Getting HIV-infected children into care and treatment

Stephen Arpadi, MD, MS
ICAP, Columbia University
New York, NY
Outline

• What can be done to expand enrollment and improve retention of children in ART services?

• Topics to cover
  – Expanding access for children to HIV testing in health care and other settings
  – Improving retention in care for HIV-infected children
While progress is considerable, many HIV infected children go undiagnosed and untreated

• Antiretroviral therapy coverage for children has increased 9-fold since 2005
  – over 450,000 children started on ARV

• Of the 2 million children estimated in need, only 28% are receiving ARV
  – in contrast to 68% of women and 47% of men.

• In some countries >80% of eligible children lack ARV
Few opportunities for HIV testing for children

- Apart from EID/PMTCT there is little access to testing
- Many infected children come in contact with but are invisible to the health care system.
- Many community settings are highly suitable for testing children
Targeting Provider Initiated Testing

Neglected Portals of Entry to Care

**Health Services**
- Children of parents in PMTCT and HIV treatment services
- Children in hospital wards, IMCI/Well-baby clinics, nutrition clinics
- TB services
- Sexual and reproductive health/family planning services
- Program for Immunization

**Community-based**
- Orphans and vulnerable children services
- Early childhood centers/schools
- Churches, sports, and other community/youth/organizations
- Home-based testing
PITC for children of women in PMTCT-1

- HIV testing in PMTCT programs is improving but remains low.
- In 2009, only 26% of 1.4 million pregnant HIV-infected women in low- and middle-income countries were tested for HIV.
  - In Eastern and Southern Africa, only half of pregnant women were tested for HIV.
- Among 65 reporting countries, only 28% [24–30%] of infants born to mothers receive appropriate testing (EID) within the first two months of life.
PITC children of women in PMTCT-2

- There is little testing of older children of HIV+ mothers enrolled in PMTCT.

- In Cote d’Ivoire (2008)
  - only 10.3% of children of women enrolled in PMTCT were ever tested (excluding the known exposed infant)
  - 12% of those brought in for PITC were HIV+

Expand PITC to children of adults in HIV treatment

- Testing of children of HIV+ adults in care and treatment programs is also extremely low
- Only 18% of children of adults in ART program <16 yrs were ever tested (Malawi 2010)
- Nigeria (2009) ART program identified 22,915 children of 16,234 HIV-infected adults enrolled in care and treatment programs
  - 63% had not been tested for HIV
  - 22% of those brought in for PITC were HIV+
PITC in pediatric health services – hospitalized children

- Where PMTCT incomplete or has been delayed, children with unrecognized HIV frequently have contact with health services.
- In SA youth median age at diagnosis was 11-12 years (Walker, JAIDS 2006)
- In Zimbabwe, HIV was the most common cause of hospitalization for children >10 years (Ferrand RA, PLoS Med 2010)

- 36% perinatally infected children are “long term survivors” with a median survival of 16 years (Ferrand RA AIDS 2009)
Universal PITC in pediatric health services increases enrollment of children on ART

• Livingstone GH, Zambia – Nurses and physicians provided PITC to all children with unknown HIV status at all inpatient wards and outpatients clinics

• Confirmed positives were escorted to HIV care or contacted by phone if PCR pending at discharge
  – 5,074 children with unknown status were seen
  – 98.5% were counseled and 98.2% of these children were tested
  – 15.5% tested positive for HIV
  – 99.9% enrolled in care

Mutanga et al PLoS ONE 2012 7 (4) e29656
Institution-wide PITC and linkage to HIV care

Cumulative trends in children enrolled in HIV care and receiving antiretroviral therapy at LPCOE

Start of Universal PITC
Pediatric TB/HIV integration
(Jan-March 2013)
School-based PITC

- 6 primary schools in Harare, Zimbabwe were invited for testing to be done at nearby community centers
  - Anonymous seroprevalence (n=4386)
  - Simultaneously offered HCT (n=1886)
- Overall seroprevalence 2.7%,
- Seroprevalence of 6.8% for those with parental consent
  - many parents who consented “were concerned” their child was infected
- All HIV-infected had CD4 and were referred to care

