Prevention of Mother-to-Child Transmission of HIV Impact Study Report

December 2012
National AIDS Control Program
Ministry of Health & Social Welfare
Republic of Liberia

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AIDS  Acquired Immune Deficiency Syndrome
ANC  Antenatal Clinic
ART  Anti Retro Viral Therapy
ARV  Anti Retro Viral
DNA  Deoxyribonucleic acid
EID  Early Infant Diagnosis
FGD  Focus Group Discussions
GFATM  Global Fund to Fight AIDS Tuberculosis and Malaria
HCT  HIV Counseling and Testing
HIV  Human Immune Deficiency Virus
IATT  Interagency Task Team
IATT FEWGIATT’s  Financial and Economic Working Group
LDHS  Liberia Demographic and Health Survey
MOHSW  Ministry of Health and Social Welfare
NACP  National AIDS and STI Control Program
NGOs  Non-Governmental Organizations
PCR  Polymerase Chain Reaction
PICT  Provider Initiated Counseling and Testing
PMTCT  Prevention of Mother to Child Transmission
UNAIDS  Joint United Nations Programme on HIV and AIDS
UNICEF  United Nations Children’s Fund
WHO  World Health Organization

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Executive Summary

In an attempt to improve mother to child transmission of HIV services in Liberia, the National AIDS Control Program (NACP) is closely collaborating with all stakeholders including UNICEF and the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM). Such support has expanded access to HIV care and treatment services throughout Liberia. During the implementation of the round 8 grant of the GFATM, NACP has increased the number of sites offering Prevention of Mother-To-Child Transmission (PMTCT) services from 29 in 2008 to 335 in September 2012 and the number of sites offering HIV care and treatment services from 19 to 40. This has led to an increase in the number of adults and children on ART from 4,238 to 6,759 and 332 to 570 respectively from 2010 to September 2012. This represents an increase in total coverage of people in need of treatment (based on spectrum projections), from 28% to 40% for adults and 7% to 14% for children.

This report covers the following issues as it relates to PMTCT in Liberia; a) determining how the rapid scale-up of PMTCT sites and services in Liberia has decreased vertical HIV transmission and b) the quality of PMTCT services and understanding of the challenges for quality PMTCT service provisions. According to the World Health Organization (WHO) in 2010, approximately 20-45% of babies born to HIV+ mothers not receiving antiretroviral prophylaxis become infected with HIV. This known fact happens when nothing is done. The NACP opted to do an impact study to evaluate the level of intervention that has been done after about five years of implementation. Two approaches were used to carried out the study; the first was the quantitative aspect that collected data from patients enrolment registers and review charts and the second was a qualitative interview and focus group discussions of HIV positive mothers to better understand the quality of services received as well as reasons why some women opted out of the program.

This study was retrospective and it followed 1,778 HIV+ women from 18 health facilities throughout the country representing approximately 73% of the estimated HIV positive pregnant women in Liberia in 2009. Although the increase in PMTCT services in Liberia is still in its infancy, 38% of pregnant mothers received antiretroviral prophylaxis at some point in the PMTCT cascade, while 26% of exposed infants received antiretroviral prophylaxis. Only 14% of exposed infants in the study were tested for HIV; however, over 85% of those tested were HIV negative. With the increase in access to PMTCT services over recent years, the vertical HIV transmission rate was below 13.7%. The majority of the vertical HIV transmission occurred in mother-baby pairs who received no antiviral drugs. The modeled transmission rate was 3.7% at six weeks in mothers who received antiretroviral drugs. The total cohort vertical transmission rate at the end of breastfeeding was 30.7%. From a qualitative point of view, the study showed that the most common challenge was the retention of pregnant women tested HIV positive. There is always fear to be told that these pregnant women are HIV positive. Even if the spouse or husband is supportive, relatives usually stigmatize the HIV positive woman. Therefore, stigma remains the single most important reason that prevents pregnant women from enrolling into the PMTCT program regardless of
the outcome of the unborn child. Though the quality of these services still needs to significantly improve, this study showed that initiation and scaling-up of PMTCT services has dramatically decreased the vertical HIV transmission rate when women and babies receive antiretroviral drugs compared with published vertical HIV transmission estimates when women-baby pairs do not receive any antiretroviral drugs. Interestingly, however, the introduction of PMTCT services has not decreased the total cohort vertical transmission rate below the expected rate if PMTCT services did not exist.

1.0 Background

The first case of HIV in Liberia was reported in 1986 in Curran Hospital, Zorzor, Lofa County. In response, the government established the National AIDS and STI Control Program (NACP) in 1987. However, the NACP could not fully implement strategies to prevent and control the spread of HIV due to consistent outbreak of war in different parts of the country, between 1989 and 2003.

Liberia is gradually emerging from the devastating effects of the civil conflict as evidenced by a return to the democratic process and the rebuilding of the health system. Despite Liberia being a low HIV prevalent country, it has attracted support from NGOs and multilateral agencies to scale up and strengthen Prevention of Mother-to-Child Transmission (PMTCT) services. Strengthening the quality of care is a crucial aspect of improving PMTCT in Liberia, as existing sites have difficulties meeting the NACP standards and using the guidelines correctly. Despite the existence of standardized tools and guidelines, uptake of PMTCT regimens and the use of early infant diagnosis as an important intervention in PMTCT became difficult to follow. From early 2009, the use of PMTCT package became popular and was carried out in most sites in the country.

Figure 2. Scale up of PMTCT sites and comparison of PMTCT regimens

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1 National Multisectoral Strategic Framework 2009-2013
With the prevalence of HIV in the general population at 1.5% (LDHS 2007), and the prevalence among pregnant women at 2.6% (ANC sentinel survey 2011) from 5.7% in 2006, we can say that it is showing a downward trend. As you can see above in the graph, scale up of PMTCT actually began from 2009 and has been increasing since then from 55 sites to 335 in September 2012.

2.0 Rationale
This study was commissioned by the NACP on the premise that the rapid scale-up and significant investment in PMTCT services, there is a need to evaluate the impact of these services. A previous PMTCT study failed to provide useful information on the effectiveness of service provision. The basis of this study was to provide critical information on patients attrition, reasons behind this attrition, and information on mother-to-child transmission rates in Liberia.

Further reasons for conducting this study was that significant amount of assistance from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), and other technical and funding partners have been available to Liberia and there is a rapidly increasing access to PMTCT for pregnant women. This study was to provide the evidence of strengths and weaknesses in the ability of health facilities to provide PMTCT that will inform the design of national policies and programs, such as NACP clinical mentoring which should include PMTCT mentoring, Early Infant Diagnosis through a strengthened service delivery.

3.0 Objectives of the study
The primary aim of the study was to assess the performance of PMTCT services in Liberia, as well as understand factors affecting pregnant women’s participation in PMTCT. Specifically, the study intended to accomplish the following three objectives:

1. Calculate national rate of HIV transmission from pregnant women to their children
2. Calculate attrition rates at each stage of the cascade of PMTCT services
3. Identify factors influencing or causing patient attrition at each stage of the cascade of PMTCT services

Objective 1 (quantitative)
Since this study was limited to pregnant women who were tested and confirmed HIV positive, it did not obtain information on HIV positive pregnant women who are not tested. In 2011, NACP estimates that approximately one-third of pregnant women are not tested for HIV in ANC. Thus, the national rate of HIV transmission will be calculated through an estimation model based on two types of inputs:

1. Findings from this study to estimate transmission from HIV positive pregnant women that enroll in PMTCT in Liberia; and
2. Global assumptions to estimate transmission from HIV positive pregnant women who are not enrolled in PMTCT, including those who are not tested for HIV.

Objectives 2 and 3 (qualitative)
The objectives 2 & 3 of the study were to gain information on the cascade of PMTCT services that the health facility can provide a pregnant woman, listed below:
- Test for HIV during antenatal clinic visit
- Enroll in PMTCT program
- Provide antiretroviral (ARV) prophylaxis or antiretroviral therapy (ART) and Cotrimoxazole (CTX) prophylaxis during pregnancy
- Provide ARVs for prophylaxis at labor and delivery
- Provide ARV prophylaxis during breastfeeding
- Provide CTX prophylaxis for exposed infant
- Conduct Early Infant Diagnosis (EID) for exposed infant
- Conduct early infant initiation for confirmed HIV-positive infants

The study collected information on HIV positive pregnant women who enrolled in PMTCT, tracking their attrition and reasons for attrition during each stage of the PMTCT cascade, through both chart reviews and in-person interviews. In addition, the study also collected information on attrition between HIV testing and PMTCT enrollment through a review of HCT and PMTCT registers.

