Updates on PMTCT from Malawi, the country where Option B+ started

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Nothing to disclose
Objectives

• Malawi’s B+ program

• How is it going?
  A review of Malawi’s current PMTCT data: successes and challenges

• Why has it worked?
  Enabling factors including task shifting

• What remains
  Dolutegravir dilemma, further optimizing retention and infant testing, and closing the gaps
Malawi’s Option B+ Program

- Malawi - the first country to implement Option B+: universal lifelong treatment for all pregnant and lactating women

- Option B+ theorized benefits: effective reduction of vertical transmission, maternal health, reduced partner transmission, effective, cost-effectiveness, simplified delivery of PMTCT care

- Initiated July 2011

- Resulted in a dramatic and immediate (7-fold) increase in PMTCT uptake

- By 2014, 20+ countries had endorsed Option B+ for their national PMTCT programs
Excellent PMTCT coverage

MALAWI PMTCT COVERAGE amongst pregnant women living with HIV, 2009 - 2018

Malawi PMTCT coverage (percentage of HIV+ pregnant women receiving any prophylaxis to prevent mother-to-child transmission), Spectrum 2016, 2009 - 2018
Very good ART coverage amongst pregnant women living with HIV

Malawi Treatment Coverage for HIV+ Women (percentage of HIV+ pregnant women receiving ART for both PMTCT and treatment), Spectrum 2016, 2009 - 2018
Vertical transmission has decreased

Spectrum estimates

Malawi MTCT Rate at 6 weeks, Spectrum 2016
HIV+ infants are being linked to ART

MALAWI EID TEST TO TREATMENT LINKAGE
2 - 12 mons 2016 - 2018

EID 2-12 mons Confirmed Infected (DNA-PCR) vs Started on ART, MoH DHA data 2015 – 2018
Percentage of infants testing positive who are started on ART
More women are already on ART when becoming pregnant.
Vertical transmission has decreased, but there are gaps

**Spectrum** estimates vertical transmission is **6.9%** vs.

**Early infant diagnosis** program data yield **<3%**
Early infant diagnosis testing improving but could be further optimized

Malawi’s Early Infant Diagnosis program, TOTAL CHILDREN REGISTERED vs TOTAL TESTED
2 - 12 months of age 2016 - 2018

EID Coverage 2-12 mons, MoH DHA data 2016 - 2018
Retention not optimal

Pregnant and lactating women alive and on ART 6-, 12-, 24- and 36- months post ART initiation. Q4 2015 - Q3 2017

Malawi MoH DHA data Q4 2015 – Q3 2017
Site level variability, 12 month retention Option B+

12 month survival Option B+ RETENTION ANALYSIS
Mangochi District 2018

MoH DHA data 2018
Key factors enabling continued success

• Political will and strong leadership from the Department of HIV and AIDS
• Funding support
• Involvement of broad base of key stakeholders including PLHIV and Implementing partners
• Robust data system to track progress with quarterly supervisions
• Procurement and supply chain systems tightly monitored
• Integration of PMTCT/ART and antenatal care
• Malawi’s experience with and innovation around task-shifting
Malawi’s history of successful task-shifting—enabling non-doctor cadres to initiate ART, helped launch Option B+ in Malawi

Malawi’s leadership in task-shifting continues to help move Malawi beyond B+ and address ongoing gaps in PMTCT/MCH care

In 2015, Malawi initiated the **HIV Diagnostic Assistant (HDA)** program, a new cadre of health worker focused primarily on HIV diagnostic testing (HTC, EID and VL)
Impact of HIV Diagnostic Assistants (HDAs)

• We reviewed data from 457 HDA sites pre-HDA deployment (October 2013 to June 2015) and post-HDA deployment (July 2015 to December 2017)

• We compared several measures including HIV testing, syphilis testing at ANC and early infant diagnosis testing

• We evaluated changes in the slope and level of these HIV testing measures through single-group interrupted time-series analysis

Number of persons tested for HIV increased post deployment

**HIV testing before and after HDA deployment**

Dashed vertical line indicates HDA deployment at July 2015. Solid lines reflect regression of values before and after deployment. Dashed horizontal line represents pre-deployment trend projected (counterfactual outcome).

<table>
<thead>
<tr>
<th>Trend before deployment</th>
<th>Trend after deployment</th>
<th>Trend difference</th>
<th>p</th>
<th>Level difference</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1508</td>
<td>4950</td>
<td>3442</td>
<td>0.001</td>
<td>35588</td>
<td>0.031</td>
</tr>
</tbody>
</table>

PMTCT related outcomes: improved early infant diagnosis testing and syphilis testing

<table>
<thead>
<tr>
<th>Pregnant women tested for syphilis</th>
<th>120</th>
<th>1229</th>
<th>1349</th>
<th>&lt;0.0001</th>
<th>6640</th>
<th>0.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of infants receiving early infant diagnosis testing by 2 months of age</td>
<td>1</td>
<td>67</td>
<td>65</td>
<td>&lt;0.0001</td>
<td>-266</td>
<td>0.05</td>
</tr>
</tbody>
</table>

The proportion of positive syphilis test results is now very close to the syphilis prevalence estimated from the 2010 ANC sentinel surveillance round.

What next?

• Further optimization of maternal retention and EID testing coverage (plan to scale up POC EID testing)

• Support for large numbers of treatment experienced women

• Closing the other gaps (women who don’t receive prophylaxis, new infections amongst women during pregnancy and postpartum)

• Addressing other maternal health concerns (mental health)
The challenge with dolutegravir

- Malawi’s plan was to transition to Dolutegravir (DTG)-based ART regimens because of evidence that they are more potent, durable, convenient, better tolerated and have fewer drug interactions.
- Concern regarding safety of DTG-based ART regimens for use in early pregnancy.

Malawi’s Plan

- Tenofovir/lamivudine/efavirenz will remain the standard 1st line for women who may get pregnant while on ART from 30kg+
- DTG-based ART regimens will be introduced for eligible patient groups from the beginning of 2019.
  - Eligible groups: males from 30kg+ and women aged 45 years+ or with permanent contraception
Malawi created and successfully scaled up B+, a highly effective PMTCT program.

Malawi has sustained B+ successes with excellent PMTCT and maternal ART coverage, efforts to retain women and infants, and decreasing vertical transmission moving close to elimination.

Malawi has also moved beyond B+, innovating and addressing other gaps in PMTCT such as syphilis and EID testing coverage with interventions such as its HDA program.

Malawi seeks to continue to improve and grow, and much work remains.
Acknowledgements

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