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Assuring Infants and Mothers Get All PMTCT Services (AIMGAPS): Best Practices Emerging from a Collaborative Improvement Effort to Increase PMTCT Service Uptake in Tanzania

Background

The complexity of prevention of mother-to-child transmission (PMTCT) of HIV is a major driver of poor service uptake. Because PMTCT involves multiple services for two different people (mother and infant), taking place at multiple points in time, usually in more than one service unit, there is often poor coordination among service providers, resulting in weak linkages and poor retention across the PMTCT continuum. The USAID Health Care Improvement Project (HCI) has been working with the Ministry of Health and Social Welfare (MOHSW) and EngenderHealth in the Iringa Region of Tanzania to improve uptake, retention, and quality of PMTCT services across the continuum of care from the antenatal period through the entire breastfeeding period and until the HIV status of the exposed infant is definitively determined.

Objectives

The objectives of this activity are to assist frontline health care providers in Iringa, Tanzania to:

- Identify gaps in service uptake for each step in the PMTCT continuum of care;
- Examine and identify root causes for these gaps;
- Apply quality improvement (QI) methodology to develop and test changes to the care delivery system to increase uptake and quality of services;
- Adopt changes which proved to be effective.

Implementation

Eleven health facilities representing all levels of the health system were included in the intervention. HCI and MOHSW established indicators to measure gaps and track progress in improving PMTCT service uptake at antenatal care (ANC), Reproductive and Child Health (RCH) centers, labor and delivery (L&D), and HIV Care and Treatment Centers (CTC). Baseline data were collected from January through April 2011 to identify gaps in service uptake.

Figure 1. HCI coach working with service provider to extract data from a set of PMTCT registers to calculate indicators of service quality. *Photo by Suzanne Gaudreault, URC.*

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Figure 2. Multidisciplinary quality improvement team meeting where staff from the different units providing PMTCT services discuss and work together to solve problems contributing to poor service uptake. *Photo by Suzanne Gaudreault, URC.*

Following the establishment of QI teams at all facilities, QI activities were launched in May 2011. The QI teams are composed of staff from ANC, RCH, L&D, and CTC, along with laboratory technicians and pharmacy staff. Collectively, these staff represent all steps in the PMTCT continuum of care and coordinate with each other to improve care, linkages, and service uptake at all steps of PMTCT. The QI teams collect data and conduct monthly QI meetings at their respective facilities to discuss and plan for future improvement activities (see Figure 1). Using the "collaborative improvement" approach, QI teams from different facilities have been meeting periodically to share experiences and learn from each other (see Figure 2).

Improvements in Quality of PMTCT Services

At baseline, uptake was lowest for CD4 testing, antiretroviral (ARV) treatment initiation in pregnant women, ANC retention, partner testing, enrollment and retention of mothers in HIV care and treatment programs, timely enrollment and retention of exposed infants in follow-up care, definitive testing for infants, and enrollment of HIV-infected infants at treatment centers. Figure 3 shows results from the first nine months of improvement activities: 1) increases in the percentage of HIV-infected women initiating ARVs and 2) increases in the percentage of exposed infants receiving definitive HIV testing.

Details on changes contributing to improved PMTCT uptake are listed in Table 1. Additional increases achieved in service uptake include: CD4 testing of HIV-

Figure 3. Increase in percentage of HIV-positive pregnant women initiating ARVs during pregnancy and increase in percentage of exposed infants receiving definitive HIV testing

