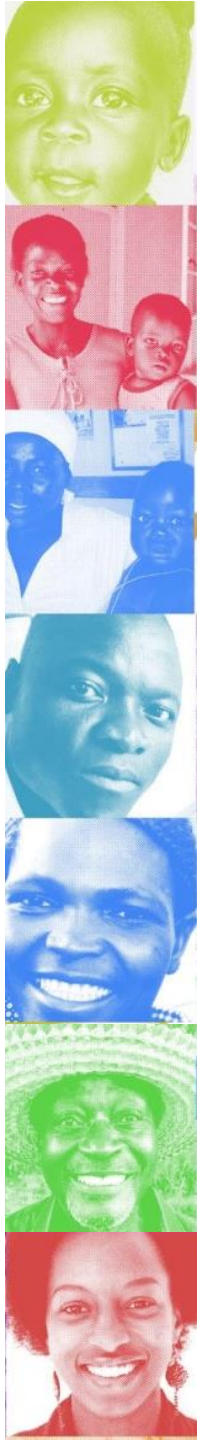

Recalibrating the EID Cascade in Zimbabwe

True outcomes among a sample of HIV-exposed infants with no documented EID

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Session C/11: Towards eliminating mother to child transmission of HIV

ICASA 2015

Background: Early Infant Diagnosis (EID)

In absence of timely EID and treatment:

- 1/3 of infants living with HIV die before 1st birthday
- 1/2 die before age of two.[1]

HIV tests for **HIV-exposed infants** recommended at 6 weeks after delivery (DNA PCR)[2]

EID by 6 weeks among HIV-exposed infants estimated as low as 45%[3]

[1]WHO/UNAIDS/UNICEF (2011) ' Global HIV/AIDS Response: Epidemic update and health sector progress towards Universal Access 2011).
[2]MOHCC (2014).Zimbabwe National Guidelines for HIV Testing and Counselling in Children and Adolescents.
[3]Zinyowera, S et al. The Zimbabwe HIV Early Infant Diagnosis (EID) Program for the period 2007-2012imbabwe Ministry of Health and Child Care.

Background: Documenting EID in Zimbabwe

- **Multiple paper-based registers** = reporting individual outcomes over time laborious and error prone – timely EID not routinely reported
- Evaluating **individual outcomes** across facilities is almost impossible
- Challenges to collection of individual-level information over time on HIV-infected mother-HIV exposed baby pairs **undermines our understanding of PMTCT program effectiveness**

OBJECTIVES

1. Estimate proportion of mother-baby pairs in Mashonaland East Province **with documented uptake of EID within 3 months of birth.**

2. Trace randomly selected sample with no documented EID to **determine whether they had HIV testing**.

3. Establish **reasons for no EID.**

METHODS

Province-wide, multi-stage survey sampling approach:

1. **Facility**: Offering ANC care in Mashonaland East Province selected with probability proportional to size (45/193)

2. **Documented EID**: for HIV-exposed infants among all HIV infected women who accessed ANC services at selected sites from April 2012 – May 2013

3. **Community tracing**: random sample of HIV-infected women no documented EID

PROCEDURES

PHASE I: Register Tracing (Sept – Nov 2014)

- Routinely collected programmatic and health facility data
- HIV positive women accessing ANC April 2012 – May 2013
- Individuals traced through multiple registers to establish documented uptake of timely EID < 3 months for HIV exposed infant

Registers used to trace mother-baby pairs through PMTCT cascade

PROCEDURES

PHASE II: Community Tracing (March – May 2015)

- **Random selection women with no EID traced**
- **Village Health Workers** at selected sites trained in tracking methodology and PMTCT by OPHID and MOHCC
- **Household-level tracing of women by VHWs**
- **Structured questionnaire collected data on:**
  - Patient characteristics
  - Health service uptake
  - Reasons for non-use of services
  - Process data on tracking

