



4.1 M&E CHALLENGES RELATED TO IMPLEMENTATION OF THE REVISED WHO GUIDELINES

There are numerous challenges in monitoring PMTCT programs, particularly in the context of the revised WHO guidelines. Most of these challenges are related to the changing landscape of HIV/AIDS prevention, care, and treatment. The problem areas listed in this document existed long before the change in the WHO ARV guidelines. However, these challenges may be severely exacerbated by adaptation and implementation of the revised guidelines and are thus worthy of consideration.

DIVISIONS BETWEEN PMTCT AND HIV CARE AND TREATMENT

Presently, there exist divisions between PMTCT and care and treatment (C&T) services that impede effective monitoring of ARV regimen provisions to patients. These schisms manifest themselves in several important ways. For example, in many instances there are physical divisions between service delivery locations, where the PMTCT and C&T programs are not in close enough proximity to each other to allow interaction between the two programs. Even when the services are provided in the same facility, in many cases they are not integrated and require clients to move from one clinic or provider to another to receive all the necessary services. This disconnect has implications for the evaluation of these services, as it often means that the actual data collected in the various service areas are not linked to one another. Therefore, it is difficult to track whether patients who are referred from PMTCT to receive HIV C&T (or vice versa) actually arrive and receive the services. In addition, donor funding is still often allocated by individual service areas, further complicating monitoring of mothers and their children through the continuum of care. Currently there are no indicators to account for the bi-directional receipt of services between HIV C&T and PMTCT.

The new WHO guidelines are firmly rooted in the connectedness of PMTCT and C&T services. It is therefore imperative that when the new guidelines are adapted and implemented in countries, the concept of monitoring PMTCT services will have to be broadened to include monitoring maternal and child health (MCH) services and C&T services across multiple service delivery points in a seamless manner.

EPISODIC CARE VERSUS LONGITUDINAL MONITORING

Most PMTCT program monitoring methodologies have been traditionally based on episodic provision of care and data recording, rather than longitudinal models that can track patients through time. Additionally, in resource-limited settings, PMTCT programs are usually monitored through data that are aggregated, rather than systems that can track individual patients. Without the ability to follow a patient and track which services she received, very little can be said about the continued care of an individual HIV-positive pregnant woman.

Because the revised PMTCT guidelines recommend women and infants remain on ARV prophylaxis for a longer period of time, it will be necessary to shift base indicators to a longitudinal care model rather than an episodic one. For example, when monitoring extended infant ARV prophylaxis, as per the new guidelines, it will be necessary to follow infants for an extended period of time, as opposed to simply monitoring the one-time provision of ARVs to infants.

DATA QUALITY AND DOUBLE COUNTING

There are significant data quality concerns with existing PMTCT monitoring systems. Because pregnant women can receive ARV prophylaxis at different times in their pregnancy and across different service delivery points (e.g., antenatal care [ANC], labor and delivery [L&D], etc.), they are often double or triple counted in aggregate data when registers are tallied. For example, because a woman can receive AZT at one point in time, NVP at another point, and Combivir at yet another, the system of simply counting up the number of episodes of ARV delivery by adding columns does not render accurate results in the number of women receiving ARVs. Another example in which data quality is a major concern is in HIV counseling and testing. For instance, countries are now seeing an increase in the number of women with known HIV status who are becoming pregnant. The indicator representing the number of women tested in ANC is no longer sufficient to understand how well counseling and testing are being done. The practice of retesting pregnant women at ANC or at delivery is increasing, but fitting these results into the current set of indicators can lead to counting the testing for a single individual more than once in one part of the PMTCT cascade. Implementers and national health systems alike have struggled with these data quality issues and these challenges will persist in a similar fashion.

INADEQUACY OF INDICATORS AND REPORTING BURDEN CONCERNS

Certain types of indicators are currently not being captured because systems are not in place to collect these indicators such as following mother-baby pairs over time and eligibility indicators for ART or ARV prophylaxis. The Foundation's policy on the collection of indicators has always been to harmonize our systems with a country's national standards. As a Foundation, we see our role as being one that works in direct collaboration with national governments to build the capacity of their health systems. Thus, we do not set up parallel data collection and reporting structures. As a result, we often contend with the challenge of working through less-than-optimal national systems to provide the necessary data to monitor programs and this often means that we do not collect crucial indicators.

