IMPROVING LINKAGE TO PMTCT AT ST. MARY’S HOSPITAL LACOR

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OCTOBER 2012
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Declaration

I, Nyeko Richard and Ochola Emmanuel do hereby declare that this end-of-project report entitled Improving linkage to PMTCT at St. Mary’s hospital Lacor has been prepared and submitted in fulfillment of the requirements of the Medium-term Fellowship Program at Makerere University School of Public Health and has not been submitted for any academic or non-academic qualifications.

Signed ……………………… Date……………………………..

Nyeko Richard, Medium-term Fellow

Signed ……………………… Date……………………………..

Ochola Emmanuel, Medium-term Fellow

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Dr. Emintone Odong

Institution Mentor

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Dr. Benson Tumwesigye

Academic Mentor
Fellows’ role in project implementation

Both fellows were part of this project from inception, through implementation and making the final report. The fellows were responsible for training of the CQI team members at the beginning, which formed part of the project implementation team, which the fellows were also part of. Dr Nyeko Richard chaired the CQI team meetings, while Dr Ochola Emmanuel handled the logistics and statistics. Other responsibilities like Secretary, Welfare, and message development were headed by other team members. Both fellows were part of, and guided the other team members through the problem identification processes, project proposal writing, document developments, and writing of the final project report.
Acknowledgements

We would like to first and foremost thank the Almighty God who has always been our helper at all stages of this project.

Our sincere gratitude goes to our supervisors, Dr. Emintone Odong Ayella, the Institutional supervisor, and Dr. Benson Tumwesigye, the Academic supervisor for their guidance, tireless support and belief in this work.

In a special way, we would like to thank the CQI team members that were part of this work, for their enormous and priceless contributions to this project. Our sincere gratitude therefore goes to Anena Anna, Lanyero Alice, Aryemo Frances, Adong Josephine, Otim Mercy, Dr. Akello Francesca, Atim Eunice, Amito Florence Peace, Okello Denis KK, Nyekorach Thomas, and, Akongo Christine, whose tireless efforts made this work possible.

Special gratitude goes to the Makerere University School of Public Health-CDC (MakSPH-CDC) Fellowship program for giving us this opportunity and sponsoring this project. We would also like to thank the staff and coordinators of the fellowship program, in particular Mr. Joseph Matovu and Faridah for their various supports which made this project possible.

We would also like to thank the administration of St. Mary’s hospital-Lacor for believing in this project and granting us the opportunity and all the necessary support.
Acronyms

AIDS………………………… Acquired Immunodeficiency Syndrome
ANC…………………………. Antenatal care
ART………………………… Antiretroviral Therapy
ARV……………………… Antiretroviral
CQI………………………… Continuous Quality Improvement
EID………………………….Early Infant Diagnosis
HAART……………………… Highly Active Antiretroviral Therapy
HIV ……………………… Human Immunodeficiency Virus
ICU………………………….. Intensive
IT………………………….. Information Technology
MTCT……………………… Mother to Child Transmission (of HIV)
PMTCT……………………… Prevention of Mother to Child Transmission (of HIV)
OBSGYN…………………….. Obstetrics and Gynaecology
SOPs………………………… Standard Operating Procedures
Operational definitions/Definition of terms

Linkage here refers to the process of getting an HIV-positive pregnant mother through the antenatal clinic all the way till they reach the HIV clinic to register and receive services in line with PMTCT.
Executive Summary/Abstract

Introduction

Mother-to-child transmission is the leading cause of HIV infection in children. It remains a major public health problem worldwide, with the greatest burden in resource-poor settings.

Without treatment, about half of these infected children will die before their second birthday. It is estimated that without intervention, the risk of MTCT ranges from 20-45%. With specific interventions in non-breastfeeding populations, the risk of MTCT can be reduced to less than 2%, and to 5% or less in breastfeeding populations.

Although Uganda has implemented prevention of mother-to-child transmission (PMTCT) for over 10 years, universal access to services has not yet been attained. St. Mary’s hospital Lacor has implemented PMTCT since October 2000 and to date about 500 HIV positive mothers are seen annually. However, the major challenge is lack of follow up due to the fact that PMTCT services are not entirely offered at the point of identification of the mothers (ANC). The practice is for HIV positive mothers at ANC to be registered for PMTCT at a different unit—the HIV clinic, and this has led to missed opportunities. The CQI project was therefore undertaken to improve PMTCT linkage for HIV positive mothers identified at ANC.

Objective

To increase the proportion of HIV positive pregnant mothers attending ANC in St. Mary’s hospital Lacor who are linked to PMTCT from 40% to 70% by August 2012

Methodology

Brainstorming by the CQI team was used as a tool to identify areas for improvement, and motivoting was later done on the resulting nine thematic areas for improvement, following which the four most ranked themes were carried forward and subjected to the
theme selection matrix for prioritization. Theme selection process prioritized poor PMTCT linkage as the key priority area for improvement.