VHWs being trained in LTFU methods

RESULTS

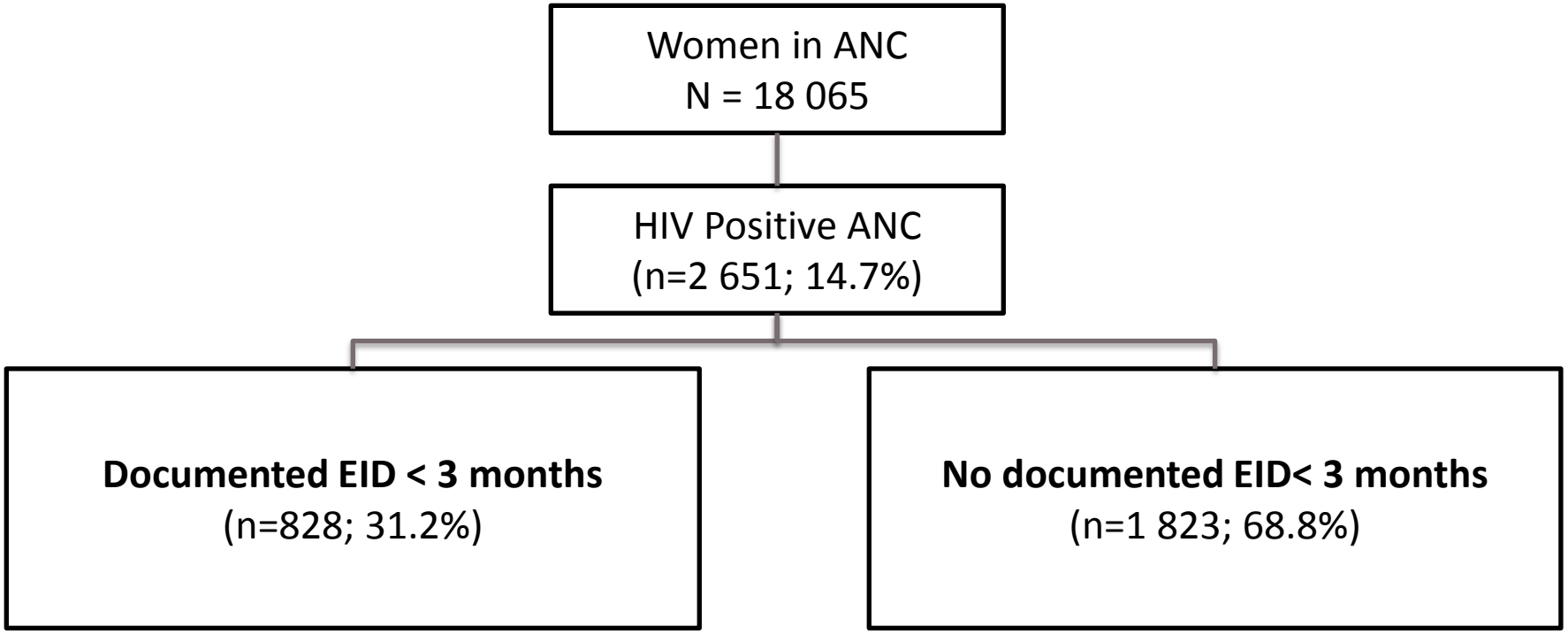
PHASE I: Register Tracing

Objective 1:

Proportion mother-baby pairs with documented EID

Phase I: Documented uptake EID

Figure 1: Proportion HIV positive women with documented uptake EID



- Overall, 31.2% (n=828) HIV-exposed infants had documented uptake of EID< 3 months

Phase I: Factors associated EID completion

- **Earlier gestational age at presentation** (Risk Ratio[RR]: 0.97 per two weeks; 95%CI:0.95-0.99; p< 0.01)
- **Later calendar time of ANC presentation** (RR: 1.04 per 30 days; 95%CI:1.02-1.06, p< 0.01)*proxy of PMTCT program maturity
- **Smaller site volume** (Table)