4.0 Methodology

Methods and Materials

The method use for the study was a two-phase approach: a) from a quantitative standpoint, the study followed 1,778 HIV positive women who were pregnant during the eligibility period of January 1, 2009 to June 30, 2010 and subsequently delivered by March 31, 2011. Data was collected from 18 health facilities throughout the country that post-test counseled at least 20 HIV positive pregnant women at the antenatal clinics and at labor and delivery during the eligibility period. Those patients who received ARV prophylaxis or antiretroviral therapy (ART) including those who did not complete the full cascade of PMTCT services were followed through facility registers and patients charts reviews. The total number of pregnant women attending ANC who received HIV testing and the total number of those who tested positive was verified. A detailed review of all three PMTCT registers (ANC, Labor and Delivery, and Exposed Infant) as well as the counseling and testing register and the Pre-ART and ART register was conducted for all pregnant women tested HIV positive at participating facilities during the eligibility period. When possible, particularly when using patient unique codes, mothers and babies were matched from different registers and service entry points. In addition, information about their demographics and participation along the PMTCT cascade of services was gathered from their relevant entries in all available registers as well as the patient charts.

Information from patient charts and facility registers were collected according to the NACP Standard Operating Procedures and then entered in Microsoft Excel; afterwards, data were analyzed using statistical software (MS Excel and Graph Pad Prism). Baseline patient demographics and critical treatment decisions were collected, including the following: patient age and gestation at first ANC visit, HIV type, date and value of initial CD4 test, WHO stage at enrollment, antiretroviral regimen of both mother and baby, date and location of delivery, infant tests performed, and breastfeeding status.
The Clinton Health Access Initiative (CHAI) developed PMTCT and Pediatric HIV Impact Model, a Microsoft Excel-based, deterministic model was used. This model, on using locally available data for each point along the cascade of services, from pregnancy through breastfeeding, and assumptions from the most recent scientific literature, helped in estimation of the transmission risk from mother to child. The model has been used in the past for decision-making around changing national guidelines, planning or implementation, and understanding the impact of improved coverage on HIV transmission rate and infections averted. Assumptions within the model were harmonized with other existing models in a 2010 consultative meeting convened by the Interagency Task Team (IATT) on PMTCT and the UNAIDS Reference group on Estimates, Modeling, and Projections and continue to be updated through collaborative work with the IATT’s Financial and Economic Working Group (IATT FEWG). Therefore, this model was used to estimate the vertical HIV transmission rates in Liberia. Several assumptions are made in utilizing the model. First, the Liberia 2006 and 2010 guidelines and recommendations are followed as published. Second, HIV positive pregnant women who require antiretroviral therapy for their own health (CD4 \textless 350 cells/ml) received ART, while those with a CD4 result \textgreater 350 cells/ml received antiretroviral prophylaxis. And finally, all breastfeeding women are assumed to breastfeed for the same number of months.

From a qualitative point of view, b) semi-structured tools were used to interview respondents of various categories to obtain views on PMTCT services and tracing and interviewing pregnant women that had been found to be HIV positive from the period 2009 and testing their babies in the field.

The qualitative part of the study was conducted to obtain an in-depth understanding of reasons that lead to uptake or non-uptake of PMTCT services in order to explain the attrition rates obtained from the quantitative component. The qualitative part involved use of Focus Group Discussions (FGD) and individual exit poll interviews. Interviews and FGDs were conducted with the following categories of respondents: (See table 1 below).

### Table 1: Focus Group discussion and Individual Exit Poll Interviews

<table>
<thead>
<tr>
<th>County and Respondent category</th>
<th>Number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bomi County- FDG PMTCT Mothers</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Bomi FDG Men</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Grand Bassa County FDG Men</td>
<td>5</td>
<td>Selected men mainly from hospital</td>
</tr>
<tr>
<td>River Gee FGD Men</td>
<td>6</td>
<td>Same as Voinjama transcribed</td>
</tr>
<tr>
<td>River Gee Peer Group PMTCT Up-takers</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>River Gee Exit Poll Interviews (individual)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>River Gee Exit Poll as FGD</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Southern Grand Gedeh Peer Mothers</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Southern Grand Gedeh FDG Men</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Peer Group</td>
<td>na</td>
<td>Number and region not stated</td>
</tr>
</tbody>
</table>
Semi structured questionnaires were designed for the exit poll interviews and focus group discussion guides were designed to guide the focus group discussions. The following tools were utilized for the qualitative study:

- FDG Guide for Men
- FDG for Peer Groups and or Mothers on ART who had been enrolled in PMTCT
- Exit poll Interview guide for mothers from ANC

**Eligibility of study participants**

The study as a retrospective study followed outcomes of pregnant women enrolled in the PMTCT program during the eligibility period of **July 1, 2008 – December 31, 2009**, delivered, and stopped breastfeeding by July 1, 2011. It included patients who began ARV prophylaxis or ART, including those who did not complete the full cascade of PMTCT services. Patient outcomes were followed up to the censorship date of July 1, 2011.

**Exit Poll interviews:** These were conducted with mothers who were attending the ANC Clinic on the day of interviews at a given facility. Mothers were selected as they made their way out of the ANC room where a nurse had examined them. Once a woman accept to be interview, a more detailed consent was read to her about her choice to participate in the interview or to opt out of the process at any stage of the interview. No names of respondents were taken and confidentiality was observed throughout the process.

**FGD:** The selection of FDG was based on the FDG group. For men, it was based on whether the man was married or in partnership with a woman. Single men were not included in the FGD. There was no age limit for participants.

**FDG for peers:** This included all women that had enrolled for PMTCT and had formed a peer group to help new enrolling pregnant women found to be HIV positive and pregnant to take their ARVs and to deliver in health facilities.

**Feasibility phase for patient interviews and HIV tests**

Since this was the first time NACP was engaging in interviewing and testing for operational research, a decision point was build into the first phase of the study to determine the feasibility of this component. During the first phase, NACP research teams had to trace 50 mother-baby pairs from the full sample of 447 PMTCT patients in 10 days. This included patients from at least 3 facilities. After this 10-day phase, the research teams had to report to the Technical Committee on their success rates for locating mother-child pairs and obtaining consent for interviews and/or child testing. At this point, the Technical Committee meets to determine the feasibility of interviewing and testing these mother-child pairs. If a significant majority of 50 mother-baby pairs cannot be interviewed and tested, it may be impossible to obtain representative data in this manner because factors that influence women’s PMTCT outcomes may also contribute to their non-participation in this study. In that case, the study would stop the interviewing and testing component and continue only with the patient record and register review. If the first phase is deemed successful, the interviewing and testing component will continue, and the study team will trace the full sample of 447 mother-child pairs selected to be interviewed and tested.
Sampling methodology
In order to select the 1,491 patients enrolled in PMTCT, the study randomly chose a set of patients in proportion to HIV-positive ANC patient volumes at each facility as shown in Table 1. The study teams first assign a random number generated by a random number generator to each patient enrolled in PMTCT, using the PMTCT-ANC Register and other health facility information. The patients were selected in ascending order of their random number assignment.

Of the 1,491 randomly selected PMTCT patients included in the chart review, the subset of 447 mother-baby pairs were similarly selected using random number assignments in proportion to HIV-positive ANC patient volumes at each facility as shown in Table 1.

Confidentiality and consent
Confidentiality was observed at all levels of the data collection process. A consent form was designed along with tools and this was read out to interviewees seeking their willingness to participate in the study. If they provided consent, they were interviewed without noting their names anywhere for both FDG and individual interviews. If they did not consent to participate in interviews, they were thanked for their time and no interviews were conducted. Data obtained from FDGs did not include names of participants in the discussion groups. Regarding individual interviews at exit polls, no names were recorded.

