Follow-up of HIV-Exposed Infants Through Routine Child Health Services – Perspective from Zambia

5th Child and Adolescent HEU Workshop
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No conflicts to declare
HIV Epidemiology in Zambia - 2017

- Total population - 17 million
- People Living with HIV – 1.1 million
- Adult HIV prevalence (15-49) – 12.3%
  - Females - 14.6% (630,000), Males - 9.3% (470,000)
- HIV prevalence among children < 15 years – 1.3%

Source: map - ZAMPHIA 2016
UNAIDS data 2018
© 2018 HMIS data MOH Zambia
PMTCT and EID coverage-Zambia 2017/2018

- Pregnant women tested in ANC – 91% (758,351/828,889)
- Knew HIV status at first ANC - 4.6% (38,584)
- New HIV Positive in ANC – (2.8%) 23,254
- Actual number of Pregnant WLHIV - 64,838
- Expected number of Pregnant LWHIV - 71,000
- Pregnant women living with HIV receiving ART- 89.2% (63,344/71,000)
- Early Infant testing coverage from HMIS – 53.6% (38,103/71,000)

Source: HMIS data 2018
Context of Pediatric HIV Care and Treatment

1. Interventions for all infants and children to aid survival
2. Interventions for infants and children exposed to HIV
3. Survival Interventions for children living with HIV

Source:
Exposed Baby Follow-up Guidelines

**Pregnant women:**
- Tested for HIV during pregnancy and at the time of delivery.

**Exposed Babies:**
- DBS collected for DNA-PCR at birth, 6 weeks, 6 month and 9 months,
- Rapid HIV Tests at ages 12 months, 18 months or 3 months after cessation of breastfeeding.

**ART Prophylaxis:**
- Low risk infants - NVP/AZT for the first 6 weeks of life,
- High risk infants - NVP/AZT until 6 months of age.
- All breastfeeding HIV exposed infants – Cotrimoxazole for first 6 months of life.
- All HIV-uninfected infants discharged from care after cessation of breastfeeding.
Models of Care For CHEU follow-up in primary Health care settings in Zambia

Jane N. Mutanga
Sites: Livingstone Central Hosp, Maramba, Dambwa, Libuyu clinics

Catchment Population ~ 200,000a

HIV prevalence - (13.4%)b.

Number of WLHIV (15-49) ~10,000a

ANC HIV testing - 87% (5,084/5,824)c

New HIV cases (ANC) (15-49 yrs) – 7% (400)c

EID 2 months – 56%

PENTA 1 (~6 weeks) - 99.5%c

MCV ~9-12 months - 94%c

Sources: Map – ZAMPHIA 2016 final reporta
Stats: MOH HMIS program data – 20172018b
2017 MOH spectrum estimatesc
Background: Number of Children Tested in EID program-2013-2018

Source: Zambia MOH program data 2018
Objective

• **Objective:** To design a system of prospective follow-up of children who are HIV exposed and uninfected (CHEU) within the Zambia Ministry of Health comprehensive HIV care and treatment package.
Patient Flow Chart

Pregnant women living with HIV
ANC, Delivery, postnatal care, MCH, OPD,
IPD, community networks

Children HIV Exposed

EID program

Children HIV exposed
and uninfected

Develop package of care

Follow up within the existing structures of the PCOE

Children with confirmed HIV infection

Enhance current approaches

0 DAYS

14 YEARS
Routine MCH Services

Primary Health Clinics

Livingstone Central Hospital
Activities

1. Enhance completion of clinic tools for follow-up of all children especially children exposed to HIV.
   • Training and supervision of clinic staff
   • Onsite mentorship of data entry clerks and clinic staff

2. Optimize use of Smart care electronic medical records for pregnant women and HIV exposed infants
   • Completion of data entry backlog
   • Technical support for use of SmartCare from PMO
Tools For Follow-up of Children HIV Exposed-Clinic Registers

1. Antenatal Clinic Register – Mother gets Safe Motherhood card
2. PMTCT Register – Mother gets Smartcard (in 46% of facilities)
3. Delivery Register – Newborn gets smartcard (>46% of facilities)
4. HIV-exposed Infants and Mother Follow-up Register
5. Postnatal Care Register
6. HIV-exposed Infants Cohort Register
7. DBS Register
HIV Exposed Infant & Mother Follow-up Register