Table 1: Documented EID Completion

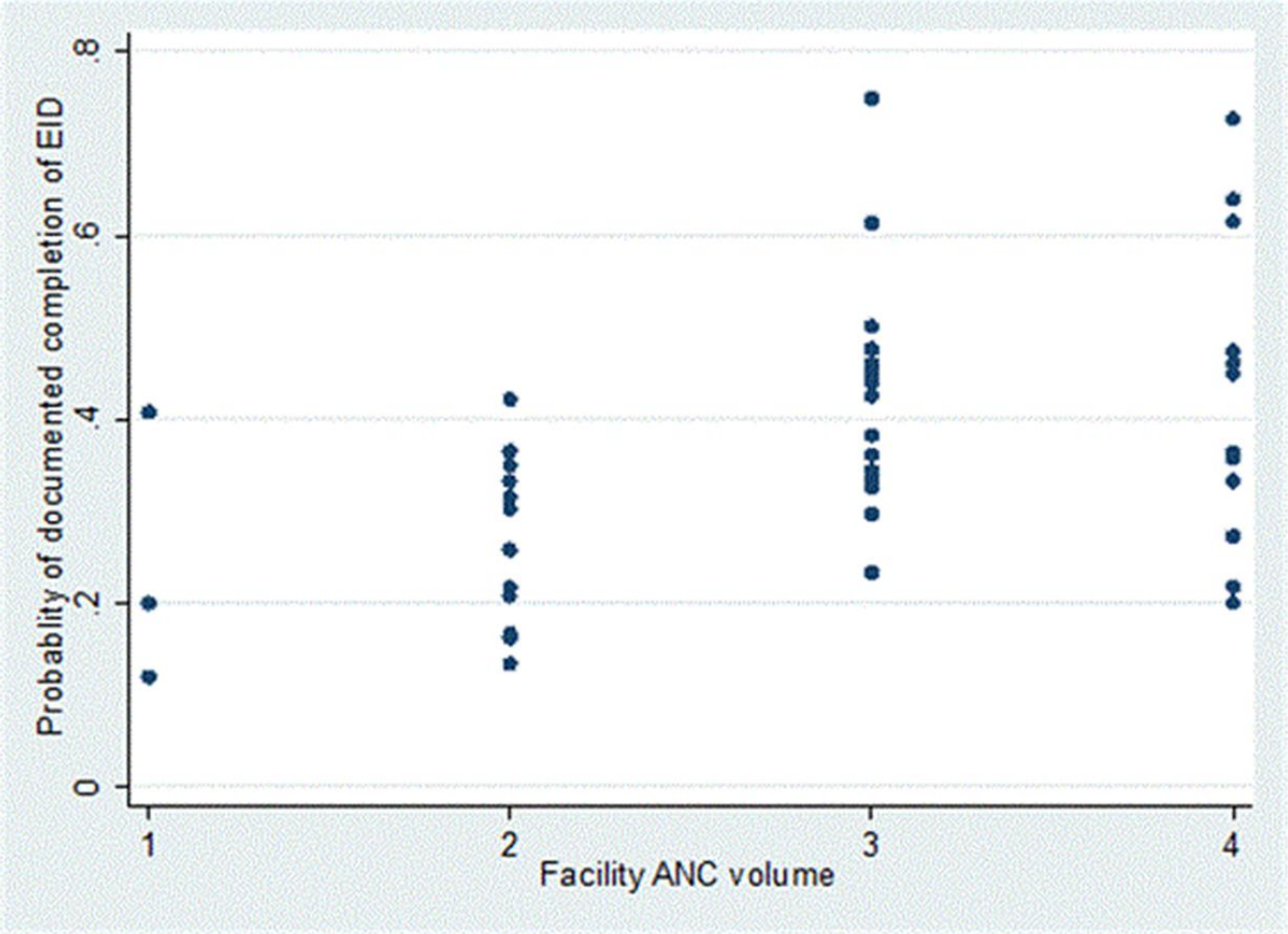
Variable ANC Volume	Risk Ratio	p-value	95% CI
High: 1001-1500 (referent)	1	-	-
Med-High: 501 - 1000	1.23	0.05	(1.00, 1.52)
Med-Low: 201 – 500	1.78	> 0.0001	(1.45, 2.19)
Low: 0 - 200	1.85	> 0.0001	(1.44, 2.38)

Poisson regression showing association of site ANC volume on the probability of documented EID completion. Association is adjusted for gestational age at presentation and calendar time.

