Rapid HIV Testing in Resource Limited Settings
General Public Health Trends/Dynamics

- Up to one-half to one-third of people who consent to a test still do not return to receive the results
- In 2007 only 18% of the world’s pregnant women were offered HIV tests
- Most settings are resourced-constrained and remote
- The challenge is to increase the number of people being tested
  - “Know your status”

The potential solution falls on rapid testing
The Challenge…..

- 25% Unaware of Infection
- 75% Aware of Infection
- 55% of New Infections
- 45% of New Infections

People Living with HIV/AIDS
~33,000,000

New HIV Infections Each Year
~2,700,000

~75% of the 1.5 million HIV+ women DID NOT receive vertical transmission intervention.
The Goal – PMTCT

• Use rapid tests to identify HIV+ women **early** and connect them to care
• Early care **reduces risk of MTCT to <2%!**
• Use rapid tests to identify undiagnosed HIV cases in L&D and intervene to reduce transmission.
  – Treat **mother** with ARVs during pregnancy, labor and delivery
  – Treat **baby** with ARVs within 12 hours of birth.

VCT & OraQuick

- Speed of the test (20mins)
- Client is informed of test result during visit
- Allows pre-test and post-test counselling
- No sophisticated infrastructure required
- Do not require highly trained staff
- Cost effective
So let’s take the test………..

**Oral Fluid**
– Swab completely around the upper and lower gums **one time around**.

**Fingerstick**
– Clean finger with alcohol. Let air dry.
– Stick. Wipe away the first drop.
– Collect with Loop. Mix in Developer.

**Plasma or venipuncture blood**
– Collect into EDTA, Sodium Heparin, or Sodium Citrate.
– Collect with Loop. Mix in Developer.
Test Development

• Insert the device into the Developer Vial.

• Pink fluid travels up Result Window.

• Read results between 20 and 40 minutes.
Test Interpretation

**Negative Test**

- **NON-REACTIVE**
  - Line in C Zone
  - No Line in T Zone
  - HIV-1 and HIV-2 antibodies were **not detected** in the specimen.

**PRELIMINARY POSITIVE**

- **REACTIVE**
  - Line in C Zone
  - Line in T Zone
  - HIV-1 and/or HIV-2 antibodies **have been detected** in the specimen.
This is an **Oral Fluid Test**

Rapid-format test that detects HIV antibodies in **oral mucosal transudate (OMT)**

OMT contains high concentration of IgG antibodies.
OraQuick ADVANCE® HIV-1/2 Antibody Test

- FDA-Approved/ CE Marked
- WHO Evaluated
- Laboratory Accuracy >99% with Oral Fluid Convenience
- Break Down Constraints to Large Scale Testing Initiatives
  - Poor infrastructure / limited capacity
  - Limited availability/access to healthcare professionals
  - Offer decentralized, scaleable model
- Stable at temps of 2-30°C – No cold chain requirement.
South Africa

Soweto South Africa 2004 – 245 children exposed to HIV

Sensitive and Specificity of 100% compared to ELISA (standard)

- Painless, safe, easy to use, affordable and offers instant results (Dr Vardas)
Africa - Tanzania

- Prevalence Testing Campaign – Moshi School Systems
- Joint Collaboration w/ CDC (2005)
- Results showed up to 30% HIV prevalence in certain populations
Madagascar

- Mother and Child Wellness Week 2007
- **OraQuick Targeted** for use in limited resource settings by Malagasy Government
- Front line of the National Tender used across the country in Mobile VCT, VCT and PMTCT settings
Latin America - Mexico

• ‘A Test of Love’ PMTCT Campaign w/ Project Hope
• Screened 2000 pregnant women
• Not one baby born w/ HIV
Asia – India - 2007

- Rapid oral fluid-based point-of-care HIV testing: applicability in developing countries by Dr. Nitika Pant Pai

- “Oral Tests can help greatly to expedite diagnosis,”

- “Use of oral fluid test in labor and delivery settings can expedite delivery of interventions for reducing perinatal transmission”
The Goal – PMTCT

• Use rapid tests to identify HIV+ women early and connect them to care
• Early care improves mothers outlook and reduces risk of MTCT to <2%
• Use rapid tests to identify undiagnosed HIV cases in L&D and intervene to reduce transmission.

THANK YOU