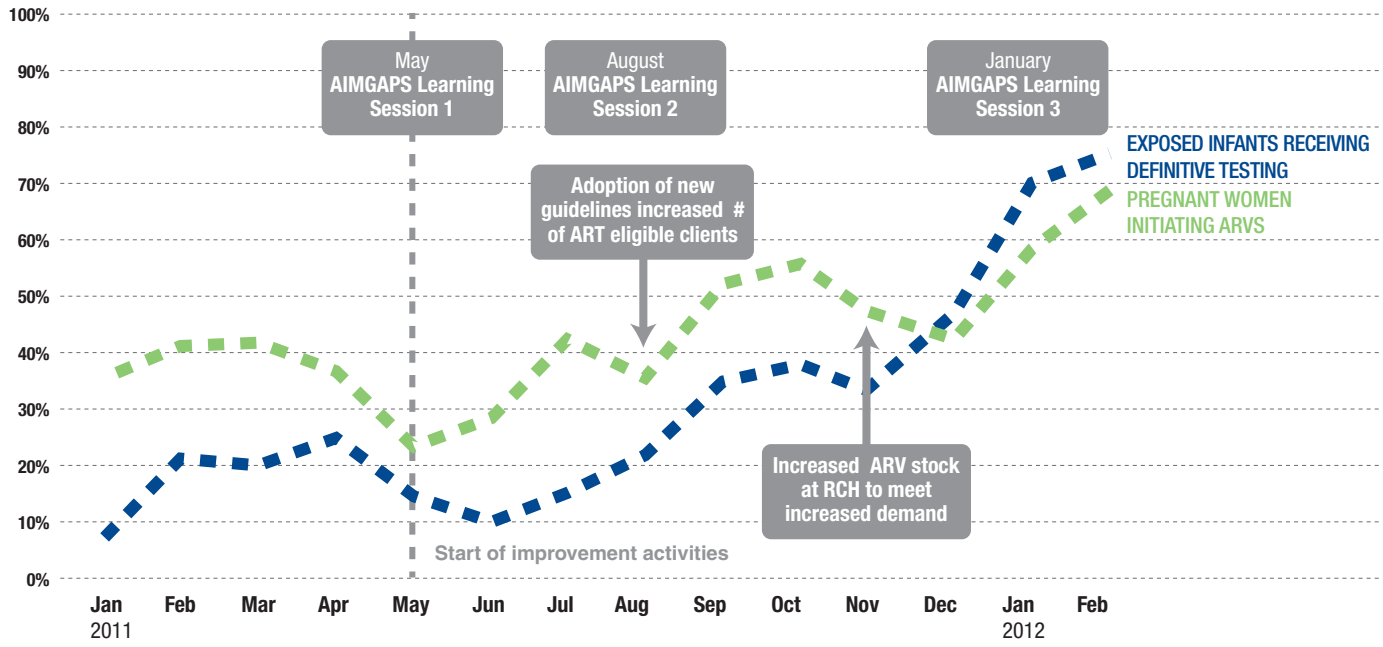

Table 1. Examples of changes to improve quality of PMTCT services

Service Delivery Area	Changes
Antenatal Care/ Reproductive and Child Health (RCH) Centers	• Emphasized to mothers the importance of enrolling at the HIV care and treatment center (CTC) • Ensured same-day enrollment in PMTCT program following post-test counseling • Escorted HIV-positive pregnant women to CTC with "warm hand off" (personal introduction) to staff • Referrals followed up and enrollment confirmed through collection of referral slip and unique CTC number from CTC • Blood samples for CD4 count collected at RCH and outreach clinic (instead of referring patients) • Engaged Village Health Committees to spread message of early ANC registration, male involvement, and importance of exclusive breast feeding in the first six months and infant follow-up
Labor and delivery	• Provided counseling at labor ward regarding attendance at post-natal care (PNC) for all mothers • Documented exposed infant follow-up visit date on child growth monitoring card • Ensured all women with unknown status at labor and delivery were counseled and tested
Postnatal/ Child Follow-up	• Posted job aid on wall to facilitate calculation of Nevirapine (NVP) dosage • Stocked NVP syrup at RCH to facilitate dispensing at time of visit and immediate documentation in PMTCT Mother-Child Follow-up Register • Built competencies of lower level facilities to do dried blood spot (DBS)
Laboratory Services	• Trained RCH staff on collection of CD4 blood samples • Allocated daily CD4 testing slots specifically for HIV-infected pregnant women
Cross-Cutting	• Held meetings between RCH, CTC, and laboratory staff to improve communication, increase testing of pregnant women, and referral between units • Facilities send invitation letters to male partners to attend the clinic • Community leaders instituted 'by-law' that male partners must accompany women to ANC visits • Facility leaders verified completeness in documentation of registers • Liaised with PMTCT implementing partner (EngenderHealth) to purchase a CD4 machine, as well as Cotrimoxazole and other supplies to serve as a reserve in case of stock-outs • As a result of QI efforts, two assisted facilities qualified under National AIDS Control Program selection criteria, were given CD4 testing machines, and are now doing CD4 testing at their facilities

infected mothers rose by 6.9 percentage points; mothers receiving HIV care after delivery increased by 23.9 percentage points; and timely enrollment of infants in follow-up by 33.9 percentage points.