Webb et al IAS 2015

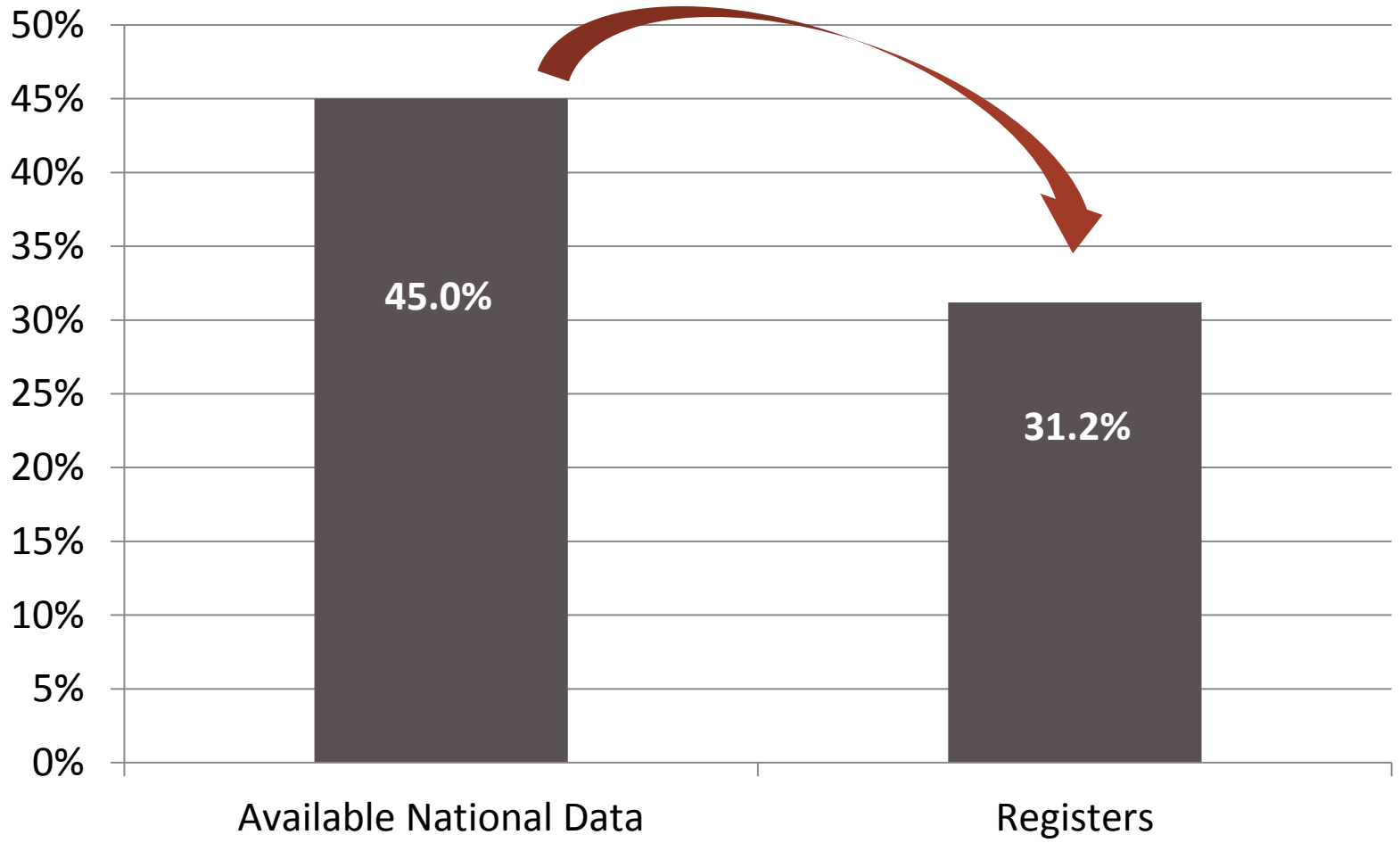
Phase I: EID by ANC site volume

Figure 2: Probability of documented EID completion by patient volume in ANC



Volume categories women in ANC April 2012-May 2013:
1 = 1001-1500; 2 = 501-1000; 3 = 201-500; 4 = 0-200

Phase I: How is our Timely EID completion rate looking?



RESULTS

PHASE II: Community Tracing

Objective 2:

True EID status among those with no documented EID

Figure 3. Tracing outcomes LTFU for EID group

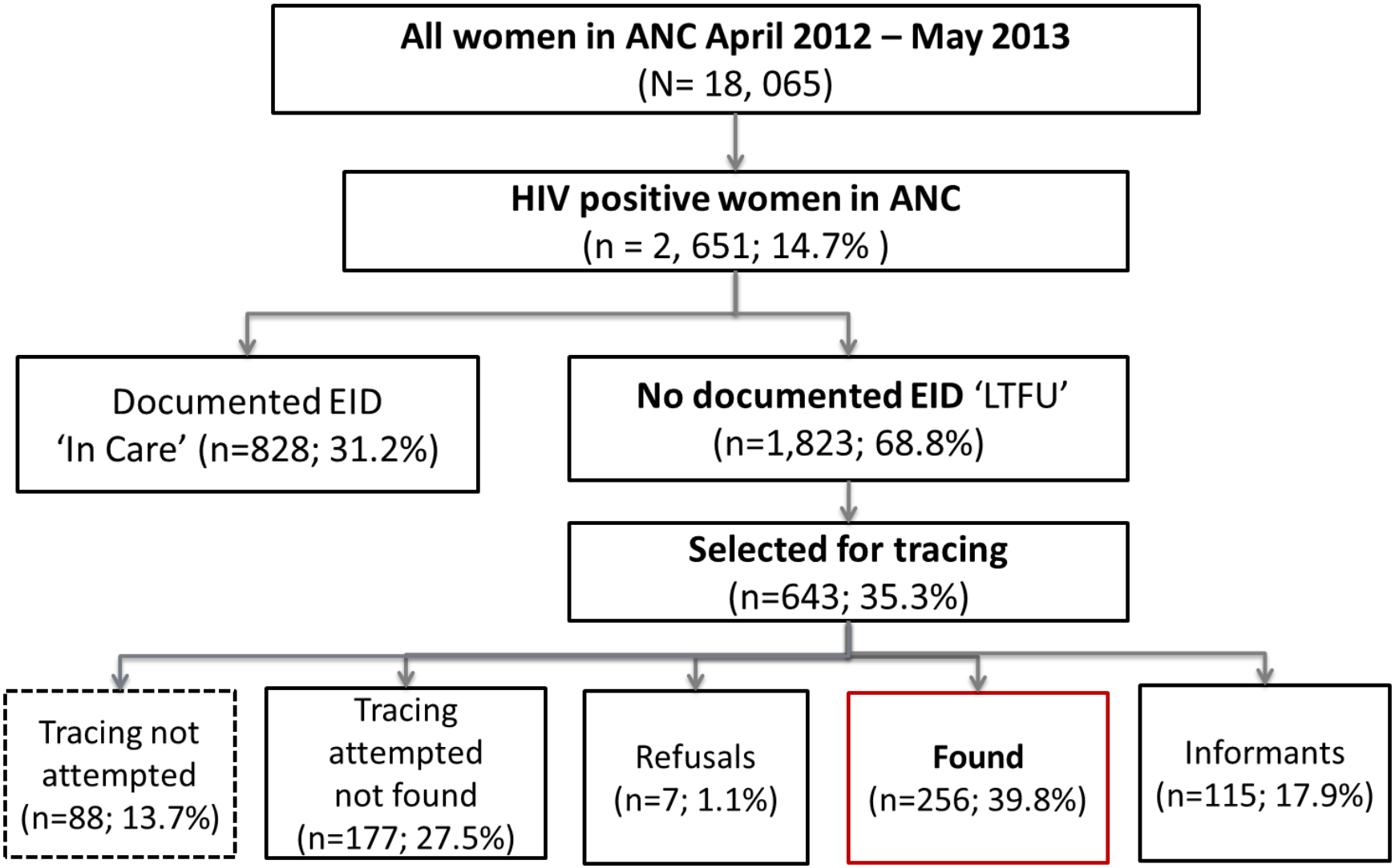


