education by community health workers (CHWs). Monthly reporting, performance letters, and data review meetings during supportive supervision were integral components, emphasizing our focus on data-driven decisions.

This yielded results: Temeke MC approached its 30 percent target and other councils surpassed their initial targets. The approach amplified ANC first visit coverage.

This comprehensive approach touched various components of the health system: information systems, service delivery, cross-sectoral coordination, and community engagement. It effectively addressed health inequity by empowering communities, strengthening linkages, and fostering a data-driven culture. To facilitate the transition from laboratory to ANC clinic after a positive UPT, CHMTs developed a new referral form; its adoption in all health facilities further streamlined the process and enhances efficiency. Moreover, the activity has successfully integrated the situation room meetings into regular reporting procedures in the CHMTs, providing a dynamic platform for discussion and for strengthening a data-driven culture. Through these concerted efforts, we have not only achieved significant improvements in ANC coverage but also established a solid foundation for sustainable progress and equity within the health system.

Evidence



The four graphs show the performance of early ANC booking for pregnant women in Temeke MC, Kinondoni MC, Dodoma CC and Chamwino DC from January 2021 to March 2023. Before the QI initiatives were introduced in the councils (**red**), the performance was more unpredictable, with no significant improvement for all councils. When Data.FI implemented the planned QI initiatives (**light blue**), there was significant improvement in all the councils, with the performance becoming more consistent and predictable compared to before the initiative. During the sustaining phase of our implementation (**dark blue**), all four councils reached the targets in their aim statements (dashed lines). In addition, Chamwino DC achieved greater than the national target of 60 percent during the sustaining phase.

Facilitators

We attribute the success of this activity to the Tanzania's D by D strategy, which created a conducive environment for local-level innovation. Local government authorities were primed to tailor health and social welfare priorities to local needs, allowing Data.FI to engage effectively with CHMTs, the councils' chief medical officers, health facility representatives, and other council partners.

Second, a central aspect of our success was the establishment of the 'situation room' platform during the initial stages of our project, leveraging technology and equipment, supported by Tanzania's iMES for advanced data analytics and visualization.

Lastly, the support we received from partners, particularly PORALG, MDH, EGPAF, and UNICEF, greatly facilitated data-driven decision making. PORALG guided us to focus on critical health indicators in MCH, while UNICEF supported capacity building among the CHMTs in data analysis and data review, skills that are instrumental to successful QI. MDH and EGPAF, the HIV IPs for Dar es Salaam and Dodoma regions respectively, assisted with regular data cleaning sessions at the health facilities to ensure availability of high-quality data for review and decision making by CHMTs.

Challenges

The project faced challenges, including the following:

- Paper-based systems for documenting services create an increasing workload for healthcare workers. There are delays in completing documentation and hence data transmission.
- The CHMTs' busy and ad-hoc work schedules sometimes make it difficult to implement weekly situation rooms meetings. The irregular meetings delay monitoring of planned actions and measurement of progress achieving the targets.
- At the peak of COVID-19, CHWs were diverted to assist with COVID-19 vaccination campaign efforts. Routine primary healthcare priorities were shifted to meet targets for COVID-19 vaccination campaigns, affecting their contribution in other areas.
- Emerging issues such as data quality tend to derail the focus of situation room participants when reviewing planned actions. CHMTs expressed increased demand for more review of focus areas not prioritized at the start of the activity because of improvements in performance the select focus areas—ANC, prevention of mother-to-child transmission (PMTCT) of HIV, and non-communicable diseases (NCDs).

Lessons Learned

Implementing the situation room approach in Tanzania generated numerous lessons learned:

- Do not prescribe; the national and subnational leaders know best what is good for them!
- Coordination, alignment, and leveraging existing activities within the councils facilitated implementation and improved delivery and quality. For example:
  - A community-based health project implemented by the Benjamin Mkapa Foundation (BMF) helped fund transport for CHWs and capacity building through the Ministry of Health (MOH).
  - The MOH implemented a capacity-building activity for CHWs. A module on reproductive, maternal, neonatal, adolescent, and child health (RMNACH) was conducted during the implementation period. This training improved the capacity and confidence of CHWs to provide quality education sessions.
- Regular data review sessions help identify many data quality issues (Initially, you may think you have good data and yet you don't.)
- Regular data review motivates strategies for improvement since they motivate implementers to avoid "business as usual" and work towards continuous performance improvement.

[1] Situation room are technology-enabled spaces within government offices that allow stakeholders to monitor data in real time, compare performance across sites, and implement corrective action to drive concrete improvements to population-level health indicators.

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