Bandason T, et al AIDS Care 2013;10;1080
Household PITC

- A survey of households with 4-6 yo in rural SA, found 15% of children had HIV+ mothers but only 41% of them had ever been tested
- PITC found 9% of these children were infected

Expanding PITC for Children

• Expansion of PITC in health services:
  – For children of women enrolled PMTC
  – For children of adults enrolled in HIV care and treatment/ART programs
  – Points of care for children e.g. hospital wards

• Community settings:
  – Services for orphans and vulnerable children
  – Household level
  – School and other community based settings

• Feasible, acceptable and when coupled with linkage to care increases enrollment of children on ART
What does it take to scale up to universal PITC for children?

- Clear and well known policies regarding consent for testing of children
- Effective procurement and supply chain for test kits.
- Human resources for counseling and follow up support
- In healthcare settings, reorganization of space and patient flow to support routine testing may be necessary
- Information management- “seamless” lab/medical record systems to facilitate movement of test results and patients between sites of testing and treatment
- Expanding testing is only the first step.
- Improving linkage and retention during Pre-ART period as well as after initiation of ART remain priorities.
Unacceptably high rates of lost to follow up (drop outs) from care and treatment program

- Estimates of program LTFU rates are sparse, varied but indicate the problem is substantial
  - LTFU rates are high during “Pre-ART”
  - LTFU is especially high for older children
    - 19% of children (n ~10,000) were LTFU 24 mos after starting ARVs. (McNairy et al. JAIDS 2013)

- Poverty, poor systems of transportation, long travel distances to clinics (especially in rural areas) are major barriers to retention Mugglin C et al. PLoSOne 2013;8:e56446
Innovations for improving retention

• Programmatic
  – Active defaulter tracking
  – Reducing travel to care by decentralizing to Primary health facilities
  – Integrating homecare psycho-social support

• Technologic
  – Point of care CD4 testing
  – SMS texting
Programmatic measures to improve retention

Defaulter tracing

• Active defaulter tracing through telephone calls, in-person visits or both for missed appointments in Kibera, Kenya reduced LTFU (21% vs 11%)*
  – 1069 patients missed visit, 15% not traced
  – 59% returned to clinic, 9% unable to return, 6% died, 4% refused, 0.8% were hospitalized

Programmatic measures to improve retention

Expanding access to HIV care to primary health facilities

- Expanding HIV care for children to PHF increases overall enrollment
- LTFU lower at PHF compared to SHF

%LTFU rates over 24 months after starting ART at primary health and secondary health facilities 2008-10

- Overall: 9.8% (Primary), 20.2% (Secondary)
- Tanzania: 2.5% (Primary), 16.4% (Secondary)
- MZB: 14.1% (Primary), 23% (Secondary)
- Kenya: 18.9% (Primary), 0.4% (Secondary)
- Lesotho: 12.9% (Primary), 47.3% (Secondary)

Fayorsey R et al JAIDS 2013;62:e124-30
Programmatic measures to improve retention

Co-locating multiple services

• Program characteristics associated with low LTFU
  – Co-located pediatric HIV/ART and PMTCT, and nutrition services
  – Linkages with home-based services
  – Linkages to associations of PLWHIV

Mugglin C PLoS ONE 3013
Programmatic measures to improve retention
Specialized Community Health Workers

- Mwangalizi (Swahili for overseer) integrate home/community/clinic and provide support for families with HIV infected children at clinic and during home visits

Technologic innovations to improve retention

• Point of care CD4 testing
  – Logistics of CD4 testing is a source of delays ART initiation and may contribute to pre-ART and ART LTFU
  – Point of care CD4 testing -
    • Rapid, simple, portable and accurate (but may underestimate at higher CD4 –e.g.>500)

• SMS Texting
  – Weekly texts improve adherence to ART reduced VL (Cochrane Review 2012)
  – Used widely to transmit EID results from lab to facility
  – Trials of SMS for retention in care are on-going

Thank you