

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?



Adapting a Health System Approach for improving the Quality of ANC in India: Rajasthan Experience

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Include Organization or Department Names if Needed: Jhpiego (India)

Context

The "Born Healthy" program implemented by Jhpiego embodies a system-thinking approach to tackle health inequities in antenatal care (ANC) and strengthen health systems. This comprehensive program is dedicated to addressing the significant disparities in access and utilization of quality ANC services, particularly among marginalized and high-risk populations. It aims to ensure better ANC coverage by addressing various determinants that hinder accessibility and availability of quality services, such as limited resources, lack of community involvement and empowerment, poor service quality, and insufficient training and competency of service providers.

The decision to employ a health system approach is rooted in the recognition that health outcomes are influenced by a multitude of factors, including individual, social, cultural, and economic determinants that interact in complex ways. By adopting a systems thinking approach, the program goes beyond isolated interventions and delves into analyzing the interdependent relationships between different components of the health system. This holistic perspective allows for a deeper understanding of the underlying causes of health inequities in ANC.

Activity Description

The Born Healthy program was introduced in 125 public sector facilities across 14 blocks of four districts (Bundi, Dholpur, Karauli and Udaipur) in the state of Rajasthan to strengthen the quality ANC which is related with accessibility of the same with a multipronged approach. The program focused on screening of the maternal infection, training and capacity building of the health providers, resource availability, improving consumption of IFA and calcium during pregnancy, introducing point of care diagnostics, introduced an innovative digital approach to capture data through "ANM and MO application" to ensure accurate and unbiased data for action and implemented an innovative approach called GANC (Group ANC) to empower women for self-care and seeking treatment thus bringing about the behavior change. To implement the program the course of action were as follows:
The measurable indicators were defined which majorly included percentage of women registered with 12 weeks of pregnancy, percentage of pregnant women who had at least 4 ANC contacts with the service provider, High risk cases identified etc. Regular Monitoring and Supervision visits along with quarterly periodic assessments were carried out for supportive supervision and mentoring.
The initial baseline data was collected through household information and secondary data (facility records and registers) to assess the impact evaluation of interventions on low birth weight.
The activities involved:

Competency development package for service providers: Making service providers, engaged in ANC services, competent and confident providers by three-day hands-on training and structured Mentoring and Support Visit. One-day package was developed for Medical Officers posted at PHC/CHCs.

Logistics availability and adequacy norms: Identification and ensuring availability of essential logistics to provide uninterrupted and effective ANC services at community outreach.

Point of care test introduction: Design and deploy Point of care (PoC) tests for timely maternal infection detection with a special focus on asymptomatic bacteriuria (Multireagent Urinstix), Dual kit for HIV and syphilis etc.

System and Process Innovation: Innovate and pilot test mechanism for maternal weight gain standardization and use of Digital Weighing Machine for adult and baby birth weight recording.

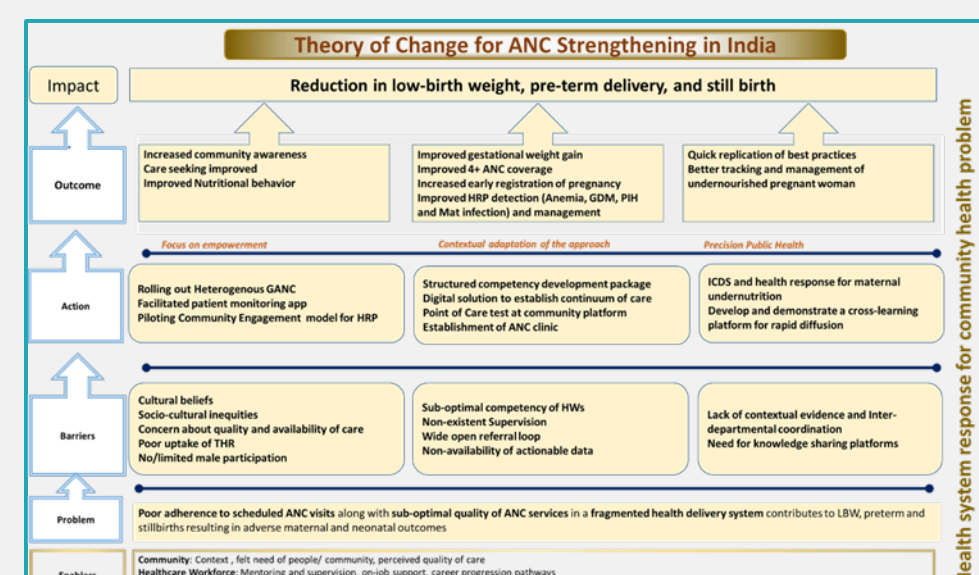
Group ANC to encourage ANC attendance in groups that also promotes empowerment, peer interaction and health literacy.

