Georgia Department of Public Health

HIV Surveillance Update

Presentation to: CAPUS Metro Atlanta Testing and Linking Consortium (MATLC)

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Georgia Department of Public Health Epidemiology

Date: July 22, 2013

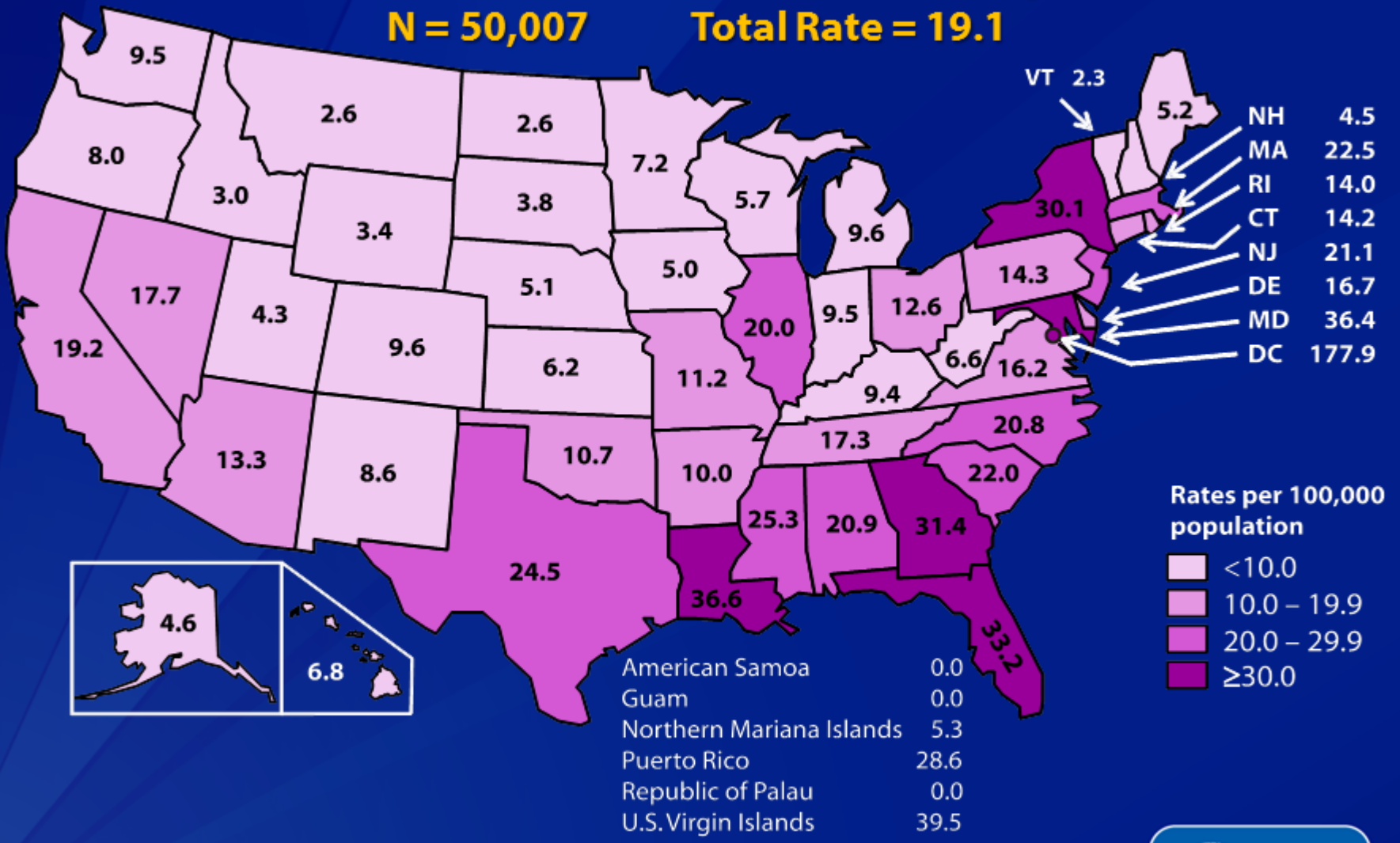
We Protect Lives.

Overview

- Prevalence maps
- Demographic profile of HIV in Georgia
- Care Cascade methodology
- Atlanta EMA Care Cascade
- Future Plans for HIV Surveillance
  - Data for Decision-Making

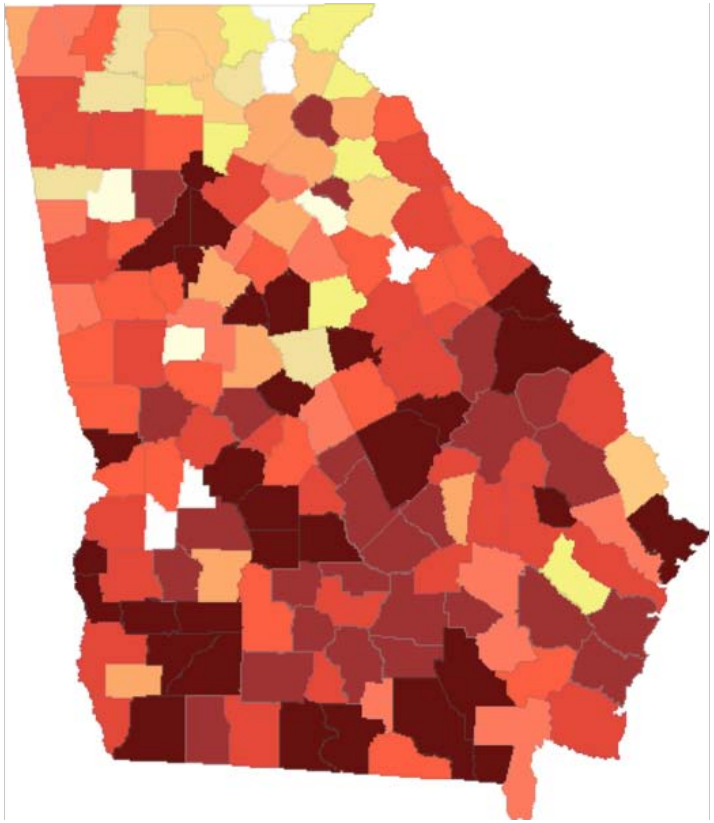
Rates of Diagnoses of HIV Infection among Adults and Adolescents, 2011—United States and 6 Dependent Areas

N = 50,007 Total Rate = 19.1



Note. Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. All displayed data have been statistically adjusted to account for reporting delays, but not for incomplete reporting.