It is important to note that PEPFAR recently released the "Next Generation Indicators," which already have been incorporated into the national reporting forms of some countries. However, even the inclusion of these indicators may not suffice in capturing what will be needed to monitor effects of the revised guidelines. To illustrate, the second generation indicator "number of HIV-positive pregnant women who received ARVs to reduce risk of mother-to-child-transmission" would not be adequate to monitor extended NVP prophylaxis for infants, nor (as it is formulated) would it adequately monitor women taking three-drug ARV prophylaxis through the breastfeeding period because it doesn't take into account the long-term perspective needed to track ARV distribution and adherence over time.

Related to the issue of inadequate indicators and the need for additional monitoring is the challenge of the increasing burden on site staff to collect more indicators. In many clinics, site staff are already stretched thin and pressed for time. Therefore, the increase in the required number of indicators to be collected will only intensify an already unsustainable workload. We must therefore be strategic and judicious in contemplating changes to indicators, particularly when these may increase the reporting burden.

DIFFICULTIES WITH DENOMINATORS

Monitoring of programs that can quantify and allow observations about the uptake of services usually requires numerators and denominators to be identified. Numerators often tell us information about the extent of a service provided while denominators often tell us information about the extent of the need for a particular service. With PMTCT programming, the collection and reporting of numerators can be more straightforward than for denominators. For example, it can be relatively simple to count the number of pregnant women receiving HIV testing or the number of HIV-positive pregnant women receiving ARV prophylaxis at one point in time. The measurement of denominators, however, has been more challenging. Often PMTCT indicators are arranged in the form of an “indicator cascade”. Preceding indicators in the cascade are used as denominators for the following indicators, which is useful for monitoring services provided but not as useful in understanding national coverage and uptake of services. For example, countries may report 85% uptake of ARV prophylaxis among pregnant women, but what this usually represents is 85% of women who tested positive in a facility. It does not mean that 85% of the pregnant women with HIV received ARV prophylaxis, which is equally important for national programs to know when planning and monitoring services. It is critical to understand what *coverage* means in terms of services available. In addressing this issue, one needs to discern if services include treatment availability for all eligible pregnant HIV-positive women or availability of extended infant prophylaxis.

COST

Without a doubt, there will be severe cost implications to implementing the revised guidelines. Putting in place all of the additional necessary processes, systems, mechanisms, staffing, and training across all countries will have to be taken into consideration by both ministries of health (MOH) and donors when changing national policy or deciding upon reporting requirements for PMTCT services. It may be that difficult decisions have to be made in terms of what is feasible with the limited funding and human capacity available.

CHALLENGES ARE OPPORTUNITIES

The revised WHO guidelines provide both new monitoring challenges and an important opportunity for fresh thinking about old challenges. The new guidelines clearly illustrate the inefficient separation of PMTCT and C&T. They also provide the opportunity for country programs to advocate for integration of services, making comprehensive services available to pregnant women who access ANC. This may force the issue of thinking holistically about monitoring HIV services for women and children.

To effectively monitor the provision of these services, we need to push the boundaries of M&E. It may be that routine service statistics collected on a quarterly basis are not the best choice for monitoring the spectrum of PMTCT services that increasingly require monitoring of longitudinal care integrated with prevention.

The revised guidelines provide the unique chance to build a foundation for stronger national M&E systems that address more than HIV services alone. Additionally, the new guidelines will provide the chance for the MOH, implementers, and donors to develop new indicators to monitor some activities that are not currently being monitored (e.g., infant feeding choices and patterns). It remains to be seen whether many national governments will capitalize on this opportunity. However, if they do, this document details questions to consider for specific changes that may be implemented.



4.2 RECOMMENDATIONS AND NEXT STEPS

Monitoring the roll-out of services according to the new guidelines will require collection of several national and site characteristics to understand the variations of services across and within countries and to truly gauge what services are being provided to HIV-positive pregnant women and HIV-exposed infants. From a service level perspective, the goal is to monitor a cascade of services that begin with identification of HIV-positive pregnant women and follow all subsequent services, with a focus on monitoring ARV drugs for PMTCT purposes.

