Strategies For Identifying HIV Exposed Infants

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Preamble

- At the end of 2010, there were 3.4 million children less than 15 years living with HIV
- In 2009, 370,000 children were newly infected by HIV
- Without any intervention, about a third of HIV infected children will die in the first year of life while 50% will be dead by age 2 years; with majority of such children dying in the first 6 months of life
- It is therefore imperative that an early HIV diagnosis is made; and that treatment is initiated early
WHO recommendations for testing infants

• If you do not test a child, you will never know

• It is strongly recommended that all infants with unknown or uncertain HIV exposure being seen in health-care facilities at or around birth or at the first postnatal visit (usually 4–6 weeks), or other child health visit, have their HIV exposure status ascertained.

• It is strongly recommended that HIV virological assays be used for diagnostic testing at 4–6 weeks of age or at the earliest opportunity thereafter in exposed infants

• Recognising that in children older than 9 months, antibody testing can be used for diagnosis
Eliciting HIV Exposure Status in a Child

• Maternal hand held ANC card
• Maternal PMTCT status codes on child health card
• Seeking out HIV status of the mother from history taking during a consultation
• Screening children for HIV exposure at all contacts with the health care facility as shown below (PITC)
Entry Points for Identification of HIV exposed Infants (HEI)

- EPI clinic
- Sick outpatient
- Well baby U5 clinics
- Sick Inpatient
- ART/TB clinics for adults
- Malnutrition clinics
- PMTCT
Proportion of Infants Tested at Entry Points: Review by CHAI/UZ-CHS/MOHCW Zim

- EPI clinic (2%)
- Sick outpatient (5%)
- Well baby U5 clinics (69%)
- Sick Inpatient (3%)
- Malnutrition clinics
- PMTCT (14%)
- ART/TB clinics for adults
Mentor mother pilot - MSF Bulawayo

Non M2M Mother

<table>
<thead>
<tr>
<th>No Record of infant HIV test</th>
<th>Infant HIV test recorded</th>
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<tbody>
<tr>
<td>48.57%</td>
<td>51.4%</td>
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Beneficiary

<table>
<thead>
<tr>
<th>No Record of infant HIV test</th>
<th>Infant HIV test recorded</th>
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<tbody>
<tr>
<td>0.8%</td>
<td>99.2%</td>
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P value

<0.0005
Entry Points: The Stark Reality

• Even though most countries have a PITC policy, determination of HIV exposure status at all entry points is not happening as it should

• And even where it happens, results do not get to caregivers as they should
After testing - did mother obtain result?

Mother notified of child's test result: 26.67%
Mother not notified of child's test result: 73.33%

Mother not in M2M programme: 0.8%
Mother in M2M programme: 99.16%

P value <0.0005
PCR Results are not communicated to more than half of all infants tested

Retention of Infants Throughout the Care and Treatment Continuum

- 74% of positive infants from 16 studied sites could not be accounted for and confirmed to be on treatment after 1 year
- Greatest loss occurs between a positive test and the return of results where 51% of infants are lost
- Chance of survival if HIV positive infant is not in treatment after 2 years is 50%

*December 2008 Stocktaking Report, UNICEF. **Data from 16 sites across different African countries. Data from 6 sites are from program inception through 15 June 2009, while the other 11 sites data are from program inception through 15 January 2009
Problem with delivery of EID test results

Problem: Mother and Child come back to health facility to find no result—long turnaround time

EID testing is tied to Immunization visits at 6 weeks, 10 weeks and 14 weeks.

Examples:

- Kangemi Health Center, Nairobi, Kenya
  - Sample Drawn: 14 days
  - Batch Sent to Lab: 5 days
  - Sample Tested: 6 days
  - Results Sent: 18 days
  - Results arrive at site
  - Caregiver Receives Result

- Health Facility, Yaoundé, Cameroon
  - Sample Drawn: 8 days
  - Batch Sent to Lab: 15 days
  - Arrives at Lab: 4 days
  - Sample Tested: 5 days
  - Results Sent: 4 days
  - Results arrive at site
  - Caregiver Receives Result

The test result must be delivered to the Clinic of sample collection within 30 days, as an emergency—the child is otherwise likely lost to follow up.
Using mobile technology to reduce PCR results TAT in Malawi

Results160 Process

1. Baby born to HIV+ mother
2. DBS sample taken at rural clinic
3. Samples packed & logged
4. SMS “SENT #” samples
5. Lab receives samples
6. Results processed and sent to clinic via SMS
7. Results received by clinic worker & logged
8. Mother is contacted

CLINIC

LAB
Selected Data Comparison Before and with SMS/GSM Printers

TAT is reduced to ensure EID results are available to returning mothers

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Before</th>
<th>With SMS Printers</th>
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<tbody>
<tr>
<td>Kangemi Clinic, Kenya</td>
<td></td>
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<tr>
<td>Ahmadiyyah Muslim Hospital, Nigeria</td>
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<td>Hasiya Bayero Pediatric Hospital, Nigeria</td>
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<tr>
<td>Federal Medical Centre Azare, Nigeria</td>
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<tr>
<td>Murtala Mohammed Specialist Hospital, Nigeria</td>
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</table>

TAT:
- Before
- With SMS Printers
Zimbabwe: Total PCR Tests Done By Year

Total tests done: by year

Number of tests

Year

2007 2008 2009 2010 2011
Many possible reasons for challenges with EID

- Lack of community awareness on the need to test infants
- Not determining HIV exposure status of children
- Low facility coverage of EID services - few sites, few DBS/EID trained health care workers
- Supply chain management for DBS and PCR reagents
- Strained laboratory capacity in the face of EID expansion
- Transport challenges - with long turn around times (TAT) for results
Recommendations

• PITC and integration of infant testing e.g. with EPI
• Reliable courier system to bring sample to lab and results back to clinic
• Creative use of technology to cut down on results return to clinic and to client-Expedited Results System in Malawi
• Newer technologies such as point of care diagnostics
• EID not just to know HIV status of child; but for linkage to HIV care and treatment
Acknowledgements

- MOHCW
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- Clinton Health Access Initiative: Zimbabwe and Nigeria
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- MSF
- WHO/UNICEF
Thank you
Tatenda!
Siyabonga!