

The Community Register Project

Improving Access to PMTCT Services in Zambia



Lewis Holmes

Midwife Hopeful Syalubala counsels mother and child, Moonde Health Center.

It's hot and dry, the rains are late to arrive, and the subsistence farmers in Zambia's Southern Province hungrily await the next growing season. Often there is only a solitary rural health center, staffed by a single nurse midwife and a few volunteers, where a pregnant woman living with HIV can receive the care she needs. "Most of the centers are too far away and women may start to deliver on the way or at home because they run out of time. Women come to the facility by ox cart, bicycle, a hired vehicle or walking, perhaps even being carried by her husband," said Miriam, a lay counselor (LC) in Southern Province.

The remoteness of available care also increases the vulnerability of women and their unborn children to HIV. In this strongly patriarchal society, the average woman bears more than six children. With low male support for antenatal care (ANC) and services for prevention of mother-to-child transmission of HIV (PMTCT) and only her feet to carry her the many kilometers to the health center, she is challenged to keep her soon-to-be-born child HIV-free.

To address the barriers to healthy motherhood for women in Southern Province, Boston University PMTCT Integration Project (BUPIP) initiated the Community PMTCT Follow-up Register (Community Register) project. The project, launched in 2009, uses an easy-to-follow tracking system for each client, supported by extensive follow-up by trained volunteer lay counselors (LCs). The approach has contributed to a more than sixfold increase in the number of facilities providing PMTCT services and increased men's involvement in PMTCT. As of 2012, 90 percent of women living with HIV were on antiretroviral therapy (ART)—well above the national average of 62 percent—and over 9,000 babies

By Lewis Holmes

AIDSTAR-One

John Snow, Inc.
1616 North Ft. Myer Drive, 16th Floor
Arlington, VA 22209 USA
Tel.: +1 703-528-7474
Fax: +1 703-528-7480
www.aidstar-one.com

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had received testing for exposure (Boston University Center for Global Health & Development [CGHD] 2012; United Nations General Assembly Special Session [UNGASS] 2011). The Community Register project, the subject of this case study, offers lessons learned for other programs seeking to increase access to PMTCT in remote regions.

Background

Zambia is a high-burden HIV country with the most recent estimates of about 15 percent in the general populace, with over 20 percent in urban areas and under 10 percent in rural areas (UNGASS 2011). The country was devastated by HIV during the 1990s and early 2000s, but the most recent Joint United Nations Programme on HIV/AIDS (UNAIDS) report shows great strides in the reduction of prevalence and AIDS-related death as well as improved access to antiretrovirals (ARVs) (UNAIDS 2012). Although there is still much more work to be done, the presence of widespread testing and treatment services has had a great impact. Livingstone Maternal-Child Health Coordinator Theresa Singoyi said, “Mothers are staying healthier. We used to find them getting thinner and thinner and dying while breastfeeding.”

By far the most common cause of HIV in children is transmission from the mother during pregnancy, delivery, or breastfeeding. Zambia has one of the highest fertility rates in the world, and women of childbearing age and children under five make up almost half of the population. Therefore, improvement of PMTCT efforts is a critical component in the effort to reduce HIV in the next generation. PMTCT services are available in virtually every health center in Zambia and, when fully implemented and followed by each pregnant woman, can reduce transmission rates to as low

as 4 percent (Mahy 2010). However, there were still an estimated 9,500 babies born with HIV (United Nations Children’s Fund [UNICEF] 2012) and 97,000 HIV-exposed pregnancies nationwide in 2011 (UNGASS 2011), testifying to the many complicating factors involved in the provision of PMTCT services. Southern Province has 1.2 million people with rural and urban HIV rates following national trends. Poverty, malnutrition, misinformation about HIV and treatment, and lack of transportation are examples of significant barriers to care.

