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Getting the most prevention and care out of programmes for the prevention of mother-to-child transmission

Theo Smart

In addition to offering prophylaxis to prevent mother to child transmission (PMTCT), PMTCT programmes can be made more effective by offering expanded services that are well integrated into the existing maternal-child health infrastructure — and by sometimes improving that infrastructure, according to several presentations made at the 2006 PEPFAR Implementers meeting held this June in Durban.

“Many people think of PMTCT as simply giving nevirapine,” said Dr Mary Pat Keiffer, who works with USAID in East Africa, “but it covers a lot more interventions.”

Even though the window of opportunity is relatively narrow, PMTCT programmes offer the opportunity to prevent primary HIV transmission within the family, improve the care and treatment for family members who are HIV-infected, and ultimately strengthen child survival and well being.

To expand their reach and effectiveness, innovative PMTCT programmes are now including services beginning with:

- HIV testing and counselling
 - which is increasingly being integrated into every level of the existing maternal child health service framework and
 - which is now also targeting male partners;
- Clinical staging and CD4 cell monitoring with referral for, or direct provision of, antiretroviral therapy and cotrimoxazole prophylaxis;
- Expanded family planning services;
- Safe motherhood interventions including improved labour and delivery services
- Safe infant feeding (with support for early weaning and replacement feeding options) (see <http://www.aidsmap.com/en/news/59415764-DC18-4383-AB4-3-04B312F8141A.asp>); and
- Follow-up care for the HIV-exposed child and family

Finally, a poster presentation showed how innovations that improve the quality and increase service uptake can be rapidly put into practice and spread across the network through collaborative problem solving techniques.

HIV testing and counselling

HIV testing and counselling generally is the entry point to PMTCT services, which not only include offering prophylaxis but are also focusing on preventing primary HIV transmission during and after pregnancy.

Women who know themselves to be HIV-positive need support to take steps to prevent transmission to their infants and their partners. But those who test negative also need support: according to a study published last year (Gray 2005); pregnant women are twice as susceptible to HIV infection as non-pregnant women. Services to help women who test negative stay uninfected during

the very vulnerable periods of pregnancy and breastfeeding are crucial.

However, the best opportunity to capture women (and their partners) seems to vary from setting to setting. Routine HIV testing and counselling can be successfully integrated into the antenatal (ANC) and maternity wards. For example, at one hospital in Uganda, uptake was extremely high among those who come in for ANC visits, and there was also relatively high (86%) acceptance by women in labour. The proportion of women with unknown HIV status at discharge has declined from 64% to 5%.

Data from Elizabeth Glaser Pediatric AIDS Foundation (EPPAF) sites in Kenya show that intrapartum testing leads to an almost universal uptake of single-dose nevirapine. 95% of the women tested positive at labour then took nevirapine for PMTCT and all of them permitted their infants to be given nevirapine syrup shortly after childbirth.

However, according to a team from Columbia University's PMTCT-plus project, in rural Tanzania, two-thirds of the pregnant women bear their children at home, missing out on primary PMTCT prophylaxis services and follow-up. And yet, women do usually access some maternal child health services which include family planning, antenatal clinics, labour and delivery services, postpartum care or immunisation clinics. PMTCT-plus team members found that by integrating HIV testing and counselling into and across the entire existing platform of services, they have been able to reach substantially more rural HIV-infected women and their infants across the region.

Involving the male partner

Several outcomes are improved when the male partner is also pulled in for HIV testing and counselling and care. For example, in Swaziland, a community-based treatment PMTCT-plus project reported there were lower transmission rates to the infant when the male partner was involved and participated in a support group. However, enrolment of male partners was initially very slow.

Indeed, all programmes report that getting men to participate in PMTCT services is a major challenge. At Makongoro Health Centre in Mwanza, Tanzania, couples counselling was very infrequent, accounting for less than 5% of all HIV testing at the clinic. However, clinic staff came up with the idea to hand deliver a letter inviting the male partner to come to the next antenatal clinic (ANC) visit. Within the first month after adopting the strategy, there was a ten-fold increase in male partner involvement in partner counselling and so far it has led to an overall 30% increase in male partner testing.

A study in Uganda reported very high rates (98%) of uptake when routine (opt-out) testing is offered to the male who comes in with his partner for an ANC visit. But again, very few men attend an ANC visit. Yet far fewer men miss their baby's actual delivery, and the programme was able to test and counsel many more men by targeting them at this point.

Clinical staging and CD4 cell monitoring in the antenatal clinic

Some ANC clinics are now screening HIV-infected women to see whether they are eligible for antiretroviral therapy (ART) and cotrimoxazole prophylaxis, and then either referring them for treatment or treating them directly.

“The reason why this is so critical — and there are many — is that women who are eligible for ART, even when you use the different regimens for PMTCT, still transmit at least twice as much as women who are not eligible for ART,” said Dr. Keiffer. “The second thing is

the child mortality of children born to these women is also very high. So if you look at mothers with CD4 counts less than 200, the rates of death are almost twice as high, and if the mother actually dies — even if the child is not infected, the rates of mortality in children are very high again.”

