

## Background

- Transgender people are disproportionately impacted by HIV
- Estimated 20% prevalence among transwomen of color in the US
- Despite high rates, little is known about HIV related health outcomes among trans people living with HIV in clinical care (retention in care, antiretroviral prescription, viral suppression) or associated factors
- Transwomen have been historically misclassified as men who have sex with men (MSM)
- Differences between transwomen and MSM, in addition to non-MSM cis men and ciswomen may inform trans-specific HIV interventions
- Understanding gaps in the care continuum is an essential first step for intervention development

## Objectives

- Characterize HIV care continuum outcomes for trans people living with HIV in clinical care compared to cisgender-MSM, cisgender non-MSM, and ciswomen
- Understand factors associated with improved outcomes for trans people living with HIV

## Setting

- Large academic medical center in the Bronx, NY
- HIV care at 10 ambulatory sites, a large infectious diseases clinic, three substance treatment programs, and an adolescent clinic
- Patient population: 44% African American/Black, 56% Hispanic/Latinx, 35% born outside US, 27% living below poverty line

## Data source

- Center for AIDS Research (CFAR) database
- Clinical and demographic information for all patients with a confirmed HIV diagnosis within Montefiore Health Systems
- Includes information collected for Ryan White (federal) HIV funding, submitted to the New York State AIDS Institute Reporting System (AIRS)

## Methods

- Retrospective cohort study
- Inclusion criteria ≥ 1 outpatient visit at Montefiore between 2008-2017
- Dependent variables (per person, per calendar year):
  - Retention in care ≥2 HIV-related lab results ≥90 days apart
  - Anti-retroviral therapy prescription
  - Viral suppression - HIV RNA <200 copies at last measure of year
- Independent variable of interest: Categorical variable – HIV risk groups
  - 1) Transgender, 2) MSM, 3) cisgender non-MSM, 4) cisgender women
  - MSM used as reference group
- Other variables: Age (per year), race/ethnicity, insurance status (per year), injection drug use as HIV risk factor, incident vs prevalent case, baseline CD4 count per year, mental health and substance use disorder diagnoses (ICD codes)
- TRANS COHORT ONLY: estrogen prescription
- **Data analysis:**
  - Bivariate analyses: X<sup>2</sup> or Fischer exact test (categorical variables) Student t-test or Kruskal-Wallis test (continuous)
  - Poisson regression with Generalized Estimating Equation
  - Nested analyses – required to meet previous care continuum step for eligibility in subsequent analysis
  - Missing data were multiply imputed

**Table 1. Demographic and clinical characteristics at entry into outpatient HIV care, by study group, 2008-2017 (N=11,944) <sup>a,b</sup>**

	Cis MSM <sup>c</sup> N = 1,919	Transgender N = 164	Cis non-MSM men N = 3,154	Cis women N = 4,746	p
Median age at entry to care, years (IQR)	37 (27-46)	37 (28-44)	50 (44-56)	47 (40-53)	<0.001
Race/ethnicity, n (%)					<0.001
White non-Hispanic	98 (5.1)	5 (3.0)	158 (5.0)	184 (3.9)	
Black non-Hispanic	844 (44.0)	76 (46.1)	1,293 (41.0)	2,208 (46.5)	
Hispanic	740 (38.6)	62 (37.6)	1,332 (42.2)	1,715 (36.2)	
Other <sup>e</sup>	6(0.3)	2(1.2)	8 (0.25)	14(0.3)	
Unknown	229 (12.3)	20 (13.3)	362 (11.5)	623 (13.1)	
HIV risk factor, n (%)					<0.001
IDU <sup>f</sup>	56 (2.9)	16 (9.8)	1,064 (20.8)	520 (11.0)	
Sexual exposure	1,863 (97.1)	116 (70.3)	1,849 (36.2)	2,945(60.1)	
Other	-	7 (4.2)	241(4.7)	106 (2.2)	
Undetermined/unknown	-	26 (15.8)	-	1,175 (25.0)	
Incident HIV diagnoses, n (%)	480 (25.0)	41(24.9)	538 (17.0)	867(18.3)	<0.001
Baseline CD4 count, cells/mm <sup>3</sup>	427.0 (308.4)	431.0 (271.2)	359.3 (291.7)	442.9 (552.5)	<0.001
Substance Use Disorder, n(%)	636 (33.1)	73 (44.5)	1,829 (59.0)	1,940 (40.9)	<0.001
Mental Health Disorder, n(%)	768 (40.2)	80 (48.5)	1,104(35.0)	2,096 (44.2)	<0.001

