What will it take to achieve the EMTCT goals for children in Africa?

Dr. Dorothy Mbori-Ngacha
Senior HIV Specialist
UNICEF, New York
Super-fast-track targets: 2018

- Reduce the number of children newly infected annually to less than **40,000**
- Reach and sustain **95%** of pregnant women living with HIV with lifelong HIV treatment
- Provide 1.6 million (~ **95%**) children aged 0–14 years living with HIV with antiretroviral therapy (ART)
- 1.2 million adolescents aged 15–19 years living with HIV with ART
Path to elimination of mother-to-child-transmission of HIV and syphilis

*Required coverage of antenatal care (at least one visit), maternal testing and treatment of HIV and syphilis
In sub-Saharan Africa in 2018:

- 1.2M Pregnant women living with HIV
- 84% Pregnant women living with HIV receiving ARVs for PMTCT
- 140,000 New infections in children aged 0–9
Uneven progress across regions

PMTCT coverage (%) and mother-to-child HIV transmission rate (%), 2010–2018

Eastern and Southern Africa

West and Central Africa

Source: UNAIDS 2019 estimates and Global AIDS Monitoring 2019
Low coverage for syphilis testing in pregnant women

Testing coverage for HIV % Syphilis in pregnant women that visit ANC in selected countries (2016-2017, %)

<table>
<thead>
<tr>
<th>Country</th>
<th>HIV Testing Rate</th>
<th>Syphilis Testing Rate</th>
<th>Difference in Testing Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mozambique</td>
<td>&gt;95%</td>
<td>72%</td>
<td>-24%</td>
</tr>
<tr>
<td>Uganda</td>
<td>&gt;95%</td>
<td>43%</td>
<td>-52%</td>
</tr>
<tr>
<td>Zambia</td>
<td>&gt;95%</td>
<td>56%</td>
<td>-39%</td>
</tr>
<tr>
<td>Malawi</td>
<td>94%</td>
<td>82%</td>
<td>-12%</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>92%</td>
<td>89%</td>
<td>-3%</td>
</tr>
<tr>
<td>Kenya</td>
<td>89%</td>
<td>75%</td>
<td>-14%</td>
</tr>
<tr>
<td>South Africa</td>
<td>85%</td>
<td>69%</td>
<td>-11%</td>
</tr>
<tr>
<td>India</td>
<td>69%</td>
<td>20%</td>
<td>-49%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>35%</td>
<td>16%</td>
<td>-19%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>28%</td>
<td>2%</td>
<td>-26%</td>
</tr>
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</table>

Prevalence

<table>
<thead>
<tr>
<th>Disease</th>
<th>Women between 15-49 years</th>
<th>% ANC attendees positive for Syphilis</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV</td>
<td>15.0%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Syphilis</td>
<td>4.6%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>
2.5 million children and adolescents living with HIV in sub-Saharan Africa

In 2018, six countries accounted for 60% of children aged 0–19 living with HIV in sub-Saharan Africa:

- South Africa
- Mozambique
- Nigeria
- Kenya
- United Republic of Tanzania
- Uganda
Too few infants are tested early enough

Source: UNAIDS 2019 Estimates & Global AIDS Monitoring
New infections: When and how?

HIV infections among younger children aged 0–4 occurring during the perinatal period and during breastfeeding

Source: UNAIDS 2019 Estimates & Global AIDS Monitoring
Too few children living with HIV are covered

Source: UNAIDS 2019 estimates and Global AIDS Monitoring 2019
Gap between maternal and paediatric ART coverage in sub-Saharan Africa
% of children and pregnant mothers living with HIV receiving ART, 2010–2018
2020 global goal: 95% of children living with HIV on treatment
Viral suppression needs improvement

Paediatric treatment cascade, 2018

Source: UNAIDS 2019 estimates and Global AIDS Monitoring 2019
What will it take to get to the summit?

- Reach the target for treatment coverage in pregnant women
- Reduce new infections
- Increase children on treatment
- Increase viral suppression rates for children
- Collect data on adolescents (10–19)
A promising new tool

PMTCT stacked bar: Distribution of new child infections by cause, 2018

- Sub-Saharan Africa

- Mother infected during pregnancy; child infected during pregnancy
- Did not receive ART during pregnancy; child infected during pregnancy
- Mother dropped off ART during pregnancy; child infected during pregnancy
- Started ART late in the pregnancy; child infected during pregnancy
- Started ART during the pregnancy; child infected during pregnancy
- Started ART before the pregnancy; child infected during pregnancy
- Mother infected during breastfeeding; child infected during breastfeeding
- Did not receive ART during breastfeeding; child infected during breastfeeding
- Mother dropped off ART during breastfeeding; child infected during breastfeeding
- Started ART late in pregnancy; child infected during breastfeeding
- Started ART during pregnancy; child infected during breastfeeding
- Started ART before pregnancy; child infected during breastfeeding
A promising new tool