KEY QUESTIONS

As we move toward re-examining how we judge the success of our services, there are five questions that could be used to assess program outcomes. While these are based on data collected at the facility level, additional parameters need to be included to illustrate the overall success of the program on a population basis.

Box 1. Five Questions to Assess PMTCT Program Outcomes

- 1. What percentage of pregnant women with HIV received ARV for treatment or prophylaxis?**
 - a) What percentage of pregnant women with HIV were assessed for treatment eligibility?
 - b) What percentage of pregnant women with HIV who were assessed for treatment eligibility are eligible for treatment?
 - c) What percentage of eligible women were initiated on antiretroviral therapy (ART)?
 - d) What is the breakdown of the percentages of women who received each type of ARV regimen?
- 2. What percent of HIV-exposed infants received ARV prophylaxis in the first six weeks of life?**
- 3. What percent of eligible HIV-exposed infants are “covered” (either they continued NVP prophylaxis or their mothers were taking three-drug ARV prophylaxis or ART) by any prophylactic regimen specifically for breastfeeding transmission prevention?**
 - a) How many babies who are eligible for prophylaxis at 6 months of age received prophylaxis?
 - b) How many babies who are eligible for prophylaxis at 12 months of age received prophylaxis?
- 4. What is the rate of HIV transmission at 18 months (or similar medium-term time frame)?**
 - a) How many exposed infants who are tested at 12 months are HIV-infected?

- b) How many exposed infants who are tested at 18 months are HIV-infected?
- 5. What is the rate of initiation onto ART for infants testing HIV-positive?**
- a) How many infants who test positive at 6 months are initiated onto ART?
- b) How many infants who test positive at 12 months are initiated onto ART?
- c) How many infants who test positive at 18 months are initiated onto ART?

FIRST STEPS IN UPDATING THE M&E PLAN

STEP 1: KNOW WHICH OPTION WILL BE IMPLEMENTED IN COUNTRY

Option A: Maternal AZT (combination prophylaxis)	Option B: Maternal triple ARV prophylaxis
Mother	Mother
<ul style="list-style-type: none"> ▪ Antepartum: AZT (> 14 weeks gestation) ▪ Intrapartum: Sd-NVP at onset of labor AZT + 3TC during labor and delivery ▪ Post-partum: AZT + 3TC for seven days <p><i>Note sdNVP, AZT+3TC can be omitted if mother has received AZT>4 weeks</i></p>	<p>Triple ARV prophylaxis from > 14 weeks gestation until one week after all exposure to breast milk has ended. Recommended regimens are:</p> <p>AZT + 3TC + LPV/ror</p> <p>AZT + 3TC + ABC or</p> <p>AZT + 3TC + EFV or</p> <p>TDF + 3TC (or FTC) + EFV</p>
Infant	Infant
<ul style="list-style-type: none"> ▪ Breastfeeding <ul style="list-style-type: none"> ▪ NVP from birth until one week after cessation of breastfeeding ▪ Non-breastfeeding 	<ul style="list-style-type: none"> ▪ All HIV-exposed infants <ul style="list-style-type: none"> ▪ AZT for 4-6 weeks or ▪ NVP for 4-6 weeks

<ul style="list-style-type: none"> ▪ AZT for 4-6 weeks or ▪ NVP for 4-6 weeks 	
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STEP 2: UNDERSTAND WHERE THE SERVICES ARE PROVIDED

Within any country, there are different possibilities for the location of basic PMTCT services that are provided to HIV-positive pregnant women. Common scenarios include:

- **Referral:** HIV testing and counseling and ARV prophylaxis available in ANC; refer to ART clinic for ART eligibility assessment, cotrimoxazole (CTX) and ART provision. This model usually requires women to be sent or referred from ANC for ART services.
- **Mixed:** HIV testing and counseling, ARV prophylaxis, CD4 and CTX available at ANC; refer to ART clinic if eligible for ART. This model is a combination, as it allows women to access certain services within ANC, and others within the ART clinic.
- **Full-Service:** HIV testing and counseling, ARV prophylaxis, CD4, CTX and ART available at ANC, postnatal clinic and/or MCH clinic. This model is client-centered, allowing pregnant women to access the services in one setting rather than being referred or sent to a separate clinic.

Typically, HIV testing and counseling and ARVs are provided in labor/delivery clinics. HIV testing and counseling is offered in postnatal care/MCH care services.

