Reaching 90:90:90
The Promise of Differentiated Service Delivery

Differentiated Service Delivery for Adolescents Living with HIV

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Outline

• Adolescents with HIV – who are they?
  – How are they doing?

• Why differentiated service delivery (DSD) for adolescents with HIV?

• Differentiated Service Delivery models for adolescents with HIV
Adolescence: a time of change

- Physical growth
- Puberty & sexual maturation
- Psychological and neurocognitive development
- Separation and individuation
Adolescence: a period of significant physical, emotional and social development and change

**Childhood**
- Dependence on parent/family/adults
- Physical and emotional growth and development
- Adult supervision and decision-making
- Education and learning
- No sex, substances (alcohol, drugs, cigarettes)
- Supervised healthcare

**Adulthood**
- Independence
- Education complete
- Employment
- Residential independence
- Dating/partner/marriage
- Pregnancy/parenthood
- Sexual relationships
- Healthcare self-management

**HIV INFECTION**

**ADOLESCENCE**

**Anatomy of a Teenager’s Brain**
Risky taking during adolescence: an emerging theory suggests an adaptive need to gain experience

- Teens have heightened attraction to novel, exciting experiences known as sensation seeking, peaking during adolescence.
- Adolescents lack experience so they try things for the first time – like learning how to drive. They also try drugs, decide what to wear, whom to hang out with.
- For some youth, this leads to problems but for the vast majority of adolescents this period passes without major catastrophe.
  - A smaller subset of teens, those who exhibit impulsive behavior and have weak cognitive control – who are at most risk of unhealthy outcomes.
- The increase in risk taking by adolescents is an adaptive need to gain experience required to assume adult roles and behaviors.
Adolescents and HIV

- 2.1 million adolescents aged 10-19 years living with HIV
  - Majority reside in sub-Saharan Africa
- Adolescents are the only age group where mortality from AIDS related conditions has not decreased
- Rate of new infections in children has decreased by more than 70% between 2000 and 2015, the rate of decline in adolescents is slower
- 37% of new infections were amongst young adults 15-24 years

UNAIDS 2016 estimates
Progress Toward 90-90-90 among adolescents and adults

3-Country Combined: Zambia, Zimbabwe, Malawi

*The number within each bar represents the conditional percentage while the height of each bar represents the absolute percentage of all PLHIV.

PHIA Project, 2016

http://phia.icap.columbia.edu/

<table>
<thead>
<tr>
<th>Author (Journal)</th>
<th>Year (place)</th>
<th># Perinatal Girls</th>
<th># Pregnancies</th>
<th># Infected</th>
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</thead>
<tbody>
<tr>
<td>Croucher Sex Trans Inf</td>
<td>2013 (UK)</td>
<td>Cohort: 6/31 (19%)</td>
<td>8</td>
<td>0/3 live birth</td>
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<tr>
<td>Munjal Adol Health Med Th</td>
<td>2013 (Bronx)</td>
<td>Case rpt: 30</td>
<td>37</td>
<td>1/37 live birth</td>
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<td>Badell (Infect Dis Obstet Gynecol)</td>
<td>2013 (US)</td>
<td>Cohort: 20</td>
<td>20</td>
<td>1/20</td>
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<tr>
<td>Byrne (AIDS)</td>
<td>2017 (UK)</td>
<td>Cohort: 630</td>
<td>70</td>
<td>3/59 live births</td>
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<tr>
<td>Hleyhel (CROI 2017)</td>
<td>2017 (France)</td>
<td>Cohort: 46/1425 (3.2%)</td>
<td>64</td>
<td>0/64</td>
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<tr>
<td>Jao J (Clin Infect Dis)*</td>
<td>2017 (US)</td>
<td>Cohort: 235/2270 (10.4%)</td>
<td>270</td>
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<tr>
<td>Prieto LM (PLoS One)</td>
<td>2017 (Spain)</td>
<td>Cohort: 22</td>
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<tr>
<td>Williams (Am J Ob/Gyn)</td>
<td>2009 (Newark)</td>
<td>Case rpt: 10</td>
<td>13</td>
<td>1/7 live birth</td>
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<tr>
<td>Cruz (AIDS)</td>
<td>2010 (Brazil)</td>
<td>Case rpt: 11</td>
<td>15</td>
<td>0/15 live birth</td>
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<tr>
<td>Phillips (AIDS Care)</td>
<td>2011 (US)</td>
<td>Case rpt: 11</td>
<td>15</td>
<td>0/15 live birth</td>
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<tr>
<td>Kenny (J HIV Med)</td>
<td>2012 (UK/Ireland)</td>
<td>Cohort: 30/252 (12%)</td>
<td>42</td>
<td>1/21 live birth</td>
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<tr>
<td>Jao (AIDS)</td>
<td>2012 (NYC)</td>
<td>Case rpt: 14</td>
<td>17</td>
<td>0/19 live birth</td>
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<tr>
<td>Millery (J Ass Nurs AIDS Care)</td>
<td>2012 (NYC)</td>
<td>Cohort: 25/97 (26%)</td>
<td>33</td>
<td>0/19 live birth</td>
</tr>
</tbody>
</table>
Top five causes of death for all adolescents, globally, 10-19 years in 2015