The project was implemented using a number of programmatic activities in line with the root causes identified, and involved the development, dissemination and utilization of SOPs, guidelines, and flow chart for PMTCT processes tailored to address the uniqueness of the processes at Lacor hospital; scheduled blood sample delivery to the laboratory with timely release of results; updating and disseminating the counseling tools and messages, training of counselors in line with the current aspects and recommendations of PMTCT, and development and use of audiovisual messages in the ANC for continuous reminders and reinforcement of key PMTCT messages; creating a PMTCT desk at the HIV clinic with personnel assigned to specifically handle the HIV-positive PMTCT mothers that are referred from the antenatal clinic for assessment and enrollment into care; and instituting data capture at each of the key points in the PMTCT process in order to track the patients flow and ascertain data-backed project outcome.

**Project outcomes**

Proportion of HIV+ pregnant mothers identified at ANC linked to PMTCT at the HIV clinic increased from 40% to 78%, surpassing target of 70%.

Time for provision of PMTCT services markedly improved in ANC and ART Clinic (2-3 of delays eliminated). Other benefits include improved health education in ANC and ART clinic. One fellow has been taken to head the hospital Quality improvement Committee.

**Lessons learned**

The following lessons have been learned in the course of implementation of the first CQI project of its kind in the institution: Simple practical measures can have a great
impact in improving quality of health care services without any substantial additional financial burden; Team work is very important in successful implementation of cross-cutting projects; and Identification and addressing the very root causes of a problem is critical in achieving the greatest impact.

Conclusions
We managed to increase the proportion of HIV-positive pregnant mothers identified at antenatal clinic who are linked to PMTCT services at the HIV clinic on from 40% to 78%, surpassing our target of 70%.

Recommendations:
The hospital is recommended to adopt and support the institutionalization of the CQI principles into the hospitals health care delivery activities.
The MakSPH-CDC Fellowship Program is recommended to continue supporting the CQI program in order to build a critical mass of health and other personnel that will make it possible to operationalize quality improvement as part of the health services delivery components.

Next steps
Our next steps of action will involve forming and training two CQI teams in Intensive Care Unit and Obstetric wards. We would like to tackle a next project on aligning the PMTCT process to National standards, and to also to improve follow up of HIV exposed Infants We would like to replicate the CQI principles and processes in other priority areas previously identified, as well as others that will later be identified.

Standardization/scale-up strategy
We plan to institutionalize the CQI processes through training and formation of CQI teams in all key departments within the institution. Formation of teams and training of health workers will help standardization.
Chapter One: Introduction and Background

1.1: Introduction

St. Mary’s hospital Lacor is the largest private not-for-profit catholic based institution in Uganda, located in Gulu municipality, about 6km west of Gulu town along highway to Sudan. From a small 30-bed hospital over 50 years ago, Lacor hospital is now a complex with 482-bed capacity and 3 peripheral health centres, each with 24 beds, a nurse training school, a laboratory training school, Gulu university teaching site for medical school and other training programmes.

The activities provided by Lacor hospital include integrated curative, preventive and rehabilitative health services among others.

Mother-to-child transmission (MTCT) is the leading cause of HIV infection in children. It remains a major public health problem worldwide, with the greatest burden in resource-poor settings. Infants and children with HIV are more likely to become ill and die shortly after birth. PMTCT programs provide a package of services that ideally include: counseling and testing for pregnant women; short-course (or long course) preventive ARV regimens to prevent mother-to-child transmission; counseling and support for safe infant feeding practices; family planning counseling or referral; and referral for long-term ART for the child. In addition, where possible, these programs serve as an entry point for full ART services for the entire family, thus protecting the family unit and preventing the tragedy of a generation of orphans.

However, the program is faced with a number of challenges including dropouts of PMTCT service provisions, low involvement of male partners, and low coverage-inaccessibility of services, poor systems to deliver the PMTCT services, among others.
Another big challenge is a continuously changing policy guideline as regards PMTCT. In three years, some centres including Lacor Hospital went through three policies.

The Ministry of health is currently in implementing a strategic process of scaling up the provision of PMTCT services in all health facilities from health centre III level upwards, through a decentralized provision of ARV for PMTCT at the point of identification in the antenatal clinic (Option B Plus for Elimination of MTCT). In St. Mary’s hospital Lacor, PMTCT implementation begun in October 2000 and to date about 500 HIV positive mothers are seen annually. However, the major challenge is lack of follow up and the fact that PMTCT services are not entirely offered at the point of identification of the mothers (ANC). The practice is for HIV positive mothers at ANC to be registered for PMTCT at a different unit-the HIV clinic, and this has led to missed opportunities.