Rates of Persons Living with an HIV Diagnosis, by County, Georgia, 2010



2010 Rate of adults/adolescents living with an HIV diagnosis per 100,000 population

- 0 to 40
- 41 to 54
- 55 to 67
- 68 to 82
- 83 to 103
- 104 to 134
- 135 to 174
- 175 to 244
- 245 to 383
- 384+
- Data not shown *
- Data not released to AIDSVu **

* Data are not shown to protect privacy. ** State health department requested not to release data.

Note. Data include persons with a diagnosis of HIV infection, regardless of the stage of disease at diagnosis, and have been statistically adjusted to account for reporting delays and missing risk-factor information, but not for incomplete reporting.

Data Source: Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of HIV/AIDS Prevention.

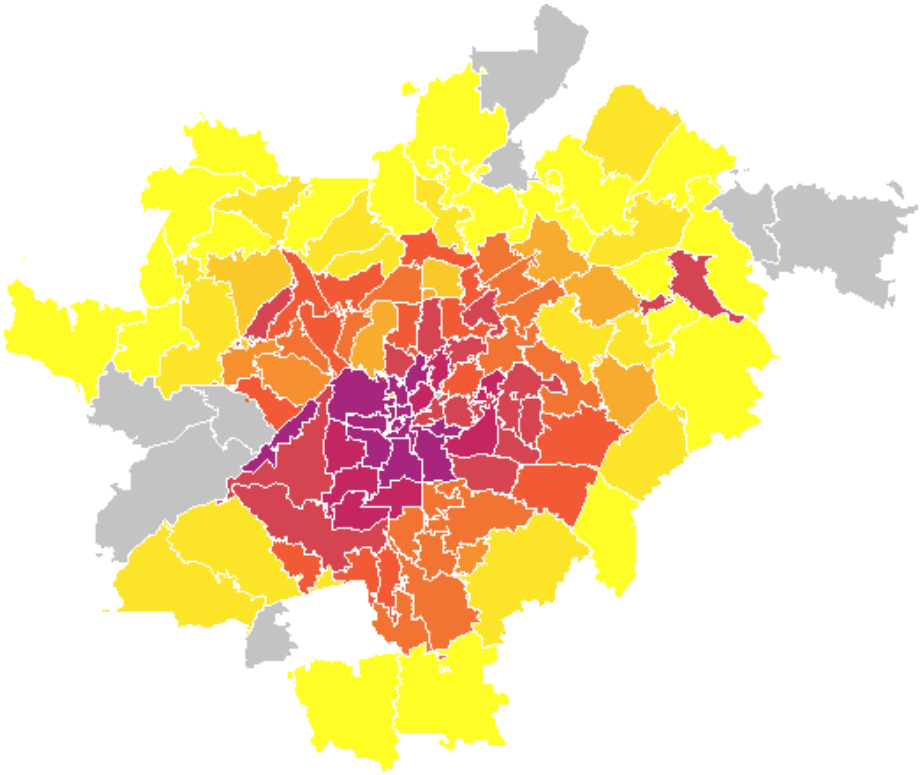
Persons Living with an HIV or AIDS Diagnosis, by ZIP Code

Atlanta, GA

2013 Update

AIDSVu

Rates of Persons Living with an HIV or AIDS Diagnosis, by ZIP Code, Atlanta, 2010



2010 Rate of adults/adolescents living with an HIV or AIDS diagnosis per 100,000 population.

- 0 to 108
- 109 to 167
- 168 to 233
- 234 to 314
- 315 to 415
- 416 to 573
- 574 to 820
- 821 to 1,234
- 1,235 to 2,111
- 2,112+
- Data not shown*

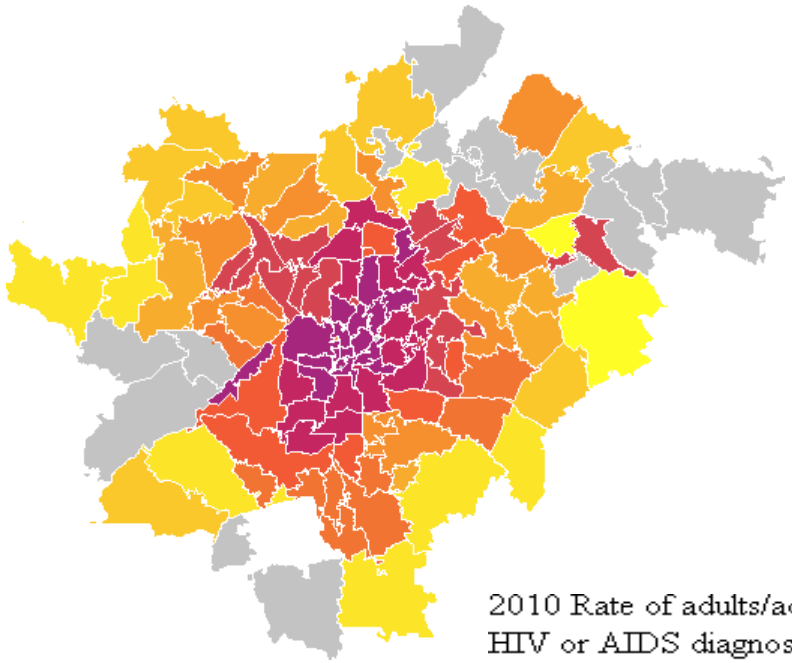
* Data are not shown to protect privacy because of a small number of cases and/or a small population size.

