Prevention Scientific Committee Update

Annual Meeting

18 June 2015
HIV Prevention Scientific Agenda

1) Prevent paediatric HIV & optimize infant & maternal health outcomes

2) Reduce new HIV infections in youth combining behavioural & biomedical interventions
1. Paediatric prevention gaps

a) Optimise current ARV-based strategy
   i. Best ARV regimens for perinatal transmission
   ii. How to address breakthrough infections
   iii. How to manage high risk mother-infant pairs
1a)i. Best ARV regimens to prevent vertical transmission

- Current guidelines give ART to all HIV-infected pregnant women for life
  - PROMISE study (domestic and international)
    - increased risk of moderate adverse pregnancy outcomes (including low birth weight and preterm delivery) for ART compared to ZDV alone
    - ZDV-3TC based ART regimen had a lower risk of severe pregnancy outcomes compared to TNF-FTC ART regimen (including very preterm delivery at <34 weeks.)
1a)i. Best ARV regimens to prevent vertical transmission

- Preterm and low birth weight infants face poor outcomes in terms of survival and development (short and long term)
- Remains critical for PROMISE to report the 2-year outcomes for enrolled infants and continue to tease out the safety data from the Antepartum component
1a)i. Best ARV regimens to prevent vertical transmission

• IMPAACT P1025 (domestic)
  – a prospective observational cohort study for HIV-infected pregnant and postpartum women and their infants. The study is designed to assess maternal and infant safety, and the effectiveness of new and existing interventions prescribed for prevention of vertical transmission of HIV and/or women’s health.
1a)ii. Breakthrough Infections

- Transmission rates are falling <2% in women adherent to ART, even in resource poor settings
- But that’s still not zero infections
- Develop immune strategies to reduce vertical transmission (and gain vital information about the immunology of transmission for infant vaccine development)
3 opportunities for immune-based interventions to reduce in infant HIV-1 transmission

1. Enhancement of protective maternal antibodies during pregnancy
   – *In utero*, peripartum

2. Infant passive antibody immunization at birth for high risk infants (VRC01)
   – Peripartum, early postnatal: IMPAACT P1112 open

3. Active immunization to prevent breast milk transmission
   – Late postnatal transmission, acute maternal infection during lactation: IMPAACT 2004 in dev.

Modeled after the successful Hep B passive/active maternal and infant immunization strategy
1a)iii. High risk pairs

- Consider different strategies for women with uncontrolled viraemia
  - New infections while pregnant and breastfeeding
  - No/late access to antenatal intervention
  - Low adherence to ART
  - Fall out of care

- As ART is rolled out for all women, and transmission rates fall, high risk pairs contribute a higher proportion towards infant infections
What drives retention in care and loss to care after engagement during pregnancy

- When people do not return to care, what aspects from a social-ecological perspective do women attribute as causing failure to return?
  - Structural Factors: Treatment center, transitions to different sources of care
  - Social Factors: Social support, instrumental support
  - Individual Factors: Resilience, motivation, positive treatment beliefs, information/literacy, experiences with treatment
  - Participatory dynamics: Level of trust in services and treatment provided
What drives retention in care and loss to care after engagement during pregnancy

• When people do return to care, what aspects from a social-ecological perspective do women attribute as facilitating return?
  – Structural Factors
  – Social Factors
  – Individual Factors
  – Participatory dynamics
1b) Develop new products

- Consider testing long acting ARV formulations in pregnant and breastfeeding women and their infants
  - administered at birth for prevention
  - during pregnancy and lactation as treatment for prevention
HIV Prevention Scientific Agenda

1) Prevent paediatric HIV & optimize infant & maternal health outcomes

2) Reduce new HIV infections in youth combining behavioural & biomedical interventions
2. New infections in youths

a) Primary prevention
   i. Pregnant and breastfeeding women
   ii. Pre-teens
2a)i. PrEP in pregnancy/BF

• Prevent new HIV infections in young women who are pregnant and breastfeeding
  – Acceptability, feasibility and safety of oral truvada PrEP in young women in SubSaharan Africa : CS 5006
2a)i. Very early detection

- Detect new infections early in pregnancy and breastfeeding young women
  - Technology based intervention to capture risk behaviour and lead to frequent testing
2a)i. Delaying sexual debut

• To delay sexual debut, especially in girls
  – explore behavioural interventions in pre-teens to develop a prevention package to prepare them for adolescence
  – likely that domestic and international settings will require different approaches
2b)i. Secondary prevention

- Adherence Working Group
- Develop adherence interventions
- Engage and retain in care