The CQI project was therefore undertaken to improve PMTCT linkage for HIV positive mothers identified at ANC, to the units that provide these services in the hospital.
1.2: Literature review

An estimated 430,000 children are newly infected with HIV globally, and about 25,000 are newly infected in Uganda every year. Over 90% of these are due to mother to child transmission (MTCT). Without treatment, about half of these infected children will die before their second birthday. It is estimated that without intervention, the risk of MTCT ranges from 20-45%. With specific interventions in non-breastfeeding populations, the risk of MTCT can be reduced to less than 2%, and to 5% or less in breastfeeding populations.

Although Uganda has implemented prevention of mother-to-child transmission (PMTCT) for over 10 years, universal access to services has not yet been attained. Currently, 20% of new HIV infections are through mother-to-child transmission (Dr. Wilford LK, 2011).

The achievement of the national (and international) goals to reduce MTCT requires a comprehensive approach, which includes the following four components:

- Primary prevention of HIV infection in the general population among women of childbearing age and their partners, especially in young women and pregnant women;
- Prevention of unintended pregnancies among women living with HIV;
- Prevention of HIV transmission from HIV infected pregnant women to their infants during pregnancy, labour and delivery, and post-natal through breastfeeding
- Provision of appropriate care, treatment and support to women living with HIV, and their children and families.
Mother-to-child transmission of HIV has been virtually eliminated in developed countries through effective prevention of mother-to-child transmission programmes, but, although countries like Botswana have demonstrated considerable success in reducing MTCT rates, significant challenges and gaps in service remain in most developing countries (UNAIDS, 2010; Baleta A, 2010; Bruce N et al, 2007), Uganda inclusive. Uganda has developed a PMTCT and care of exposed infants scale up plan 2010-2015 with a vision of a generation free HIV/AIDS in Uganda by 2015, and goals of virtual elimination of HIV transmission from mother to child, as well as reduction of mortality and morbidity among HIV-positive women and HIV-exposed and infected infants. The target is to increase access and utilization of the recommended package for prevention of mother-to-child transmission of HIV (PMTCT) to 80% of HIV-infected women and their infants, among other targets.

The 2010 World Health Organization (WHO) PMTCT guidelines recommend that all HIV-positive pregnant women should be assessed for eligibility to start highly active antiretroviral therapy (HAART) for their own health via referral to HIV care and treatment centre (WHO, 2010). The PMTCT programmes therefore present a major opportunity to go beyond the prevention of infant infections to allow diagnosis and management of previously-unrecognized maternal HIV infection, and the prevention of HIV-related orphans. However, this requires that women navigate a series of steps along the cascade from testing, diagnosis, assessment for eligibility for life-long HAART, to initiation of HAART, if indicated.

HIV testing is the key entry point to HIV care for both mother and child, and initiation of HAART, if required, should be done as soon as possible in pregnancy in order to
give optimal health outcomes for both mother and child. However, linkage to HIV care and treatment following testing in sub-Saharan Africa has been a challenge, including after general provider-initiated testing and counseling (Harris JB et al, 2008; Okot-Chono R et al, 2009; Kranzer K et al, 2010). Data from South Africa on the operational performance of onward referral from PMTCT services of women identified as HIV-positive in pregnancy suggest that, whilst a high proportion of pregnant women may be HIV tested and receive ART prophylaxis for PMTCT at the ANC, a significant proportion are not assessed during pregnancy for eligibility to receive life long HAART or do not receive HAART if they are assessed as needing it (Moodley D et al, 2011; Hussain A et al, 2011).

According a finding by Deborah WJ, et al (2012) in Mwanza Tanzania, up to 42.2% of HIV-positive pregnant women tested through the PMTCT services who had received referral to an HIV clinic did not attend HIV clinic. In Kinshasa, only 35% of HIV-positive pregnant women attended and HIV clinic after referral with a median time of 4.5 months after HIV diagnosis (Mavakala K et al, 2008).

**Barriers and factors associated with lack of attendance at HIV care and treatment services during pregnancy**

A number of factors and barriers still exist contributing to poor linkage of HIV-positive women identified during PMTCT at ANC to the getting the recommended PMTCT interventions.

**Individual-level factors**

According to a finding in Kinshasa, distance to the clinic, transportation costs, travel and non-disclosure were cited as the commonest reasons for missed visits (Mavakala K
et al, 2008). Other evidence (Deborah WJ., et al, 2012), suggests that women receiving referrals to an HIV clinic also described a number of barriers to attending during pregnancy, such as not understanding why it was important to attend an HIV clinic soon after diagnosis (44.7%) and fear of disclosure of their HIV status (10.5%). The latter can be associated with stigma which has been shown to influence willingness to access HIV treatment services in other studies (Mahajan AP et al, 2008; Duff P et al, 2010). Other factors that have been documented include women saying they were too ill to attend the HIV clinic, wanting to wait until delivery, distance to the HIV clinic, being informed services were not available when they attended the HIV clinic, and not feeling it was necessary to attend HIV clinic services because one felt well.