Figure 4. Vital status outcomes mother-baby pairs traced

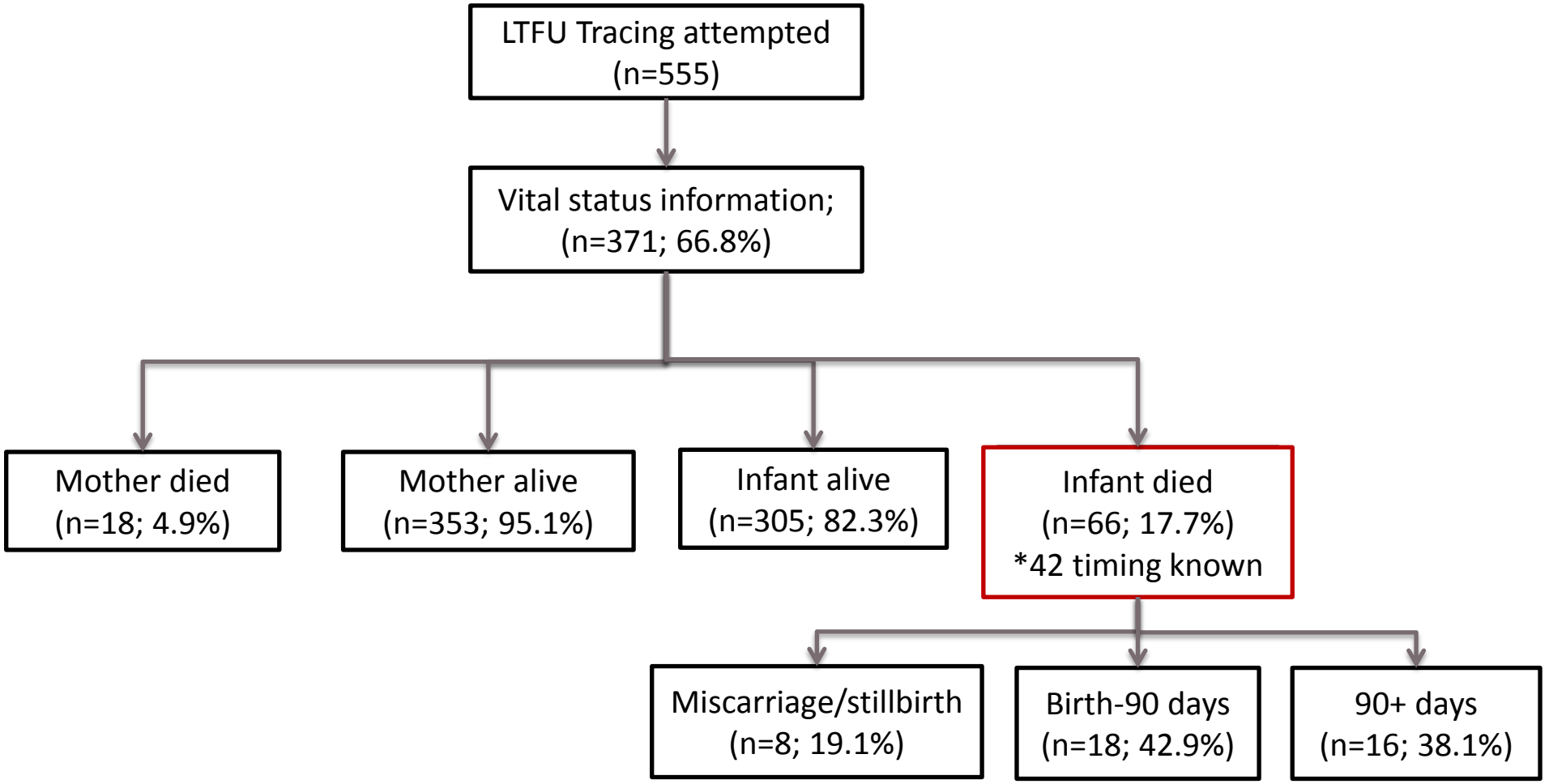


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