PMTCT in Southern Province

In the National AIDS Strategy Framework 2011-2015, the Zambian government commits to intensifying PMTCT-related interventions with “the aim of achieving virtual elimination of mother to child transmission by 2015” (National HIV/AIDS/STI/TB Council [NAC] 2010). Each of Zambia’s 10 provinces works with an international partner to pursue this goal according to the four tenets of PMTCT, as presented by UNAIDS:

- Preventing women of child-bearing age from acquiring HIV infection
- Preventing unintended pregnancies among women living with HIV
- Preventing HIV transmission from women living with HIV to their newborns
- Providing care, treatment and support to mothers living with HIV, their children, and their families (UNAIDS 2010).

The national goal of elimination of mother-to-child transmission (MTCT) is a difficult one given the many barriers that a woman living with HIV may

BOX I. CHALLENGES OF PMTCT

Southern Province in Zambia, located along the Zambezi River in the southeast part of the country, adjacent to Zimbabwe, is rural and poor. Most of the people are subsistence farmers, perhaps earning a little cash by selling produce at the local market or by cutting what remains of the forest and making charcoal to sell on the roadside. HIV prevalence in the general population ranges from 10 percent in rural communities to 17 percent in the provincial capital of Livingstone (Central Statistical Office [CSO] et al. 2009).

The many intertwining hurdles to HIV care during pregnancy and the absence of a cohesive support structure for ensuring follow-up visits can render health care erratic and dependent upon individual efforts by health providers. While awareness of HIV is high, pregnant women may be reluctant to seek testing or treatment because of preference for prayer or traditional remedies or because they lack transportation. Particularly powerful barriers for women are fears of stigma and exposure to rejection by the community, concerns voiced by up to 44 percent of respondents in a 2010 survey (Fox 2010). Equally strong fears are those of disclosure to male partners. Worried that she may be subject to physical or verbal abuse or even evicted from her home, a pregnant woman living with HIV may avoid disclosing her HIV status to her husband and even refuse treatment for fear of discovery.

face (See Box I). Since 2006, the Boston University CGHD has been engaged by the U.S. Centers for Disease Control (CDC) Global AIDS Program/ Zambia to provide technical, logistical and limited financial support for the provision of PMTCT services to eight District Health Management Teams in Southern Province, Zambia, through the BUPIP. As the designated Ministry of Health (MoH) partner for Southern Province for PMTCT services, BUPIP began its work in 2006 with an assessment of the state of PMTCT services. The steps in the process that led to the development and implementation of the Community PMTCT Follow-Up Register project and the subsequent improvement in the coordination and delivery of PMTCT services are outlined below.

By 2006, low- or no-cost ARVs were available in Zambia and PMTCT had been initiated throughout the country. Yet the complexities of testing and counseling for HIV, notification of results,

assessment for ART eligibility, chemoprophylaxis for mother and infant, and follow-up testing of the child created numerous points at which the mother or baby could fall out of the system. When added to the barriers of chronic staffing shortages, frequent stockouts of medications and supplies, HIV stigma, and low male involvement, the resulting PMTCT process was so fragmented as to be called “haphazard” by the Mazabuka District Medical Officer (DMO).

Baseline PMTCT data collected by BUPIP confirmed the deficits in appropriate screening and treatment for pregnant women living with HIV in Southern Province. Information was extracted from six different MoH facility registers covering 943 ART-naïve pregnant women living with HIV presenting at ANC from January through December of 2010. The national guidelines require that each pregnant woman living with HIV have a CD4 count by 14 weeks gestational

age to determine if she should be started on full ART or short-course prophylaxis. The results found in the baseline data, shown in Table 1, demonstrate a significant level of under-testing and treatment.