**Provider-level factors**

Lack of understanding among the health service providers about when women should be referred after being given their HIV results (ref Deborah et al), as well as inadequate health worker knowledge in South Africa (Sprague C et al, 2011) were found to contribute to low referral rate, and to impact on a number of steps in the PMTCT care continuum. Even where the health workers are aware of the HIV referral system, basic misunderstanding in how this should be implemented, due to lack of standard procedures, coupled with unclear post-test counseling messages have resulted in low linkage of HIV-positive mothers to PMTCT (Deborah WJ et al, 2012).

**Health system-level factors**

According to Deborah WJ, et al (2012), majority of women testing HIV-positive at the main antenatal clinics who require HAART were unable to navigate and complete the complex cascade of steps needed to ensure they start HIV treatment in pregnancy, even
where PMTCT services and HIV treatment clinics were in the same town or even in the same hospital. Furthermore, because adult HIV care and treatment services are very busy, pregnant women often are not enrolled and assessed during pregnancy.

Since women demonstrated a lack of understanding about the need to attend an HIV clinic for assessment soon after diagnosis, it is clear that strengthening antenatal and post-natal training and counseling will be essential to reinforce key messages about ongoing health care for HIV-positive pregnant women. Changes in the training and supervision of health workers implementing PMTCT and health system modifications are therefore needed for staff to successfully enable women who test HIV-positive during antenatal care to access PMTCT interventions.
1.3: Problem statement and justification:
All HIV positive pregnant mothers attending care in health facilities should be linked to PMTCT care and should receive ART as part of the PMTCT. The Uganda Ministry of Health and WHO recommend that all mothers tested positive for HIV in ANC should be linked to PMTCT care, preferably provided in the antenatal clinic. The current practice at the hospital is that the core PMTCT services for patients identified at the ANC are provided in the general HIV clinic. By the third quarter of 2011, only 40% of the HIV positive pregnant mothers that attended ANC in Lacor hospital were linked to PMTCT services this putting the unborn babies at an increased risk of vertical transmission of HIV. Multiple missed opportunities therefore exist to link HIV-positive women into HIV care programme (PMTCT). The CQI project was therefore undertaken to improve PMTCT linkage for HIV positive mothers identified at ANC.

1.4: Project objectives

General objective:
To improve linkage to PMTCT for HIV positive pregnant mothers attending ANC at St. Mary's hospital Lacor.

Specific objectives:
To increase the proportion of HIV positive pregnant mothers attending ANC in St. Mary’s hospital Lacor who are linked to PMTCT from 40% to 70% by August 2012

1.5: Expected changes
The project was expected to lead to the following outcomes:

- Increased number of mothers linked to and receiving PMTCT care services
- Increased CQI knowledge among the hospital staff
- Sustainability of the CQI processes within the institution
Chapter Two: Methodology

2.1: Reason for improvement:

Team formation
A multidisciplinary team of midwives, nurses, counselors, doctors, lab persons, and health educators was formed after the fellows had shared the CQI ideas with hospital management.

Problem identification
Brainstorming by the CQI team was used as a tool to identify areas for improvement.

Fourteen (14) problem areas were initially enlisted as requiring quality improvement interventions during the generation stage of brainstorming as, pictured in Figure 1.

Later, following clarification and evaluation, themes that were similar were combined into one and other themes were dropped by the team because they were not within the team’s means to influence or achieve results within the short time available.

Nine (9) key quality improvement areas were eventually agreed on (Table 1) and were subjected multivoting. (Table 2) and later, theme selection, using the Theme selection Matrix (Table 3).
**Figure 1: CQI Team during problem Identification**

![CQI Team during problem Identification](image)

**Table 1: Problems Identified through brainstorming**

<table>
<thead>
<tr>
<th>Theme letter</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Inadequate nutritional assessment in HIV positive children attending HIV clinic</td>
</tr>
<tr>
<td>B</td>
<td>Poor access to PMTCT services for new HIV positive pregnant mothers</td>
</tr>
<tr>
<td>C</td>
<td>Lack of psychosocial support to HIV positive children and adolescents receiving care in HIV clinic</td>
</tr>
<tr>
<td>D</td>
<td>Poor linkage between DBS and mothers getting results</td>
</tr>
<tr>
<td>E</td>
<td>Delays in DBS results</td>
</tr>
<tr>
<td>F</td>
<td>Poor follow up of HIV exposed infants</td>
</tr>
<tr>
<td>G</td>
<td>Lack of follow up of HIV positive TB patients</td>
</tr>
<tr>
<td>H</td>
<td>Poor documentation of activities carried out in the HIV clinic (e.g. TB case detection)</td>
</tr>
<tr>
<td>I</td>
<td>Poor utilization of the child health card for EID of HIV</td>
</tr>
</tbody>
</table>
Multivoting
Multivoting was done on the nine thematic areas and the results are as shown below. After the second round of voting, the four most ranked themes were carried forward and subjected to the theme selection matrix for prioritization.