Results and Discussions
Quantitative Results
The total number of HIV case included those pregnant women tested HIV positive at ANC as well as women who tested positive at labor and delivery and voluntary testing and counseling; hence the total number of HIV positive cases per facility is higher than the number of HIV positive cases at ANC of each facility. See Table2 below.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Total Cases</th>
<th>ANC Tested</th>
<th>ANC Cases</th>
<th>% HIV+ mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redemption Hospital</td>
<td>484</td>
<td>5,184</td>
<td>137</td>
<td>2.64%</td>
</tr>
<tr>
<td>Martha Tubman Memorial Hospital</td>
<td>142</td>
<td>3,049</td>
<td>97</td>
<td>3.18%</td>
</tr>
<tr>
<td>Ganta Methodist Hospital</td>
<td>56</td>
<td>1,454</td>
<td>46</td>
<td>3.16%</td>
</tr>
<tr>
<td>St Joseph's Catholic Hospital</td>
<td>29</td>
<td>442</td>
<td>13</td>
<td>2.94%</td>
</tr>
<tr>
<td>Sister Agnes Clinic</td>
<td>97</td>
<td>2,340</td>
<td>68</td>
<td>2.91%</td>
</tr>
<tr>
<td>Star of the Sea Health Center</td>
<td>81</td>
<td>1,615</td>
<td>46</td>
<td>2.85%</td>
</tr>
<tr>
<td>Duport Health Center</td>
<td>80</td>
<td>2,596</td>
<td>53</td>
<td>2.04%</td>
</tr>
<tr>
<td>JF Kennedy Medical Center</td>
<td>188</td>
<td>1,695</td>
<td>119</td>
<td>7.02%</td>
</tr>
<tr>
<td>JJ Dossen Hospital</td>
<td>76</td>
<td>580</td>
<td>29</td>
<td>5.00%</td>
</tr>
<tr>
<td>Phoeb Hospital</td>
<td>79</td>
<td>3,301</td>
<td>48</td>
<td>1.45%</td>
</tr>
<tr>
<td>Clara Town Clinic</td>
<td>78</td>
<td>1,268</td>
<td>28</td>
<td>2.21%</td>
</tr>
<tr>
<td>Liberia Government Hospital (Buchanan)</td>
<td>69</td>
<td>2,348</td>
<td>56</td>
<td>2.39%</td>
</tr>
<tr>
<td>Charles B Dunbar Health Center</td>
<td>49</td>
<td>1,562</td>
<td>38</td>
<td>2.43%</td>
</tr>
<tr>
<td>CH Rennie Hospital</td>
<td>37</td>
<td>996</td>
<td>27</td>
<td>2.71%</td>
</tr>
<tr>
<td>ELWA Hospital</td>
<td>147</td>
<td>1,629</td>
<td>58</td>
<td>3.56%</td>
</tr>
<tr>
<td>GW Harley Hospital</td>
<td>21</td>
<td>1,919</td>
<td>18</td>
<td>0.94%</td>
</tr>
<tr>
<td>Totota Clinic</td>
<td>36</td>
<td>1,156</td>
<td>30</td>
<td>2.60%</td>
</tr>
<tr>
<td>FJ Grante Hospital</td>
<td>29</td>
<td>1,284</td>
<td>22</td>
<td>1.71%</td>
</tr>
<tr>
<td>Total</td>
<td>1,778</td>
<td>34,418</td>
<td>933</td>
<td>2.71%</td>
</tr>
</tbody>
</table>
We hypothesized that the introduction of PMTCT services would reduce the vertical HIV transmission rate as compared to published vertical HIV transmission rates without antiretroviral intervention.

Though all pregnant women in the cohort were HIV positive, only 80% of patients knew the HIV type with which they were infected. Approximately 82% of the cohort of HIV positive pregnant mothers who knew their HIV type was HIV-1 infected. Even though Liberia is centrally located in Western Africa, HIV type 2 only accounted for 4.6% of known HIV type infections. There were a relatively high proportion of HIV type 1&2 co-infections as HIV type 1&2 co-infected pregnant women accounted for the remaining 13.4%. Only 43.4% of the entire cohort of HIV positive pregnant women was clinically staged, with the majority being Stage 1 upon enrollment. Finally, less than 25% of pregnant women had a CD4 test performed at any time during pregnancy or breastfeeding with the average CD4 cells count of 416 cells/μl. See Figure 1 below.

**Figure 2: Study cohort profile**

Providing mother-baby pairs with antiretroviral drugs throughout pregnancy and breastfeeding can dramatically reduce vertical HIV transmission. Less than 40% of the HIV positive pregnant women in the cohort received antiretroviral drugs at any stage of the PMTCT cascade, while only 26% of HIV exposed infants received antiretroviral prophylaxis. See Figure 2a below.
Furthermore, less than 44% of mother-baby pairs received antiretroviral drugs at any stage of the PMTCT cascade (See above Figure 2b). Impressively, however, over 60% of mother-baby pairs attending Sister Agnes Clinic in Montserrado County received antiretroviral drugs during pregnancy, labor and delivery, and breastfeeding. The PMTCT cascade can be broken down into ‘arms’, noted as pregnancy, labor and delivery, and breastfeeding. At all other facilities, of the mother-baby pairs receiving antiretroviral drugs, over 70% only received drugs during one arm of the cascade (See above Figure 2c). While almost 62% of the HIV positive pregnant women in the cohort did not receive any antiretroviral drugs, the majority of women who received drugs during only one arm of the PMTCT cascade received them during either ANC or labor and delivery (See above Figure 2d). Less than 15% of the pregnant women in the cohort received antiretroviral drugs during more than one arm of the PMTCT cascade.

We next analyzed the cohort of mother-baby pairs who had received infant HIV test results. With this small cohort of mother-baby pairs, we sought to better understand the impact of PMTCT services, particularly the provision of antiretroviral drugs, on vertical HIV...
transmission and HIV infant test results. Of those babies with a negative HIV test, approximately 80% of the mother-baby pairs received antiretroviral drugs, whereas less than 50% of mother-baby pairs receiving antiretroviral drugs in the subset of babies tested positive for HIV (See below Figure 3a). Over 50% of tested babies were HIV positive if the mother-baby pair did not receive antiretroviral drugs (See below Figure 3a).

**Figure 4a-4b: Vertical HIV transmission is clearly reduced when mother-baby pairs receive antiretroviral drugs during any arm of the cascade.**

![Diagram showing vertical HIV transmission](image)

Including twins, 247 HIV exposed babies were tested either by rapid diagnostic test or DNA PCR, accounting for less than 14% of mother-baby pairs in the entire study. Of the 247 tested, 85% HIV tested negative. Forty percent were tested after one year of birth and 35% were confirmatory tests either due to cessation of breastfeeding or a confirmatory 18 months HIV test. We further analyzed this cohort of mother-baby pairs whose HIV exposed infants received HIV testing by estimating the vertical HIV transmission rate by the amount of antiretroviral drugs received by each pair. Interestingly, the percentage of babies tested negative for HIV increased substantially when the mother-baby pair received at least one arm of antiretroviral drugs (See above Figure 3b). Of the HIV positive infants, over 50% of the mother-baby pairs did not receive any antiretroviral drugs. Just over 95% of mother-baby pairs who received antiretroviral drugs during all three arms of the PMTCT cascade had their infant(s) tested HIV negative. In fact, 80% of mother-baby pairs with infant testing data who received antiretroviral drugs during at least one arm of the PMTCT cascade had an HIV exposed infant tested HIV-negative (See above Figure 3b).

Finally, using a sophisticated PMTCT and Pediatric HIV Impact Model we determined the vertical HIV transmission rates within this cohort. Modeling vertical HIV transmission in the cohort found that when women received antiretroviral drugs the transmission rate was 3.7% at six weeks and 16.4% at the end of breastfeeding. For all women in the cohort, the overall transmission rate was 17.2% at six weeks and 30.7% at the end of breastfeeding. After adjusting for all other factors including the length of breastfeeding in the model, the weighted vertical transmission rate was 13.7%. The modeled estimates are limited, however, as they cannot account for poor retention or antiretroviral adherence.
Qualitative Results

Uptake of PMTCT services and reasons for lack of uptake and attrition along the PMTCT cascade were obtained through discussions with various groups with the following results.

a) PMTCT Services Offered at Health Facilities for Pregnant mothers

Pregnant women are provided with a wide range of health services which include pregnancy checks, HIV counseling and testing, vaccination, malaria, T.B, Typhoid and other different tests health workers find relevant to be carried out on the pregnant women. Commonly mentioned lab tests are about HIV and Malaria. Other services provided include treatment of HIV and AIDS, general health education which tackles issues like good feeding, self-care during pregnancy, malaria prevention and the benefit as well as motivation to come for all antenatal visits care for mothers before and after delivery, provision of mosquito nets and some food. Other infections and diseases (not specified) are also treated at the health facilities. It is reported that PMTCT is also provided on scheduled days (scheduled days not specified), and men stress the importance of providing PMTCT, “It is important that the child can be saved”, FGD Men, Voinjama. Most pregnant mothers report to have come to the facility more than once, for instance 4 out of 6 FGD members from Grand Gedeh County report this to be their 2nd or 3rd visit to ANC; few participants reported this being their 1st visit. There was a unique exit interviewee who reported this to be her 10th visit. Majority of mothers who came were carrying between their 2nd to 11th pregnancies and only few were carrying their first time pregnancy.