RECOMMENDED SCREENING AND TREATMENT	NATIONAL GUIDELINES OR EXPECTED LEVELS	BASELINE BUPIP 2010 DATA
CD4 count	100%	27%
Gestational age	14 weeks	20-32 weeks
Started on full highly active antiretroviral therapy (HAART)	39% (similar cohort)	12%

*(Boston 2009)

Dr. Jonas Mwale, a CDC PMTCT Program Specialist based in Lusaka, believes that the falloff of compliance with visits along the PMTCT timeline compromises PMTCT services efforts. He pointed out in an interview that while nationally 94 percent of women living with HIV have one ANC visit, compliance with recommended visits drops along “the PMTCT cascade”: only 60 percent of the women attend four ANC visits, 47 percent deliver in a health facility, and a mere 37 percent return for postnatal visits. This loss to follow-up means that, in spite of widespread availability of PMTCT services, pregnant women may be adequately assessed for their HIV status but have less than ideal levels of compliance with ART, prophylaxis, or the monitoring of their infants.

Program Objectives

Recognizing the multiple layers of risk factors for loss to follow-up from PMTCT services that would need to be addressed in a successful comprehensive PMTCT program, BUPIP developed the Community PMTCT Follow-up Register (Community Register) project, first as a pilot and then as a full-fledged project implemented in eight districts in Southern Province. BUPIP is administered through CGHD’s Zambia Country Program office, the Zambia Center for Applied Health Research and Development (ZCAHRD). The most recent project funding by the CDC was for 2009-12 and renewed funding is currently awaiting approval. Some of the key program objectives were to:

- Develop a system for improved PMTCT data collection and the identification of women and children in need of follow-up visits
- Improve monitoring, testing, and treatment adherence for pregnant women living with HIV and HIV-exposed children
- Improve community education about HIV, pregnancy, and PMTCT benefits
- Reduce the stigma attached to living with HIV
- Improve male partner involvement in HIV testing and counseling and PMTCT.

Technical Approach

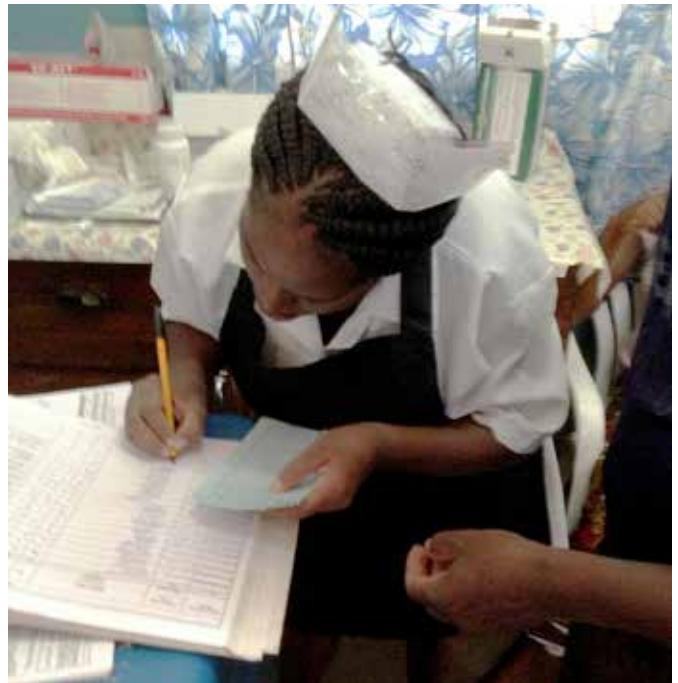
The Community Register project grew from a successful 2003 pilot project to raise immunization rates, carried out in 10 high-priority districts throughout Zambia using the “reaching every district and child” (RED-C) strategy. Recognizing the potential this strategy held for PMTCT, Dr. Jonas

Mwale, then with the Southern Province Health Office, developed in 2006 a similar pilot project for improving PMTCT follow-up in the Sinazongwe District in the province's southern region (Mwale 2008). Both community health workers (CHWs) and traditional birth attendants (TBAs) were trained in PMTCT counseling and worked with two key project components—specialized PMTCT registers and LCs.