Table 2: Multivoting process

<table>
<thead>
<tr>
<th>Theme letter</th>
<th>1ⁿᵈ vote</th>
<th>2ⁿᵈ vote</th>
<th>3ⁿᵈ vote</th>
<th>4ⁿᵈ vote</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>3</td>
<td>2</td>
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<tr>
<td>D</td>
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<td>1</td>
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<td>E</td>
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<td>G</td>
<td>2</td>
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<tr>
<td>H</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Theme selection matrix

<table>
<thead>
<tr>
<th>Themes</th>
<th>Customers</th>
<th>Impact on external customers</th>
<th>Need to improve</th>
<th>Overall rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional assessment</td>
<td>HIV+ children, mothers/caretakers, H/workers, district leaders, funders</td>
<td>3.8</td>
<td>3.1</td>
<td>11.78</td>
</tr>
<tr>
<td>Linkage to PMTCT</td>
<td>HIV+ preg. mothers, spouses, unborn baby</td>
<td>4.6</td>
<td>4</td>
<td>18.4</td>
</tr>
<tr>
<td>Psychosocial support</td>
<td>HIV+children &amp; adolescents, caretakers/parents, H/workers, stakeholders</td>
<td>3.8</td>
<td>3.4</td>
<td>12.92</td>
</tr>
<tr>
<td>Follow up of HIV exposed</td>
<td>Exposed infants, parents, community, H/workers, volunteers</td>
<td>3.8</td>
<td>2.8</td>
<td>10.64</td>
</tr>
</tbody>
</table>

Theme selection process prioritized PMTCT linkage as the key priority area for improvement, since it scored the highest rating on both impact on external customers and need to improve.
2.2: Baseline situation

When a client came to ANC, pretest counseling is done in a group, and then vital observations are taken and later HIV testing done. At baseline bleeding for HIV test started at 11-12hrs. Samples were then sent to laboratory at 13-130hrs. At 14.30-15.30hrs, test results given, either referred to A clinic, or to their nearby health centre (if already on ART elsewhere), or sent home if negative. At A clinic, they were registered after waiting a further 1 hour. This process is shown in Figure 2, and the times shown in Figure 3.

**Points of challenge:** Delay in bleeding, delay taking samples to lab, inadequate counseling and referral at point of giving results, linkage to A clinic (many clients do not reach it when referred the same day either because of insufficient counseling/understanding of PMTCT needs, or lateness of results/early closure of AIDS clinic, or need to involve partner prior to all these new services that she has to get) Delay before being seen in the ART clinic.

**Figure 2: Flow chard of PMTCT processes at baseline**
Figure 3: Waiting time for different PMTCT activities before the project

Waiting time for PMTCT activities

Time Duration (hrs)

From arrival to blood draw
From blood draw to results
From arrival to reaching ART clinic
Waiting before review at A clinic

13
As shown in Figure 4 above, on average, only 40% of the HIV positive pregnant mothers were linked to PMTCT care.

2.3: Problem analysis

A problem drivers model was used to define the key drivers of the poor linkage to PMTCT, by asking ‘why’ to the defined causes. The major drivers of the poor linkage to PMTCT were noted as being Uncoordinated patient flow, long waiting time for services, poor counseling, and laboratory delays. This is shown in Figure 5 below.
Figure 5: Analysis of Problem drivers and countermeasures.

**Problem**
- Poor linkage to PMTC
- Long waiting time for services
- Poor counseling content
- Delayed release of results

**Drivers**
- Uncoordinated patient flow
- Scheduled sample delivery to lab
- Develop SOP and flowchart for PMTCT processes at Lacor
- Update counseling tool/messages
- Retrain counselors
- Develop audiovisual messages
- Acquire a screen and media player
Chapter Three: Project implementation

The project was implemented using the following programmatic activities in line with the root causes identified. The countermeasures, shown in the Countermeasures Matrix (Appendix 6) were effected as below.

3.1: Document development

We undertook the development, dissemination and utilization of SOPs, guidelines, and flow chart for PMTCT processes tailored to address the uniqueness of the processes at Lacor hospital. Different members were assigned to draft these, then the team reviewed the documents. These included SOP for activities to be undertaken for PMTCT mothers referred to the HIV clinic (Appendices 2 and 4); key counseling messages and information that formed part of the counseling sessions for each HIV positive mother identified form ANC and referred to the HIV clinic (Appendix 3); and a flow chart that clearly stipulated the processes and important activities at each step of mothers going through the ANC and getting linked to the HIV clinic (Appendix 1). Key in the new flow chart is the institution of a functional PMTCT desk at the ART clinic which receives the mothers, directs them and takes relevant records.

