

Gender Disparities in Viral Suppression and Antiretroviral Therapy Use by Racial and Ethnic Group— Medical Monitoring Project, 2009-2010

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Background

- ❑ **Women comprise a quarter of persons living with HIV in the United States**
 - Majority are black or Hispanic/Latina
- ❑ **Female gender and non-white race/ethnicity often found to be associated with lack of viral suppression and poor clinical outcomes**
- ❑ **Consideration of both gender and race/ethnicity needed to identify areas for targeted intervention to improve outcomes that are relevant to specific groups of women**
 - Few prior studies have sufficient sample size

Analytic questions

- ❑ Among adults receiving HIV care in the United States, does viral suppression and antiretroviral therapy (ART) use vary by gender?**
- ❑ Do gender differences in race and ethnicity and/or ART use account for gender differences in viral suppression?**
- ❑ Why are women receiving HIV care less likely to use ART than men?**

Medical Monitoring Project (MMP) methods

❑ Ongoing supplemental HIV surveillance system

- Interview and medical record data from HIV-infected adults receiving care in 16 U.S. states and Puerto Rico

❑ Three-stage sample design

- States; HIV care-providing facilities; HIV-infected adults receiving care

❑ Data collected June 2009 - May 2011

- Response rates for matched data

Cycle year	States %	Facilities %	Patients %
2009	100	76	51
2010	100	81	50

Methods

❑ Analytic sample

- Men or women
- Black , Hispanic or Latino/a, or white

❑ Compared prevalence

- **Viral suppression:** Most recent viral load documented undetectable or ≤ 200 copies/ml
- **ART use:** Self-reported current use of ART

❑ Assessed potential confounders, mediators, and effect modifiers

Methods

- ❑ **Modified Rao-Scott X^2 tests for bivariate differences in factors associated with viral suppression and ART use by gender and race/ethnicity**
- ❑ **Multivariable logistic regression with predicted marginals to assess association between gender and ART use, including variables that**
 - Were associated with ART use at $p < .10$
 - Changed association between gender and ART use by $> 10\%$

RESULTS

Analytic sample

	Men 72% of total		Women 28% of total	
	No.	%	No.	%
Black	2097	36	1415	64
Hispanic or Latino/a	1360	21	434	18
White	2469	43	394	18
Total	5926	100	2243	100

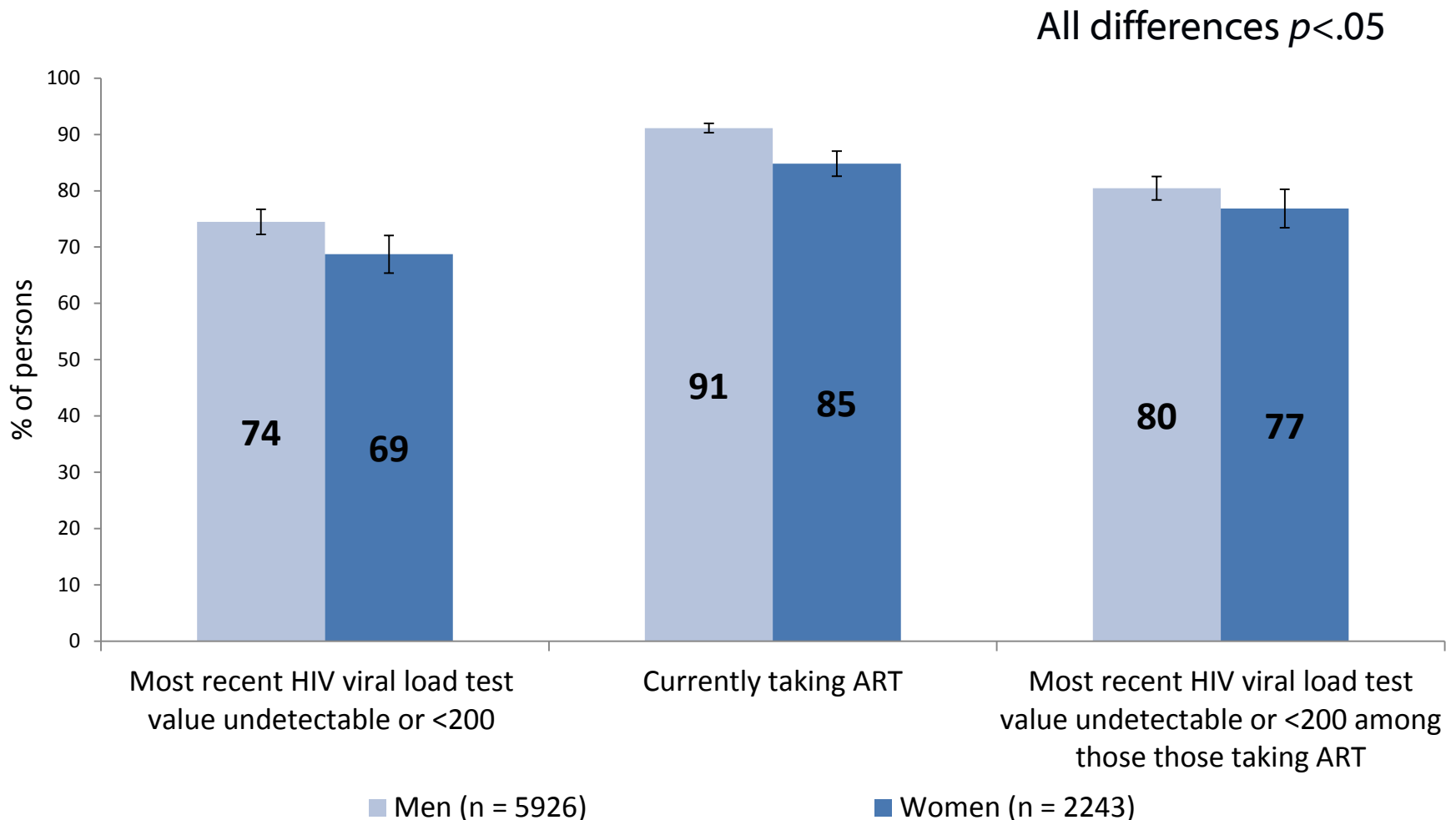
Source: Medical Monitoring Project 2009-2010; all percentages are weighted.