Notes. Rates include persons living with an HIV or AIDS diagnosis in Clayton, Cobb, DeKalb, Fulton, and Gwinnett Counties at the end of 2010 and who were reported as of 04/01/2013. Data have not been adjusted for reporting delays.

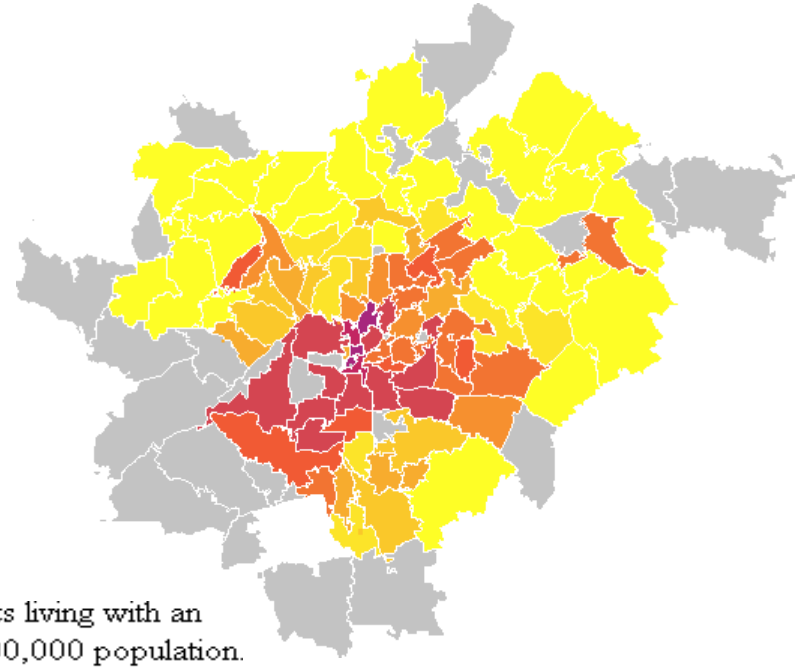
Data Source: Georgia Department of Public Health, Division of Health Protection, Epidemiology Program, HIV/AIDS Epidemiology Section.

Rates of Black & White Persons Living with an HIV or AIDS Diagnosis, by ZIP Code, Atlanta, 2010

Black Rates



White Rates

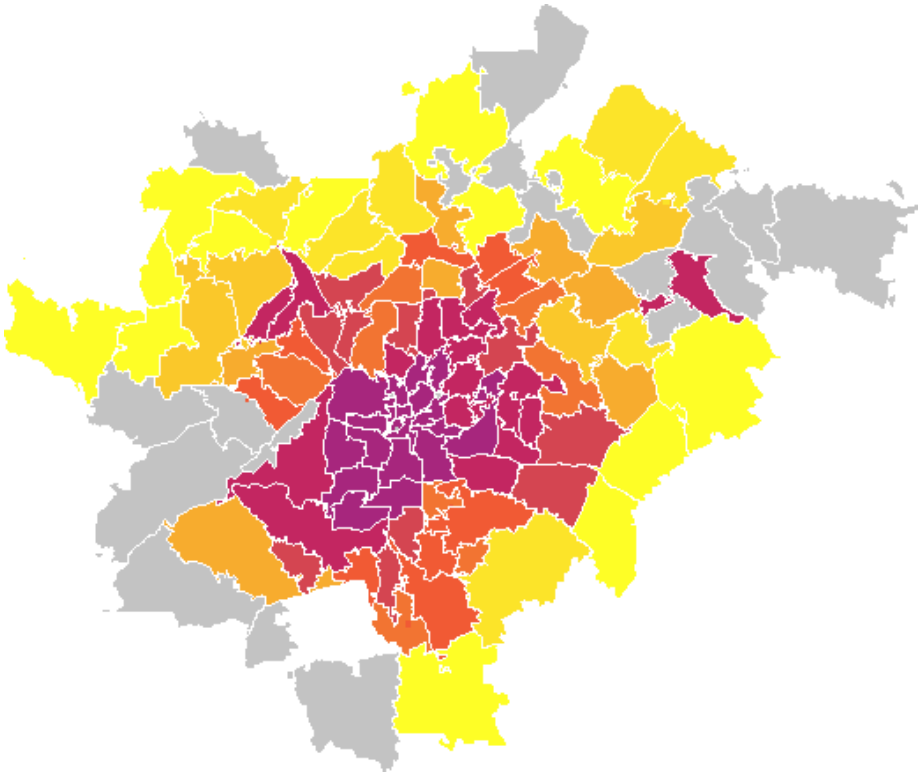


2010 Rate of adults/adolescents living with an HIV or AIDS diagnosis per 100,000 population.

- 0 to 139
- 140 to 216
- 217 to 305
- 306 to 423
- 424 to 583
- 584 to 816
- 817 to 1,165
- 1,166 to 1,730
- 1,731 to 3,017
- 3,018+
- Data not shown*

* Data are not shown to protect privacy because of a small number of cases and/or a small population size.

