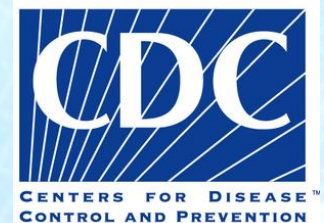


The Contribution of Missed Clinic Visits to Disparities in HIV Viral Load Outcomes

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Background

Disparities in HIV Health outcomes for Black/African Americans:

- **Increased mortality**
- **Poorer viral suppression**
- **Higher AIDS rates**

We've learned: Non-adherence mediates relationship bt AA & VL failure

More to discover: contributing factors that may be intervention targets



Aim

- **Evaluate contribution of missed primary HIV care visits to observed disparities in VL outcomes**
- **Utilize CDC/HRSA Retention in Care (RIC) Phase 1 cohort data**
 - **6 university HIV clinics**
 - **Baylor College of Medicine**
 - **Boston University Medical Center**
 - **Johns Hopkins University**
 - **SUNY Downstate (Brooklyn)**
 - **University of Alabama at Birmingham**
 - **University of Miami**
 - **12-month period before RCT**

Methods

In order to identify “established” clinic patients, inclusion criteria were:

- Attended ≥ 1 primary HIV care appointment in year preceding study pd**
- ≥ 1 scheduled primary HIV care appointment during 1st six months of study pd**
- Study period: May 2008 – April 2009**

Methods

Retention variable of interest:

- **Missed visits: Frequency of no-show clinic visits during the 12-month observation period**

Analysis:

- **Staged multivariable logistic regression models**

Evaluate initial model:

- **Association of socio-demographics with viral load failure (<400 c/mL) at 12-months**

Analysis

Add Variable of interest:

- **No-show visit count**

Analyze:

- **Parameter estimates & significance of observed socio-demographics w/ VF**
- **Model odds ratios quantified VF**
- **Missing data: multiple imputation**

Study Sample

Age (years)	46.0 ± 10.0
Gender	
Male	6549 (65.1%)
Female	3465 (34.5%)
Transgender	39 (0.4%)
Race	
Black	6435 (64.0%)
White	3004 (29.9%)
Other/Unknown	614 (6.1%)
Ethnicity	
Hispanic	1880 (18.7%)
Non-Hispanic	8066 (80.2%)
Missing/Unknown	107 (1.1%)
Risk transmission group	
MSM	2837 (28.2%)
MSM + IDU	230 (2.3%)
IDU	1318 (13.1%)
Heterosexual	4947 (49.2%)
Other/Missing/Unknown	721 (7.2%)

Sample, cont

Site	
Baylor College of Medicine	2904 (28.9%)
Boston University Medical Center	1053 (10.5%)
Johns Hopkins University	1883 (18.7%)
SUNY Downstate Medical Center	922 (9.2%)
University of Alabama at Birmingham	1307 (13.0%)
University of Miami	1984 (19.7%)
Baseline plasma HIV RNA (log ₁₀ c/mL)	2.59 ± 1.17
Baseline CD4+ T lymphocyte count (cells/μL)	456 ± 296

Sample, cont

- **31% experienced viral load failure**
- **Note: Mean No-show differed by**
 - **Race: 1.69 Black/AA vs. 1.13 White**
 - **Risk Factor: 1.96 IDU vs. 1.20 MSM**

Results

MV: Patient Variables				
	OR	95% UCL	95% LCL	p-value
M v. F	1.05	0.91	1.20	0.5178
Hispanic v. Non	0.73	0.61	0.88	0.0010
B/AA v. W	1.32	1.15	1.52	0.0002
Other v. W	1.20	0.94	1.54	0.134
IDU v Het	1.30	1.11	1.52	0.0007
MSM v Het	0.90	0.76	1.06	0.2200
Other v Het	1.01	0.81	1.27	0.8942
Age	0.74	0.70	0.78	<.0001

Result:
Black/AA race (OR=1.32)
significantly more likely to experience VL failure