3.2: HIV result turnover

In order to address the problem of result turn over that was attributed to the delay in blood sample removal that was initially being done at between 11 am to 1 pm, with in order to take samples to the laboratory in one single batch, leading to delayed release of results, we undertook and implemented schedules for samples delivery to the laboratory as well as adjusting time. These were developed and adhered to so as to address the problem of delay of results. Samples were taken to the laboratory at two batches of
about 10 each instead of a single batch, with the first batch of bled as early as 9.30-10.30am, and the second batch bled from around 11.30am to 12.30PM.

3.3: Counseling gaps

Updating and disseminating the counseling tools and messages. We multiplied the MoH counseling tool to be given to the mothers, and also produced key counseling messages the provided is to give (Appendix 3)

Training of counselors in line with the current aspects and recommendations of PMTCT

Audiovisual messages were developed and displayed with the help of an IT person and constantly played/displayed in the ANC for continuous reminders and reinforcement of key PMTCT messages, as seen in figure 6. The audio message transcript is in appendix 5.
3.4: Referral process

We created a PMTCT desk at the HIV clinic with personnel assigned to specifically handle the HIV-positive PMTCT mothers that are referred from the antenatal clinic for assessment and enrollment into care. This became a very necessary and important intervention as it was realized that some mothers tended to postpone their HIV clinic attendance on realizing that there are very patients necessitating spending another long waiting time on the line.

3.5: Actual entry into record

We instituted data capture at each of the key points in the PMTCT process in order to track the patients flow and ascertain
Chapter 4: Project outcomes

4.1: Improvement in PMTCT Linkage

There was a significant increase in the percentage of HIV positive pregnant women linked to PMTCT care in ART clinic from the baseline of 40% to 78%, surpassing the anticipated 70%. 333 women tested positive, of whom about one third were already on lifelong Antiretrovirals. 166 were referred to Lacor ART clinic, of whom 130 (78.2%) were received and enrolled at the PMTCT desk of the ART clinic, as seen in Figure 7, and Figure 8 on monthly bases. Furthermore 119 (91.5%) mothers of those referred were able to get drugs for PMTCT,

Figure 7: Percentage of mothers linked to PMTCT before and after the project
4.2: Improvement in the processes for PMTCT

There was an overall improvement in the time taken for achievement of particular PMTCT activities, after the completion of the project. As shown in fig 9, the time from arrival to blood draw decreased by 50% from 3 hours to 1.5 hours we noted delays and consciously started work early. Time from blood draw to getting results reduced by 60% from 3 hours to 2 hours as we introduced the sending of samples to laboratory in batches. Before the project, Clients used to reach ART clinic at around 3-4pm, now they arrive at around 12.30pm to 1.30pm, saving 2 hours. Waiting time before being
seen by staff in the ART also reduced from 1 hour to 15 minutes after the project, with the introduction of PMTCT desk in the ART clinic.

Figure 9: Waiting time for Key PMTCT activities before and after the project.

![Chart showing waiting time for PMTCT activities]

4.3: Other outcomes in the Institution

One of the CQI fellows has been taken up to chair the Quality Improvement Team of Lacor Hospital.

There is markedly improved health education in the antenatal clinic and ART clinics, due to presence of TV set for audiovisual information, and Speaker in A clinic for health education messages (Figure 6). Improved team work between Antenatal (OB/SGYN) and ART staff.
4.4: Lessons learned

The following lessons have been learned in the course of implementation of the first CQI project of its kind in the institution:

1. Simple practical measures can have a great impact in improving quality of health care services without any substantial additional financial burden.

2. Team work is very important in successful implementation of cross-cutting projects.

3. Identification and addressing the very root causes of a problem is critical in achieving the greatest impact.
Chapter Five: Conclusion and Recommendations

5.1: Conclusion
The project managed to increase the proportion of HIV-positive pregnant mothers identified at antenatal clinic who are linked to PMTCT services at the HIV clinic on from 40% to 78.2%, surpassing our target of 70%.
Waiting time for key PMTCT services have been significantly reduced, with an overall 2 to 3 hours of waiting eliminated.

5.2: Recommendations:

Institutional

Adopt and support the institutionalization of the CQI principles into the hospitals health care delivery activities, also in line with recent Ministry of Health recommendations.

MakSPH-CDC Fellowship Program

Continue supporting the CQI program in order to build a critical mass of health and other personnel that will make it possible to operationalize quality improvement as part of the health services delivery components.
Do some supportive follow up in institutions post Fellowship, to support concrete institutionalization of quality improvement.

5.3: Next steps

- Building capacity of other staff within the institution through training and mentorship on CQI principles and processes
- We intend to come up with CQI indicators and also establish a monitoring system to continuously trac the improvement processes and outcomes, first for PMTCT.
• Formation and training of two CQI teams in two key departments: Intensive care unit and Maternity wards. Children’s ward is next in line.

• Next projects include alignment of the PMTCT process to the National System. The CQI team will be key. Under this we want to shift PMTCT services to be based in the antenatal clinic, and to use all the National tools appropriately.