PMTCT stacked bar: Distribution of new child infections by cause, 2018

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- Started ART during pregnancy; child infected during breastfeeding
- Started ART before pregnancy; child infected during breastfeeding
A promising new tool

PMTCT stacked bar: Distribution of new child infections by cause, 2018

Sub-Saharan Africa

Pregnancy
- Mother infected during pregnancy; child infected during pregnancy: 10,600
- Did not receive ART during pregnancy; child infected during pregnancy: 38,700
- Mother dropped off ART during pregnancy; child infected during pregnancy: 17,500
- Started ART late in the pregnancy; child infected during pregnancy: 26,200
- Started ART during the pregnancy; child infected during pregnancy: 18,300
- Started ART before the pregnancy; child infected during pregnancy: 16,700

Breastfeeding
- Mother infected during breastfeeding; child infected during breastfeeding: 10,600
- Did not receive ART during breastfeeding; child infected during breastfeeding: 38,700
- Mother dropped off ART during breastfeeding: 17,500
- Started ART late in pregnancy; child infected during breastfeeding: 26,200
- Started ART during pregnancy: 18,300
- Started ART before pregnancy: 16,700
A promising new tool

PMTCT stacked bar: Distribution of new child infections by cause, 2018

- **Sub-Saharan Africa**

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A promising new tool

PMTCT stacked bar: Distribution of new child infections by cause and region, 2018

- **Mother infected during pregnancy; child infected during pregnancy**
- **Did not receive ART during pregnancy; child infected during pregnancy**
- **Mother dropped off ART during pregnancy; child infected during pregnancy**
- **Started ART late in the pregnancy; child infected during pregnancy**
- **Started ART during the pregnancy; child infected during pregnancy**
- **Started ART before the pregnancy; child infected during pregnancy**
- **Mother infected during breastfeeding; child infected during pregnancy**
- **Did not receive ART during breastfeeding; child infected during breastfeeding**
- **Mother dropped off ART during breastfeeding; child infected during breastfeeding**
- **Started ART late in pregnancy; child infected during breastfeeding**
- **Started ART during pregnancy; child infected during breastfeeding**
- **Started ART before pregnancy; child infected during breastfeeding**
The many terrains of EMTCT

> 90%: Burkina Faso, Botswana, Namibia, Uganda, Malawi, Mozambique, Rwanda, Zambia, Zimbabwe, Ethiopia, Liberia, Benin, United Republic of Tanzania, Côte d’Ivoire,

70% to 89%: Eswatini, Lesotho, Cameroon, Kenya, Burundi, South Africa, Togo, Gabon, Ghana, Central African Republic

50% to 69%: Chad, Guinea Bissau, South Sudan, Guinea, Democratic Republic of the Congo, Senegal, Equatorial Guinea

≤ 50%: Niger, Mali, Nigeria, Mauritania, Congo, Sudan, Madagascar, Somalia, Djibouti, Angola, Eritrea

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Uganda

Number of new infant HIV infections by cause

- >95% of pregnant women attend at least one ANC visit
- >95% of pregnant women know their HIV status
- 93% of pregnant women living with HIV receive lifelong ART
- 45% of HIV-exposed infants get tested within two months of birth
- For every 100 pregnant women living with HIV, 7.4 children aged 0–4 become infected with HIV
Botswana

Number of new infant HIV infections by cause

- 94% of pregnant women attend at least one ANC visit
- >95% of pregnant women know their HIV status
- >95% of pregnant women living with HIV receive lifelong ART
- 77% of HIV-exposed infants get tested within two months of birth
- For every 100 pregnant women living with HIV, 2.5 children aged 0–4 become infected with HIV

Key Statistics

13% Dropped off ART during pregnancy
5% Mother newly infected
19% Mother newly infected
26% Did not receive ART
17% Did not receive ART
14% Dropped off ART during pregnancy
13% Dropped off ART during pregnancy
0 100 200 300 400 500 600
Child infected during pregnancy Child infected during breastfeeding
Central African Republic

Number of new HIV infections by cause

- 68% of pregnant women attend at least one ANC visit
- 2% of pregnant women know their HIV status
- 71% of pregnant women living with HIV receive lifelong ART
- 24% of HIV-exposed infants get tested within two months of birth
- For every 100 pregnant women living with HIV, 23.2 children aged 0–4 become infected with HIV
Nigeria

Number of new HIV infections by cause

- 66% of pregnant women attend at least one ANC visit
- 41% of pregnant women know their HIV status
- 44% of pregnant women living with HIV receive lifelong ART
- 18% of HIV-exposed infants get tested within two months of birth
- For every 100 pregnant women living with HIV, 24.0 children aged 0-4 become infected with HIV
Remaining gaps: Geography

HIV prevalence by zone: Nigeria

Source: Nigeria HIV/AIDS Indicator and Impact Survey, 2018
Zimbabwe: Missed opportunities

Lessons from HIV+ infant case investigation (N-106)

Role of late diagnosis

54% of mother of HIV+ infants were diagnosed late

- 28% Tested positive in ANC
- 26% Tested negative in ANC
- 5% HIV status know before current pregnancy
- 11% First tested in Labour or postnatal care
- 12% Not tested

Limited time on ART

62% of mother of infants living with HIV had limited ART

- 28% Initiated before pregnancy
- 14% Initiated > 8 weeks before delivery
- 12% Initiated < 8 weeks before delivery
- 4% Initiated ART post delivery
- 12% Stopped ART
- 7% No documentation of ART
- 12% Never had ART
I have discovered the secret that after climbing a great hill, one only finds that there are many more hills to climb.