b) Women’s Experiences with ANC

All women were asked about their experiences to understand how this may influence their choices on opting in or not opting in services. Pregnant women reported that it is their inner motive that drives them to go to the “big belle” clinics, and mostly the service that they report to have been provided in rank of most provided are; pregnancy checks and general health education. The biggest numbers of exit interviewees have it that the services were good and speedy. However, the Peer FGDs point out on the stigmatization in HIV service provision, disclosing/discussing their test information, delays in general service provision where they are concerned with lining up for long to receive the services. The issue of lack of confidentiality and disclosure of people’s results has been noted in Liberia and it is a major factor in influencing choices to take an HIV test. The extent of the problem cannot be outlined considering the scope of this study but it is noteworthy to mention that this thought of significant proportion (anecdotal evidence), is not unique to Liberia and has been pointed out in other geographical areas as well.

c) Women’s Feelings about ANC Services Offered at Health Facilities

It is known to most of the mothers that ANC and HIV services are free, but in particular, HIV testing being compulsory. To the pregnant women, things like good handling by health workers, being able to be examined properly and the advice given to them to come back for other antenatal visits and services characterized their categorization of services at health facilities as being good. “The services are good because all tests are done and I am checked...
properly” Exit interview, Grand Gedeh County. It is almost invariable that women who go to health facilities will generally report good services offered to them at health facilities, except when interviewed in-depth to describe specific areas where services could be better. It is only then that specific issues such as disclosure of results will be pointed out in spite of the otherwise generally reported good services. This is however information of women that do go to health facilities for services and it would require a study of a different scope to assess the feelings of women who do not go to health facilities but take up other options for their ANC.

d) General Involvement of Men Regarding Supporting Women during Pregnancy
It was noted that most of the support men give women during pregnancy is in form of encouragement and this was mentioned frequently almost in all discussions. The encouragement/advice is in areas of going for testing, pregnancy checks, treatment and taking it, good feeding etc. “I advise her to always take her medicine and go to the hospital at all times especially during labor and delivery” FGD Men, Grand Bassa County. The physical support, the real tangible support that men report to provide is in form of doing hard work to support the family, escorting women to the health facility, moral support and providing good care and to satisfy their (women’s) needs. Nonetheless, it is not specified how good care; women’s needs and moral support are provided. This kind of intangible support has been mentioned in a few instances. Most men in all discussions report their support to be in future or in their abilities to do things, rather than practically doing them. For example they continually mentioned, “I personally can carry her to the hospital spend all day with her while she goes through her treatment” FGD Men, Voinjama. “I will advise her to take medicine..” instead of I advise her, which sends a signal of passiveness in giving tangible support to pregnant women, revealing that there exists a mismatch between real practice and what the men say they are capable of doing and actually do. Furthermore, there was generalization of what men do when their women are pregnant as revealed by statements like, “When it comes to being serviceable to my wife am one of those” FGD Men, Voinjama and “I become friendly to her..”, “I support her in all aspects..” FGD Men, River Gee. The lack of specificity in what men do to support their pregnant women raises concerns about whether men know or actually execute their roles in situations when their women are pregnant. A question of whether it is their attitudes that need to be influenced and a desire for more awareness about their roles and responsibilities as men who have pregnant women comes to mind.

In a more realistic turn and despite many professing support to pregnant women, a few men provided contrary information regarding support to women. They mentioned not wanting to keep around with women when they are pregnant asserting that they are catered for as women so it is not a concern to men, just forcing their women to go for the services, and wait to share their (women’s) feedback after visiting hospitals. This is more in line and supportive of what

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health service providers have noticed and observed regarding men’s participation in ANC. It was reported in adhoc and informal interviews with health service providers that men do not attend ANC services with their partners and are seldom involved in care for their pregnant women especially with regard to helping them make choices for testing for HIV. This was also reported in studies that have been done around PMTCT and men involvement. This low engagement of men in PMTCT is in line with WHO\(^3\) findings in a report where it was found that despite overwhelmingly positive attitudes towards PMTCT programming among men, their engagement remains very low. It was found in this study and it has been reported in other studies that some of the barriers to men’s involvement include the fear of knowing one’s status, stigma surrounding HIV and discrimination on finding out that one is HIV positive\(^4,5,6\).

e) Men awareness of HIV and AIDS services and the role of the media.

Most men demonstrate knowledge of HIV and AIDS services for pregnant women and the most commonly known to almost all men is HIV testing, provision of HIV and AIDS treatment, counseling, and Laboratory tests/checkups for mothers about other infections like T.B and malaria. On the other hand, the least mentioned include provision of food and mosquito nets to pregnant mothers when they visit big belle clinics. For PMTCT they added that it is provided to save the lives of unborn babies as it is in some of their voices, “When you are pregnant in case you have HIV they will be able to treat you so it will not affect the baby” **FGD men, Voinjama.** A few men reported that those days when their partners were getting pregnant, such services were not there but they have come to know about them. It has been noted that the media has had a significant role in making men aware of the HIV and AIDS services for pregnant women, “The way in which I got to know they can do the test for pregnant women at this hospital because of the media, or when we come here in the morning they can announce it to us” **FGD Men, Bomi County.** Second are their spouses telling them after visiting the health facilities, people within the community talking and encouraging to go for some services like testing, and for some men, the information about such services was gotten when they themselves had gone to health facilities to seek services and the health providers passed it on to them. The latter confirms that health provider initiated counseling and testing does play a role in providing needed information regarding HIV and does indeed improve access to HIV prevention through testing to ascertain one’s status\(^7,8\).

In terms of awareness, the media most importantly the radio has played some recommendable role however, people from various communities as it is evident in their discussions still call for more sensitization about what HIV and AID. Sis, “Even in Buchanan here people still

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\(^3\) Male involvement in the prevention of mother-to-child transmission of HIV; WHO Paper, 2012


\(^5\) Nyasulu Charity Julliet, 2007: Factors contributing to the low uptake of PMTCT services in Blantyre and Balaka rural:College of Medicine, University of Malawi: Dissertation Submitted in Partial Fulfilment of the Requirements of a Masters of Public Health.


\(^7\) WHO/UNAIDS: Guidance to HIV Testing and Counseling; WHO; http://who.int

have doubt that there is something exactly called HIV, all they know that something has to kill you” FGD Men, Buchanan. “I will like all Liberians to carry on more awareness to educate us on what is this HIV thing and put us together and sit as one” FGD Men, Bomi County.

f) Men’s Feelings when their Wives are Offered HIV Services at the Health Facilities

It was stressed that both parties have to be informed about the test so that they can reach a consensus on whether to take the test, “It is important for both partners to sit and discuss it because the fear is that the rumor, the stigmatization that is what the people do not want to live with” FGD Men, Voinjama. Men have it that the testing is good for the entire family and demonstrate to act friendly in case their women tested without their consent and came back with negative results. However, there is perceived stigma that if one tests positive, men will run away from their women. Men put it that it would go down well for them when their women are given test results in their presence noting that “when my woman is there for a test let the husband be there” FGD Men, Voinjama. All these are put across but the dynamics of having men together with their women so as both can be offered a test at the same time may need to be explored to see how practical it can be so as not to affect the other services that have to be offered to women at ANC clinics. In addition, it remains doubtful whether men’s assertions of the need to have both partners present to receive results are true indeed or a presentation of what would be ideal considering that the majority of men are known not to attend ANC with their pregnant partners.

Some adverse consequences have been cited that some women do not /may choose not to share the results and thus commit suicide as a result of positive results.

g) Improving HIV Testing during ANC services.

a. Counselling prior to offering an HIV test: It is noted that almost all pregnant mothers who come for antenatal were advised to test for HIV, as it is more evident in the exit interviews. This is preceded with pre-test counselling sessions which most peer groups stress that are important before an HIV test is provided, “I was pregnant, they tested me and I was positive, so before I could give birth they give some of the medicine I took it and deliver safely, they hold me good, they encourage” FGD Women, Bomi County. However, in other instances, pre-test counselling is not provided, but rather health workers just provide the service straight HIV testing, as put “the woman just come to hospital and then you tell her this is the disease pup they do your finger and then right away you are positive” FGD Men Grand Bassa County.

b. Pregnant Women’s Opinions about Receiving HIV Test results the same day Test is offered

Almost all pregnant women who tested for HIV received it that very day and demonstrated a clear understanding of what the results that were given to them
meant “I was negative, which means that I do not have the virus”, Exit Interview, Lofa County. However, one exiting client reported to have been tested but results were not given to her, “I was tested but I do not know the result as yet”, Exit interview South Eastern River Gee. Although it is recommended that results should be given on the same day the test is taken and thus the use of rapid testing in PMTCT clinics, one report that was contrary to other reports, found that few women who had rapid tests accepted their HIV results the same day\(^\text{10}\). However, counselling should be effective to ensure that those who take the test are able to receive their results in order to make choices about care.