• Another next ‘project’ will be improving the follow up of exposed infants, especially those with positive DBS

• Improvement of follow-up of PMTCT mothers started on Option B Plus for eMTCT,

• Ensuring that all HIV positive pregnant mothers get ART for PMTCT.

• Considerations will be made to replicate the CQI principles and processes in other priority areas previously identified, as well as others that will later be identified.

5.4: Dissemination plan
The CQI project final report is hereby submitted to the MakSPH-CDC fellowship programme, and was presented in a dissemination workshop to be organized by MakSPH-CDC fellowship programme. The project implementation and outcome will also be presented to the hospital staff and clinicians a part of the continuous medical education (CME) and at other fora/conferences. Attempts will be made to publish this in peer reviewed journals.

5.5: Standardization/scale-up strategy
The fellows plan to institutionalize the CQI processes through training and formation of CQI teams in all key departments within the institution. These departmental teams will be empowered with the skills and capacity to continuously undertake QI measures at departmental levels, and to share results periodically.


References


Appendix 1

LACOR HOSPITAL PMTCT PATIENT FLOW CHART, ANC VISIT

**ANC HALL:**
Health education & group counseling

**Vitals**
BP, Weight, Height

**REGISTRATION**
History taking and Registration

**VENIPUNCTURE**
Blood removal (HIV, syphilis)

**LABORATORY**
Analysis of samples, results sent back to ANC

**ROUTINE ANC SERVICES**
Obstetric Examination, IPT, Ferrous and folic acid, next appointment, doctor consultation

**ART**
Pharmacy
ART dispensing and post drug counseling, appointment

**ART CLINICIAN**
Clinical assessment, staging, CD4, other labs, ART and CTX prescription, OI treatment

**A clinic (PMTCT desk)**
Registration/ Opening file, PMTCT counseling messages

**HCT RESULT**
Results and Posttest counseling

**POSITIVE**
F

**NEGATIVE**

Home
STANDARD OPERATING PROCEDURES FOR PMTCT
MOTHERS IN THE AIDS CLINIC (SOPs)

Actions to be taken in a clinic for and HIV positive pregnant mother:

1. From ANC, receive the HIV positive pregnant mother at the registration desk/PMTCT desk, and prioritize them not to follow an existing line.

2. Open a file for the client. Mothers who will not open a file shall be given Option A AZT and referred to the nearest health units (note that neighbouring units are still offering Option A). This can change as they start Option B.

3. Provide counseling. Use the key messages.

4. Send for review by a clinician.

5. Clinician will do counseling, clinical staging, treatment of OI’s, and initiation of cotrimoxazole (CTX) prophylaxis.

6. Do baseline investigations (CD4+, AST, ALT, Hb/CBC, Creatinine, Urinalysis).

7. Initiate Option B PMTCT, preferably 3TC/TDF/EFV on the same day (if client is 14 Weeks or more of pregnancy) as we wait for lab results.

8. Schedule for review every 2 weeks for the first 1 month, then monthly for the next 2 months, then 2 monthly thereafter (At proximal visits we assess for previous ART eligibility to institute lifelong ART if client was eligible).

9. Send to the Pharmacy to pick drugs. In Pharmacy, dispensing information is provided, and client sent to the counselor.

10. The counselor goes through drug specific counseling, stressing administration time, adherence, side effects, and what to do thereafter, duration of therapy, repeat treatment plans for the baby, stress next appointment, infant feeding options, ANC follow-up.

11. Client then allowed to go home, to come back on schedule, or MATERNITY.

12. Document the directions of client’s home, and drugs given on the client’s ANC care, by community volunteers in their area.
Appendix 3: Counseling messages

ST. MARY’S HOSPITAL LACOR

KEY COUNSELING MESSAGES FOR PMTCT

The following messages and information should form part of the counseling sessions for each HIV positive mother linked to a clinic:
• Welcome the client to the clinic
• Allow mother to know reasons for referral to the AIDS clinic
• Need for initiation on ART at 14 weeks of amenorrhea (3.5-4 months)
• Importance of ARV’s to her and the fetus/baby
• Duration of ARV’s (especially if CD4 is above 350)
• The need for baseline investigations like CD4+, LFT’s, etc
• The possible side effects of ARV’s; and adverse events
• Importance of delivering in health centre/hospital
• Feeding options; stressing the importance of exclusive breastfeeding
• Follow up of child after delivery: visit schedule, immunizations, sickness
• Importance of and duration of Nevirapine prophylaxis for the baby
• Testing the baby at 6 weeks and 13.5 months after breastfeeding
• Disclosure to partner, if newly diagnosed
• Importance of partner’s involvement in PMTCT program
• Emphasis on adherence and resistance to ARV’s if instructions not followed
• Why and when the baby must take SEPTrin (as early as 6 weeks of age)
• Importance of continued ANC visits, good nutrition and lifelong HIV care and monitoring.
• Check that the client has understood significantly the information provided
• Give her an opportunity to ask questions and answer them appropriately
Appendix 4: SOP for PMTCT for Mothers coming from Maternity to ART clinic

WHAT TO DO IN A CLINIC FOR MOTHERS FROM MATERNITY

Mothers who deliver in Maternity shall be welcome to the HIV clinic for both counseling and services.