Rates of Persons Aged 45-59 Living with an HIV or AIDS Diagnosis, by ZIP Code, Atlanta, 2010



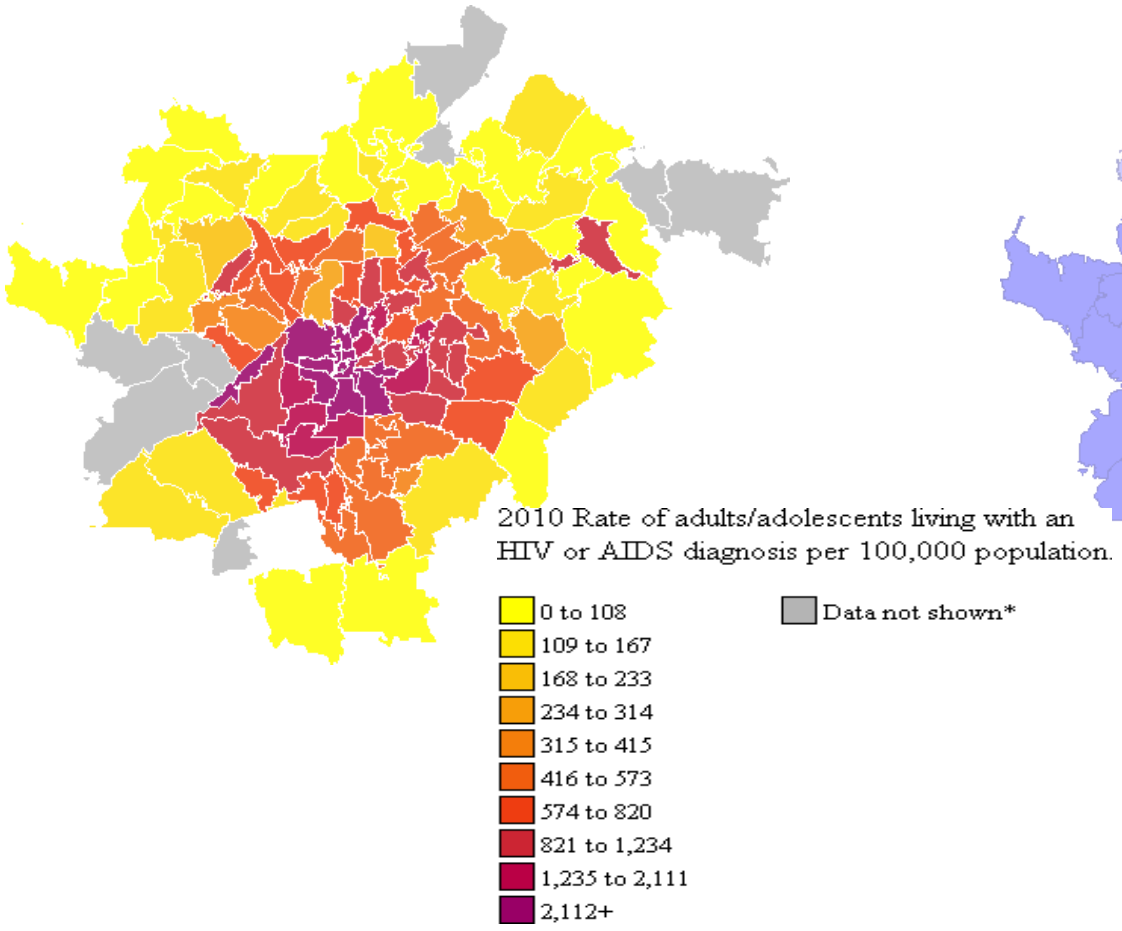
2010 Rate of adults/adolescents living with an HIV or AIDS diagnosis per 100,000 population.

- 0 to 121
- 122 to 186
- 187 to 262
- 263 to 356
- 357 to 466
- 467 to 632
- 633 to 898
- 899 to 1,382
- 1,383 to 2,492
- 2,493+
- Data not shown*

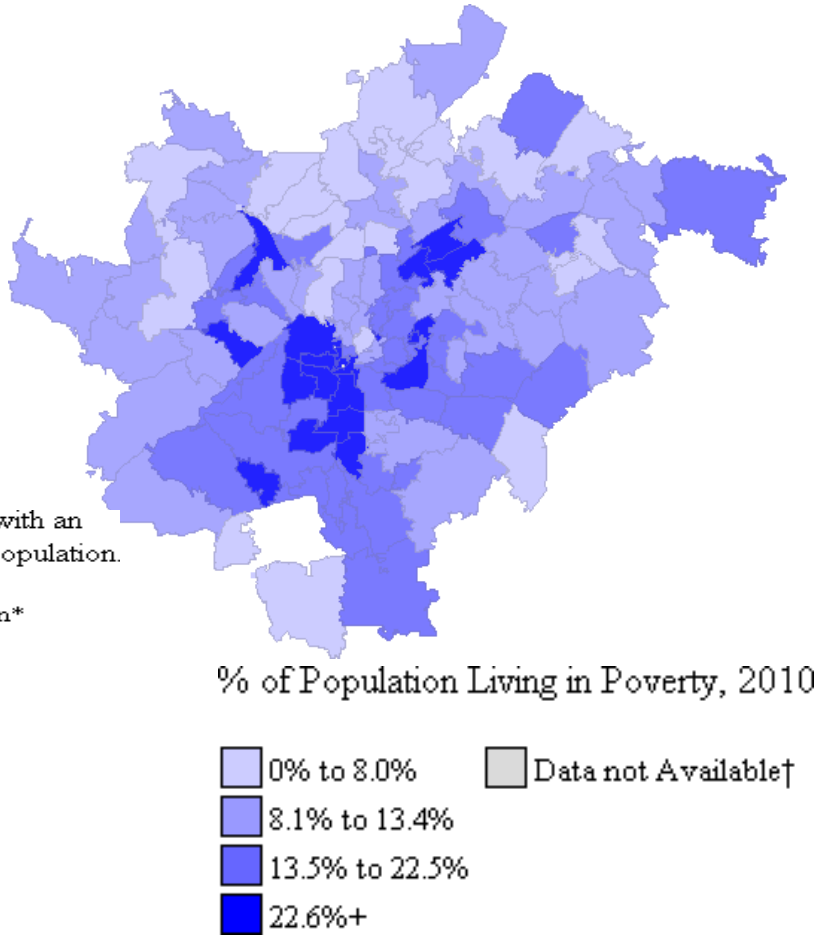
* Data are not shown to protect privacy because of a small number of cases and/or a small population size.