Community PMTCT register: A PMTCT register was developed to track every pregnant woman living with HIV in each facility. The catchment area of the facility was divided into zones according to distance and a CHW or TBA was placed in each zone. The register contained a service delivery schedule of visits, treatments, and tests, providing an algorithm that the CHWs or TBAs could follow when visiting with women who had missed clinic visits. Using this system, they were able to significantly reduce the loss to follow-up along the PMTCT cascade and significantly increase the number of women living with HIV delivering in the facility.

BUPIP picked up on this pilot project as a means for improving its PMTCT services and carried out its own pilot project in Livingstone in 2007. Initially, that project focused just on infant follow-up. However, managers found that it was difficult to obtain adequate information about the mother's health prior to delivery. They also had trouble linking mothers to their babies due to confusion about different surnames. To improve the continuity of PMTCT care, the register was expanded to include the mothers' pre-delivery information. Since the CHWs had already received training in PMTCT and early infant diagnosis (EID), the decision was made to have them use the registers in the community.

In 2007, BUPIP received funding from the CDC, initially through a subcontract from Tulane University and then directly in 2009, to expand this project into



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Midwife Brenda Simwenda documents ANC HIV test results, Nakambala Urban Health Centre.

eight districts in Southern Province. The Community Register project was developed to improve the number of mother-baby pairs benefiting from PMTCT programs by ensuring proper follow-up of pregnant women living with HIV through pregnancy and birth, and following the HIV-exposed child through 18 months of age. The Community Register contains information similar to that found in various MoH facility-based registers, such as the PMTCT Integrated Register, except that the mother and baby are followed on one continuous row, going from left to right through pregnancy, birth, and early infancy. The initial ANC visits and recommended testing and treatment for the mother begin on the left page, progressing chronologically to the right through delivery, and then following the infant's progress through visits for testing, monitoring, and prophylaxis until 18 months of age. With mother and baby together on one line, it is easy to track PMTCT progress and identify gaps in care.

Unlike other facility-based registers, the Community Register was designed to be populated with data both in the facility and in the communities. Lay PMTCT counselors are provided smaller mirror-image Community Registers that they bring with them on community and home visits. Mothers who have delivered at home or other facilities and are not on the facility-based register are entered with all of the available information. On a regular basis, no less than monthly, the community and facility Community Registers are reconciled so that both contain the same, updated information of mother-baby pairs.

Lay counselors: The LC is critical for ensuring mother and baby follow-up with the PMTCT program. Modeled after other pre-existing community health volunteers such as community health workers, TB treatment support agents, and malaria agents, LCs are based around health centers. Each LC is assigned a zone and, depending on the availability of volunteers, may serve anywhere from approximately 1,000 to 7,500 people. Individual LCs are all given their own community registers, and the facility register covers all of the zones. There are both male and female LCs, depending on the availability of volunteers in each community. BUPIP leads the LCs through an intensive six-day National PMTCT Training program, an MOH curriculum. Topics covered include general HIV information, counseling and community mobilization methods, PMTCT, HIV testing, and adherence counseling. The LCs are trained in data collection, entry, reconciliation, and accuracy; recognition of triggers for discussion with facility staff; and follow-up with mothers in the community.

When pregnant women or mother-baby pairs are identified as overdue for needed follow-up visits, the appropriate LC is notified. He or she will visit the woman in her home, multiple times if needed.

The LC will educate the woman on HIV, male partner involvement, proper diet, PMTCT, and the importance of monitoring, testing, and adherence to treatment. When barriers to visits are found, the LC will try to help through problem-solving and case management. For example, if the woman is unable to make the trip for a visit, the LC may arrange transportation to the health center or pick up the medication and deliver it to the woman.



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Lay counselor with clients at the Nakambala Urban Health Centre.

What makes the LCs an effective force in the project, and drives the program's success, is the dedication of the volunteers to the mission and their communities. All of the LCs who were interviewed shared stories of the terrible impact of HIV upon their families and

communities, their own journey with HIV, or their determination to learn how to effectively teach others about HIV and PMTCT. This commitment allows the LCs to work an average of two to three days a week, both at the facility and doing outreach work in the communities. During outreach they educate the public, chiefs, and headmen about HIV and PMTCT, and work with pregnant women living with HIV and their HIV-exposed infants to ensure regular attendance at the health center and adherence to treatment and testing regimens.