Also Significant

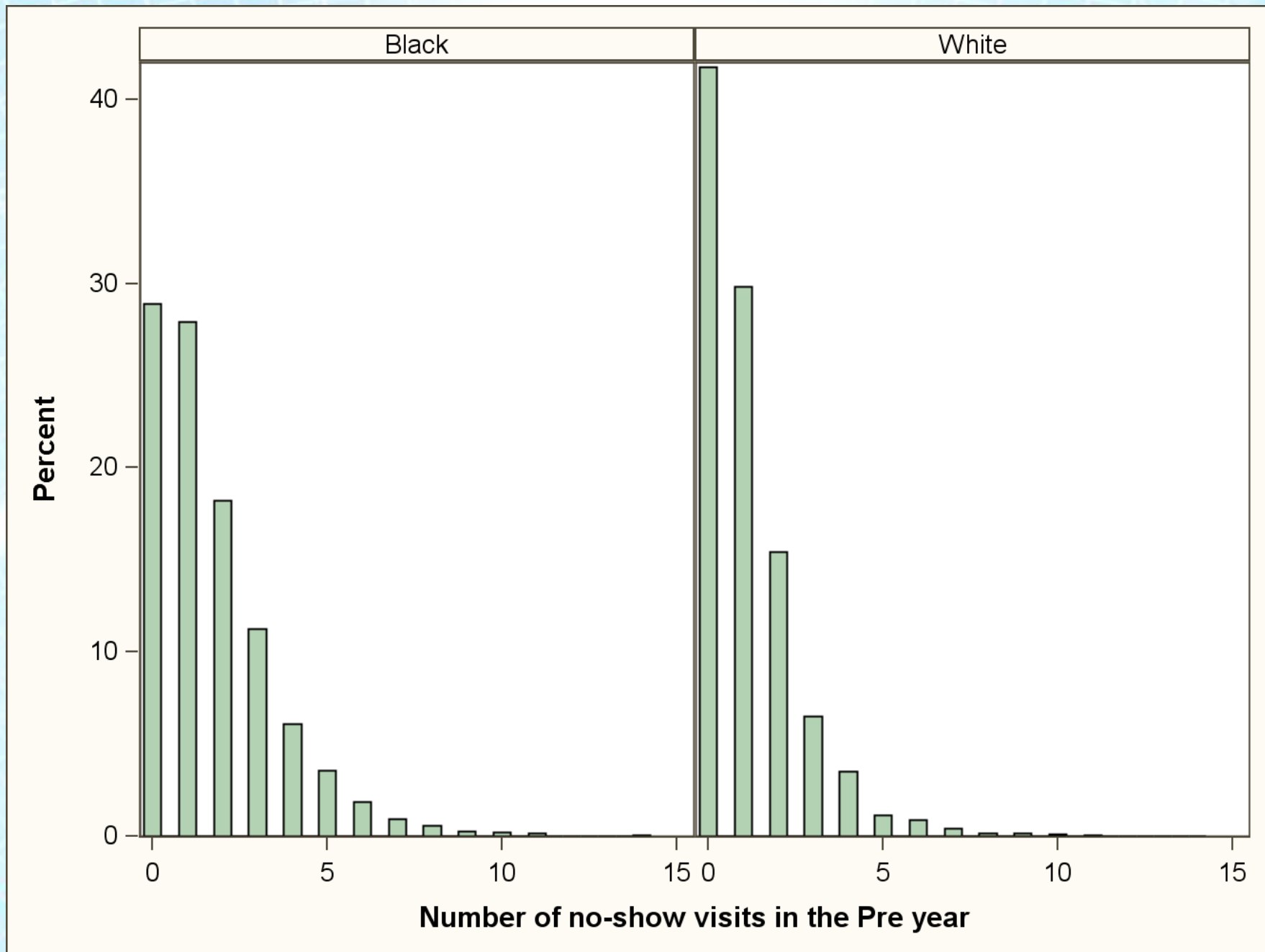
- **Ethnicity**
- **IDU**
- **Age**

Results

Include Black/AA & White race (n=9,439)

Mean no-shows: 1.51 (Range 0-14)