Rates of Persons Living with an HIV Diagnosis & Poverty Rates, by ZIP Code, Atlanta, 2010

Persons Living with an HIV Diagnosis



Poverty Rates



* Data are not shown to protect privacy because of a small number of cases and/or a small population size.

† Data not available because the data source does not publish these data for this jurisdiction.

Cumulative cases of HIV infection among persons aged 13 and older diagnosed in Georgia and Metro Atlanta* by year

Year of diagnosis	Male (GA)	Male (Metro Atl)	Female (GA)	Female (Metro Atl)	Sex not reported (GA)	Sex not reported (Metro Atl)
2007	35,510	25,271	10,447	5,829	7	52
2008	37,939	26,719	11,248	6,241	74	83
2009	40,286	28,086	12,056	6,599	117	130
2010	42,454	29,412	12,739	6,941	176	139
2011	44,533	30,899	13,443	7,276	187	151

- Includes HIV infection (not AIDS) and AIDS
- Includes persons living and deceased
- *Metro-Atlanta (Metro Atl) includes Fulton, DeKalb, Cobb/Douglas, Gwinnett and Clayton counties

Cumulative cases of AIDS among persons aged 13 and older diagnosed in Georgia and Metro Atlanta by year

Year of diagnosis	Male (GA)	Male (Metro Atl)	Female (GA)	Female (Metro Atl)	Sex not reported (GA)	Sex not reported (Metro Atl)
2007	25,836	18,402	6,350	3,653	0	7
2008	26,809	19,361	6,680	3,972	14	17
2009	27,785	20,236	7,050	4,222	20	35
2010	28,610	20,957	7,303	4,453	42	41
2011	29,362	21,664	7,544	4,660	44	51

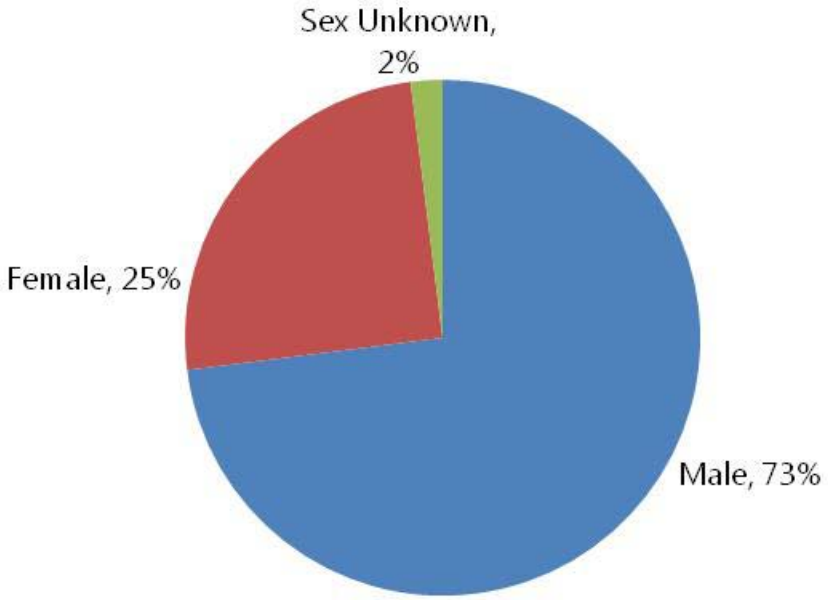
- Includes AIDS only
- Includes persons living and deceased

HIV diagnoses among persons aged 13 and older, Georgia and Metro Atlanta, 2004-2012

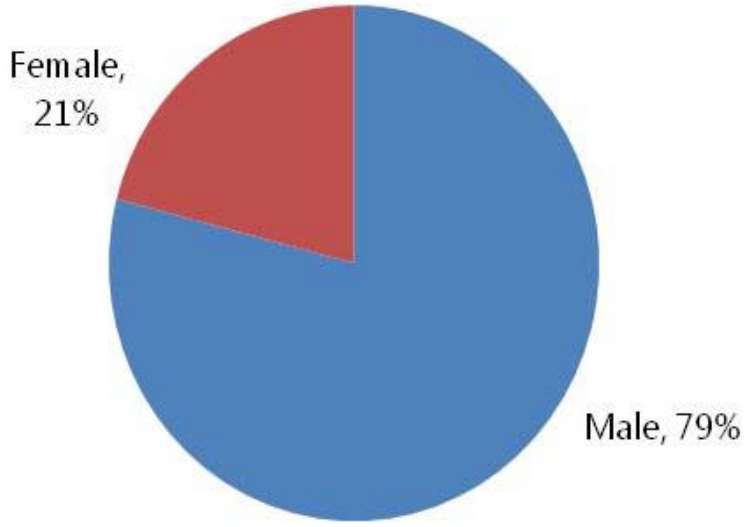
Year of diagnosis	HIV infection No. (GA)	HIV Infection No. (Metro Atl)
2004	3,757	2,063
2005	2,617	1,470
2006	2,755	1,714
2007	3,320	2,064
2008	3,222	1,945
2009	2,935	1,772
2010	2,804	1,677
2011	3,006	1,834
2012	2,893	1,698