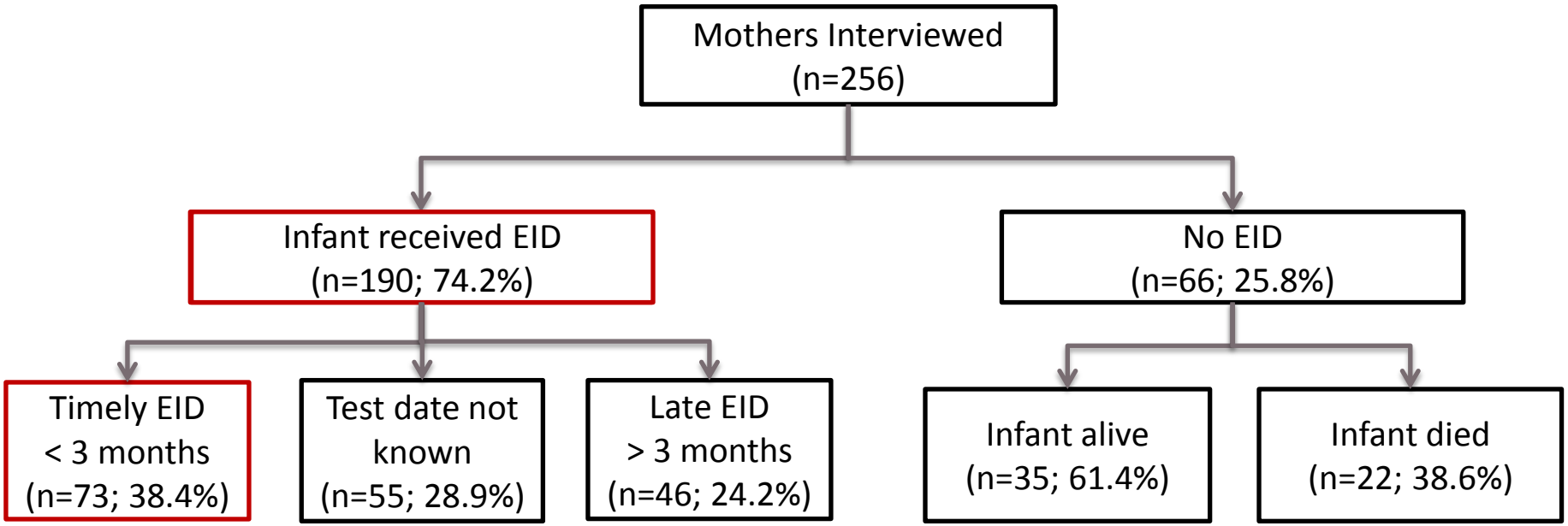
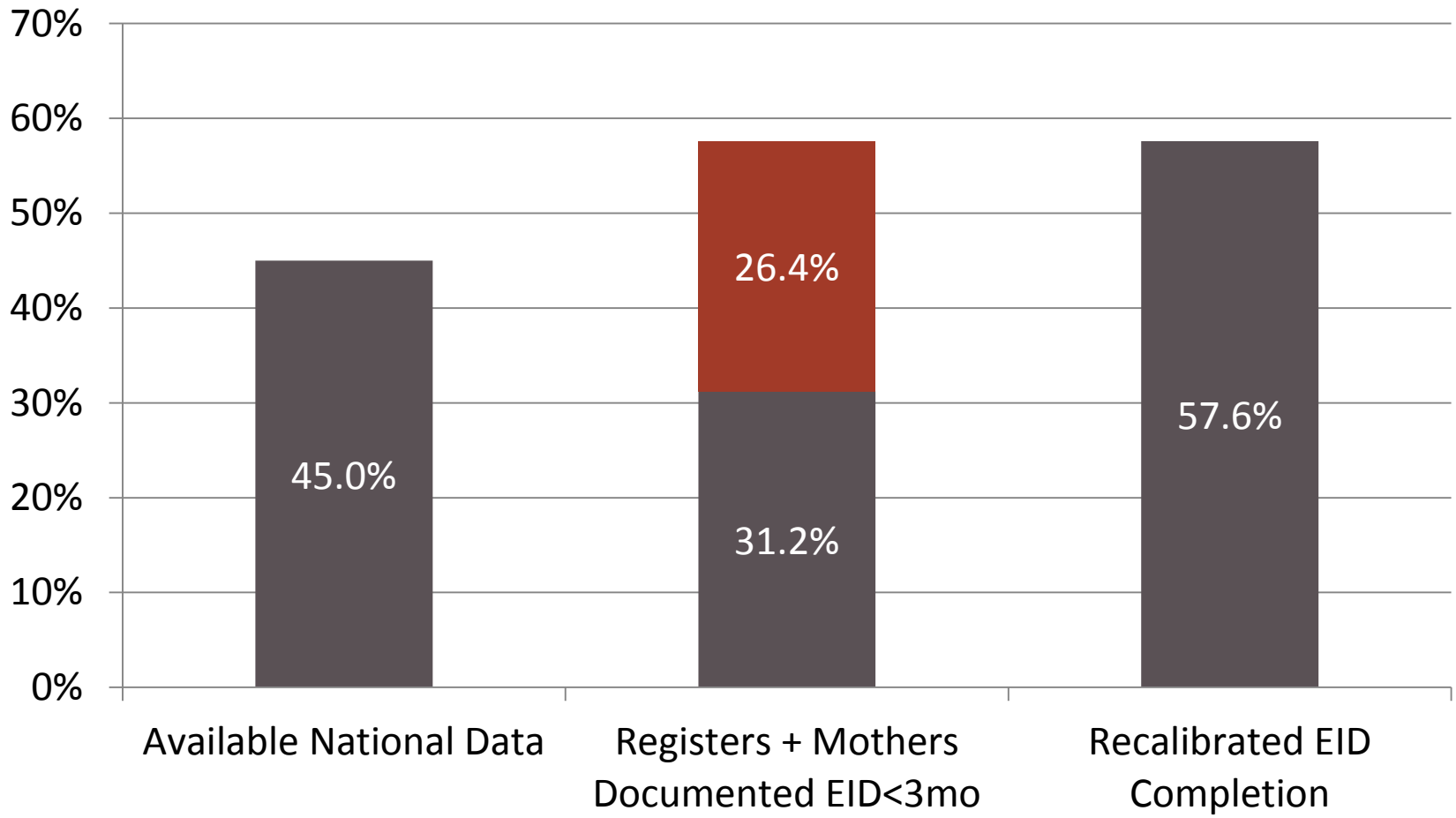
Figure 4. Early Infant Diagnosis among HIV positive mothers traced

