

BRIDGING THE GAP: Translating DNA-PCR Results into Care, Treatment and Follow-up



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How well are we using DNA-PCR?

- Goal: Reduce HIV-related mortality by identifying infected infants early and getting them on treatment
- A review of abstracts from the 2008 PEPFAR meeting and IAS Mexico showed:
 - 55 abstracts about DNA-PCR for early infant diagnosis
 - 18 (33%) were about the efficacy of PMTCT programs
 - 14 (25%) were about the process, feasibility and number of tests done
 - 11 (20%) linked PCR to improve access to ART for infants
 - 4 (7%) talked about difficulty in getting results picked up by families
 - 7 (13%) cited using results to actually initiate treatment
- This tells us:
 - Good efforts have been made to put systems in place
 - The most common use of PCR results seems to be to determine the efficacy of PMTCT programs
 - It is difficult to get results to families (most clinics average 50%)
 - Few have focused on actually using the results to get children on treatment

Issues in HIV-Related Infant Mortality

- Mothers and infants miss prophylaxis
 - PMTCT coverage not 100%
 - Women seroconvert during pregnancy
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- Infants miss prophylaxis
 - HIV not diagnosed
 - Poor PMTCT follow up
 - Late HIV Diagnosis:
 - **Lack of use of clinical findings**
 - Lack of access to DNA-PCR
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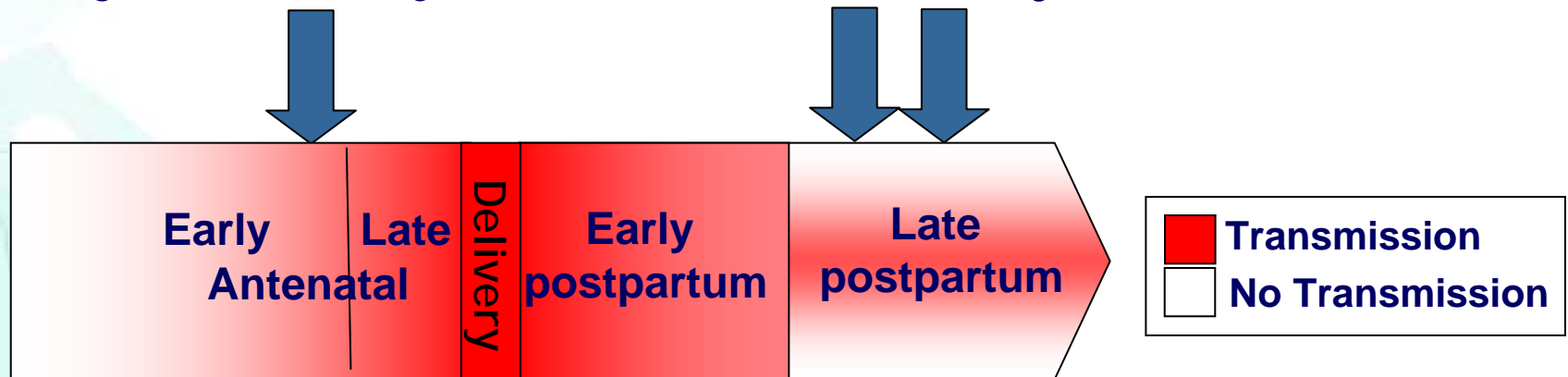
- EID system weak and/or incomplete
 - Long turn around time for results
 - **No mechanism to get results to family**
 - **No systems in place to get positive infants on treatment**
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- Care and treatment services weak
- Limited access to pediatric ART
- **Health providers not trained in counseling families**
- Limited treatment support available for families