Successes and Challenges

The Community Register Project contributed to significant improvement in PMTCT capacity and results in participating districts as of 2012 (Boston 2012):

- 195 or 93 percent of health facilities providing PMTCT services in participating districts, up from 31 in 2006
- Over 500 LCs trained with roughly 300 still active.
- About 50 percent male involvement in PMTCT/EID in 2012
- 92 percent of women living with HIV receiving ARVs for PMTCT, compared to 62 percent nationally in 2008 (UNGASS 2011)
- 9,230 infants tested within the first 12 months of life, up from 442 in 2008 and representing a testing rate of over 90 percent in most facilities served by LCs
- Dried blood spot (DBS) testing for EID, for 76 percent of exposed babies with a 7 percent positivity rate (versus 35-40 percent without PMTCT services).

While the Community PMPTC Register project has made advances in increasing women's access to PMTCT services, serious problems challenge the program's success.

Recruiting and retaining enough lay counselors: In spite of the passion and commitment voiced by many LCs and accolades from providers who work with them, the use of volunteers for intensive roles in regions with significant levels of poverty is challenging.

BOX 2. OVERCOMING FEAR OF DISCLOSURE

“There was a woman who became pregnant, came to an ANC visit and was told that she was HIV positive. Unwilling to disclose the information to her partner, she hid her medicines and had poor adherence. When the baby was born the mother didn't get the baby tested or treated, again for fear of disclosure, and the baby died. When she became pregnant again she came to an ANC visit and pretended that nothing had happened before. Her LC learned of the story of the first pregnancy from another LC who lived in the woman's neighborhood. The LC questioned the woman and she told her story then. She [received counseling] and tested positive. The LC followed her through ANC, delivery, and postpartum. The baby remained negative and the mother is now very open about her status and tells her story to others.”

—Gertrude, LC at the Nakambala Health Center

Current funding does not allow BUPIP to provide financial incentives, and the volunteers must grapple with how to balance the demands of the position and training, the need to earn money to provide for their families, and the lack of resources, such as transportation, that make it difficult to reach clients and the health facility. For example, Loid, an LC in Siavonga, must walk 12 kilometers, through bone-dry terrain in 100-degree heat in November, or flooded tracks in the rainy season, just to reach the health center. Tenford, a LC in Mazabuka, said that he found it difficult “to work all day and then go home without food” for his family.

BUPIP works hard to motivate LCs through training and refresher courses that include transportation and meal stipends. District Integration Specialists (DISs) are ZCAHRD staff members that provide technical support for health facilities and their staff as well as LCs, particularly focusing on data collection and quality. The technical support that the DIS brings to each site about twice a year includes reinforcing the important contributions made by the LCs. The needs of the LCs interviewed throughout the province were relatively simple: bicycles for transportation; gumboots, raincoats, and umbrellas for the rainy season; and some level of support for their families. Several of the midwives advocated passionately for material or financial support for the LCs at their health centers.

Improving male involvement in PMTCT:

Improving the involvement of the male partners of pregnant women is a critical component of the BUPIP Community Register and for successful PMTCT services. There is a strong patriarchal tradition in Southern Province, and historically, male involvement in ANC visits or HIV testing and counseling has been very limited. Since the male partners of pregnant women were not present for HIV counseling and were not getting tested,

women who tested positive were left in very difficult situations.

Often the women were afraid to disclose their results to their partners for fear of being evicted from the home or facing verbal and physical abuse (see Box 2). Lack of disclosure then made it difficult for the women to adhere to the ARV and chemoprophylaxis regimens, since they couldn't easily hide the medication in their homes or take the prescribed prophylactic medication during home deliveries. Women who hid their HIV status might also have difficulty with subsequent follow-up visits for HIV-exposed infants for necessary monitoring, use of prophylaxis during breast feeding, and periodic HIV testing. Since members of the community were likely to be at the health center, and infrastructure restraints made confidential counseling and testing difficult, mothers were reluctant to get HIV testing for their babies for fear that the information would get back to their partner.

