Monitoring of HIV positive mothers and HIV exposed infants in context of Option B+ implementation

Ministry of Health Kenya
Outline of the presentation

• Background: Kenya in Context
• PMTCT Program progress 2012-2015
• Option B+ uptake in the country 2013-2015
• Retention on Option B+: PMTCT Cohort analysis
• PMTCT Outcome determination: HEI Cohort Analysis
• Recommendations and Conclusions
• Acknowledgements
Kenya Background

- Total population ~ 42 million
- HIV prevalence adults: 6.0% (HIV Estimates 2013)
- ~ 1.59 million estimated PLHIV
  - 190,000 are children < 14 years (HIV estimates 2013)
- Estimated 1.5 million pregnancies/yr
- HIV +ve pregnant women 79,036 (HIV Estimates 2013)
- HIV exposed infants 79,036
PMTCT Program Progress, 2012-2015

July 2014: Start of B+
Use of ART (Option B-plus) in PMTCT

Viral Load Suppression Rate (Nov 2013-June 2015)

<table>
<thead>
<tr>
<th>Patient Category</th>
<th>&lt;1000 cps/ml</th>
<th>Total</th>
<th>Viral Suppression Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>108,706</td>
<td>128,220</td>
<td>85%</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>306</td>
<td>362</td>
<td>84%</td>
</tr>
</tbody>
</table>
Maternal B+ Cohort Analysis Pilot project in Kenya

Background

- **Aim**: To determine retention of mother on HAART from 35 pilot facilities (L2 - 3; L3 - 14; L4 - 17; L5 - 1)
- **NPs (New positives) and KPs (Known Positives)** put in the same cohort month when started ART for NPs and month first seen at clinic for KPs
- **Outcomes determined at 3, 6 and 12 months**
- **Data presented for quarterly cohorts reported from Jan-March 2015**
- **Data source**: ANC Registers and ART Registers at MCH
- **NB**: Option B+ (the only option) rolled out from Jun 2014

Definition of terms

- **KP**: Known positives at 1st ANC contact at facility
- **NP**: Newly diagnosed positive at ANC, L&D or PNC
- **Enrolled into cohort**: PMTCT Women entered into a particular monthly cohort in MCH ART register, including KPs and NPs
- **Defaulters**: Any person missing appointment and not returned to the clinic by reporting time
- **LFU**: Any defaulter not returned 3 months (90 days) from date of missed appointment
- **Stopped**: A person who has stopped taking medication for whatever reason
- **Virally suppressed**: Person with viral load reported as undetectable (LDL) or <1,000 copies/ml
Maternal B+ Cohort Analysis - pilot project
Results: Summary

<table>
<thead>
<tr>
<th>Indicator</th>
<th>3 Months Cohort</th>
<th>6 months Cohort</th>
<th>12 Months Cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfers in (T.I)</td>
<td>KP:23</td>
<td>NP:2</td>
<td>Total:25</td>
</tr>
<tr>
<td>Lost To Follow Up (LTFU)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reported Dead</td>
<td>KP:3</td>
<td>NP:1</td>
<td>Total:4</td>
</tr>
<tr>
<td>Stopped</td>
<td>KP:0</td>
<td>NP:0</td>
<td>Total:0</td>
</tr>
<tr>
<td>% Retained (I/D*100)</td>
<td>80%</td>
<td>73%</td>
<td>76%</td>
</tr>
<tr>
<td>VL uptake</td>
<td>13%</td>
<td>4%</td>
<td>9%</td>
</tr>
<tr>
<td>VL Suppression</td>
<td>80%</td>
<td>100%</td>
<td>85%</td>
</tr>
</tbody>
</table>

**Key:** KP = Known Positive; NP = Newly Diagnosed Positive
Observations / Challenges

• Decreasing number defaulters as cohort gets older
• All cohorts: Higher retention among KP; Low in NPs (47% are KPs)
• Low uptake of VL among PMTCT clients: ?Documentation challenges
• Low VL suppression for clients: 58% @3/12; 41% @ 6/12; 85% @1 yr (small numbers due to missing data)
• Difficult to do data abstraction from data in source documents in context of transition period to MCH model of ART provision
• Incompleteness of some ART registers in MCH
• There is no standard national approach to B+ cohort analysis
HIV Exposed Infant (HEI) Cohort Analysis

- HEI Card
  - Each clinic visit information

- HEI Register
  - Cohorts by birth month
  - Summarizes clinical information by month, up to 18 months

- HEI Cohort Analysis (HCA) Tool
  - 9 and 18 month outcomes

Piloted: Mar-Sep 2012
Implemented: July 2013 to date
### HEI Follow-Up

**1st Review: Cohort birth month + 12 months**

1.0 % mothers who received PMTCT ARVs
2.0 % Infants who received ARVs at 0-6 weeks
3.0 % HEI tested with PCR at age 6-8 weeks and results available
4.0 % HEI tested positive by first PCR at age 6-8 weeks
5.0 % HEI tested with PCR and results available between 0 and 9 months
6.0 % eligible HEI tested with 1st AB test and results available
7.0 % HEI who tested AB positive with confirmatory PCR and results available
8.0 % HEI who were Exclusively Breastfed at 6 months among HEI assessed
9.0 % HIV positive infants identified between 0 and 9 months linked to CCC

**10.0 Outcomes for birth cohort at 9 months**

10.1 % Continuing in HEI follow-up
10.2 % Identified as positive between 0 and 9 months
10.3 % Transferred out between 0 and 9 months
10.4 % Missing 9 month follow-up visit
10.5 % Died between 0 and 9 months