Digital application for RCH data streamlining: Pilot tested a digitally-enabled clinical decision support system to support ANMs and MOs. Therefore, an interoperable ANM module application and the MO module application have been introduced at the project sites to track referrals and management of ANC cases across various levels of facilities.

Engaging with Community: Considering the poor knowledge retention among women and poor health seeking among vulnerable women, we also tried Group ANC model.

The system thinking approach that we utilized during our program was the comprehensive **Health Systems Framework** developed by World Health Organization (WHO).

The program involved various stakeholders in both public and private sector. Moving in the top down approach in the public sector at the State Maternal Health Department Officials were our key stakeholders for planning and support in implementation moving down at district and block level, CMHO, RCHO, DPM, BCMO for coordination of the activities and the feedbacks and service providers (ASHA and ANMs) as the key stakeholder for addressing the beneficiaries and implementing the activities. At the private level medical device companies were involved for procurement of the Point of Care diagnostics.



Activity Impact

The program was a proof of concept resulted in promising improvement of the quality ANC thus impacting its accessibility and availability by influencing following components which were worked upon and related indicators were analyzed pre and post activity -

Improved Detection of HRRPs

A key achievement of the program has been the improved detection of high-risk pregnancies in the four intervention facilities (5 times) in contrast to 2.7 times increase in other districts from FY 2017-18 to FY 2021-22.

Increase in utilization of ANC Services

Project proved that competent and confident service providers delivered better services which resulted in increased utilization of services by community members. Early ANC registration has increased by 18 percentage points (~30% from baseline) in Born Healthy intervention facilities from FY 17-18 to FY 21-2022. On the other hand, four ANC coverage also increased from 29% to 81% during project duration.

Screening and Management of Maternal Infections:

Screening of pregnant women for asymptomatic bacteriuria (ASB) has improved steadily, from 31% in July 2018 to 83% in September 2022. The overall detection rate of ASB reported in intervention facilities was 4.3% (13,529 ASB +ve). ASB detection rate was 8.8% in Bundi, 4.7% in Dholpur, 1.9% in Karauli and 2.9% in Udaipur.

Roll out of digital application/solution:

The project rolled out a digital application (with in-built clinical decision support system) to enable better tracking of identified High-risk pregnancies. Bluetooth-enabled baby weighing scale was used for ensuring accurate measurement of baby weight.

Born healthy acted and impacted various components, strengthened the quality of care by improving the competency and the behavior of the service providers through regular training, mentoring, hand holding and developing training packages. The Point of Care of diagnostics that were introduced to ensure availability after successful implementation, was adopted in government PIP (Program Implementation Plan) ensuring significant amount of budget leveraged for the interventions under this program at different periods of time by the state government, sustainability of frontier solutions and better service delivery.