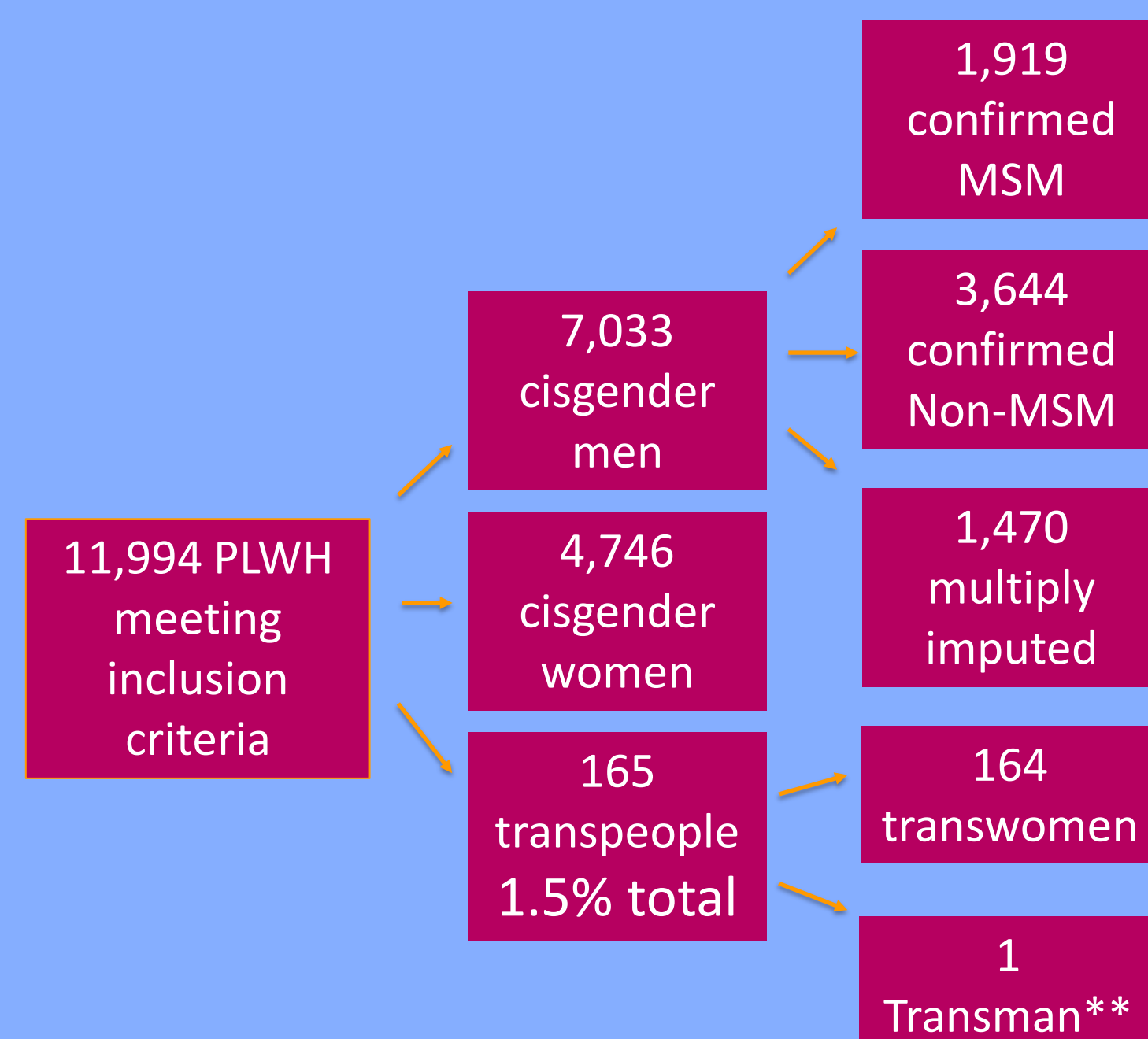
<sup>a</sup> Total percentages may not equal 100, due to rounding and missingness.  
<sup>b</sup> Missing data not otherwise indicated: baseline CD4 (n=254), age (n=238, mental health (n=327), substance use disorder (n=327)  
<sup>c</sup> Men who have sex with men, as defined by HIV transmission risk category.  
<sup>d</sup> Transgender includes transgender and gender non-binary individuals: 162 transwomen, 2 gender non-binary assigned male at birth people; 1 transgender man excluded for small number.  
<sup>e</sup> Includes Asian, American Indian or Alaska Native, multiple selected, and Native Hawaiian or Pacific Islander  
<sup>f</sup> Includes individuals who identified IDU and MSMS as primary risk factor

## Bivariate Modeled Associations Between Patient Groups and HIV Care Continuum Outcomes

	Retention in care Risk ratio (95% CI)	ART prescription Risk ratio (95% CI)	Viral suppression Risk ratio (95% CI)
Risk group			
Cisgender MSM	Reference	Reference	Reference
Cisgender men (non-MSM)	0.98 (0.96-1.02)	0.97 (0.92-1.02)	0.98 (0.95-1.00)
Cisgender women	1.05 (1.03-1.08)	0.82 (0.78-0.86)	0.97 (0.94-1.00)
Transgender	1.04 (0.97-1.12)	<b>0.70 (0.58-0.83)</b>	0.92 (0.82-1.03)

## Multivariable Modeled Associations Between Patient Groups and HIV Care Continuum Outcomes\*

	Retention in care Risk ratio (95% CI)	ART prescription Risk ratio (95% CI)	Viral suppression Risk ratio (95% CI)
Risk group			
Cisgender MSM	Reference	Reference	Reference
Cisgender men (non-MSM)	0.94 (0.92-0.98)	1.11 (1.04-1.18)	0.97 (0.94-0.99)
Cisgender women	0.97 (0.95-0.99)	0.92 (0.87-0.97)	0.95 (0.92-0.99)
Transgender	1.02 (0.95-1.08)	<b>0.74 (0.62-0.88)</b>	0.96 (0.87-1.05)



\*\*Excluded from analysis due to small number

## Conclusions

- 1.5% of the sample was identified as transgender, likely ascertainment bias, highlighting the need for improved gender identity data collection tools
- Trans people had higher rates of mental health and substance use disorder diagnoses → trans competent mental health care and substance treatment may be an important components of effective HIV care for trans people living with HIV
- Trans people had significantly lower rates of ART prescription → may be due to fear of interactions with gender affirming hormones and/or prioritization of gender affirming care over HIV care
- Estrogen prescription was positively associated with retention in care, negatively associated with ART prescription, and positively associated with (non-nested) viral suppression → may indicate people are receiving ART elsewhere (having to get HIV care and gender affirming care in different locations), but that overall estrogen prescribing is positively associated with retention and ultimately viral suppression
- More research is needed about integrated gender affirming HIV care for trans people living with HIV

## Acknowledgements

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\*Adjusted for demographics, clinical characteristics, comorbidities (as above), and calendar year