So this intervention is critical to prevent paediatric HIV, protect the child and the mother's life, and prevent orphanhood.

Dr Keiffer described the experience integrating clinical staging, and CD4 cell testing into the antenatal clinic at Kawolo Hospital, in Mukono district, Uganda — a project which only started this past November. By March, 2006, the programme had identified 254 HIV-positive women, half (127) of whom have been clinically assessed, and 60% (152) of whom had received CD4 cell count tests. 94% (239) had been given cotrimoxazole prophylaxis and 13 (9%) were considered eligible for ART (with CD4 cells below 250), and referred for treatment at the ART clinic directly across the hall at the hospital.

How did they accomplish this?

They started by holding joint meetings between the ANC staff and the ART team. “It sounds like, why didn't we do that earlier, but I don't know of many places that have actually done this,” said Dr Keiffer.

The joint meetings helped work out a system between the two programs, working out linkages and referrals to figure out how to get women from one place to the other and to follow them. This included training the ANC staff in HIV diagnosis and care, modification of ANC records to include HIV assessment, CD4 and cotrimoxazole prophylaxis, plus changing the infant card to reflect exposure status.

This went so well that the ANC staff has now requested training in ART as well, to assist the ART team by counselling women before they go on ART (to help them know what to expect) and also to support the women more on adherence.

The staff are also modifying the hospital management information system to automatically track referral and follow-up at programme and individual levels.

Safe motherhood interventions

Although many PMTCT services are beginning to be integrated into the various levels of existing maternal child health programmes, several teams have noted that aspects of this infrastructure are weak in some countries. For example, as noted above, most of the women in Tanzania deliver their infants at home rather than at public delivery facilities.

According to Dr Keiffer, the problem is even more pronounced in Ethiopia. “In all the countries I cover, this is the most difficult country for PMTCT and paediatric HIV, with the lowest levels of ANC coverage, the lowest level of facility delivery.... nationwide, only 7% of deliveries occur in facilities.”

This posed a major problem in terms of providing sd-NVP, which according to the Ethiopian government policy had to be given at that facility (although the policy has very recently changed so that women can take sd-NVP home with them and self-administer at the start of delivery). Nevertheless, because ANC coverage is also low, PMTCT is simply not reaching most women who need it.

So in this setting, USAID explored improving delivery service quality in the rural health centres with great success. Through minor facility improvements and staff training at Wolenchitti Health Centre, they have created a service that women choose to use. Now, over 75% of HIV-infected women they've identified in the district come to deliver at this facility.

The service strengthening included general PMTCT training for providers, home based life saving skills training for home birth teams and traditional birth attendants, and supportive supervision and training in the health management information system for the supervisors and managers.

On the delivery facility side, they also trained the trainers on safer obstetrical practices, and provided the midwives with basic life saving skills. They also made minor improvements and provided infection control equipment for the delivery room.

“The delivery side of quality was the thing. I went into the delivery room and it was probably the first delivery room I've ever seen in Africa that I thought. OK, if I'm going to have a baby, I'll do it over here.” said Dr Keiffer. “It was clean, they had all the infection control equipment — certainly everything. No wonder women come to this clinic, and for a very small amount of money and for some extra training for the staff, they were able to do this. We all talk about how we need women to delivery in facilities. This is the way to do it. Give them a reason to and they will.”

Using or reinforcing family planning services

Another part of the existing maternal child health infrastructure that can serve as an entry point to PMTCT services are the local family planning services. Several presentations at the meeting demonstrated that these services are an excellent place in which to offer HIV testing and counselling and to develop linkages with PMTCT programmes. Additionally, family planning services can help women who know themselves to be HIV positive avoid unwanted pregnancies, reducing the number of potentially HIV-infected children and orphans.

But to the dismay of several PEPFAR partners, the existing family planning services were weak in many countries and/or people simply do not use them, resulting in a large number of unwanted pregnancies. As a result, some programmes are looking at boosting support of the local family planning infrastructure, or of training ART programme counsellors to provide those services in house (see related article

<http://www.aidsmap.com/en/news/C0902DCA-9AB9-4F13-ABB3-D360D32E6669.asp>).

Improving systems for paediatric follow-up

Of course, until maternal health services are universally utilised in resource-limited settings, many women will have very limited contact with the health system until after their child is born. Even for those who do utilise these ANC or delivery services, it is crucially important to follow-up the child (and family) to see whether these interventions have been successful.

Dr Keiffer provided a little more insight into the experience in Tanzania, where they have established another entry point into PMTCT services by going where the children are: at the maternal child health (MCH) clinics since most mothers do take their children in to receive immunisations.