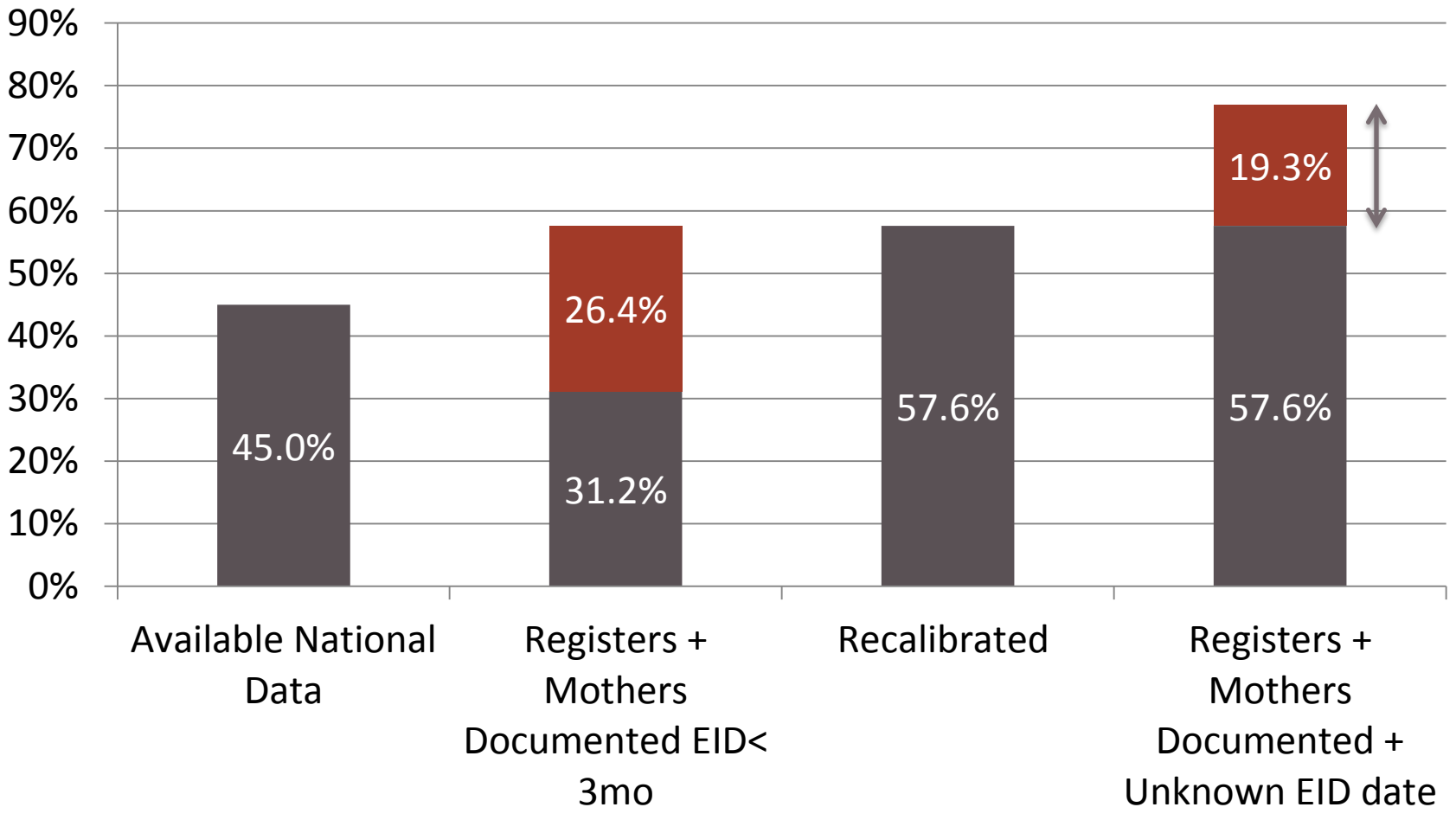


- Almost ¾ mothers traced- infant received EID
- However, only 38.4% had timely EID
- 28.9% of mothers did not know when EID was done

Phase II: Recalibrated Timely EID Completion



Phase II: Recalibrated Timely EID Completion



Tracing sample of HIV positive mothers with no documented EID indicates range of timely EID: 57.6% - 76.9%

RESULTS

PHASE II: LTFU Tracing

Objective 3:

Reasons no EID

Why no EID?

Table 3. Top 5 reasons for no EID among HIV-exposed infants (N=76)

Rank	Reason no EID	n	%
1	Child died	25	32.9
2	I didn't know I should bring my child in for EID	15	19.7
3	Declines to answer	6	7.9
4	Husband/other family member knows my HIV status but would not allow me to have child tested	5	6.6
5	I didn't have enough money to access care	4	5.3

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DISCUSSION

EID rates under-estimated by facility registers

…but some **major caveats**

DISCUSSION

- High infant mortality
- Late EID in ¼= missed opportunities
- “I didn’t know” in no EID group
- Where and who are the untraceable?

Conclusions

- **Underestimation of true proportion** of HIV-exposed infants receiving timely EID
- High mortality among HIV-exposed infants = urgency to identify **risk factors for both mortality and failure to uptake timely EID** among HIV positive pregnant women
- Huge and discrepant range in EID values by source indicates urgent need to **strengthen health information systems for reporting outcomes**
- Value of **sampling-based approaches** to provide better picture of PMTCT program effectiveness

Thank You – Tatenda – Siyabonga

FACE pediatric HIV: Towards elimination of new HIV infections in Zimbabwe

Ministry of Health and Child Care

President's Emergency Plan for AIDS Relief (PEPFAR) through USAID and Families and Communities for Elimination of Pediatric HIV in Zimbabwe (AID-613-A-12-00003, FACE Pediatric HIV)

Dr. Elvin Geng, USCF

Health care workers and Village Health Workers at participating sites

HIV positive mothers who participated in the study

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UCSF University of California San Francisco

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