Those who were on any ART's before may be started, but assessed also for ART eligibility. Clinicians’ judgment is important here on regimen and duration of treatment.

They may come to A clinic before 6 weeks, at 6 weeks or after 6 weeks.

Babies are to be registered for Exposed infant care, NVP syrup supply and administration checked, feeding counseling provided.

For the mother, life long care is stressed.

At 6 weeks

The followings should be done at 6 weeks postpartum:

- Feeding counseling (Infant and young child feeding),
- DBS for baby for EID, schedule for results,
- Initiate Cotrimoxazole prophylaxis
- Stop NVP if mother was on Option B, otherwise critically consider.
- Treat any existing childhood infections.
- Schedule visits according to the EXPOSED INFANT follow up schedule.
- Match mother’s appointment to the baby’s,
- LINK MOTHERS TO Postnatal care (PNC),
- LINK BABY/CHILD TO IMMUNISATION AND GROWTH MONITORING

For mother-infant pairs coming after 6 weeks postpartum:

- Still offer the above services at the first contact, in addition to addressing any other need of the mother or infant.
Appendix: 5: Transcript of Audio Messages

ST MARY’S HOSPITAL LACOR
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PMTCT AUDIO MESSAGES

Wapwoyo wun weng pi bino ka pime me nywal kany i ot yat Lacor.
Walego ni myero ibed agonya ka itye botwa kany. Kace peko mo tye, onyo imito kony mo, tim ber i cit bot / onyo I peny nurse mo keken ma ineno tye cok.
I antenatal kany, jami mapol timme, ma tye ikine:
• Miyo pwony me yot kum
• Pimo remo pi kwidi two jonyo ki two nyac.
• Pimo kilo, pressure, ki boco
• Pimme pi neno yot kum latin/pimo ic
• Miyo yat mapat pat: me medo remo ikum dako, me gengo two malaria, ki mukene ka nongo mitte.
• Neno doctor pi arem mo ma tye.
• Miyo tandarua me gengo obee ki malaria

Dong piretek ni omyero ipim remoni wek ibed ki ngec kace itye ki kwidi two jonyo onyo peke, dok bene konyi me ngeyo kace tye two mukena mapatpat ma twero keto kwo pa latini ma tye i ic wa ki megi bene kama rac.
Two jonyo weko kumi bedo goro, dok miyo bedo kere tutwal ki kwidi two jonyo me kobo ikom latin ma tye i ic. Two jonyo twero kobo ki i ic, icawa me nywal, ki dok inge nywal.
Ngeno kit ma remoni tye kwede bi miyo kare ka daktar me kweno cwinyi, miini pwony mabeco, ki dong miyo boti yat me two jonyo me konyo yat kumi ki me gengo kobo pa kwidi two jonyo ikom latin mamegi ma tye i ic.
Kace kinongo ni two jonyo tye,
• Daktar bimini waraga me coone pi cako yat two jonyo ki nongo kony mukene mamite pi in kacel ki latin matye i ic.
• Kibipimo pim me CD4 onyo neno kero pa lulweny ma iremoni
• Kibinywako kwedi tam,
• Ka kibicako miini yat lajin me gengo kobo pa two jonyo ikum latin.
• Kibipimo remo me neno kit ma olang ki acwiny tye ka tic kwede.

Ka i oo i A-clinic, mii waraga man bot daktar/ onyo nurse mo keken matye i wii meca ci ibinongo kony man cucut ma pe dok ibirye i line.
Pire bene tek ni pe igalle me cako yat man. Gang kal me yot kum mito ni dano ma tye ki two jonyo ka onongo ic omyero ocak munyu yat me gengo kobo pa two ikum latin, ki ic me dwe adek ki nuce.
Walegi bene ni ka icako munyu yat man, ilub cik me munyu yat ma pe ikeng, ka dok imedde ki wot i ot yat/Antenatal ka pimme.
Ikare me nywal, pire tek ni icet i ot yat ka nywal, dok inen ni latin ma inywalo kicako miine yat Nevirapine me konyo gengo kobo pa two jonyo ikume.
Wamito dok walego Rubanga ni inywalo latini makume yat. Konywa me konyo in.
Ka itye ki lapeny mo, tim ber pe idok labongo penyio daktar mo.
Wapwoyo.
The cut off total score for consideration of a practical method was set at 15. Therefore, all the above 5 practical methods were considered for our project implementation.
## Appendix 7: Project timeline/work plan

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