**h) Things that encourage women to accept and take an HIV test:**

Various reasons were put across as stimulants and motivators for pregnant women to take up an HIV test, namely in the order of strength are: receiving counseling as a couple, being counseled by an area counselor within their locality (this one can keep encouraging them thus they eventually test) as stressed, having post-test members in their community who are friends, partners, or fellow residents who share with them their status and test results, “I can easily confide in this man as compared to someone that is coming from Monrovia to come tell me something so I think dealing with the community people themselves will help”. FGD Men, Grand Bassa County. These factors are believed to give a lot of courage to pregnant women to go and test. Also noted is the hope and possibility of giving birth to an HIV negative child in the PMTCT programme at health facilities. The arrangement of providing pre-test counseling to both female and male partners as a couple leads to easy acceptance of results and avoidance of further domestic violence that can come up as a result of disclosing the test results, as it cited in the discussion “Both partners can be aware and then keep their self emotionally ok for the task (of testing) ahead” FGD Men, Grand Bassa County. This coupled with the presence of close people who have tested already and willing to share their results leads to numerous benefits “I had one of my friends, who went to do her test, and she told me she was positive…. I took that challenge to do my test, when I did my test I was positive” FGD Women, Bomi County.

**a) Pregnant Women’s Opinions about Receiving HIV Test Results the Same Day Test is offered:** Almost all pregnant women who came to the health facilities were offered an HIV test and took it. There are also a big number of them who came when they had done been tested during their previous visits to ANC. The biggest number that tested that day received their test results that very day, however, there are instances when clients were tested but did not get their results, or even informing them about what progressed after the test. The practice of providing the test results same day is supported by almost all participants that it saves many of them from worrying how the results will be, traveling again for long distances, and acts as a motivation to others to come and test as well. Those who tested demonstrated a clear

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\(^{10}\) Ntombizodumo B et al: Rapid Testing May Not Improve Uptake of HIV Testing and Same Day Results in a Rural South African Community: A Cohort Study of 12,000 Women:  
http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0003501
understanding of what the results that were given to them meant “I was negative, which means that I do not have the virus”, Exit Interview, Lofa County. However, 1 exiting client reported to have been tested but results were not given to her, “I was tested but I do not know the result as yet”, Exit interview South Eastern River Gee

b) Things that Prevent Women from Coming to Health Facilities and Taking an HIV Test when it is Offered and Awareness about Pregnant Women in the Communities who do not Come to Health Facilities and Do not Take an HIV Test

It was noted that self-stigma and self-constructed perceptions about the test results and what the community will take them to be and the fear of outcomes (in their relationships and families) in case they have disclosed to partners, relatives and other people are still holding pregnant women back from testing. To some members, the facts about HIV; its presence as a disease, modes of transmission and other information are not yet known; some still take it as witchcraft as they put “They just feel it is a traditional thing that medicine has been thrown on somebody and doing medicine with my name” FGD Peer Mothers. Stigmatization, fear and untrustworthiness about one’s test results and experiences among community, friends and other people still remain a strong factor in hindering HIV testing as put in an FGD “The reason why people do not want to take an HIV test, if you do your test, this person will be carrying your name all over” FGD Women Bomi County. Gossiping about the test results does not go down well with almost all clients who have tested, “They may carry their name outside and they say they will be talking about me and I will not feel alright” FGD Peer Mothers. Many perceptions are shaped about modes of transmission and testing for HIV even to higher levels of social settings and administrative cadre, “the whole thing about HIV stigmatization is whole sexual immorality, if a priest or Minister came down with HIV, they will say that guy had been living in the street, nobody will consider his occupation whether this guy was ill before he was taken to hospital and he was transfused” FGD Men, Grand Bassa County.

With the above reasons given, there women in communities who are known not to come for the testing services; a relatively big number of participants were aware of such a category of pregnant mothers. The fear of living with HIV and making death an imminent reality prevents people, not just pregnant women from taking an HIV test11.

i) How Men Feel about their Wives Receiving HIV Test without prior Consultation

Some men consider it will be fine if women test even without their consent that it would also motivate them to test as well. “if she came here and did an HIV test and came and tell me, I will not feel bad, that can encourage me to know more about her status and want me to do mine that the baby cannot get the sickness”, FGD Men, Bomi County. “There are some of us men will never accept the results, so it is the responsibility of you (counselors) to follow up whoever is positive go to their home and make sure you talk the partner in making sure they accept this” FGD Men, Grand Bassa County

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11Pool R. et al (October 2001), "Attitudes to voluntary counseling and testing for HIV among pregnant women in rural south-west Uganda", AIDS Care 13(5)
j) Men reactions when Wives/Partners Come Home with Positive Results?

From almost all group discussions, it was pointed out that men would not accept test results of their women instantly; most men argue that they would have to first test too so as to accept women test results. “When I get that information from you I will keep quiet and I do not want to be around you again”, FGD Men, Bomi County. “Some people had even committed suicide for that as well” and also another one recites a moment of a relative “One of our sisters has just committed suicide because of this, she came from the test and she was found positive but it is like she did not tell the husband” FGD Men, Voinjama. Testing positive is seen an individual responsibility, and that individual has to find a way of dealing with; “it is a problem and you have to find a solution for that” so given this, limited social support is provided to the positive individuals, “soon they start to know the positive you will get different talk along that can worry you so nobody will come around us” FGD Men, Voinjama. A case of relationship breaking has been reported in case one tests positive and the other tests negative. It has been inclined on the side of men that if they are negative and their women test positive there are tendencies of breaking up. “I will go secretly and do my test, when I find out that am not positive, finished!” FGD Men, River Gee. And another one added “I will stay away out of the house, I will surely leave the house” FGD Men, Grand Bassa County. “If you are positive that means you have been cheating, who knows where you get your positive from?” FGD Men, Grand Bassa County. There are cases of double standards where men, if tested negative and their women tested positive they would leave them, but on their side if it is them (men) who test positive it would be left to women to decide if to continue staying with them. Noted also is a big challenge of disclosing results, and accepting them on the side of the person who tested, the parties he/she is disclosing. From an FGD for male where health workers participated, it is said accepting HIV positive test result is not easy “being a health worker and human being also, sincerely it is not easy for the results to be accepted, however I think it is important to tell” FGD Men, Grand Bassa County.

Given all this, there are myths and the misinformation that have shaped people’s attitudes, actions and way of life in relation to HIV and AIDS. The fact for these to be in existence is evident, “I can tell you some of the myths they get about HIV you will run away…even people who claim that they are in the city, people who are college graduates., there are good information, if provided to people they will feel good”. “The person who used to eat with you will start distancing from you, when you even call them they will not even want to come around you because they think even talking to you on phone you will infect them” FGD Men, Grand Bassa County.

k) Men’s feelings about Women Making Choices PICT at a Health Facility

There have been mixed responses on men’s feelings regarding women making choice to take an HIV test. To most of them, the procedure would be women coming and informing them first so that as partners can reach a consensus on whether or when to test. “Before they can be tested, they should tell the counselor to hold on for the partner to be around for both of them to be tested” FGD Men, Grand Bassa County. This is supported by findings in study where
it was found that prior discussion about testing was one of the factors that contributed to women disclosing their HIV status to their partners.\footnote{Makin D, Jennifer et al: Factors affecting disclosure in South African HIV positive women: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2929151/}

Men look at emotional preparation that if their women do the test without them knowing, they may receive the results and they may not accept the results of their women. It is not known though how much information and the skills health provider give to these women so as to be able to handle disclosure of their own results to the parties they choose to disclose to.

1) **Benefits for the Wife to Take an HIV Test**

The acceptance to taking an HIV by a pregnant woman is a gateway to many services for a woman as it is a prerequisite to joining PMTCT to save the unborn baby from contracting HIV, the mother can access treatment for HIV and counseling to be able to have hope and live positively. When she gets to know her status also benefits the partner as it motivates the partner to test too, and thus seek treatment together and to be able to plan and live a productive life.