Studies suggest that

Children infected early have the highest mortality*

Children infected late have the lowest mortality

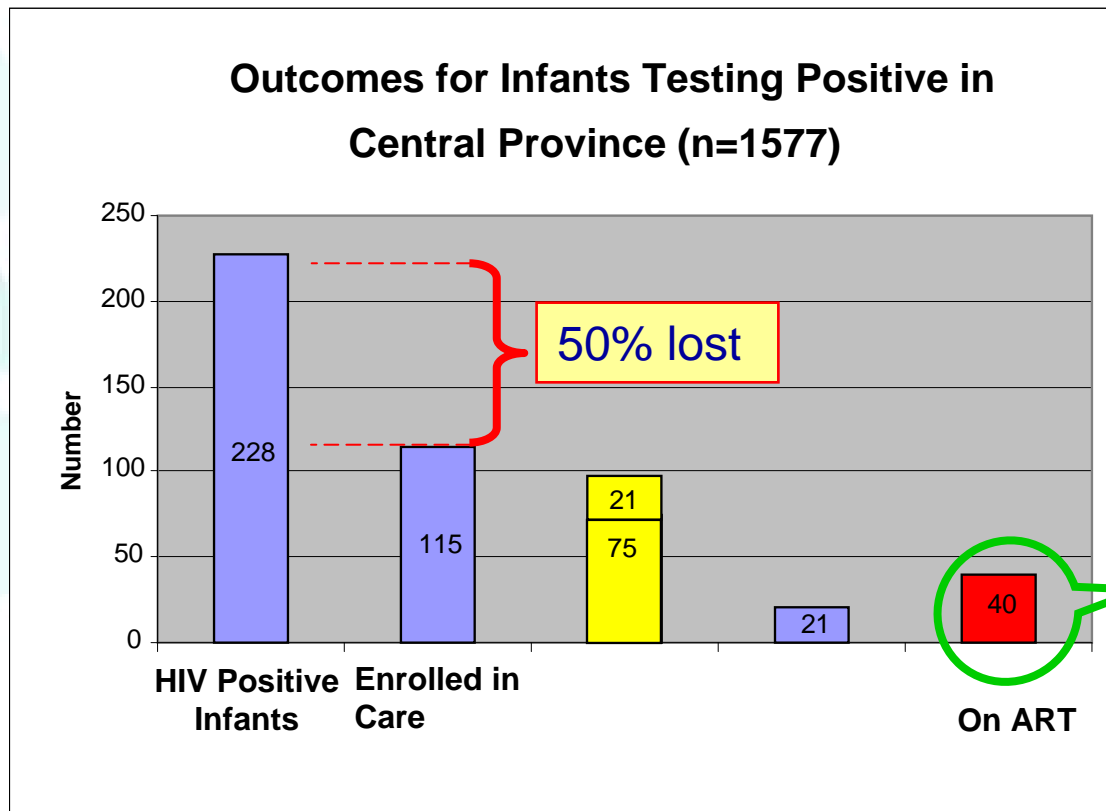


- DNA-PCR at 6 weeks identifies children who were infected early
- Over 30 countries now have access to DNA-PCR, yet the average age of treatment initiation is still 5-7 years

* Marinda et al. *Ped Inf Dis J* 2007;26:519-26;
Newell ML, et al. *Lancet* Vol 364, October 2, 2004;
Rouet F et al, *Pediatrics* 2003 Oct;112(40):e289;
Kuhn L, *J Infect Dis* 1999 Jan;179(1):52-58

EID has potential for reducing mortality, but only if we use the results on time!

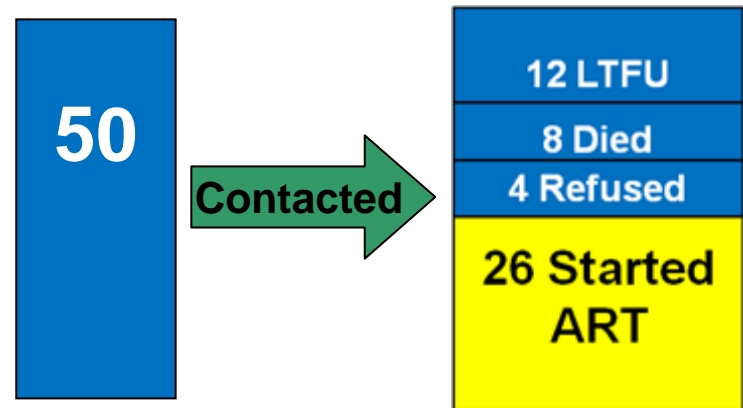
- 33% will die by 12 months; 50% will die by 24 months
- How much time was lost between diagnosis and initiation of ART?



