

**2007 HIV/AIDS Implementers' Meeting:
Preventing Mother-to-Child Transmission
Multiple Paths to Success:
Creative Models for Getting to Scale
PEPFAR, The Global Fund to Fight AIDS, Tuberculosis
And Malaria, UNAIDS, UNICEF, The World Bank, WHO, GNP+
June 18, 2007**

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FEMALE SPEAKER: Thank you very much. Our next subject is "Multiple Paths of Success for MTCT." And it occurs to me that many of the care and treatment programs we've been discussing over the last several days also have MTCT services and the people who run them to thank for paving a lot of the roads to success for what we now think is good care in some of the basic services, in terms of having counseling and testing available at medical facilities, having HIV as part of routine health services.

So it's very much my pleasure to introduce Dr. Namwinga Chintu. A pediatrician by training, Dr. Chintu currently oversees the large MTCT Program, supported by the Center for Infectious Disease Research in Zambia. She's responsible for implementation and expansion of services in over 130 clinics across 17 districts and three provinces in Zambia. Working with the Ministry of Health, her team has played a key role in the expansion of more effective PMTCT regimens and routine testing for infants under 18 months. She is also pioneering a novel method of support to government clinics, through a standard cost reimbursement scheme. Dr. Chintu is an active member of the MTCT Technical Working Group of the Zambia National AIDS Council, and has served as a UNICEF consultant for MTCT and pediatric ART.

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[Applause]

NAMWINGA CHINTU, MD: Good morning, everybody. And I would like to thank the organizers of this meeting, for giving me the opportunity to present this topic to you. I would also like to thank Gene for having presented on Mothers2Mothers. That was a community-based kind of model. What I'll be talking about will be mainly facility-based kind of model, and many of what I will speak on will be based on Zambia, but I'd like the audience to take what I'm speaking on and try and see how this can fit into your different settings.

I'll just start by reviewing some of the goals that were set way back in 2001, and many of you are familiar with these goals. And some of these were by 2005, 50-percent of women would have access to PMTCT. Five years down the line, 2010, it was planned that hopefully 80-percent of women would have access to PMTCT and within that same year, we should have decreased mother-to-child transmission of HIV by 50-percent.

This slide is from PEPFAR and looks at the percentage of women attending at least one anti-natal visit in 15 countries who have received USG support. And these, also have received HIV counseling and testing. It looks at 2004 and 2006 data and I'm sure you'll appreciate that there's been a marked increase in the number of women who've been counseled and tested in these 15 countries.

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However, I'd like us to look at PMTCT on a global scale. Many of us might be familiar with this slide, and it shows us the percentage of HIV-infected women and HIV-exposed infants who have received ARV prophylaxis between 2004 and 2005. We have to admit that there has been a trend towards increasing the number of women who've been identified, given ARVs and the HIV-exposed children who've received prophylaxis. However, we all must admit that there is a lot of work to be done.

Why is it that we haven't achieved some of these goals? Many of you in this room will be familiar with some of the challenges that have listed here on this slide. I will go through them one by one in more detail, but I would just like to focus on the fact that it seems that there has been a shift of focus from PMTCT to care and treatment. And many of us do know that PMTCT is the center or is the focal point from which ART started. And it's now the most important programs in which family members and children actually then can access care and treatment. And we still need to focus on this very important program, despite many challenges.

This slide could have been taken in any one of the busy clinics across Africa. And we see that there's a shortage of trained staff. One health care provider or two have to provide services to a sea of women. And she not only has to provide

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PMTCT services, she has to provide family planning, she has to provide under five services, the immunization and so on. So PMTCT is not really competing, but there are several other health priorities in addition to PMTCT, and this makes it difficult to implement PMTCT in settings.

When you look at the disease burden, this slide shows the HIV prevalence among women delivering in [inaudible]. You'll find that it is the most productive age group, between the ages of 22 and about 44, which have struggled with the disease of HIV. And again, it is these women who attend anti-natal clinic. So we have a high disease burden to deal with, and this indeed is a challenge.

Yesterday in the breakout session, we learned that there are still some countries that are having some challenges when it comes to identifying HIV-infected women. We find that records are often difficult to locate, and even if women are allowed to carry these records home, in many instances, there's no HIV information on the cards. And this makes it difficult to identify the women who need care.

What about commodity and supply chain insufficiencies? Sometimes, we've trained these health care providers, we've sensitized the communities, everything is ready to go. But we find out that we have stock outs of drug kits and also stock outs of test kits as well, and this makes it a challenge to

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implement. We have hard-to-reach areas and in these hard-to-reach-areas, it's often that there are poor rates of facility deliveries. And it indeed is more expensive to get out to these areas and much more difficult to motivate the health care provider.

