

# Vulnerable Populations: How are they Doing?

## Antenatal Depression & Postpartum Engagement in Option B+ HIV Care in Malawi

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BRYNA HARRINGTON

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# Background: Malawi

- 16 million people
- 12% of adult women living with HIV
- 16,000 infants infected with HIV perinatally (2010)
- 1<sup>st</sup> country to implement Option B+ antiretroviral treatment (ART) program in 2011



# Option B+ ART program

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*Lifelong* ART for all pregnant & breastfeeding women

Performance in Malawi:

Number of women who initiated ART increased 748% in 1<sup>st</sup> year

But...

Only 75% of women in care 12 months after initiating ART

- Worse than general adult population

# Depression & HIV care

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Non-pregnant adults:

Higher-resource settings:

- Depression reduces engagement in HIV care

Sub-Saharan Africa:

- Depression reduces or has null association with engagement in HIV care

→ Generalizable to perinatal women?

# Antenatal depression

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Common: up to 23% of pregnant women living with HIV in Africa  
If untreated, can lead to poor maternal & infant health outcomes

Screening for antenatal depression **not** routine in most sub-Saharan African settings

Research goal:

Estimate the association of antenatal depression with engagement in HIV care (visit attendance and viral suppression)

# Parent study setting & population

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“**S4** study:” Safety, Suppression, Second-line, Survival Cohort


Long-term safety & efficacy evaluation of Option B+

Public antenatal care clinic in Lilongwe, Malawi

At enrollment, all participants were:

- Pregnant
- Living with HIV
- Participating in Option B+
- $\geq 18$  years of age (or 16-17 years & married)

# S4 study overview

	Pregnant									Postpartum											
										BIRTH											
Perinatal Month	4	5	6	7	8	9		1		3			6			9			12		
																					
Study Month	0	3			6			9			12			15			18				
Visit & ART	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Viral Load	*						*						*								
Depression	D																				

ART schedule in S4 was identical to the Malawi standard of care

# Measurements

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**Exposure:** Probable antenatal depression

- Edinburgh Postnatal Depression Scale (EPDS) score  $\geq 6$  at ART initiation

**Outcomes:** Engagement in HIV care

- Visit attendance: attended all 8 scheduled visits in the first 12 months ( $\pm 30$  days of appointment date)
  - Women received ART from S4 study
- HIV viral suppression:  $< 1000$  copies/mL at 12 months post-ART initiation
  - Malawi Ministry of Health threshold for ART failure

# Analysis

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Estimated risk & prevalence differences (RD, PD)

- Linear binomial regression
- Robust variance estimates for 95% CI

Confounding adjustment

- History of intimate partner violence (IPV)
- History of depression or anxiety
- Marital status at enrollment
- SMR weights: estimates the effect of depression among the depressed

# Results

Total enrolled: n=299

Characteristic	Median (IQR)	N	%
Age (years)	26 (22-30)		
Gestation (weeks)	22 (18-26)		
Currently married		263	88
Finished primary school		166	56
Pregnancy unintended		167	56
History of IPV		59	19
History of depression/anxiety		115	38

# Results

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## Probable antenatal depression:

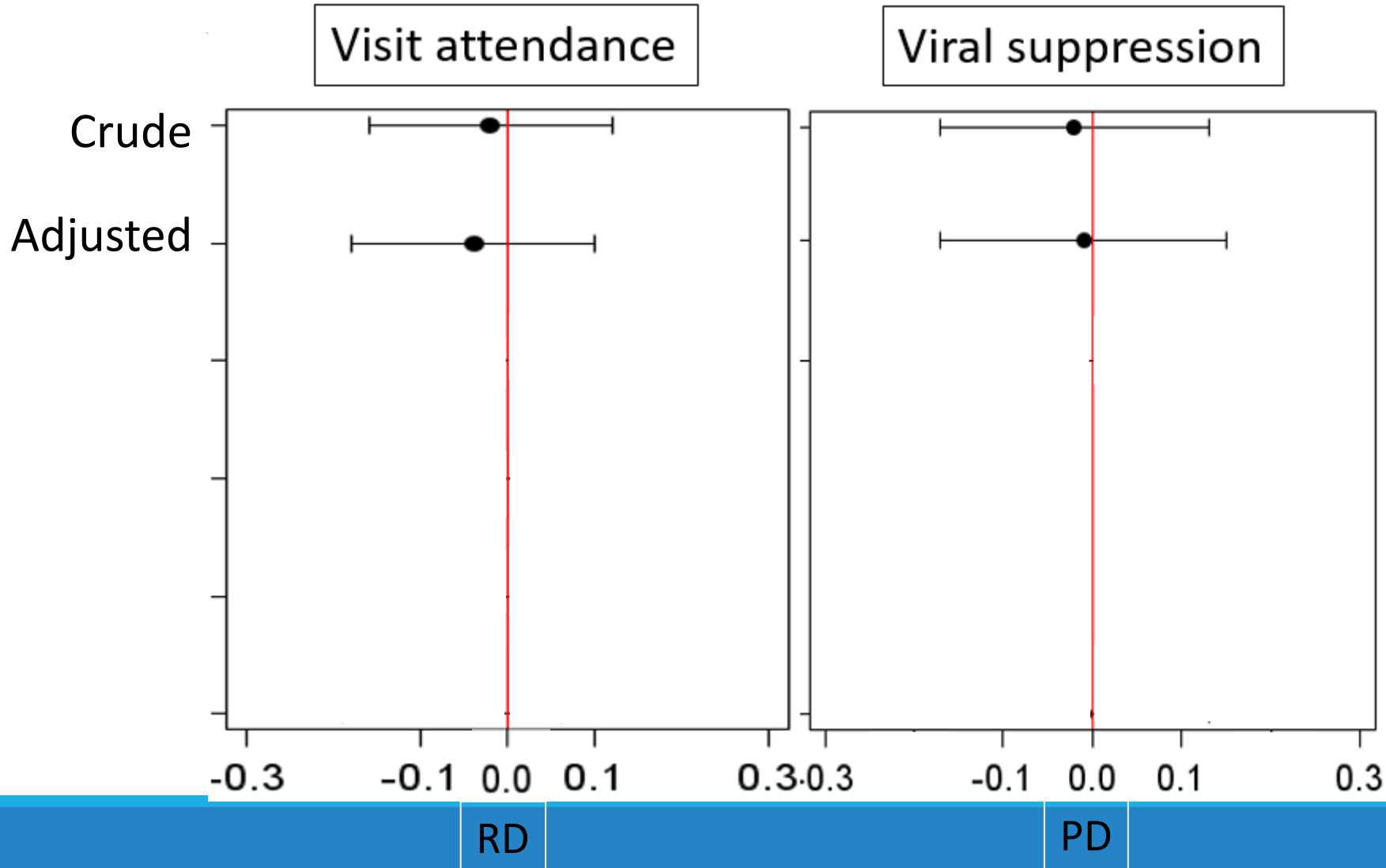
10% scored  $\geq 6$  on the EPDS at ART initiation