Table 4.2.1. Current Location of Services Offered to HIV-Positive Pregnant Women

Scenario	ANC	L&D	PNC/MCH	ART CLINIC
Referral	HIV testing and counseling/ARV	HIV testing and counseling /ARV	HIV testing and counseling	CD4/CTX/ART
Mixed	HIV testing and counseling /ARV/CD4/CTX	HIV testing and counseling /ARV	HIV testing and counseling	ART

Full-Service	HIV testing and counseling /ARV/CD4/CTX/ART	HIV testing and counseling /ARV	HIV testing and counseling	
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Table 4.2.2. Current Location of Services for HIV-Exposed Infants according to Service Model

Service Model	L+D	PNC/MCH	ART CLINIC
Referral	ARV Prophylaxis	EID	CD4/CTX/ART
Mixed	ARV Prophylaxis	EID/CTX/CD4	ART
Full-Service	ARV Prophylaxis	EID/ART/CTX/CD4	EID?

STEP 3: UNDERSTAND HOW OPTION A OR OPTION B WILL IMPACT THE LOCATION OF SERVICE DELIVERY

The below graphic illustrates the inverse relationship between the services provided for women in the ANC and ART clinics: the more services that are offered in the ANC clinic, the fewer services are needed in the ART clinic for pregnant women. Please note that in mixed or referral models, women will always be required to receive their long-term ART outside ANC.

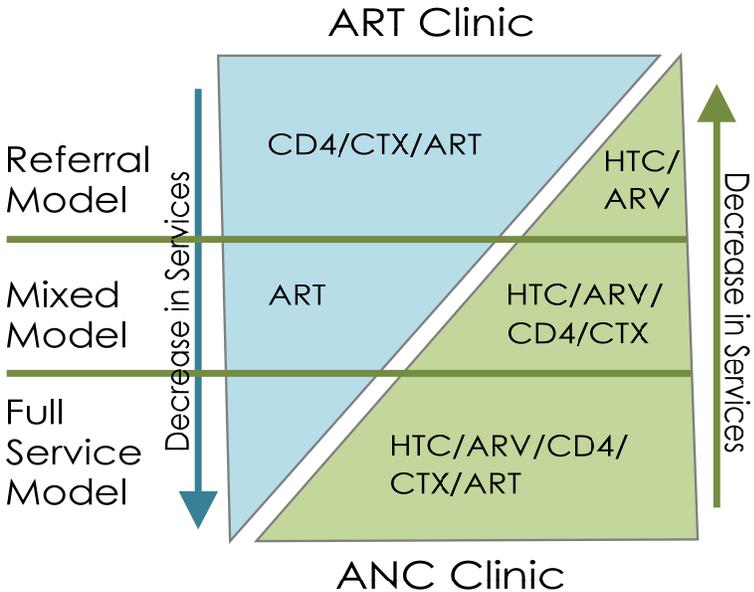


Figure 4.2.1. Relationship between the services provided for women in the ANC and ART clinics

The table below illustrates the decisions that need to be made around where services are provided when implementing either Option A or Option B. These decisions also point to where data would need to be collected in order to monitor the implementation of services. The table only outlines instances where there will be changes. No mention is made of where service locations would remain unchanged.

Table 4.2.3. Considerations for Location of Service Delivery when Implementing Option A or Option B

	Referral Model	Mixed Model	Full-Service Model
Option A	<ul style="list-style-type: none"> ▪ Provision of extended infant NVP (PNC/MCH) ▪ All other service locations likely to remain the same 	<ul style="list-style-type: none"> ▪ Provision of extended infant NVP (postnatal clinic/MCH) ▪ All other service locations likely to remain the same 	<ul style="list-style-type: none"> ▪ Provision of extended infant NVP (postnatal clinic /MCH) ▪ All other service locations likely to remain the same
Option B	<ul style="list-style-type: none"> ▪ Provision of 3D regimen for women during postnatal period (ART clinic) ▪ All other service locations likely to remain the same 	<ul style="list-style-type: none"> ▪ Provision of 3D regimen for women during antenatal period (ANC or ART clinic) ▪ Provision of 3D regimen during postnatal period (postnatal clinic /MCH or ART clinic) ▪ All other service locations likely to remain the same 	<ul style="list-style-type: none"> ▪ Provision of 3D regimen for women during antenatal period (ANC) ▪ Provision of 3D regimen during postnatal period (postnatal clinic /MCH) ▪ All other service locations likely to remain the same