All of these factors greatly increased the risk of transmission to the child. The project addressed the challenge of low male involvement through a multi-pronged approach:

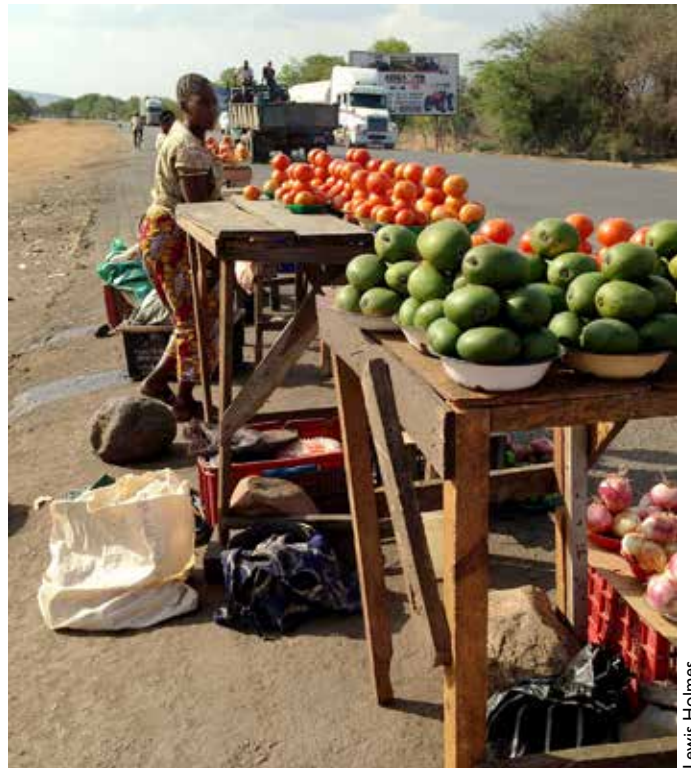
- Regular outreach and education was done to sensitize chiefs and headmen to sensitize them to the issues of male involvement, PMTCT, and the impact on their communities.
- District and health center staff and LCs routinely attended public meetings with chiefs and headmen to provide updates on the level of male involvement and public education on HIV and PMTCT, often with dramatic presentations.
- A series of educational radio dramas focused on issues around PMTCT were aired on local stations. A concerted effort was made to get partners to initial ANC visits so that they could

undergo the counseling and testing along with the women. Some health centers would even send women home to get their partners and then return for the visit.

- Lay counselors frequently enlisted women in the community who had publicly disclosed their HIV status to encourage women who hadn't disclosed to their partners.

All of these efforts had a positive impact on the level of male involvement. The Mazabuka DMO reported that levels had increased from 6 to 7 percent before project implementation to 52 percent in 2012, and a similar level of improvement was seen across all participating districts. Some health centers throughout the province reported nearly universal male involvement in initial ANC visits and HIV counseling and testing. Rural areas tended to have higher levels of male involvement because of the greater influence of traditional leaders; in urban areas, men were more likely to travel for cross-border trading or seasonal work and be unavailable for testing and counseling.

Mobile populations: Although the Community Register and its associated activities work well in farming communities, it is challenging to achieve the same level of compliance among more mobile populations. Men and women may leave their homes to pursue opportunities in the trucking industry, seasonal field and factory work, and cross-border trade. When a woman moves to a different community for temporary work, she loses the connection with her health center and the support services of the Community Register project. Mazabuka is a center for sugar cane work from April to November, and the Nakambala Urban Health Centre and its LCs incorporate any influx of pregnant women living with HIV into their system. At the end of the season, however, the women often return to



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Fruit vendor along highway Siavonga District.