## Engagement in care:

85% attended all 8 visits in first 12 months on ART

81% in care with low viral load 12 months post-ART

# Antenatal depression & HIV care engagement



# Conclusions

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- 10% had probable antenatal depression
  - Consider implementing depression screening in Option B+ care
- Participants were highly engaged in care
- Probable antenatal depression was not associated with either HIV care outcome
  - Robust to multiple sensitivity analyses
- In a population with high HIV care engagement, probable antenatal depression may not impair HIV-related outcomes

# Acknowledgments

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## **UNC Project Malawi**

- S4 team & participants
  - Coauthors: Brian W. Pence, Madalitso Maliwichi, Allan N. Jumbe, Ntchindi A. Gondwe, Shaphil D. Wallie, Bradley N. Gaynes, Joanna Maselko, William C. Miller, Mina Hosseinipour
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## **UNC Chapel Hill**

- Epidemiology Department Staff
- MD-PhD Leadership Team

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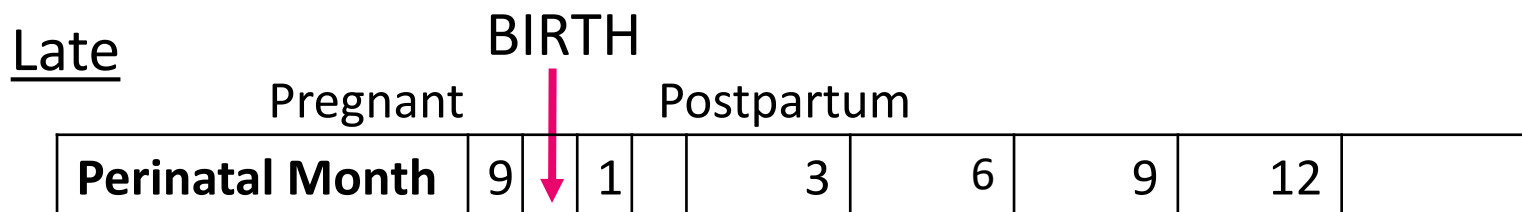
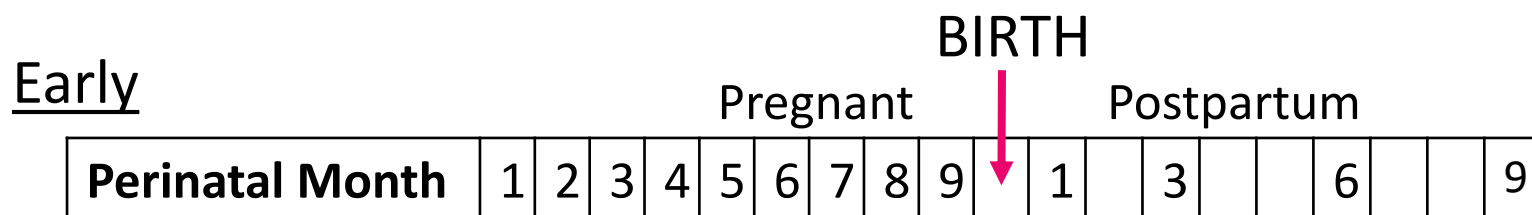
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# Questions?



# Post-ART & postpartum timelines varied



							
Study Month	0	3	6	9	12	15	18
Visit & ART	X	X X X	X X X	X	X	X	X
Viral Load	*		*		*		
Depression	D						