Includes HIV infection (not AIDS) and AIDS

Adults and adolescents living with HIV, by sex, Georgia and Metro Atlanta, 2011



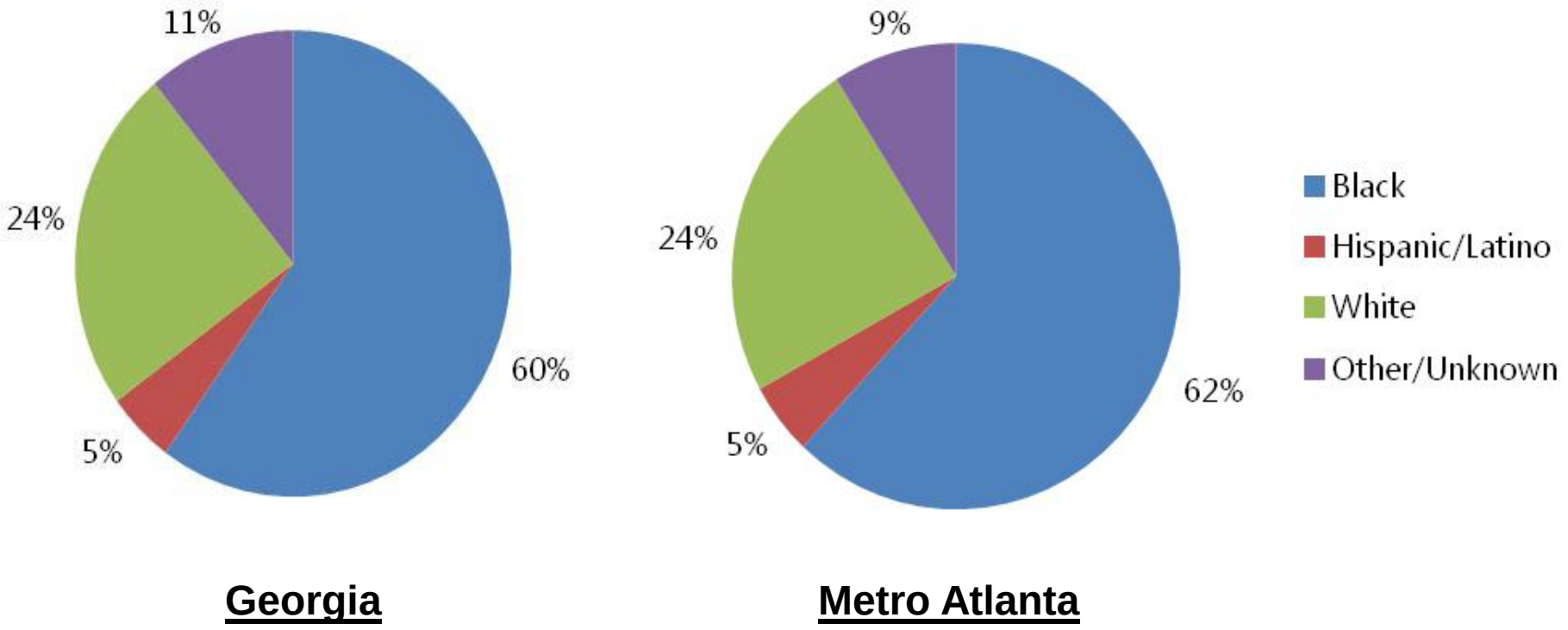
Georgia



Metro Atlanta

Adults >= age 13, diagnosed by12/31/2010, living as of 12/31/2011, Georgia = 41,934, Metro Atlanta=23,037

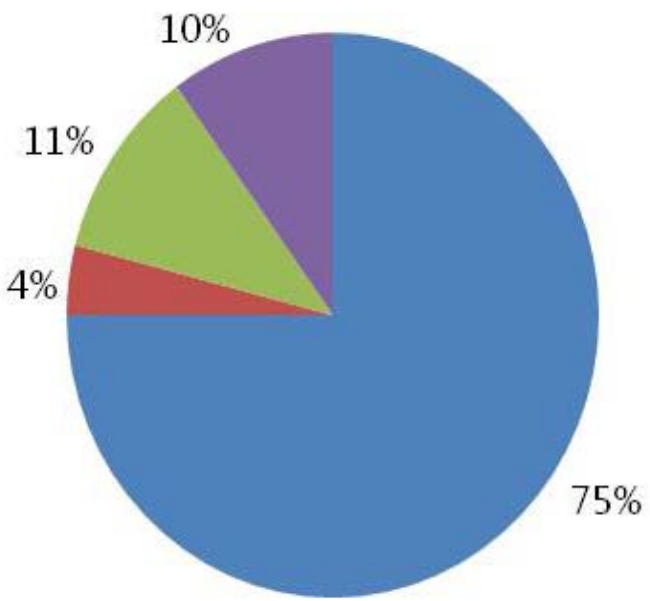
Males living with HIV by race/ethnicity, Georgia and Metro Atlanta,2011