Western Province and other locations and may or may not continue to follow-up with the local PMTCT service provider. Because the Community Register follows pregnant women for about two years, such seasonal movement fragments the program's efforts.

More often it is men who travel for long- or short-term work. Because of the patriarchal tradition in Southern Province, pregnant women living with HIV may then face two particular challenges related to PMTCT. First, male involvement in testing and counseling is essential for many women to feel comfortable complying with the recommended monitoring and treatment activities. When partners are working out of the community or traveling, the critical time for testing the man during the first ANC visit may be missed. Second, women often need to obtain permission for decisions such as delivering in a health facility, and may have to wait for the partner

to return before coming to the health center. Lay counselors recounted many stories of women who wanted to deliver in a health facility but ended up delivering at home while waiting for permission from an absent partner, a dilemma that has diminished in frequency through the project's actions to increase male involvement.



Mukini Health Center.

What Worked Well

Community education: Outreach efforts to roughly 30 chiefs and numerous headmen and communities have been very successful for raising awareness of HIV and PMTCT, decreasing the stigma of living with HIV, and improving male and female attendance at PMTCT visits. BUPIP sends out monthly chief's reports to update the chiefs and headmen about the state of HIV/PMTCT in their chiefdoms, including successes and areas of weakness.

Training: BUPIP uses the Zambian National PMTCT Training curriculum for both LCs and health center staff. The training sessions are thorough and well done, and throughout Southern Province both LCs and facility staff felt that the LCs were adequately prepared for their roles.

Refresher workshops and technical support:

The District Information Specialists provide regular technical support to the districts, health facility staff, and LCs. Data are collected monthly from each health facility and each site is visited at least twice a year. Periodic district workshops provide health staff and LCs with opportunities for refresher training, group problem-solving, and sharing of best practices.

Health worker/LC relationships: Initially, there were some problems with health facility staff shunning or discounting the LCs as untrained volunteers. BUPIP has worked to ensure that these relationships are respectful and productive. In periodic refresher workshops, health workers and LCs work together as teams to present their facility data and practices to the group. The short-handed health center staff members soon realize that the well-trained and motivated LCs offer important complementary skills that provide valuable community outreach and improve PMTCT compliance.

ART/ANC integration: Separate from the Community Register, BUPIP has begun a project to integrate ART and ANC services in some areas of Southern Province. This integration complements the Community Register project by:

- Decreasing the risk of loss to follow-up when ANC clients do not have to go to another clinic or facility on a different day for ART services
- Improving coordination of care and information between services
- Improving confidentiality, since all pregnant women go to the combined ART/ANC clinic and there is no way for waiting clients to know if an individual is there for routine ANC or ART services.

Challenges

Retaining lay counselors: One of the greatest challenges for the project is the recruitment and retention of adequate numbers of LCs. The intensity of the training and the job requirements make it difficult for volunteers to devote adequate time and maintain sufficient levels of commitment.

Facility deliveries: Pregnant women living with HIV should deliver in a health facility to receive the best treatment for PMTCT. However, nationally and in several participating districts, just under half (47 percent) of women deliver in a facility. The efforts of BUPIP, other implementing partners, and the MoH have increased this number for women living with HIV, but it remains less than ideal because of multiple barriers, including distance from a health facility, requirements for male permission, and poor facility infrastructure with subsequent concerns about confidentiality. There is also a problem with acceptance of male midwives. While most midwives are female, a proportion is male, particularly in the more isolated health centers. Both women and men may resist male midwives, but for different reasons: while women may be reluctant to have a male provider during delivery, men may be opposed to having a male provider involved in their partner's obstetric care.

Problems with DBS testing:

Delays: The long distance between health centers and the University Teaching Hospital (UTH), where the tests are processed, can cause excessive delays in getting the results to the mother. Short Message Service (SMS), the text messaging service component of phone or mobile communication systems, offers opportunities for improving at least the return of the results to the health facility. A new project, Programme Mwana,

allows UTH to send results via SMS to participating sites and has cut reporting times by more than half.