If you look very carefully at this picture, you will see that I am in the boat with our [inaudible] and we're trying to go out to the western province of Zambia to give some support. So we do actually work very hard.

I'll just give you a little bit of background statistics about Zambia. We have about 11 million individuals and in excess of one million are living with HIV/AIDS. We have more than a quarter of a million people requiring ARVs, and we're not a very rich country. The average seroprevalence among pregnant women is 19-percent. The map shows you the average seroprevalence in pregnant women in different provinces in Zambia. And you'll see that the darkest provinces, the one with 22-percent being the capital of Zambia and the one being 20-percent in the Kapabel [misspelled?] province.

This slide is from the CDC Global AIDS Program and the Minister of Health, and it has mapped the PMTCT sites in Zambia in a bid to estimate PMTCT coverage. You will note that most of the PMTCT settings are in the areas of high population density and high HIV disease burden. The idea was to roll out

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PMTCT in areas of high disease prevalence, and then roll out to the lower disease prevalence, because it was an emergency to scale up.

You'll notice there's one black line that's running from east to west, which is the great East Road, and we have another line that is cutting across the middle. The country, or the government decided to divide Zambia into zones, in which different partners would be responsible for scaling up PMTCT services, according to the national scale up plan. And this allowed for a coordinated, strong response toward PMTCT.

How do the partners and the government interact? Well, at national level, partners help to guide policy through the technical working group. They participate in drawing up national scale-up plans as well. At district level, they provide technical assistance to the district, and also help with dissemination of policy. And outside level itself, they provide mentorship and supportive visits in conjunction with the districts.

We implemented life qualitatively approach towards program sustenance. The initial phase of implementation was the emergency phase and we responded to this as partners as an emergency. I remember two days ago in this very session, somebody said that we just had to do it, as in the Nike logo. So what we did is that we trained staff and managed the process

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as partners. We renumerated off-duty staff for their services. The reason this has been highlighted is because we thought that we needed to target the health care provider in order to get this program going and in order to get it going very quickly. Partners forecasted supplies and provided quality oversight. But many of you would agree that this is not necessarily the best approach. So we've now entered into a secondary phase in which funding for off-duty staff has now been handed over to the district. Quality oversight is now provided by the district, after a number of years of mentoring and providing technical support for the district. This phase probably takes one year.

The tertiary phase, which we are looking to get into in the next few years, would involve giving a grant to the districts in order for them to manage these programs, and this becomes the responsibility of the government. The data is reviewed as a collaborative effort between governments and partners.

What did we achieve in this short period of time? Well, in 86 sites, you will see that we managed to counsel just about 350,000 women. The HIV testing uptake was over 80-percent, the program managed to identify close to 50,000 women and gave them a Neviraprine as well. Those are the yellow triangles and the green sort of Xs. We managed to give prophylactic ARVs to

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about 40-percent of the infants and this is because of the lower rates of facility deliveries in our setting.

I'd just like to reiterate how this rapid scale-up was achieved. It was a collaborative effort between UST partners and other partners, as well as government. Nationally coded information, HIV information, was placed on the cards and rolled out to allow for easy identification of the HIV pregnant women. We renumerated off-duty staff, because in many settings, I'm sure you would agree that many staff are demotivated and it would seem that it is important to renumerate them in order to get the PMTCT program going. We had massive community campaigns on radio, TV, drama group performances, focus group discussions to ensure that the program in scaled up.

And what we also did, which I want us to focus on right now, is that we evaluated our program through data reviewed so that we could learn lessons, and see how we could make our program better.

So I'm going to talk to you now about evaluating PMTCT programs. I'm going to talk to you about measuring effectiveness in geographic coverage. Many countries are now talking about 50-percent coverage, 60-percent coverage, but I think once geographic coverage has been achieved, it's

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important to measure how effective your program is within that coverage.

I'll be talking to you about a cord blood surveillance that was done, and I would like to emphasize that this is all data, but I would like you to capture the concept of this cord blood surveillance, and see how you can implement it in your settings, or if it would be possible. So we took anonymous cord blood specimens from all deliveries in Osaka [inaudible] during a 12-week period. And we tested this core blood for HIV antibodies and the presence of Neviraprine. We did find coverage as positively Neviraprine and a positive anti-body test. These results were linked to HIV testing history on the anti-[inaudible] card and to whether the infant was dosed on this charge.