When a pregnant woman test negative, she can too take precautions to avoid contracting HIV thus remains negative as the negative results also provide a sense of direction on how to live a life free from HIV. The benefit of getting food from ANC is not clear; probably some organizations offering testing and treatment give them food to attract women to come for the services.

m) **Support Men gives to Pregnant Partners in Taking an HIV Test**

Most of the support from men towards their pregnant partners is in form of encouragement; to go to the facilities and to take treatment, as well as food support. However, the fact remains that in many instances men provide no support at all. Much as men have talked about all the above support within their reach, they call upon joint effort from health workers especially counselors in involving husbands testing them together, helping them share test results because some women have a tendency of not sharing results and other information got from the ANC with their men. “I myself will try to talk to her to take medicine” FGD Men, Voinjama

n) **Factors that Enable Women Accept to Take ARVs**

Some positive women have secondary reasons for taking treatment underlining that fact that they do not want to die and leave their children with no one to support and take care of them. Much as some challenges are found with medicine having some adverse reactions to women, they report continuing to use medicine “I used to feel weak, and had bad dreams but am still on treatment” FGD PMTCT Mothers.
o) Challenges and Factors that Prevent Pregnant woman From Taking ARVs

“My friend called Martha, the one we started treatment with, feels shame, she can’t take the treatment because some people say when you come to this room you come for HIV business only” FGD PMTCT Mothers.

The challenge of medicine being strong for the body system is an evident problem found, but after some time their bodies get used to it. However a few reported that some people abandon the drugs completely. However there is another category of women who need moral support to be able to start treatment, and an assurance of the source of food support in case they start treatment. This has to be from partner/family members, friends and fellow women from their respective communities.

Even test result cards are kept away from partners to be safe in the relationship, or for fear of HIV results worsening their relationships “I hide it from him, if I tell him maybe he will say that he does want me” FGD PMTCT Mothers.

Some of the challenges are client originated like not making it up to the recommended time to take medicine, which causes effects like head ache and body weakness. However with adherence counseling clients are brought back to follow the timing and dosage, “I make a mistake, I take it 4 times… I can also give my daughter her own around 7 or 8 o’clock, I came here to my counselor, now I cannot feel sharp pain in my head” FGD PMTCT Mothers.

p) What can be Done to Make More Pregnant Women Test for HIV and Take Medicines (ARVs) to Protect their Unborn babies

The issue of involving men in the testing processes is stressed; right from pre-testing counseling to treatment adherence and social support. Religious institutions, if involved in disseminating right information will help in increasing HIV service uptake and reducing stigma. Other areas of improvement and innovation include nutritional support to positive clients as well as an organized arrangement for a mobile drug supply service mainly for ARVs and treatment for opportunistic infections among positive pregnant mothers.

Most of the support has been in area of counseling these pregnant women to start, stick and continue taking HIV drugs for the better of their lives. Most men appreciate the beauty of talking to both partners about treatment.

Factual information about HIV and HIV services has to be designed and packaged to enable to deal with myths and false perceptions communities have built as evidence reveals, “to tell people that when you take medicine it will not affect you, and you will be healthy”, FGD Men, River Gee.

This has been suggested that if women are put in groups they can be able to learn from the other, reflect and share their experiences as this facilitates reciprocation of information to even other women in the communities.

Discussion

PMTCT services were first introduced in Liberia in 2006. The MOH and NACP have been progressively increasing access to these critical services to more HIV positive pregnant women. A critical evaluation of this program was, therefore, necessary to understand the
successful activities within the program and uncover any shortcomings that may improve the quality of services. Though the number of PMTCT sites has increased substantially in recent years, more than 60% of HIV positive pregnant women in this study did not receive any antiretroviral drugs. Furthermore, few mother-baby pairs received antiretroviral drugs during the breastfeeding stage. This may be a reflection of the 2006 WHO guidelines, which lacked full antiretroviral prophylaxis coverage during this stage as well as a lag in time of fully adopting this recommendation from the 2010 WHO guidelines. In the future, it will be critical for NACP and partners to implement revised WHO guidelines with haste, especially as the next series of revised WHO guidelines will most likely be published in late 2013 or early 2014.

Though literature abounds confirming the importance of PMTCT services, it is essential that both HIV positive pregnant women and health care staff be committed to the program. This study, for example, found that only 15% of mother-baby pairs received antiretroviral drugs during more than one arm of the PMTCT cascade. As previously shown, however, vertical HIV transmission occurs almost equally in the three phases of childbearing: 20-25% of vertical HIV transmission events occur intrauterine, 35-50% occurs intra-partum, and 20-25% occurs during breastfeeding.

As this study showed, though it is well established that PMTCT interventions can dramatically reduce vertical HIV transmission rates, a simple increase in the number of PMTCT sites does not automatically do this. Quality PMTCT services are required to lower vertical HIV transmission rates as estimated in the literature. Wiktor et al. determined that vertical HIV transmission rates were between 25-48% without PMTCT interventions and antiretroviral drugs. In this study, the modeled overall transmission rate in the entire cohort was high at 30.7% at the end of breastfeeding, within the range of vertical HIV transmission without PMTCT interventions. This study, however, found that providing antiretroviral drugs to mothers and/or their babies could dramatically reduce the chances of vertical HIV transmission as compared to published estimates. Vertical HIV transmission was reduced to 16.4% by the end of breastfeeding when mothers received any antiretroviral drugs. Of those babies with HIV test results, 95% had a negative HIV test when both the mother and baby received antiretroviral drugs during each arm of the PMTCT cascade. Furthermore, health care facilities like Sister Agnes Clinic in Montserrado County should serve as a national model. Over 60% of mother-baby pairs attending this clinic received antiretroviral drugs during all stages of the PMTCT cascade. This commitment to PMTCT services from both the health care workers at the clinic and the patients attending the clinic was evidenced in the lack of vertical HIV transmission at that facility. Ninety-seven mother-baby pairs were found during the eligibility period and of those, 32 babies had HIV test results at the conclusion of this study. Of the 32 HIV-tested babies, none were HIV positive. Of note, 30 of the 32 babies

HIV tested at this facility during the eligibility period of this study were tested at or beyond one year of age. As evidenced by such success stories, it is entirely possible to altogether eliminate new HIV infections through vertical HIV transmission in Liberia. Increasing the quality of PMTCT services, through strong peer mentor programs, health care worker as well as patient commitment in the program, and consistent provision of antiretroviral drugs throughout the PMTCT cascade as recommended by the most recent WHO guidelines, can considerably decrease vertical HIV transmission.

5.0 Limitation
The major limitation to the study was on the selection of respondents for some of the FGD. In one FGD for men, respondents were all from a hospital with the results that the views were more “elitist” than a true reflection of what society behaviors and perceptions are regarding the issues under discussion particularly male involvement in PMTCT. Furthermore, it was not possible to conduct interviews in all the regions as had been envisaged. Lastly, tracing of women that had been identified to be positive but had not enrolled in PMTCT was a formidable task and therefore the views of these women could not be captured and included in this report.

6.0 Conclusion
In general, most men and women are aware of services to prevent HIV transmission from a pregnant woman found to be HIV positive to her child. This information is obtained from various channels with the media being cited as one of the main ways of obtaining information. Men get to know of this information when they attend health facilities for services.

The most commonly cited challenge of taking an HIV test with the possibility of being found to be HIV positive by all mothers was stigma and discrimination. Even if the spouse or husband is supportive, relatives can also stigmatize an HIV positive woman. In addition, it was also mentioned by men in their discussion that stigma remains the single most important reason that prevents people from taking a test for HIV regardless of whether it is for PMTCT or not. Stigma is experienced from immediate family members up to the community at large. Furthermore, the fear of death, seen as imminent also affects people’s choice to test for HIV. It was mentioned that to be told that one is HIV positive is to give them a death sentence that one seems to live with from the moment results are given onwards. However, the use of peers (women especially who have been found positive and enrolled on the PMTCT programme and delivered health babies) needs to be exploited. The peer group mothers emphasized that they are better placed to reach their community than service providers who will come and go. This is re-echoed in an article by Avert on PMTCT16.

For women, the fear of breaking up their marriage or relationships if their partners should find out their HIV status also prevents many women from accepting to enroll into the PMTCT programme or to drop out even if they had initiated the process. Men themselves

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reported that some men have abandoned their partners and families once they reported to have undertaken a test especially if it turned out HIV positive. With the stigma issue and the fear factor, it is not clear how this can be addressed so that men can be more accepting of their partners or even to undertake the test themselves in the event that their spouses or partners have been tested and found positive. This needs to be explored further but likely to cause a great challenge as decisions of this nature are taken on a personal level. Nonetheless, continuous sensitization and the benefits that can be obtained from one knowing their HIV status need to be carried out.