In the end, only 18% of positive infants are on ART

Swaziland Active Follow Up

- Part of pilot for early initiation of treatment for infants
- Identified 124 DBS positive infants under 12 m of age who had not yet initiated ARVs
- Phone communication and/or chart flagging was attempted for those who had not previously qualified for ARVs or who hadn't returned
- **Findings:**
 - Many clients had no contact information recorded
 - Some infants had already died (at Baylor, 10 families were called, 6 children had died and 3 were hospitalized)
 - Staff spent a lot of time calling patients



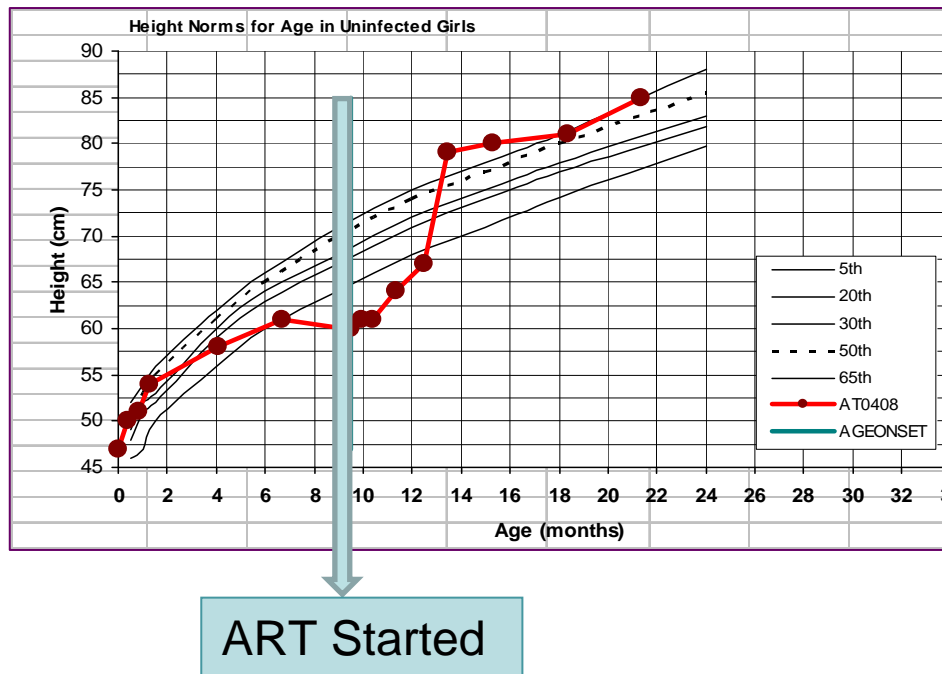
Swaziland Early ART Initiation Pilot, 2nd round

- **Intervention:** Staff at KSII Public Health Unit was oriented on the **importance** of obtaining contact information and on the **urgency** of contacting families
- **Results** available in November 2008 showed 14 positive babies:
 - 6 had no contact information
 - 8 were contacted by clinic staff and asked to come in for their test results
 - 6 collected results and had counseling; 2 still to come to clinic
 - 2 children initiated, 3 in process
 - 1 had a conflict with partner, unable to bring child to clinic
- 35% of positive children initiated ART or are in the process **within one month of positive DNA-PCR result**

What else needs to be done

1. Strengthen post-natal care to include confirmation of exposure status, provision of CTX, taking DBS, conducting a physical exam and counseling the mother
2. On-site training and mentoring so providers have an **INDEX OF SUSPICION** look for HIV using:
 - Physical exams - look for lymphadenopathy, oral thrush, and hepatosplenomegaly
 - History - ask about infections and illnesses
 - Growth charts

Growth Chart for HIV-exposed child



Programmatic Recommendations

To make a significant reduction in HIV-related infant mortality:

1. Scale up plans for EID MUST include site preparation to ensure that results get to families
 - Recording contact information
 - Identify a person who will contact families
 - Educate staff and caregivers about importance of prompt follow up for diagnosis and treatment
 - Give appointments for follow up
2. Use all clinical tools, including DNA-PCR, growth monitoring, physical exam at 6 week visit, presumptive diagnosis, clinical staging
3. Provide training in counseling children and families so that providers are comfortable discussing the possibility of HIV with the caregiver and responding to their needs

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Thank you!