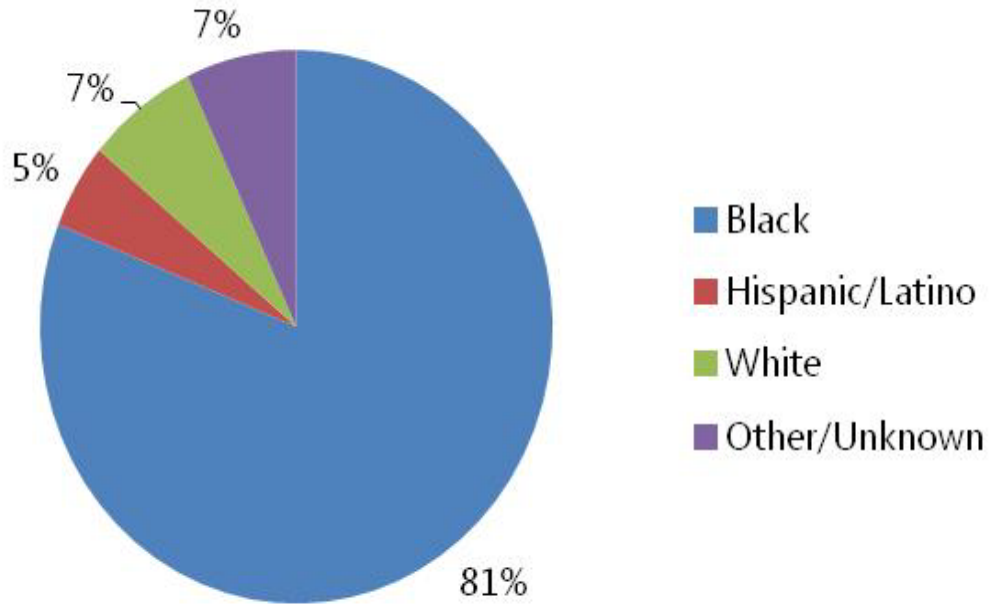
Georgia **Metro Atlanta**

Adults >= age 13, diagnosed by12/31/2010, living as of 12/31/2011, Georgia = 30,696, Metro Atlanta= 18,089

Females living with HIV by race/ethnicity, Georgia and Metro Atlanta,2011



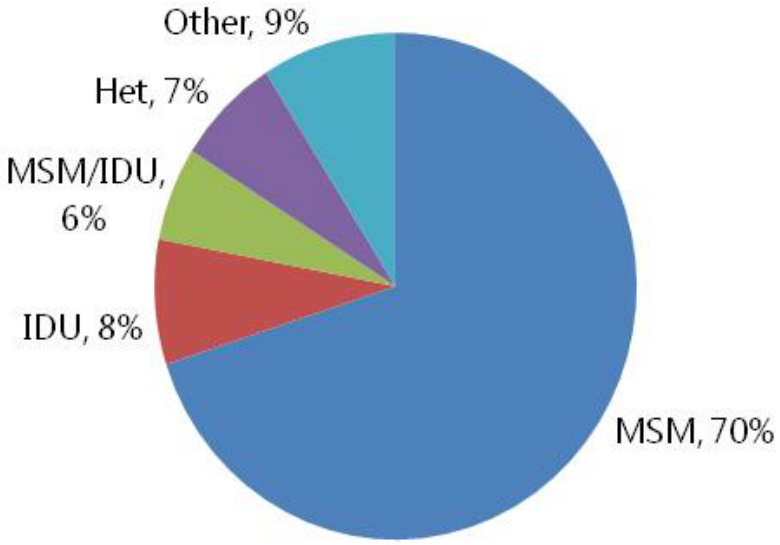
Georgia



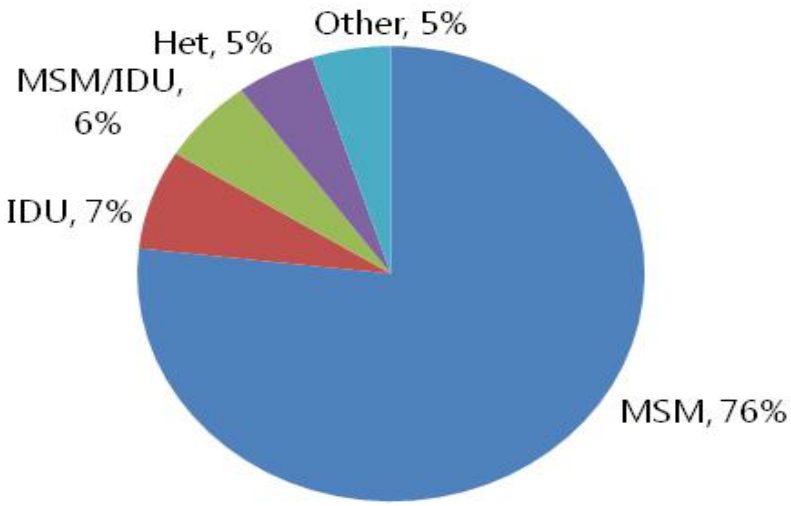
Metro Atlanta

Adults >= age 13, diagnosed by12/31/2010, living as of 12/31/2011, Georgia = 10,576, Metro Atlanta=4809