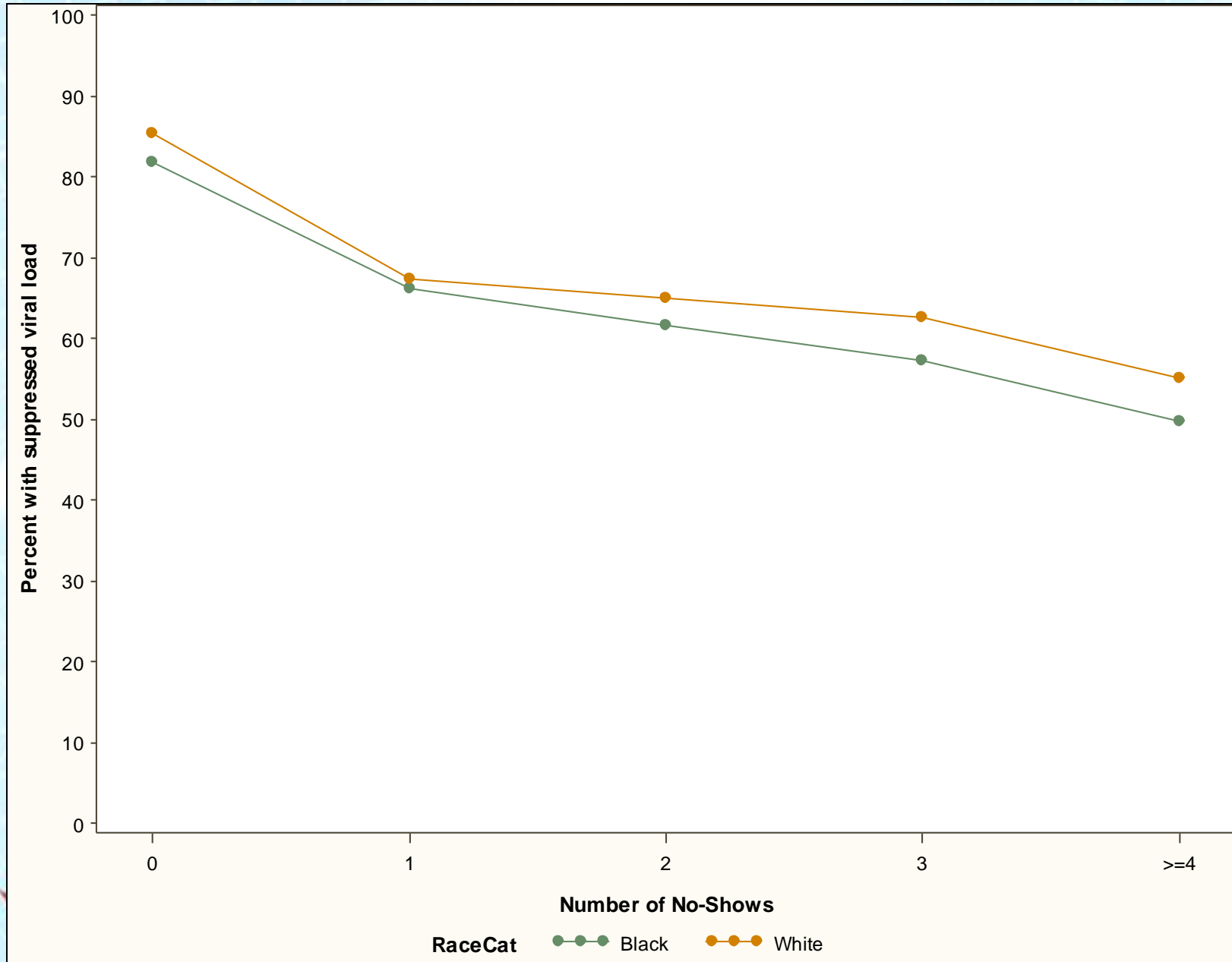
# No Show	Frequency	Percent
0	3114	32.99
1	2693	28.53
2	1637	17.34
3	921	9.76
>=4	1074	11.38



Results

	MV: Patient Variables				MV: With number no-shows			
	OR	95% UCL	95% LCL	p-value	OR	95% UCL	95% LCL	p-value
# No-Shows					1.32	1.28	1.37	<.0001
M v. F	1.05	0.91	1.20	0.5178	1.08	0.93	1.25	0.3424
Hispanic v. Non	0.73	0.61	0.88	0.0010	0.70	0.58	0.85	0.0003
B/AA v. W	1.32	1.15	1.52	0.0002	1.18	1.01	1.35	0.0317
Other v. W	1.20	0.94	1.54	0.134	1.14	0.88	1.45	0.3283
IDU v Het	1.30	1.11	1.52	0.0007	1.09	0.93	1.27	0.2907
MSM v Het	0.90	0.76	1.06	0.2200	0.90	0.76	1.08	0.2551
Other v Het	1.01	0.81	1.27	0.8942	0.96	0.76	1.20	0.7248
Age	0.74	0.70	0.78	<.0001	0.79	0.75	0.83	<.0001

Results



Conclusion

**After adding no show visit count,
parameter estimates attenuated**

- Black race (1.32 to 1.18)**
- IDU (1.30 to 1.09)**
- Missed visits contributed to some
observed differences in VL outcomes
for Black/AA patients and IDU**

Note: Same trend for model with missed visits (Y/N)

Limitations

- **No Causality**
- **ART exposure not incorporated**
- **Short Observational period**
- **Experienced Patient population excluded observations from newly entering care**

Implications

We must explore:

- **Reasons for differential visit attendance**
- **No-show behavior**
- **Intervention elements to reduce no-show visits at multiple levels**
- **Interventions to prevent no-show visits**

Future Directions

- **Explore disparities in HIV outcomes related to**
 - **Housing Status**
 - **Age**
 - **Stigma**
 - **Engagement/Empowerment**
 - **Influence of Access to care & ART**
 - **Patient Satisfaction**



Muthulingam (2013), Johnson (2012), Guest (2013)

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