This slide shows the total number of women who are HIV infected, who delivered in a health facility. I'd like to mention that during this period of time, there were a total of over 8,000 deliveries. And out of those 8,000 deliveries, 2,275-percent were positive. I'd just like you to take a moment and look at the attrition in Cascade to achieving full coverage as I had defined in the previous slide of prevalence of the Neviraprine and the positive antibody. You will notice that the cascade there is attrition at almost every single stage, resulting in only 30-percent receiving full coverage

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according to the definition that I just mentioned. And over 70-percent had not received full coverage.

We also then went further to look at the developing coverage in these 2,000-plus women and infants. I need to emphasize again that this data is old, and the program has much improved, but it taught us many lessons learned. And these, as I had mentioned, can be applied in many countries. We notice that over or close to a fifth of women were not offered testing at the time. Close to a third of them were refusing testing, we had some serious conventions of about 6-percent. The Neviraprine adherence was about 16-percent. And many more numbers of infants were not dosed at discharge, and as I had mentioned in the previous slide, 30-percent of mothers in this PMTCT setting had received both mother and infant doses, despite us giving Neviraprine on diagnosis.

So we looked at this data and well we were thrown back and we said that we really needed to do something about this, after having looked at the results. So for those who are not offered counseling and testing, we looked at the program and we instituted provider initiated counseling and testing. And now I'm happy to say that the counseling and testing has gone up and the HIV testing update is now in excess of 90-percent.

What about the serial converters [misspelled?]? We've institutionalized counseling and testing in labor, and I was

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happy to hear in yesterday's PMTCT break-out session that this is happening in Guyana and has been taken up quite readily. What about the known adherence? We felt that perhaps the health care provider was overburdened with different things to do and perhaps was not providing enough or quality counseling. So now introduce peer educators and lay counselors to assist with this.

To deal with take home Neviraprine, to deal with the infants who are not dosed on discharge, even though they are only a small percentage, looking at this surveillance. If you remember my previous slide, we were only giving out 40-percent of exposed infant Neviraprine, so we've now institutionalized take home Neviraprine in small packs.

And for the mothers who received both, mother and infant doses, we improved by introducing more efficacious measurement. So by doing this cord blood surveillance in an area that we thought had coverage, we were able to make the program better.

So we've looked at effectiveness in a program, but we would like to maximize this effectiveness in this coverage, and this would mean introducing more efficacious PMTCT regimens. This is flow chart that depicts the ideal situation in that every HIV-positive mother should be tested in anti-natal clinic. So every pregnant mother should be tested in anti-

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natal clinic, should receive a clinical evaluation and a CD4 count evaluation.

Those who qualify for therapy right now in Zambia, it goes below 200 cells per milliliter, and we're changing this, but it varies from country to country. They also qualify for therapy, our referrals to ART and the infants are followed up. Those who do not qualify receive AZT from 32 weeks and Neviraprine, and they're referred to ART services as well. I'm sure that many of you will appreciate that this requires trained personnel, it requires strong links to care and treatment, and it will require PCR for early infant diagnosis. However, this model also helps to provide the added services of giving Cotrimoxazole to women who qualify to receive it.

Now why should we be struggling to do CD4 counts in NCH? I'd like to thank Dawn [inaudible] for allowing me to use this slide, and you will see in this slide that in women with CD4 counts below 350, this group was responsible for 82-percent of post natal infections and 84-percent of deaths in this cohort of women that were being followed up to look at rate of transmission by mode of feeding. It provides compelling evidence that we do need to triage these women, not only for their own health, but also to prevent mother-to-child transmission to HIV.

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Our experience has also shown that clinical staging is not as sensitive as actually doing a CD-4 count, and this might be because the health care provider is overwhelmed. What about acceptability? We were concerned when the guidelines changed, that perhaps it might not be acceptable for women, to move from single dose Neviraprine, which is easy to dispense, easy to take, to a more complicated regimen.

So we looked 453 mothers who had been identified as HIV positive in pregnancy, and we screened them to find out whether they were eligible and not eligible for HOT. We found that 70-percent were not eligible, and these 70-percent or 211 were given a choice to take either single dose Neviraprine, AZT on its own or AZT and Neviraprine. And the results showed before the national guidelines were rolled out, that almost 100-percent of women wanted more efficacious regimen.

What were the preliminary results on the ground of this model that I've just explained to you? Well, during the period of July and October 2006 we were able to identify over 1500 women in four clinics in Osaka that had adopted this model. We took CD4 counts on the day of diagnosis and most of these women, about 17-percent of these women had CD4 counts of less than 200. AZT was dispensed to about 27-percent of the positives. Fifty-six-percent of these women were referred to

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ART and under half of them were actually enrolled in the program.