**Males**
- Road traffic injury
- Interpersonal violence
- Drowning
- Lower respiratory infections
- Self-harm

**Females**
- Lower respiratory infections
- Self-harm
- Diarrheal diseases
- Maternal conditions*  
  – Leading cause of death in 15-19yrs
- Road traffic injury

*LMIC in Africa, communicable diseases such as HIV/AIDS, lower respiratory infections, meningitis, and diarrheal diseases are bigger causes of death among adolescents than road injuries.

Why do adolescents need differentiated services?

- Adolescents with HIV are a very heterogeneous group
  - HIV creates additional burdens and stresses on individuals living with HIV
  - Lifelong daily medication; frequent medical visits; partner disclosure; condom use
- In many settings, community, families and health systems are not aligned to support adolescents as they transition to adulthood, particularly adolescents with HIV
  - Stigma, policy and legislation, guidelines, health and educational services
- Services are not integrated
  - Younger adolescents still depend on a caregiver, so are they are vulnerable to loss to follow-up
  - Youth have other challenges including school, college, head of household and out on the street
WHO guidance for DSD for stable adolescents

Criteria for defining clinically stable clients for differentiated ART delivery

The criteria for defining clinically stable children, adolescents, pregnant and breastfeeding women and members of key populations should be aligned with those used to define clinically stable adults in the 2016 WHO consolidated ARV guidelines: clients who have:

- received ART for at least one year;
- no adverse drug reactions that require regular monitoring;
- no current illnesses, including such conditions as malnutrition in children, mental health conditions or postpartum depression;
- a good understanding of lifelong adherence; and
- evidence of treatment success: two consecutive viral load measurements of <1000 copies/mL, rising CD4 cell counts or CD4 counts >200 cells/mm³.

There may be additional criteria for specific populations.

- **Children:** should be at least two years old, taking the same regimen for more than three months and caregivers counselled and oriented on the disclosure process.
- **Adolescents:** should have access to psychosocial support.
CQUIN Network Countries that have implemented DSD for adolescents

- Ethiopia
- Kenya
- Malawi
- Mozambique
- South Africa
- Swaziland
- Uganda
- Zambia
- Zimbabwe

- Implemented at scale (e.g., >50% of districts)
- Implemented to an extent (e.g., pilot programs)
Youth Care Clubs

- Facility-based Youth Care Clubs
  - Endorsed the South African NDOH for scale up