STEP 4: IDENTIFY DATA SOURCES TO ENSURE THAT NECESSARY PATIENT-LEVEL DATA ARE AVAILABLE TO MEASURE EACH INDICATOR

Table 4.2.4 on the following pagelists the data that would need to be collected at each point of service to answer the questions from part 4.1 of this section (reproduced below). Countries would need to adapt their data collection and patient level monitoring tools substantially to ensure that each element is collected at the appropriate point and in a linked, longitudinal manner so as to avoid double, triple and quadruple counting.

The select questions from Box 4.1.1 included on the following table are only those relevant to selection of Option A for delivery of services. Should countries choose to implement the three-drug regimen (Option B) for women from ANC through the breastfeeding period, the table can be easily adapted to reflect this.

Box 4.1.1. Five Questions to Assess PMTCT Program Outcomes (reproduced from part 4.1)

6. What percentage of pregnant women with HIV received ARV for treatment or prophylaxis?

- e) What percentage of pregnant women with HIV were assessed for treatment eligibility?
- f) What percentage of pregnant women with HIV who were assessed for treatment eligibility are eligible for treatment?
- g) What percentage of eligible women were initiated on antiretroviral therapy (ART)?
- h) What is the breakdown of the percentages of women who received each type of ARV regimen?

7. What percent of HIV-exposed infants received ARV prophylaxis in the first six weeks of life?

8. What percent of eligible HIV-exposed infants are “covered” (either they continued NVP prophylaxis or their mothers were taking three-drug ARV prophylaxis or ART) by any prophylactic regimen specifically for breastfeeding transmission prevention?

- c) How many infants who are eligible for prophylaxis at 6 months of age received prophylaxis?
- d) How many infants who are eligible for prophylaxis at 12 months of age received prophylaxis?

9. What is the rate of HIV transmission at 18 months?

- c) How many exposed infants who are tested at 12 months are HIV-infected?
- d) How many exposed infants who are tested at 18 months are HIV-infected?

10. What is the rate of initiation onto ART for infants testing HIV-positive?

- d) How many infants who test positive at 6 months are initiated onto ART?
- e) How many infants who test positive at 12 months are initiated onto ART?

f) How many infants who test positive at 18 months are initiated onto ART?

Table 4.2.4. Required Data for Patient-Level Monitoring of PMTCT Services According to Option A

Question	ANC	L+D	PNC/MCH	ART	Comments
<p>Question 1. Pregnant women receiving ARVs for treatment or prophylaxis</p> <p>1c) What percentage of eligible women were initiated on antiretroviral therapy (ART)?</p>	<ul style="list-style-type: none"> • # Positive • # Receiving ARV • Regimen # CD4/Stage • # Referred for CD4/Staging • # Eligible referred for ART <p>For question 1c:</p> <ul style="list-style-type: none"> • # Eligible for ART (CD4<350 or Stage 3/4) • # initiating ART 	<ul style="list-style-type: none"> • # Positive • Regimen • # Receiving ARV 	N/A	<ul style="list-style-type: none"> • Eligible for ART • Regimen <p>For question 1c:</p> <ul style="list-style-type: none"> • # CD4<350 or Stage 3/4 • # initiating 	If referring for CD4, staging or initiation, ANC may not have numbers eligible and/or receiving ART and may have difficulty linking to ANC women.
<p>Questions 2 and 3: HIV-exposed infants on NVP</p> <p>3a) How many infants who are eligible for prophylaxis at 6 months of age received prophylaxis?</p> <p>3b) How many infants who are eligible for prophylaxis at 12 months of age received prophylaxis?</p>	N/A	<p>For question 3a:</p> <ul style="list-style-type: none"> • # Exposed infants • # Infants given NVP 	<p>For question 3a:</p> <ul style="list-style-type: none"> • # Exposed infants • # Infants receiving NVP during first six weeks <p>For question 3b:</p> <ul style="list-style-type: none"> • # Eligible infants: is mom breastfeeding and is infant not known to be positive • # Infants initiating NVP breastfeeding prophylaxis at any time from 6 weeks-6 months 	N/A	<p>At each infant visit:</p> <ul style="list-style-type: none"> ▪ Baby infection status (P,N,U) ▪ If positive, ART (Y,N) ▪ Mom breastfeeding (Y,N) ▪ Mom ART (Y,N) ▪ Baby currently on NVP ▪ Baby Initiating NVP ▪ Baby not on NVP