7.0 Recommendations

The following recommendations were made based on the study findings.

1. It is entirely possible to altogether eliminate new HIV infections through vertical HIV transmission in Liberia. Increasing the quality of PMTCT services, through strong peer mentor programs, health care worker as well as patient commitment in the program, and consistent provision of antiretroviral drugs throughout the PMTCT cascade as recommended by the most recent WHO guidelines, can considerably decrease vertical HIV transmission.

2. Service providers must be well-trained, supportive staff who take great care to ensure confidentiality.

3. More counselling needs to be done to enable women to handle and accept their test results, be able to disclose effectively to their men and to other relevant people. It is highly recommended that women and men should be taken through continuous and sufficient counselling sessions. In the same line, health care providers (medical, counsellors and Lab Technicians) need refresher trainings so as to be able to provide effective HIV and AIDS services to clients and people in the communities on the outreach arrangements.

4. In the area of programming for service delivery, specific treatment days should be scheduled.

5. Refresher trainings for health workers about HIV and AIDS, in the areas of counselling, how to help clients handle disclosure.

6. Massive sensitizations about HIV and AIDS, and conduct outreaches that involve counselling and testing as well as organizing workshops at district and village levels to reach information to pregnant women.

7. NACP has to intensify collaborative efforts with other partners working in the health response to HIV.

8. In consideration of social cultural factors that may have an influence on men’s involvement in PMTCT and even other health services, it may be worthwhile to develop message that take these into context to make them contextually relevant.

9. It was noted in WHO report that the manner in which health services are designed has also played a part in keeping men away from the health system. Therefore with
particular reference to PMTCT, clinics should be made friendlier to men but the manner in which to make them friendlier needs to be explored further first.

10. Organize a mother peer to peer follow up system at facility level to enhance retention, increase treatment adherence and reduce the rate of lost to follow up.

11. Involvement of traditional birth attendance (TBAs) and traditional healers to strengthen the referral of pregnant women to increase institutional delivery. This will be done by PMTCT community based training and demand creation through awareness campaigns.
### An assessment of PMTCT Programme in Liberia

#### Men Focus Group Discussion Instrument

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<th>_____ - 1 _____ - 2</th>
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<tbody>
<tr>
<td>2</td>
<td>Category</td>
<td>_____ Men married to or living with pregnant woman or who gave birth in the past 2 years</td>
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<tr>
<td>3</td>
<td>FGD Officer</td>
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<td>4</td>
<td>FGD Notetaker</td>
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<tr>
<td>5</td>
<td># of Participants**</td>
<td>________________</td>
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</table>
| 6 | Date and Time | Date:  
Start Time: _____  Finish Time: _______  Total Time: ________________ |
| 7 | Co-operation | _____ - 1 high  _____ - 2 medium  _____ - 3 low |
| 8 | Person & Date Compiled (Transcribed) | |
| 9 | Person & Date Processed for Report | |

**Each Focus Group should consist of at least 6-10 mean but if more than 10, shouldn’t exceed 12  
One FDG for each of the 5 Regions; so total of 5 Men FGD
My name is ______, and I’m part of a team conducting an assessment of the performance of the PMTCT programme in Liberia. The team is led by the Ministry of Health and Social Welfare and supported by various partners. We are conducting a facility review of the PMTCT programme and also conducting interviews with men in the community, mothers that have delivered in the last one-year and presently expecting pregnant mothers for whom the programme is designed.

We are interviewing people like yourselves across the country. That is mothers who are pregnant and mothers who have already delivered their babies. The whole programme is designed to assist mothers to give birth to healthy babies so we are doing these interviews to see how services for expecting mothers can be improved. However, since men are an essential group in women’s decisions, we are interviewing men in groups to understand men’s views and see how they can support their expecting partners.

It is entirely up to you whether you want to take part in this discussion. Please note that you have the right to refuse to answer any question or to change your mind at any point in the discussion, and stop the discussion at that point. If you feel uncomfortable with a question, just let us know and we can skip it. However, because your answers are very important to us, I ask that, if you do agree to in this discussion, that you be completely honest and sincere with us, and answer all the questions.

We need to use a recorder to ensure that we capture all your important answers. All your comments will remain confidential and the recording will only be used during the final transcription. None of the information or ideas coming from this discussion will be linked directly to any of you as individuals. All that is discussed, is completely confidential and your names or the name of anyone you know will not be published anywhere in the findings that we come up with. Your answers will be used only for purposes of this study and will be combined with those of other mothers also interviewed.

May we use the recorder for this session?

____ - 1 yes  ____ - 2 no

____ - 1 Yes  ____ - 2 No

Introductory Questions

[Ask ALL]

1) We would like to begin by asking a few questions about yourselves. Please tell us a bit about the following: [for all men] - your first names, what you do for a living, marital status, age, highest level of education; [Interviewer-please go through all the participants and note taker records all the ages of participants and their marital status]
2) [Ask all] Please tell us a bit about your roles and activities in the community. How do you fit into community structures?

(Moderator: Please ask all participants to mention their age and marital status)

(Note taker: Without recording the names of the respondents, record their ages and marital status)

PMTCT services at health facilities

1) [Ask all men in the group] Tell us a little about what you know about services offered at health facilities for pregnant women

___________________________________________________________________________

___________________________________________________________________________

2) [Ask all] What is the general involvement of men regarding supporting women during pregnancy______________________________________________________________

___________________________________________________________________________

3) [Ask all] Have men been told about HIV and AIDS services at health facilities for women who are pregnant?

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

4) [Ask] Tell us a little about how men feel when their wives are offered HIV services at health facilities

___________________________________________________________________________

___________________________________________________________________________

5) [Ask all] What do men feel when their wives take an HIV test at a health facility without consulting the man?

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________
6) [Ask ALL] What is the observation in communities when wives or partners come home after taking an HIV test and are found positive? What are men’s reactions to such situations?

___________________________________________________________________________

___________________________________________________________________________

7) [Ask ALL] What do men generally feel women need to do regarding making choices to take HIV tests if offered at a health facility?

___________________________________________________________________________

___________________________________________________________________________

8) [Ask ALL] Are there any known benefits for the wife to take an HIV test?

___________________________________________________________________________

___________________________________________________________________________

9) [Ask ALL] How can men support their pregnant partners in taking tests for HIV?

___________________________________________________________________________

___________________________________________________________________________

10) [Ask Men group] What can be done to help more pregnant women test for HIV and take medicines to help protect their unborn babies?

___________________________________________________________________________

___________________________________________________________________________

11) [Ask all] Do you have any final comments before we finish?
### Evaluation of PMTCT Programme in Liberia
#### Mother Focus Group Discussion Instrument

<table>
<thead>
<tr>
<th>Category</th>
<th>____ - 1 Peer Groups (Mothers Who have enrolled in PMTCT and had babies - Took ARVS delivered)</th>
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<tbody>
<tr>
<td>Facility Name of Peer Group</td>
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<td>FGD Officer</td>
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<td>FDG Note taker</td>
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<td>Number of Participants***</td>
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<td>Date and Time</td>
<td>Date: ____________________________________________</td>
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<td></td>
<td>Start Time: _____ Finish Time: _____ Total Time: ________________</td>
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<td>Co-operation</td>
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<td>Person and Date of Interview</td>
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<td>Person &amp; Date Processed for Report</td>
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**Ideally, should have more than 6 participants but if group has fewer, take all members of the group**

**** Note: 5 such discussions are expected to be conducted
My name is ______, and I’m part of a team conducting an assessment of the performance of the PMTCT programme in Liberia.

The team is led by the Ministry of Health and Social Welfare and supported by various partners. We are conducting a facility review of the PMTCT programme and also conducting interviews people in the community.

We are interviewing people like yourselves across the country. That is mothers who are pregnant and mothers who have already delivered their babies. The whole programme is designed to assist mothers to give birth to healthy babies so we are doing these interviews to see how services for expecting mothers can be improved. However, since men are an essential group in women’s decisions, we are interviewing men in groups to understand men’s views and see how they can support their expecting partners.