Sample characteristics

- ❑ **Women more likely than men to be**
 - ❑ **Younger**
 - ❑ **Less educated**
 - ❑ **Below poverty level**
 - ❑ **Publically insured**
 - ❑ **More recently diagnosed**
 - ❑ **Non-AIDS diagnosed**

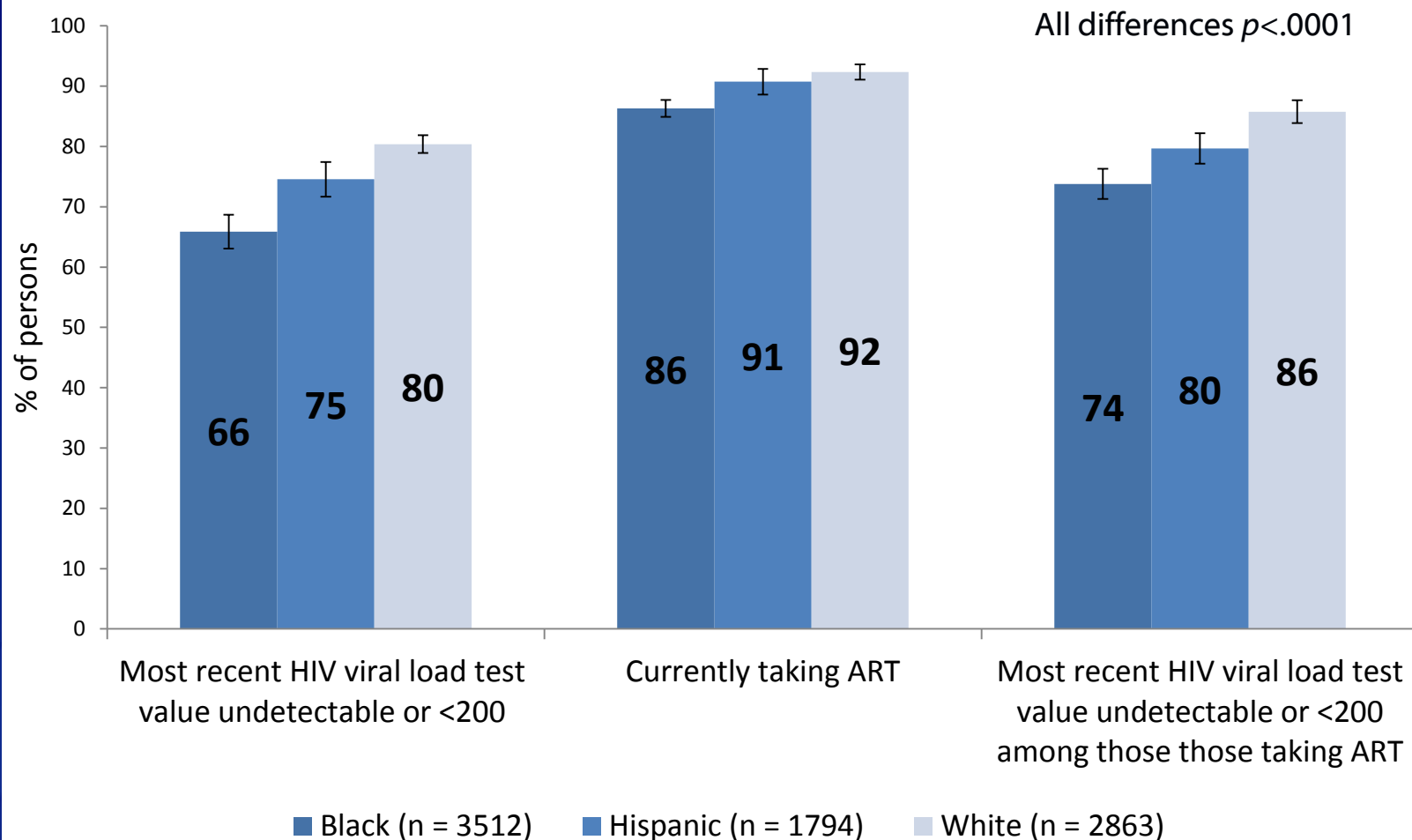
- ❑ **When stratified by race/ethnicity, some differences not seen among certain groups**
 - ❑ **e.g., insurance type among blacks, AIDS diagnosis among whites, age among Hispanics**