<table>
<thead>
<tr>
<th>Infant Cohort:</th>
<th>Date Cohort Closed</th>
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<tbody>
<tr>
<td>(month of birth)</td>
<td>(DD-MM-YYYY)</td>
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<thead>
<tr>
<th>Serial Number</th>
<th>Date of Contact</th>
<th>Under-5 Card Number</th>
<th>Reference Numbers</th>
<th>Mother/Guardian Information</th>
<th>Infant Information</th>
<th>1st Biological Test at 6 weeks or at first post-delivery contact</th>
<th>Week 6</th>
<th>Week 10</th>
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Tools for Follow-up of Children HIV Exposed – Child Health Card

CE – Child HIV exposed
MSU – mother status unknown
CNE – Child not exposed

R=Test HIV positive
NR=Test HIV negative
I=test indeterminate

MGA – Mother given ARVs
IGA – Infant given ARVs

Other parameters on child health card:
- Follow-up Time in for PMTCT
- Cotrimaxazole prescription
- Date ART initiated for HIV positive
- Infant feeding method/duration
Electronic medical records and smart cards
## INFANT FOLLOW UP

**Clinic code**

**Mother ID**

**Infant ID**

**Mother Last Name**

**Infant Last Name**

**Mother First Name**

**Infant First Name**

**Infant facility ID (if different)**

**Sex of infant**

### INITIAL VISIT

**Delivery outcome**

- Alive
- PB
- MSB

**Date of birth**

**Infant age today**

**Birth weight**

**Gestation at birth**

**Multiple birth**

**Birth order of this infant**

**Mother was on HAART during pregnancy**

- Yes
- No

**If mother ingested med(s) for PMTCT**

- Yes
- No

**PMTCT regimen**

- NVP
- AZT
- 3TC
- Other

**When PMTCT regimen taken**

- Antenatal
- Intrapartum
- Postnatal

**Duration of each**

**Visit Summary** - Refer child for enrollment at clinical evidence of HIV infection

<table>
<thead>
<tr>
<th>Age of infant</th>
<th>Date of examination</th>
<th>Height (cm)</th>
<th>Weight (kg)</th>
<th>Head circumference (cm)</th>
<th>Serostatus prescribable today</th>
<th>Serostatus presentable since last visit</th>
<th>EXHAUSTIVE EXAMINATION</th>
<th>Child growth well</th>
<th>Y/N</th>
<th>Delayed development</th>
<th>Y/N</th>
<th>Clinical evidence of HIV infection</th>
<th>Y/N</th>
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**Initial HIV test**

- DNA PCR
- RNA PCR
- ELISA/Rapid test
- Other

**Result**

- Positive
- Negative
- Indeterminate
- Not available

**Place**

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**Follow up test**

- DNA PCR
- RNA PCR
- ELISA/Rapid test
- Other

**Result**

- Positive
- Negative
- Indeterminate
- Not available

**Place**

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**Outcome**

- Infant confirmed HIV negative

**Date outcome known**

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- Infant confirmed HIV-positive and enrolled in HIV care (Paediatric Initial History and Physical Form filled in)

- Infant confirmed HIV-positive but not enrolled. Reason:

- Infant died. Date and cause of death:

**Staff ID**

**Staff signature**

**Gent initials**
Children Exposed to HIV Born at LCH and Followed up in Livingstone District – 2013-2017

[Graph showing number of children and HIV status by year and age group (0-2 months, >12 months)]

Year of birth and approximate age at time of testing

- HIV negative
- HIV positive
Challenges

• Several SmartCare versions in use countrywide.
• Lack of reliable internet.
• Power outages.
• Learning curve for healthcare workers.
• Data backlog at health facilities.
Other Opportunities for CHEU Evaluation

- Child health week – held biannual growth monitoring/preventative services.
- DHS
- Population HIV Incidence Assessments
Beyond EPI/Growth Monitoring

Package of care that includes simple checklists for:

1. Anthropometric measurements – weight, height, HC and growth milestones, hearing, speech development, sight.
2. Risk scores for neurodevelopment assessments.
3. Social history.
5. Medical history.
6. Simple physical examination.
7. Date/location for next appointment
Acknowledgements

Livingstone Central Hospital
• Dr Robert Fubisha
• Derrick Sialondwe
• Jean
• Chileshe Chilangisha
• Rodney Ndemenza

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Simon Mutembo
Shem Kabesha
Cuthbert Kanene