We managed to get 48-percent of those ineligible on HOT. These may not look like such great data, but compared to clinics that did not have this model there was a marked improvement in that some clinics were reporting less than 3-percent of women enrolled in ART. And I must mention that as the program rolls on, we've been seeing much better or much more improvements in the number of women receiving the ART, receiving HOT and receiving AZT as well.

What about infant [inaudible]? It's cardinal to identify HIV-exposed infants. I know that Zimbabwe has led the way in placing a stamp or some identification on the under five card, Zambia has followed suit as well, and we're now able to identify these children who need care. And it's important, as you all know, for the provision of Cortimoxizole prophylaxis, for every infant diagnosis to support state feeding practices, and to monitor the growth and development. I will not venture into feeding practices because this will require another two-hour plenary.

Follow-up visits are piggybacked onto immunization visits to make it easier for the mother to come back. I'm going to shift a little bit right now and I'm going to talk about innovative funding of PMTCT programs. And the aim of

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this or any innovative funding would be to strengthen and promote ownership. Also to promote scale-up and to point delivery of the highest standards of care. Also to motivate the health care provider but, at the same time, hold them accountable for their services rendered. Innovative funding would also allow the concentration of partner support where needed, so once a district becomes mature, technical support can be withdrawn to areas that need it.

We decided to look at our program from 2001 to 2003 and look at how much we were spending on PMTCT. There is a solid line which is highly effectiveness estimate, and the dotted line, which is a low effectiveness estimate. The high effectiveness estimate was the estimate in that both maternal and infant doses were received. The low effectiveness line denoted only a maternal dose of Neviraprine received. So we looked at this data and we found that from 2001 and 2003 the cost for pediatric AIDS averted, reduced from close to \$2000 right down to just under \$400 by 2003.

We looked at that, it was more expensive to implement PMTCT programs in the beginning because this involves training equipment, it also involves infrastructure innovations and this makes it very expensive but, over time, it's simply the maintenance costs and the costs for the ARVs and the test kits that is all you need.

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Also, in the beginning, the price or the cost for patient tested was \$93 and this has now dropped down to \$5 in a mature PMTCT program, so helped us to understand and plan for funding of PMTCT programs, in programs that can be defined as mature. Therefore, we drew up memorandums of understandings between partners and the district, and within these MOUs were clauses that ensured continuity and integration of services. We also addressed logistical and supply chain issues, in that the district was now responsible to stopgap any shortages for PMTCT. The funds would also be used to continually improve services, including instant advising health care providers. The districts were reimbursed based on a cost per patient counseled and tested, so this would bring the statistics and we will calculate how much they would receive based on their statistics.

So we started this with one district in Osaka, and we implemented this in January of 2007. I'm sorry the lines may not appear so clear, but the lines depict those new anti-natal mothers, those counseled as new anti-natal mothers, those who are tested, those who are positive and those who receive Neviraprine. We looked at the data three months before implementation and three months after implementation and you can see that after we implemented, there was a slight dip in the indicators reported and this is normal with any new change

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to a program. Over time, the average figures have stabilized, and so this has proved to be an innovative way of funding PMTCT programs. I know that Uganda has been doing a similar thing for a number of years, and I think they have shown similar results. I mean Rwanda, sorry.

So what are the conclusions? Mainly, it's that in order for us to scale up, we must mount a strong and coordinated response. Efficacious PMTCT regimens are indeed acceptable as many of you know, and they must be rolled out. ART and PMTCT links are possible, urgently needed and should be scaled up.

Also, as I have presented, evidence-based methods of evaluating should be encouraged to support country scale up plans, so we need to step back and look a little bit more at these indicators and try to understand our program a little bit better using novel approaches, and learn lessons from them and implement them. Also, some of the methods of supporting government ownership of PMTCT programs needs to be implemented.

Ladies and gentlemen, many of us have been battling with PMTCT for many years. We've been trying to get this burden of PMTCT moving. We feel tired, we feel frustrated, but then we need to remember that this is the entry point for care and treatment for men, women and children. We need to remember this is indeed a very important program. Perhaps what we need

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to do is change our focus, change the way we look at PMTCT, change the way we look at our data, or the way we fund it, look at more innovative strategies of community involvement.

Because all PMTCT needs right now, ladies and gentlemen and my fellow implementer, is just a little push in the right direction, and we can make a difference. Thank you very much.

FEMALE SPEAKER: Thank you very much.

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