It is entirely up to you whether you want to take part in this discussion. Please note that you have the right to refuse to answer any question or to change your mind at any point in the discussion, and stop the discussion at that point. If you feel uncomfortable with a question, just let us know and we can skip it. However, because your answers are very important to us, I ask that, if you do agree to be participate in this discussion, you be completely honest and sincere with us, and answer all the questions.

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All that is discussed, is completely confidential and your names or the name of anyone you know will not be published anywhere in the findings that we come up with. Your answers will be used only for purposes of this study and will be combined with those of other mothers also interviewed.

May we use the recorder for this session?

_____ - 1 yes  ____ - 2 no

May we proceed?

_____ - 1 Yes  ____ - 2 No
Introductory Questions

[Ask ALL]

1) We would like to begin by asking a few questions about yourselves. Please tell us a bit about the following: [for adults] - your first names, what you do for a living, marital status, age, highest level of education; [for children] – your first name, your schooling, your households and who lives there.

1b) [Ask the Group] Please tell us a bit about your roles and activities in the community. How do you fit into community structures?

Information on ANC attendance

2) [Ask the group of mothers] Tell us if you were able to attend ANC during your pregnancy.

___________________________________________________________________________
___________________________________________________________________________

3) [Ask mothers] Could you share with us your experiences at the ANC? [Int: to find out mothers’ feelings about the services at health facilities]

___________________________________________________________________________
___________________________________________________________________________

4) [Ask all Mothers] What are women’s feelings generally about ANC services at health facilities? [Int: Examine mothers feelings that may influence their taking the service or not]

___________________________________________________________________________
___________________________________________________________________________

Information on HIV Testing

5) [Ask the group of mothers]. You accepted to take the HIV test where some mothers do not; please explain to me what encouraged you to accept the test.

___________________________________________________________________________
___________________________________________________________________________

___
6) [Ask the group of mothers] Some mothers are offered counseling and HIV testing but they do not take the test, what prevents mothers from accepting to take the HIV test?

___________________________________________________________________________
___________________________________________________________________________

7) [Ask ALL mothers]: What do you think can be done to encourage pregnant mothers to take the HIV test?

___________________________________________________________________________
___________________________________________________________________________

Information on ARVS

8) [Ask the group of mothers]: You were given ARVs and took them. Please explain to us what enabled you to accept ARVs where other women have such difficulties

___________________________________________________________________________
___________________________________________________________________________

9) [Ask the mothers in the group]: Please share with us your experiences with taking ARVs. What are some of the challenges people, especially pregnant women have regarding taking ARVs?

___________________________________________________________________________
___________________________________________________________________________

10) [Ask the group of mothers]: What do you think makes other mothers who test HIV positive unable to take ARV medicines given to them?

___________________________________________________________________________
___________________________________________________________________________

11) [Ask group of mothers]: What do you think can be done to encourage mothers who test HIV positive to accept ARVs?

___________________________________________________________________________
___________________________________________________________________________
End the interview here and thank the mother for agreeing to respond to your questions

**Team composition:**

1. Focus Group discussion Moderator
2. FDG notes taker

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**Assessment of PMTCT Programme in Liberia**  
**Mother Exit Poll Interview Discussion Instrument**

<table>
<thead>
<tr>
<th>Category</th>
<th>Expecting Pregnant women attending ANC Clinics</th>
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<th>Interviewing Officer</th>
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We are interviewing people like yourselves across the country. That is mothers who are pregnant and mothers who have already delivered their babies. The whole programme is designed to assist mothers to give birth to healthy babies so we are doing these interviews to see how services for expecting mothers can be improved. However, since men are an essential group in women’s decisions, we are interviewing men in groups to understand men’s views and see how they can support their expecting partners.
It is entirely up to you whether you want to take part in this discussion. Please note that you have the right to refuse to answer any question or to change your mind at any point in the discussion, and stop the discussion at that point. If you feel uncomfortable with a question, just let us know and we can skip it. However, because your answers are very important to us, I ask that, if you do agree participate in this discussion, that you be completely honest and sincere with us, and answer all the questions. Please note that I might need to check your ANC card.

All that is discussed, is completely confidential and your names or the name of anyone you know will not be published anywhere in the findings that we come up with. Your answers will be used only for purposes of this study and will be combined with those of other mothers also interviewed.

May we proceed?

____ - 1 Yes       ____ - 2 No

Introductory Questions

[Ask ALL]

1) We would like to begin by asking a few questions about you. Please tell us a bit about the following: your: First names------------------------------- (optional)
What you do for a living ----------------------------------------------- (optional)
Marital status, -----------------------------------------------------
Age, -------------------------------------------------------------
Highest level of education; ----------------------------------------

[Information on ANC attendance]

2) [Ask all mothers-presently pregnant attending ANC Clinic] Tell us about your ANC visit today. Is this your first time attending ANC for this pregnancy?
   _____________________________________________________________
   ____

3) [Ask all mothers who have attended ANC today] Is this your first pregnancy?
   _____________________________________________________________

4) [Ask mothers all mothers] What services were you offered at the ANC Clinic today? [Int: to find out mothers’ feelings about the services at health facilities]
5) [Ask All mothers at ANC:] What are your feelings generally about ANC services at health facilities? [Int: Examine mothers feelings that may influence their taking the service or not]

___________________________________________________________________________
___________________________________________________________________________

6) [Ask all Mothers who attended ANC] Tell us, at during your ANC attendance today or even before, were you given advice about taking an HIV test? [Int: We need to ascertain from mothers about whether the service is routinely provided by health service providers]

___________________________________________________________________________
___________________________________________________________________________

7) [Ask ALL mothers who attended ANC] To your knowledge, were you offered counselling before being asked to take an HIV test?

___________________________________________________________________________
___________________________________________________________________________

Information on HIV Testing

8) [Ask ALL who attended ANC and were offered the test] Did you take the HIV test?

___________________________________________________________________________

(Note: If mother took the HIV Test, check her ANC card to make sure. If accepted test go to question 11)

If mother did not take the test, go to the next question 9 and 10.

9) [Ask ALL Mothers who attended ANC, were offered counseling and test but did not take the test]: What made you and some other mothers who also decline unable to take the HIV test?
10) [Ask Mother who declined to take HIV test]: What could have encouraged you and other mothers like you to take the test? (Elaborate if mother doesn’t understand well—what can be done to encourage mothers like yourself and others to accept the HIV test?)

11) [Ask ALL mothers who took the HIV test]. Are you aware of some pregnant women in the communities who do not come to health facilities and thus who do not take the HIV test?

12) [Ask mothers who took the HIV test] What prevents some of these women from coming to the facility and specifically from taking the HIV test?

13) [Ask ALL mothers who took the HIV test]: What do you think can be done to encourage pregnant mothers to take the HIV test?

14) [Ask Mothers who took test]: Were you given your test results today? If yes, would you let us know the result of your test?
(Note: Please assure mom that she may opt out at this point although you would want her to continue with the interview. If however she accepts to continue, please ask her to be as honest as she can)

15) [Ask If mom took test but was not given results today]: How do you feel about being given results on the same day that the test is given? Does this encourage or discourage mothers from taking the test

PATIENT INFORMATION

Date:____________________________________________
Facility:__________________________________________
HIV+ HIVCD4test done?: Y  N
If yes, CD4 result?
Date of CD4 test: Y  N
HIV+ HIV Date of test: Y  N
Weeks after delivery of last visit to facility
If never returned after delivery, enter 0 weeks.
If delivered at home and never returned, enter 'during pregnancy'.
Cotrim prophylaxis provided during pregnancy?:__________________
Mother gave birth at the facility?:___________________________
ARVs given to mother during labour?:___________________________
ARVs given to mother during delivery?:__________________________
ARVs given to mother during breastfeeding?:______________________
If tested and HIV+, was treatment for infant initiated?:
If yes, which ARVs?
Patient Information Sheet
Which ARVs?

Cotrim prophylaxis given to exposed infant?:

Was exposed infant tested at the facility after 6 weeks?:

Date of HIV test:

Week of pregnancy of HIV test:

If yes, result of HIV test:

Mother age at childbirth:

Patient Name or Number:

Date of delivery:

ARVs given to exposed infant?:

Results of HIV test:

Enrollment date in PMTCT study:

ARVs provided during pregnancy?:

If yes, which ARVs?:

If HIV+, please continue with information sheet:
8.0 Bibliography


2. ANC Sentinel Survey Report (2011), 2012 (NACP)


7. Liberia Demographic and Health Survey (LDHS) of 2007


15. Pool R. et al (October 2001), "Attitudes to voluntary counseling and testing for HIV among pregnant women in rural south-west Uganda", AIDS Care 13(5)