Stockouts: This has been a national problem for the last year or two because the Clinton Health Access Initiative (CHAI) has turned over procurement activities to the Zambia MoH. BUPIP tries to help by purchasing extra DBS cards but is unable to overcome a national shortfall. Problems arise when women bring in their infants for testing and there are no DBS cards available, which prevents timely testing and undermines the PMTCT program.

Health worker shortages: This is a chronic multifactorial problem throughout the province. It is difficult to recruit and retain health staff in remote sites. Turnover requires training new personnel in PMTCT and makes it more difficult for health staff to properly supervise LCs, particularly in sites with minimal levels of staffing.

Hard-to-reach populations present significant challenges to the goal of reduction and ultimate elimination of MTCT. Mothers and families may not be as well known to health centers and LCs, and are harder to find when overdue for visits. In more urban areas, working mothers cannot bring infants in for follow-up visits, men are generally less involved in ANC visits and HIV testing and counseling, and the HIV rates in the communities are higher.

Difficulties with documentation:

The Community Register and other projects require consistent and accurate documentation to be successful. Some of the problems encountered include:

- LCs may make a visit but forget to document. Some LCs may not check, remember, or fully understand how to document.

- There are too many facility registers, so some get pushed aside. The Livingstone DMO counted 19 registers and tally sheets (checklists) in its facilities. Different health workers or health centers may preferentially prioritize some registers over others.
- Chronic understaffing does not allow enough time for paperwork.
- BUPIP and other facility registers with data about delivery and testing may be in use when LCs come to the health center, making it difficult to update the community or the facility registers.

Inadequate local monitoring and evaluation capacity:

- Each DIS has to supervise and provide technical support to an average of 60 sites, preventing the DIS from being as effective as possible. BUPIP is hoping to obtain additional funding to hire enough DISs so that each one only has to support 30 sites.
- Health staff may not have the ability to recognize and evaluate changes in data. For example, both the Livingstone DMO office and the staff at the Maramba Health Center remarked on a dramatic increase in babies testing positive for HIV (approximately 9 of 23 in October 2012) and talked about possible reasons for the change. However, no one had looked at the registers or the records for the nine babies to see why or where the PMTCT system may have broken down. The level of education and training needed for this type of analysis is difficult to achieve in a resource-limited setting.

Recommendations

Improving access to PMTCT services for pregnant women in vulnerable areas is critical to improving community health and reducing the national HIV burden; yet in many settings, this is an extremely challenging goal. The following are lessons learned through the BUPIP Community Register Project:

Support incentives for lay counselors: It is difficult to train and maintain the needed number of LCs without some level of material or monetary incentives. Where volunteers are needed for a project, multilateral donors and MoHs have to dedicate adequate financial and material resources to develop a strong and stable LC cadre, whether as volunteers or MoH staff.

Promote facility deliveries: Having all pregnant women living with HIV deliver at health facilities is an important component of elimination of MTCT. Interviewees repeatedly recommended increasing the number of mothers' shelters at health facilities where women from distant villages could stay prior to delivery. These shelters are inadequate or absent at many facilities. Also, many health facilities have cramped and outdated infrastructure, which leads women to choose to deliver at home.

Coordinate the numerous facility registers: Reducing the number of facility registers and required indicators used is a feasible approach that would facilitate documentation and improve the utility not only of the Community Register but of all the MoH registers. The variety of data and documentation requirements also makes it harder to identify and react to worrisome changes in important indicators.

Strengthen the monitoring and evaluation framework:

Where specific groups of individuals are responsible for monitoring, it is essential that their work be manageable. In the case of Southern Province, it would be advisable to limit the number of sites per District Integration Specialist so that they can provide adequate training, retraining, and technical support. The ability to provide additional support to the poorest performers is critical to improve the overall effectiveness of PMTCT services. ■

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