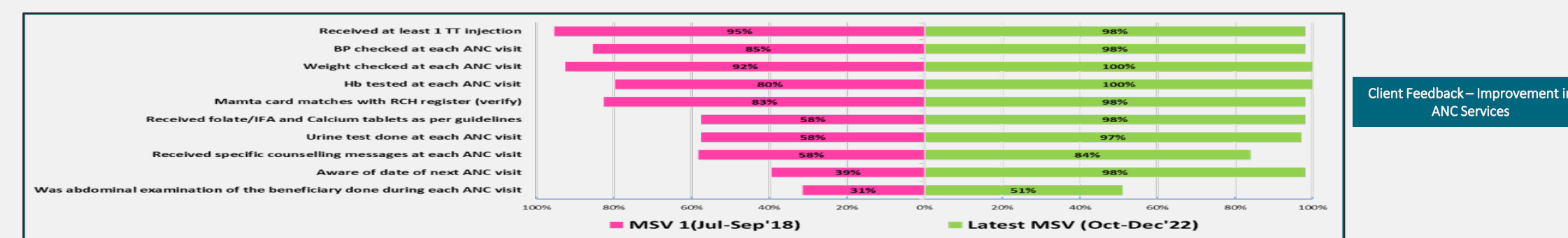
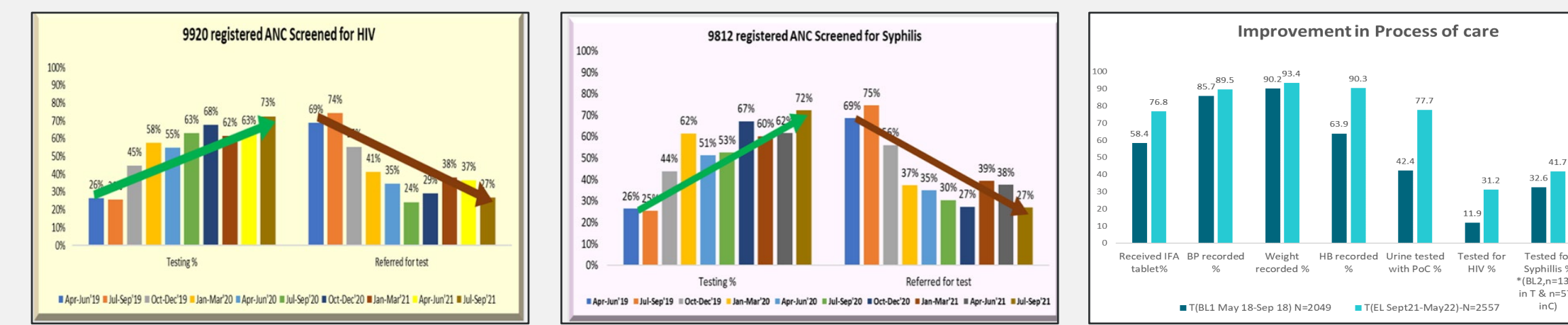
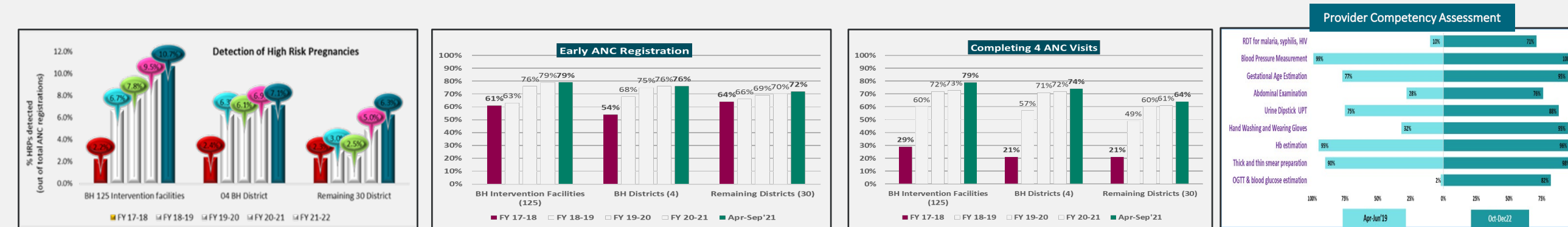
Introduction of ANM and MO application which was a digital innovation to capture ANC data and referral further strengthened data quality. The concept of GANC was adopted by the community and the service providers thus demonstrated local ownership and did bring about the behavior change by empowering women to self-assess themselves.

The approach used in Born healthy was holistic and comprehensive. It impacted the quality of services that were being provided and further improved the coverage and accessibility of the ANC services catered to a majority of factors such as competency of health providers, resource availability, community engagement etc.

Evidence

Early ANC registration increased by 18% in Born Healthy intervention facilities from FY 17-18 to FY 21-22. On the other hand, ANC 4 coverage increased more than doubled from 2017-18 to FY 21-22 in Born Healthy facilities as compared to the remaining facilities in the four Born Healthy districts

A key achievement of the program has been the improved detection of high-risk pregnancies in the four intervention facilities (4.9 times) in contrast to 2.7 times increase in other districts from 2017-18 to FY 21-22



Facilitators

The program was funded by the **Children's Investment Fund Foundation (CIFF)** and is implemented by **Jhpiego**. In addition, the **World Health Organization (WHO) headquarters Geneva**, and **Global Alliance for preventing Prematurity and Stillbirths (GAPPS), Seattle, USA** are also technical partners in the project.