**2nd Review: Cohort birth month + 24 months**

11.0 % HEI tested by AB test at >= 18 months and results are available
12.0 % HIV positive infants linked to CCC among those testing positive

**13.0 Outcomes for birth cohort at 18 months**

13.1 % Attending 18 month visit and AB negative
13.2 % Attending 18 month visit and no AB test done
13.3 % Identified as positive between 0 and 18 months
13.4 % Transferred out between 0 and 18 months
13.5 % Lost to Follow-Up between 0 and 18 months
13.6 % Died between 0 and 18 months
Results: Service Coverage

1,094 sites (reporting HCA between July 2012 and March 2014)

HEI Services Uptake: Nine-month review, July 2012-March 2014
Birth Cohorts by Year

- % mothers who received PMTCT ARVs
- % infants who received ARVs at 0-6 weeks
- % HEI tested with PCR at age 6-8 weeks and results available
- % HEI tested with PCR and results available between 0 and 9 months
- % eligible HEI tested with 1st AB test and results available
- % HEI who tested AB positive with confirmatory PCR and results available
- % HEI tested with 1st PCR
- % HEI who were Exclusively Breastfed at 6 months among HEI assessed

ARVs (*p value <0.001)
1st PCR (*p value <0.001)
Antibody/Conf. PCR (*p value <0.001)
EBF (*p value <0.001)

*Chi square trend test
## Results: 9-month Infant Outcomes

### HEI Outcomes: 12-month review, July 2013 to March 2014 Birth Cohort by Year

<table>
<thead>
<tr>
<th></th>
<th>2012 (n=11,770)</th>
<th>2013 (n=25,411)</th>
<th>2014 (n=7286)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Active in follow-up (p value &lt;0.001)</td>
<td>83% (n=544)</td>
<td>86% (n=1063)</td>
<td>92% (n=254)</td>
</tr>
<tr>
<td>% Identified as positive between 0 and 9 months (p value &lt;0.001)</td>
<td>3%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>% Transferred out between 0 and 9 months (p value 0.8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Missing 9 month follow-up visit (p value &lt;0.001)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Died between 0 and 9 months (p value 0.9)</td>
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</tr>
</tbody>
</table>

### Linkage to HIV Care

<table>
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<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>% HIV positive linked to care (p value &lt;0.001)</td>
<td>83% (n=544)</td>
<td>86% (n=1063)</td>
<td>92% (n=254)</td>
</tr>
</tbody>
</table>

P value- Chi square trend test
Results: 18-month Infant Outcomes

HEI Outcomes: 24-month review, July 2013 to March 2014 Birth

Cohort by Year

- 2013 (n=7436)
- 2012 (n=25,928)
- 2011 (n=11,238)

- % AB negative at 18 months (p value <0.001)
- % Active at 18 months but no AB test done (p value <0.001)
- % Identified as positive between 0 and 18 months (p value <0.001)
- % Transferred out between 0 and 18 months (p value 0.013)
- % Lost to Follow-Up between 0 and 18 months (p value <0.001)
- % Died between 0 and 18 months (p value 0.9)

Linkage to HIV Care

<table>
<thead>
<tr>
<th>Year</th>
<th>HIV positive linked to care</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>83% (n=740)</td>
</tr>
<tr>
<td>2013</td>
<td>91% (n=1435)</td>
</tr>
<tr>
<td>2014</td>
<td>93% (n=390)</td>
</tr>
</tbody>
</table>

P value- Chi square trend test
**HCA Monthly Tool Use: Example of Jan 2014 HCA**

1. Conduct 1st Review for Jan 2013 Cohort

2. Conduct 2nd Review for Jan 2012 Cohort

3. Transfer 1st and 2nd review results to the HCA Monthly Report Form

4. Track/plot progress on HCA Facility Progress Chart for each cohort year reviewed.

5. Summarize HEI Cohort Analysis findings and plan to improve performance using HCA Routine Review Summary.
Recommendations – Maternal Option B+

- There is need to address challenges in the documentation of PMTCT services so as to improve monitoring in context of option B+
- Pilot different approaches to cohort analysis to fit facility B+ implementation approaches and provide standardized cohort analysis system and tools as part of PMTCT cascade
- Need to strengthen strategies for retention of MCH clients such as tailored psychosocial support package for PMTCT mothers
- Need to focus on LTFU and defaulters identified during cohort analysis as a standard next step in cohort analysis
- Accelerated initiative to increase viral load testing among pregnant women - guidance for VL testing among pregnant women (baseline, preconception)
Conclusion and Recommendations- HEI cohort

- Pilot of HEI Cohort analysis successfully done, and scale up ongoing with good progress
- Use of HCA has shown statistically significant improvement in uptake of HEI services and outcomes for infants in the last 3 years and is as such an important facility level quality of care improvement for HEI
- Routine, facility-based HEI cohort analysis is feasible and useful in evaluating and improving program performance
- Next steps:
  - Integration of HCA within national reporting tools and health information system:
  - Current tools review to adopt specific few indicators that are critical for upward reporting with adoption of others as QI facility level indicators
Acknowledgments

- Ministry of Health Kenya
  - National AIDS & STI Control Programme
  - County, Sub-County and Facility Health Teams
- The UN in Kenya
  - WHO
  - UNICEF
  - UNFPA
- President’s Emergency Plan for AIDS Relief (PEPFAR) - Kenya
  - U.S. Centers for Disease Control and Prevention
  - United States Agency for International Development
  - Department of Defense
  - Implementing Partners
  - EGPAF
  - APHIA+WESTERN KENYA