A system has been developed in a busy MCH clinic for case-finding and triage, which is often the only contact a child will have with the health system. One aspect of the system, involves putting the HIV exposure status on the child's health card at delivery, which should help the staff to identify and track HIV-exposed children. However, they have only just started doing this and it won't help when the mother didn't utilise ANC or delivery services.

For most children, the staff have no information about HIV-exposure status, so they have worked out a screening algorithm

to identify children with a high index of suspicion for HIV. Thus, the MCH staff have been trained to recognise paediatric HIV, and provide them with HIV testing, and if positive, get them appropriate care and treatment.

The first training started in February or March in 2005, and over the last year they have been able to triple the number of children tested for HIV (tracking very closely with the numbers of children suspected of having HIV). Those who test positive have been put on cotrimoxazole prophylaxis and referred for antiretroviral therapy when appropriate.

"They've been able, since May or June last year, to put 30 to 40 kids on ART each month from an MCH clinic where before they wouldn't have been able to do this at all," said Dr Keiffer.

Putting it all into practice — using the collaborative quality improvement model to improve PMTCT services

The Implementers meeting was thus rather unique in that a number of potentially replicable innovations were described that could significantly improve the quality of PMTCT services in many countries. Nevertheless, putting these emerging best practices into place in a way that works locally will still present a challenge for many programmes.

However, one poster presentation described a process that the PMTCT programme in Rwanda used to introduce a number of innovations into the system and quickly identify and scale up those that worked.

The Rwandan team had noted a number of shortfalls in their programme's performance. For instance, not all women returned for their HIV test results, and there was a large gap between those who needed and those who received PMTCT. In addition, there were essentially no data available on other important aspects of the programme such as partner testing, provision of sd-NVP to infants or follow-up testing and care.

The team chose to adapt the Collaborative Quality Improvement Model (CQIM), developed by the Institute for Healthcare Improvement (<http://www.ihl.org/IHI/>) to try to improve some of these key indicators of PMTCT.

The collaborative method involves identifying key objectives and areas for improvement, site selection and key personnel that will be involved and then repeated cycles of planning, experimentation, monitoring and sharing results.

At each site, a quality improvement team is created, and they develop/adapt ideas for changes. They are encouraged to think about what they are trying to accomplish, how will they recognise improvement, and what what changes they can make to achieve some of their key objectives. Once a plan of action is developed, the experiment is implemented, evaluated and results are documented over a period of three to four months. During this time, the key indicators (areas for improvement) are monitored. Any important lessons learned are immediately communicated with teams from other sites via email. But then every three or four months, a few representatives from each site across the programme are drawn together for structured "learning sessions" lasting two or three days. At these learning sessions, data, results and lessons learned and challenges are shared by each site. In addition, technical presentations on standards and norms are made; and participants discuss their plans for the next quarterly period.

In the case of Rwanda, the key objectives were that: 1) all pregnant women 2) and their partners receive testing and counselling and 3) get their results; 4) that all those who test

positive receive sd-NVP (to self administer at labour if necessary); 5) that all pregnant women in the programme give birth at health sites (and take their sd-NVP then); and 6) that all HIV-exposed infants are tested for HIV at 15 months.

The Ministry of Health and USAID selected 18 out of the 32 total PMTCT sites (with one site in each province that could help other sites in the district scale up).

Within four or five quarters most of these sites reported dramatic improvements and the poster contained a wealth of information about changes that helped the teams achieve results.

HIV testing for all pregnant women (achieved 100% in 14 sites)

- Reinforce counselling to encourage testing
- Increase available personnel and ANC days
- Improve patient flow and confidentiality
- Shorten wait times

Returning for results (achieved 100% at 13 sites)

- Change personnel and make some available during lunch hour
- Make sure that a lab technician is there on ANC days
- Analyse samples as they arrive

Partner testing (from 10% to over 40% at 14 sites, with one site now at 100%)

- Educate on importance of getting partner tested
- Written invitations to partners
- Home visits
- Increase testing availability to 7 days
- Require partners to accompany pregnant women to at least one ANC visit
- Partners required to come to health site for insecticide treated bednets and other materials while mother recuperating

Providing sd-NVP (achieved over 90% at 10 sites, 100% at some)

- Improve documentation of women who test positive
- Home visits (with reminder to go to delivery site or provision of sd-NVP for those who live far from site)
- Offer sd-NVP at every contact with pregnant woman

Infant testing

- Hold regular meetings with associations of people living with HIV and AIDS
- Improve documentation of HIV-exposed infants
- Develop scheduling system
- Make home visits (to find infants lost to follow-up)
- Work with community volunteers (who can provide some of the follow-up)

While the project is far from over, (and not every supervisor bought into it), it has spread improvements across most of the Rwandan PMTCT network.

According to the poster, "the methodology... [was able] to inspire and unleash creativity of healthcare providers [with] local identification of solutions that work." It also "increased motivation of health worker [who found the] ability to make change is within their control."

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about HATiP

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The newsletter is edited by Theo Smart (Cape Town) and Keith Alcorn, NAM's Senior Editor (London).

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