_Nelson Mandela_
Testing during pregnancy is sub-optimal

**Lower HIV Testing Rates**
- In rural areas
- Among the poorest women
- Among the least educated
- Among those with limited knowledge of HIV and/or MTCT of HIV
- Among those who received ANC services from an unskilled attendant

**Barriers to access and testing**
- Communication issues with male partners
- Health-care provider issues
- Fear of disclosure
- HIV-related stigma
- Affordability of user fees associated with ANC services

Universal testing may be an effective intervention. HIV testing services focused in high-burden areas (not universal) are projected to result in a **25% to 69% increase** in new paediatric HIV infections and increased future treatment costs for children.
PMTCT retention rates are below those of the general population

Retention compromised by:
- HIV status denial, stigma
- Fear of disclosure
- Lack of social support
- Religious reasons
- Lack of transport fare

Discontinuation of treatment associated with:
- Small health care delivery sites
- High staff turnover
UNDETECTABLE

= 

UNTRANSMITTABLE
Incidence: A host of risk factors

- Lifetime number of sex partners
- Partner age discordance
- Shorter marriages
- Older partners
- Economic dependence on partner
- Sex under the influence of alcohol
- STI current or previous

Incident Infections
1,871 pregnant women HIV negative

758 partner unknown status

508 accepted to take test home

390 test offered to partner

275 partner used HIVST (1.5% were HIV-positive)

PrEP

- Median age: 24
- 58% had partner unknown HIV status
- 96% reported recent condomless sex
- Commonly reported reasons for stopping PrEP:
  - Low perceived risk of HIV (23%)
  - Experiencing side effects (19%)
  - Pill burden (17%)
  - Partner is HIV negative (17%)

PrEP continuation by delivery point

N=2304

Source: Persistence with PrEP Use in Adolescent and Young Women Initiating PrEP in MCH and FP Clinics Mugewanya K et al. CROI 2019 Seattle, WA Abs.993
Family engagement can improve outcomes

Recent evidence suggests:
- Improved female outcomes when couple tests together
- Improved male outcomes when partner engages them through ANC platform
- Improved overall outcomes for families (couples or mother-child pairs) when co-enrolled for care
Remaining gaps: Those left behind

- Adolescents
- Women living in extreme poverty
- Women in the most remote areas where access is poor
- Women of ethnic minorities who don’t have good access to care or who mistrust the health service
- Women who are migrants
- Women who are marginalized in society because they or their partners belong to key populations
In four months of implementing multi-entry point HIV testing, family testing had the highest yield in comparison to other entry points.
Optimizing treatment for children

- Simplify and optimize diagnostics
- Move away from NNRTI-based regimens
- Introduce DTG as soon as possible
- Use the most potent non-NNRTI option
Summary: What will it take to end AIDS in children and adolescents
Global targets from the super-fast-track framework for ending AIDS in children, adolescents and young women by 2020

START FREE
Eliminate new HIV infections among children (aged 0–14) by reducing the number of children newly infected annually to less than 20,000 by 2020

STAY FREE
Reduce the number of new HIV infections among adolescents and young women (aged 10–24) to less than 100,000 by 2020

AIDS FREE
Provide 1.4 million children (aged 0–14) and 1 million adolescents (aged 15–19) with HIV treatment by 2020

Thank You

- Start Free Partners
- Benjamin Chi, UNC
- Mary Mahy, UNAIDS
- Catherine Bilger, UNAIDS
- Fatima Tsiouris, ICAP
- Surbhi Modi, CDC
- Michelle Montandon, CDC
- Lynne Mofenson, EGP AF
- Morkor Newman, WHO
- Melanie Taylor, WHO
- Francoise Bigirimana, WHO
- Chewel Luo, UNICEF
- Shaffiq Essajee, UNICEF
- Chibwe Lwamba, UNICEF
- Aleya Khalifa, UNICEF
- Nande Putta, UNICEF
- Rikke Le Kirkegaard, UNICEF
- Landry Tsague, UNICEF
- Laurie Gulaid, UNICEF
- Abiola Davies, UNICEF
- Natalie Bailey, UNICEF
- Natalie Bailey, UNICEF
- Anna Devon-Sand, UNICEF