**WHEN**
Monthly for 1st year then they decide if every 2 months

**WHERE**
At facility or near facility

**WHO**
YCC counsellor (Youth) Nurse (AYFS Champion)

**WHAT**
Integrated clinical care, SRH. Mental health screening, ART refill, Psychosocial support and peer counseling

**Clients in YCC** - 325
**# YCCounselors** - 23
**# PHCs with YCCs** - 13
**Median age** - 19 years
**Retained @ 6 mons** - 88%
**Virally suppressed at last measurement** - 81%
Teen Clubs

- Facility based HCW managed, with teen peers, scaled up by the Malawi MOH
  - Teen clubs in 26 of the 28 districts
  - 160 teen clubs with 11,659 teens enrolled
- Population: 10-19 years, fully disclosed, no restrictions on stability (stable and unstable, PRE/ART), agrees to confidentiality policy
- WHEN
  - Monthly for unstable and every 2 months for stable
- WHO
  - Nurse, clinical officer, mentors and teen leaders
- WHERE
  - Primary health facility/ tertiary ART referral center
  - Session is outside of normal clinic hours on weekend

WHAT
- ART refills every month during group meeting
- Monthly comprehensive clinical review
- Psychosocial support and peer counseling
- Provide transport and snack

Case Controlled study using program data from Zomba Central Hospital, Malawi
- 617 ALHIV (135 non-retained cases and 405 retained controls)
- Proportion not retained was 7.9% (teen club exposure) versus 35.2% (no teen club exposure), p<0.01

Mackenzie RK et al., JIAS 2017
Zvandiri-Community Adolescent Treatment Supporter

**WHEN**
Every 3 months

**WHERE**
At the facility

**WHO**
Nurse assisted by primary counsellor or community adolescent treatment supporter

**WHAT**
- ART and cotrimoxazole refills
- Peer support
- SRH education and services for adolescents

CATS programme
Zvandiri Africaid
- 1047 CATS trained
- Integrated into 456 facilities
- Supporting 45,000+ HIV positive children, adolescents and young people
- 85 CATS in Mozambique, Tanzania & Swaziland
JOORTH Facility Based Peer Model

• Population
  - HIV-infected adolescents and youth 10-24 years

• Eligibility criteria
  - Newly enrolled, stable and unstable

<table>
<thead>
<tr>
<th>ADSD</th>
<th>Newly enrolled into care</th>
<th>Stable</th>
<th>Unstable</th>
</tr>
</thead>
<tbody>
<tr>
<td>What</td>
<td>Clinical care</td>
<td>ART refills: Multi-month prescription - 3 monthly prescriptions</td>
<td>Operation Triple Zero: Provides support on adolescent self care</td>
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<td>Adherence and psychosocial support:</td>
<td>Clinical visits every 3 months integrated with other services</td>
<td>Frequent clinic visits based on clinical judgement of HCW</td>
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<td>- Living Hope PSSG: conducted monthly; age categories 10-14, 15-19 and 20-24 to provide treatment literacy and life skills counselling</td>
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<td>- Peer led social media engagements - discussions held on daily basis</td>
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<td></td>
<td>Prevention package to address HIV transmission</td>
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<td></td>
<td>Referrals, linkages and supporting continuum of care</td>
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<td></td>
<td>Weekly follow-up until ART initiation, then at week 2 and 4 and then monthly</td>
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<tr>
<td>Who</td>
<td>HCW &amp; Adolescent peers</td>
<td>HCW &amp; Adolescent peers</td>
<td>HCW &amp; Adolescent peers</td>
</tr>
<tr>
<td>Where</td>
<td>Adolescent Clinic</td>
<td></td>
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Total adolescents 10-19 yrs = 407
Total adolescents with VL test = 397
VL coverage among 10-19 years = 98%

Data Source: NASCOP VL Website
Period: Oct 2016- September 2017
Summary

- Extension of differentiated care to adolescents has highlighted the importance of psychosocial support

- Clinically stable adolescents can benefit from access to differentiated antiretroviral therapy (ART) delivery models

- Adolescents presenting with advanced disease and those who become unstable should receive more intensive follow up

- Need for evaluation and sharing of best practices as these models are scaled up