Viral suppression and ART use among HIV-infected men and women receiving care*



Source: Medical Monitoring Project 2009-2010; *Persons of race/ethnicity other than Black, Hispanic, and White were excluded; all percentages are weighted.

Viral suppression and ART use among HIV-infected blacks, Hispanics, and whites receiving care*



Source: Medical Monitoring Project 2009-2010; *Persons of gender other than men and women were excluded; all percentages are weighted.

Viral suppression and ART use by gender and race/ethnicity

	Black		Hispanic		White	
	Men	Women	Men	Women	Men	Women
	%	%	%	%	%	%
Viral suppression	66	66	75	72	81	74
Current ART use	88	84	92	86	93	86
Viral suppression among those taking ART	73	75	80	77	86	83

Source: Medical Monitoring Project 2009-2010; all percentages are weighted; red font indicates $p < 0.05$

ART use and gender

- ❑ Women and men equally likely to have ever taken ART**
- ❑ Women more likely to report discontinuing ART**
 - ❑ Black women vs black men, 7% vs 4%**
 - ❑ White women vs white men, 8% vs 3%**
- ❑ Most women and men reported not taking ART on advice from their healthcare provider**
 - ❑ Women vs men, 69% vs 64%**
 - ❑ No gender differences within racial/ethnic groups**

Why are women less likely to take ART?

- ❑ **Multivariable logistic model predicting ART use with gender as a covariate**
 - ❑ **Sociodemographics**
 - ❑ Race/ethnicity, age, educational attainment, homelessness, health insurance/coverage, household poverty, incarceration, inadequate health literacy
 - ❑ **Substance use and mental health**
 - ❑ Drug use, stimulant use, binge drinking, depression
 - ❑ **HIV-related factors**
 - ❑ Time since diagnosis , disease stage, geometric mean CD4+ T-lymphocyte count

ART use and gender

Gender	%	PR	CI	%	aPR*	CI
Men	91	Ref.	-	91	Ref.	-
Women	85	.93	(.91-.96)	87	.96	(.94-.98)

*Adjusted for: race/ethnicity, age, poverty, drug use, depression, and disease stage

Source: Medical Monitoring Project 2009-2010; PR, prevalence ratio; CI, confidence interval; aPR, adjusted prevalence ratio; red font indicates $p < 0.05$.

ART use, gender, and race/ethnicity

Gender and race/ethnicity	%	PR	CI	%	aPR*	CI
Black women	84	.90	(.87-.93)	85	.91	(.89-.93)
Hispanic women	86	.92	(.86-.99)	88	.95	(.90-1.00)
White women	86	.93	(.89-.97)	89	.95	(.92-.99)
Black men	88	.94	(.92-.96)	88	.94	(.92-.96)
Hispanic men	92	.99	(.97-1.01)	92	.99	(.97-1.01)
White men	93	Ref.	-	93	Ref.	-

*Adjusted for: age, poverty, drug use, depression, and disease stage

Source: Medical Monitoring Project 2009-2010; PR, prevalence ratio; CI, confidence interval; aPR, adjusted prevalence ratio; red font indicates $p < 0.05$.

Limitations

- ❑ **Cross-sectional design, causality cannot be assessed**
- ❑ **Facility and provider-level factors affecting ART use not assessed**
- ❑ **Possibility of residual non-response bias despite adjustment for non-response**

SUMMARY AND CONCLUSIONS

Summary and conclusions

- ❑ **31% of women in care were not virally suppressed, compared to 26% of men**
- ❑ **Disparities in viral suppression**
 - ❑ **Between white men and women**
 - ❑ **Among racial/ethnic groups**
- ❑ **Among those taking ART, men and women of the same race/ethnicity did equally well**

Summary and conclusions

- ❑ **Overall ART use was high, but women of all race/ethnicities were less likely to take ART than men**
 - ❑ **Women may be more likely to discontinue ART**
 - ❑ **Adjusting for sociodemographic, behavioral, and clinical factors reduced but did not eliminate gender differences in ART use**
- ❑ **Decreasing gender disparities in viral suppression may require**
 - ❑ **Better understanding barriers to ART use among women**
 - ❑ **Reducing racial/ethnic disparities in viral suppression**

Acknowledgments

- ❑ **MMP facility staff and patients**
- ❑ **MMP Principal Investigators and Project Coordinators**
- ❑ **MMP Provider Advisory Board and Community Advisory Board members**
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Thank you

Questions or comments?



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