Question	ANC	L+D	PNC/MCH	ART	Comments
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<p>Question 4. Transmission of HIV to infants</p> <p>4a) How many exposed infants who are tested at 12 months are HIV-infected?</p> <p>4b) How many exposed infants who are tested at 18 months are HIV-infected?</p> <p>Other: Cross section of infected infants at 6 months</p>	<p>N/A</p>	<p>N/A</p>	<p>For question 4a:</p> <ul style="list-style-type: none"> • # Exposed infants at any time during 18 months • # Infants testing positive at any time during 18 months <p>For question 4b:</p> <ul style="list-style-type: none"> • # Exposed infants at 18months • # Infants testing at 18 months • # Infants testing positive at 18 months • # Infants tested positive at 18 months <p>Cross section of infected infants at 6 months:</p> <ul style="list-style-type: none"> • # Exposed infants at 6 months • # Infants testing at 6 months • # Infants testing positive at 6 months • # Infants tested positive at 6months 	<p>N/A</p>	<p>Cumulative data may not be collected on a routine basis; possibly twice a year.</p>
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Question	ANC	L+D	PNC/MCH	ART	Comments
<p>Question 5. Rate of initiation on ART for infants testing positive</p> <p>5a) How many infants initiated on ART at 6 months?</p> <p>5b) At 12 months?</p> <p>5c) At 18 months?</p>	N/A	N/A	<p>For question 5a:</p> <ul style="list-style-type: none"> # infants testing positive at 6 months <p>For question 5b:</p> <ul style="list-style-type: none"> # infants testing positive at 12 months <p>For question 5c:</p> <ul style="list-style-type: none"> #infants testing positive at 18 months 	<p>For question 5a:</p> <p>infants initiated onto ART at 6 months of age</p> <p>For question 5b:</p> <p>infants initiated onto ART at 12 months of age</p> <p>For question 5c:</p> <p>infants initiated onto ART at 18 months of age</p>	N/A

COUNTING INFANTS THROUGH TIME: INFANTS IN/INFANTS OUT DENOMINATOR

Counting infants who are covered by ARV prophylaxis during breastfeeding will be challenging with either Option A or Option B. This is because knowing which infants should be on prophylaxis at any particular visit is not easy. The infant needs to be assessed at each visit to decide if they are an “infant in” or “infant out,” as illustrated in Table 4.2.5 below. For service providers to calculate the proportion of eligible infants covered by prophylaxis during the breastfeeding period, they will need to know the number of eligible infants and the number receiving prophylaxis. Hence, the number of HIV-exposed infants who are breastfeeding at any point in time must be known. To that end, the new exposed infants to add and which infected or non-breastfeeding infants to subtract from the denominator become important. This is represented by the denominator column below.

Table 4.2.5. Measuring Uptake of Prophylaxis during Breastfeeding (Option A or Option B)

Indicator	↘ Infants In ↘	Denominator	↗ Infants Out ↗
Exposed infants seen at a 6 week visit	<i>Exposed infants attending 6 week visit</i>	Number of infants born to women with HIV	N/A
Exposed infants receiving NVP during first 6 wks	<i>Any infant receiving any NVP during first six weeks of life</i>	Exposed infants seen at 6 weeks old	<i>Exposed infants not attending a six week visit</i>
Infants continuing NVP prophylaxis during breastfeeding	<i>Breastfeeding Infants</i>	Eligible infants 6 weeks old	<i>Infants died Infants not breastfeeding Infants HIV+ (PCR)</i>
% eligible infants receiving NVP at 6 months	<i>‘New’ exposed breastfeeding infants</i>	Eligible infants 6 months old	<i>Infants died Infants not breastfeeding Infants HIV+ (PCR)</i>
% eligible infants receiving NVP at 12 months	<i>‘New’ exposed breastfeeding infants</i>	Eligible infants 12 months old	<i>Infants died Infants not breastfeeding Infants HIV+ (RT then PCR)</i>
% eligible infants receiving NVP at 18 months	<i>‘New’ exposed breastfeeding infants</i>	Eligible infants 18 months old	<i>Infants died Infants not breastfeeding Infants HIV+ (RT)</i>