Extending PMTCT Services to the Community

In January 2012, a community component of AIMGAPS was introduced. The objectives of the community component are:

- Increase early booking at ANC
- Increase male partner involvement in ANC (including HIV testing)
- Increase exclusive breastfeeding (EBF) among women 0-6months postpartum
- Improve follow-up of HIV-exposed infants

In order to gain support and involvement from the community for the community component of AIMGAPS, HIV committee members, community leaders, the Regional AIDS Coordinator, Council HIV and AIDS Coordinators, ward secretaries, village chair persons, as well as local NGOs, and members from lower level facilities were invited to participate in the third learning session of the AIMGAPS collaborative improvement project. The activities that were discussed and are currently underway or planned for establishing the community component of AIMGAPS are listed in Table 2.

Table 2. Activities for the community component of AIMGAPS

Objective	Activities
Increase exclusive breastfeeding (EBF) among women 0-6 postpartum	• Home-based care providers conduct home visits to educate elderly women on the importance of EBF (planned)
Increase early booking at ANC	• Educate in forums (market, churches, and community/public meetings, local bars) on early booking
Increase male partner involvement in ANC	• Educate in forums (market, churches, and community/public meetings, local bars) on male partner involvement • Send health facility letters to male partners asking them to attend the ANC clinic • Create by-laws to enforce male involvement (done in some place as a last resort, when all other measures failed)
Improve infant follow-up	• Revive health registers that used to be used by the Village Health Committee to track pregnant mothers and infants to identify those attending the clinic (planned)

In June 2012, the fourth learning session of the AIMGAPS project was held. Several sites reported then that they have begun to roll out the community component and shared their experiences about the initial implementation.

Spreading Lessons Learned

AIMGAPS is distinguished from other PMTCT quality improvement activities in that it comprehensively addresses the entire PMTCT continuum of services and links patients between the different service delivery areas. A key lesson learned is that communication between departments has helped to strengthen linkages between points of care on the PMTCT continuum, thus improving the overall quality of PMTCT care. Changes that led to improvements in care in the initial 11 sites, such as escorting HIV-positive pregnant women to CTC and introducing them to CTC staff, sensitizing mothers about the importance of all aspects of infant follow-up, and documentation of the exposed infant follow-up visit date on the mother-held postnatal follow-up card/growth monitoring card, are just a few of the lessons learned from the AIMGAPS work that can now be spread to other sites to improve PMTCT services.

Regional and council (district) officials in Tanzania have expressed interest in spreading lessons learned from the AIMGAPS improvement project to other facilities. As a result, these change ideas are currently being spread to 10 additional sites within the Iringa Region and 13 sites in the Kilimanjaro Region. These new spread sites have conducted a baseline assessment to identify the greatest gaps in their PMTCT services. Based on those gaps, the facilities will use appropriate AIMGAPS indicators to monitor and improve the quality of those services.

Key Recommendations

By improving communication and coordination among all health care providers, as well as laboratory and pharmacy staff, at all points along the PMTCT service cascade, it is possible to comprehensively improve PMTCT service uptake. Community engagement can also greatly enhance this effort, particularly in the areas of early access to antenatal care and retention in care. To address resource-related issues, such as ARV stock-outs and CD4 testing limitations which can also create major barriers to PMTCT service delivery, it is essential to engage regional and district health officials, implementing partners, and local NGOs in quality improvement efforts. The best practices emerging from AIMGAPS can serve to inform further efforts to strengthen PMTCT service delivery systems which should ultimately improve maternal health and HIV-free infant survival.