GAPPS did 'A SITUATION ANALYSIS OF MATERNAL INFECTIONS IN RAJASTHAN' and provided available evidence on specific pathogen prevalence of maternal infections in Rajasthan, India, and summarize the impact of infections during pregnancy on maternal and child health. WHO ANC guidelines were also used as a base to design the program plan.

Challenges

Throughout the project, we encountered a multitude of challenges, some of which were unforeseen while others were expected. These challenges posed significant barriers to achieving our goal of health equity. However, our unwavering determination and innovative responses allowed us to overcome these obstacles and make substantial progress towards our objective. Let us outline the challenges we faced and the actions we took to address them.

One of the initial challenges we observed during the Pre-training OSCE was the sub-optimal competency of healthcare providers in essential skills required for ANC. To tackle this issue, we developed a structured training package followed by Mentoring and Support Visits (MSV). This comprehensive approach ensured that the providers received the necessary training and support to enhance their competency, thus improving the quality of ANC services.

Another challenge we encountered was the lack of a supervision mechanism. Recognizing the crucial role of supervision in ensuring adherence to quality standards, we developed a supervisory mechanism that provided post-training follow-up and support to healthcare providers. This mechanism helped to bridge the gap between training and practice, ensuring sustained quality improvements in ANC.

The non-availability of crucial diagnostic tools at the community level, such as Multireagent Urinstix for urine examination and HIV Syphilis testing kits, posed a significant challenge. To address this issue, we took decisive action by making these diagnostic tools available at the Point of Care Diagnostics. This intervention not only improved access to essential diagnostic services but also streamlined the process, leading to more timely and accurate diagnoses.

We also identified a gap in the recording of maternal infections testing. To overcome this challenge, we introduced a system that incorporated maternal infections and HRP slips, ensuring comprehensive recording of testing and facilitating appropriate management of maternal infections during ANC.

Tracking high-risk pregnancies identified during ANC at the community outreach level proved to be a complex challenge. In response, we developed a digital application with an in-built clinical decision support system. This innovative solution enabled better tracking and management of identified high-risk pregnancies, ensuring timely interventions and reducing the associated risks.

While the state government was proactive in implementing policy changes based on our project's learnings and providing necessary financial sanctions for improvements, ensuring ownership at the block level required additional follow-up from the district level.

Lessons Learned

The lessons learned during the implementation of the program were – Continuum of care tech ecosystem to link ANC services and Intrapartum and immediate postpartum services is the requirement for completing the loop and better assess the impact of quality care.

Automated vital measurement at Point of Care (IoT enabled devices) are essential to minimize measurement errors
Decision support tool at ANC which will help in identification of high-risk, supports in appropriate referral and follow up & ensure availability of relevant data at referral facility will provide support to providers in tracking and management of high-risk cases.

Linking periphery facility with higher centers for better preparedness.

Seamless transfer of data for avoiding duplication of efforts and reduce waiting time.

Use of Artificial Intelligence/ Machine Learning for pregnancy risk stratification and subsequent influencing of decision seeking and decision-making

The action on these learnings can make future programs more impactful and successful in improving maternal and child health outcomes and promoting health equity.

Some important suggestions for working towards health equity by adapting Born Healthy approach could be -

- Collaboration with other stakeholders or community level organizations to work towards addressing the maternal nutrition component.
- Address health disparities: One of the main causes of health inequities is a lack of access to healthcare services and disparities in health outcomes across various communities. To attain health equity, it is crucial to recognize and deal with these differences.
- Work with communities: Achieving health equity requires strong community support. Building trust and increasing the use of healthcare services can both be accomplished by engaging with communities. Community members should be involved in the planning, carrying out, and evaluating of health equity projects.
- Make decisions based on data: Data are essential for comprehending health disparities and tracking advancement towards targets for health equity. Data should be used to make inform decisions, track development, and pinpoint opportunities for development.
- Concentrate on improving health systems: Improving health systems is essential for achieving health equity. To provide high-quality healthcare services, it is crucial to concentrate on enhancing the healthcare infrastructure, bolstering the healthcare systems, and increasing the capacity of the healthcare workforce.
- Address the underlying causes of health disparities: Reaching health equity requires addressing the underlying causes of health inequities. This entails addressing social and economic issues including poverty, discrimination, and a lack of access to chances for education and work that contribute to health disparities. Recognizing these socioeconomic determinants of health are essential for achieving health equity, it is crucial to approach the topic of health equity holistically.

Individuals working towards health equity goals can achieve health equity and enhance health outcomes for all by taking these points into consideration.