HIV+ infants at 18 months		All exposed infants seen at 18 months	
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4.3 IMPORTANT ADDITIONAL M&E CONSIDERATIONS

GENERAL CONSIDERATIONS

In addition to all of the above issues, there are several issues that still need to be considered and thought through. These include:

- How to count women who become eligible and/or initiate ART after delivery?
- What to do in “Option B” when the mom is identified as HIV-positive in postnatal care? Start three drugs alone? Give three drugs plus six weeks NVP? Extended NVP alone?
- When and how often infants should be tested for HIV infection?
- How to manage postnatal care being given at different places in the context of ongoing prophylaxis (i.e. if not all postnatal care sites have capability and tracking infants/women)?
- When and how to revise mother/baby cards to track extended dosing?
- What will be the impact on C&T data collection if women are followed in C&T sites? For example, are they counted as being on ART? What are differences with initiating ARV and discontinuing ARV when baby is no longer “at risk”? Are there separate recording systems, or codes?
- Linkage of IYCF indicators
- Systematic use of program data for program improvement
- Development of outcome indicators to describe program impact

For many of these issues outlined in parts 4.1 and 4.2 of this section, monthly/quarterly monitoring data may not be enough to understand the performance of the program. One suggestion to address this is to establish sentinel surveillance sites where individual-level data could be tracked:

- Each country where new regimens are being implemented would select a few sites that are “representative” of the overall population - may be two or three small programs (rural, urban health center, hospital, etc.,) or more (six to ten) for larger programs (e.g., different districts, types of partners, etc.)
- The program would invest in additional “program evaluation” staff at these sites to allow additional high quality data collection, implementation of more detailed patient identification and tracking system, possibly computerized records including patient encounter records, pharmacy records, lab records, etc., to monitor HIV-free survival outcome, growth/nutrition issues etc.,

- This strategy would allow collection of more detailed information on outcomes and other services, integration with MCH, MCH indicators (family planning, immunization, nutrition, etc.).

FOUNDATION-SPECIFIC CONSIDERATIONS

The above content is focused on general M&E considerations that are appropriate for MOH, implementing partners, and anyone involved in planning, managing, and implementing PMTCT services. However, there are several Foundation-specific issues that need to be thought through so that for the Foundation as a whole we would be able to effectively monitor and track our PMTCT services and understand how the programs are functioning. These include:

- Review existing indicators in light of new WHO recommendations;
- Engage with donors and global agencies to highlight monitoring implications of revised WHO recommendations and solicit support;
- Engage with the MOH to open discussion on issues for M&E raised by revised WHO recommendations;
- Work with the MOH to discuss the concept of establishment of sentinel sites. Devise protocols and establish sentinel sites for detailed longitudinal monitoring and strengthen and develop integration of PMTCT, C&T and MCH services for more routine monitoring;

Within the Foundation systems (and within GLASER) the following proposals should be considered:

- Creation of a country profile: a checklist of what an individual country's policy is on different aspects of services. Examples include the following: regimens provided, when they are distributed, who can stage/screen, CD4 thresholds, which services are provided in MCH, who can prescribe ARVs. These would be reported once by country teams and then updated if there is a national policy change.
- Creation of additional site profile indicators: a series of indicators would provide a context for understanding the service data from a particular site. Indicators would delineate the types of regimens used by a site, whether or not the site has CD4 testing on-site, whether patients have access to CD4 testing, whether ART is provided for pregnant women in C&T or at MCH, whether extended prophylaxis is provided for babies at MCH or C&T.
- Propose way forward for streamlining existing data collection mechanisms within GLASER to reflect the necessary continuum of care.

The Foundation has positioned itself as a global leader in addressing the issue of monitoring PMTCT services. This in turn will only strengthen the Foundation's ability to monitor service provision. As we work within countries to capture the needed information for PMTCT services, opportunities will arise for strengthening and integration of the HMIS system overall and the Foundation will work with the MOH in thinking through approaches to address this issue.