Males living with HIV by transmission category, Georgia and Metro Atlanta 2011



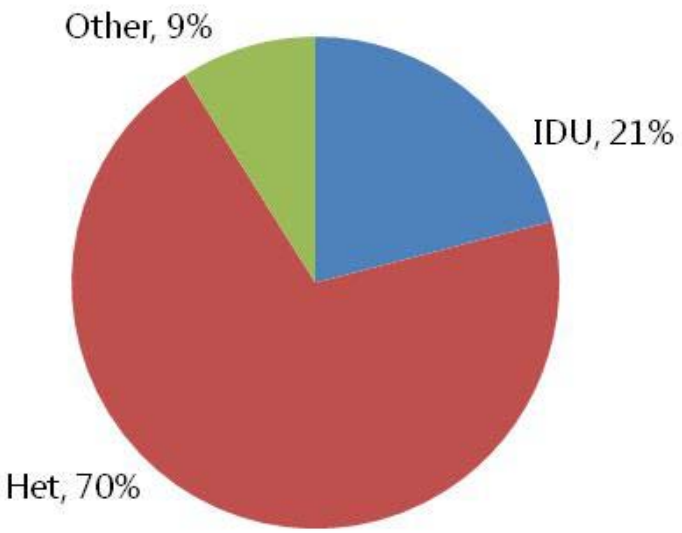
Georgia



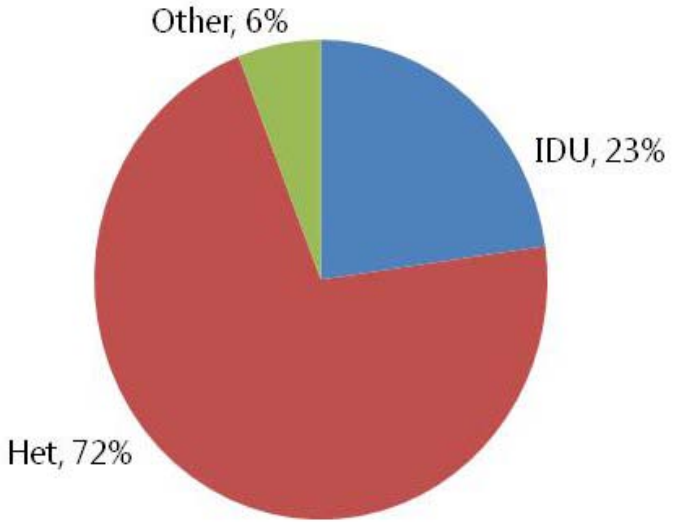
Metro Atlanta

Adults >= age 13, diagnosed by12/31/2010, living as of 12/31/2011, Georgia = 30,696 , Metro Atlanta=18,089
MSM = Male to male sexual contact
IDU = Injection drug use
MSM/IDU = Male to male sexual contact and injection drug use
Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.
Other = hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified

Females living with HIV by transmission category, Georgia and Metro Atlanta, 2011



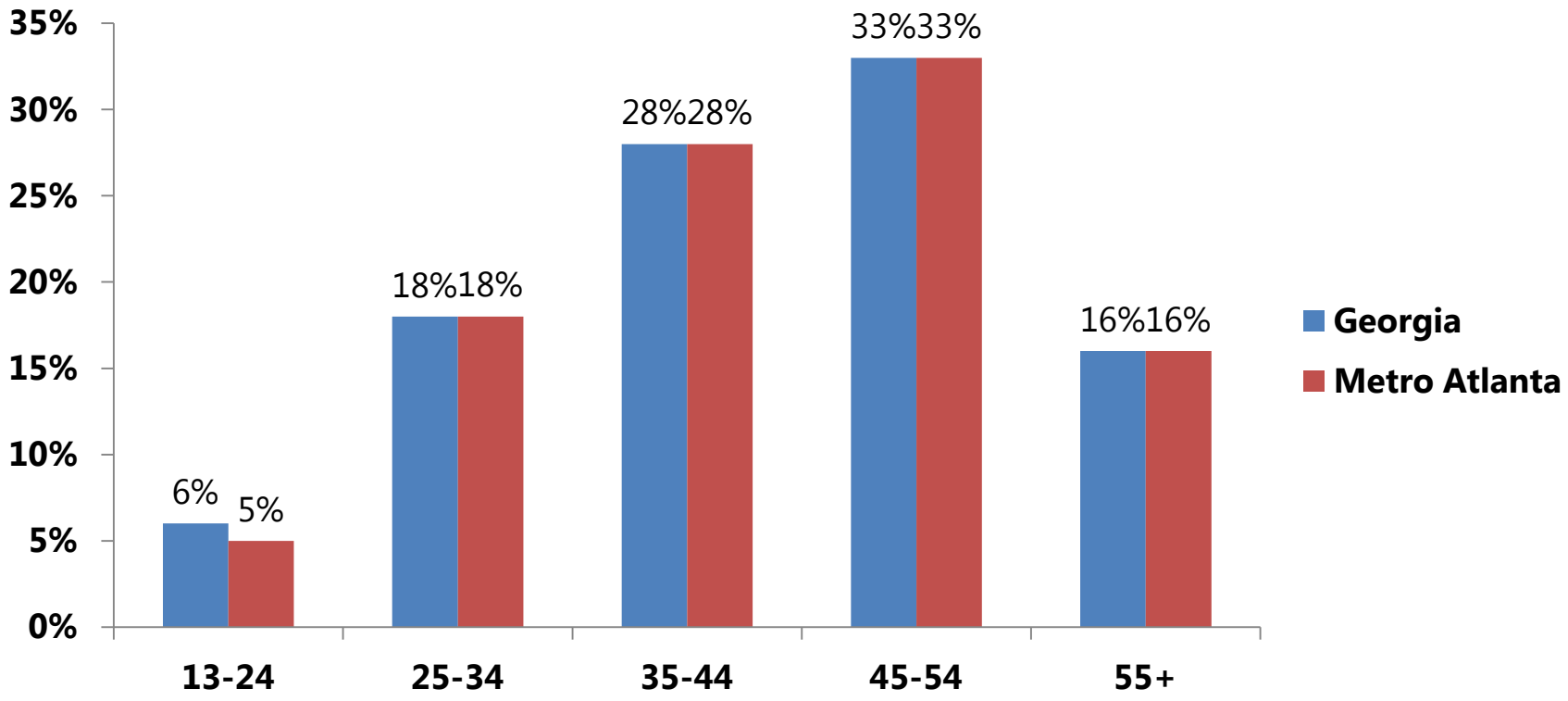
Georgia



Metro Atlanta

Adults >= age 13, diagnosed by12/31/2010, living as of 12/31/2011, Georgia = 10,576, Metro Atlanta=4,809
IDU = Injection drug use
Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.
Other =hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified

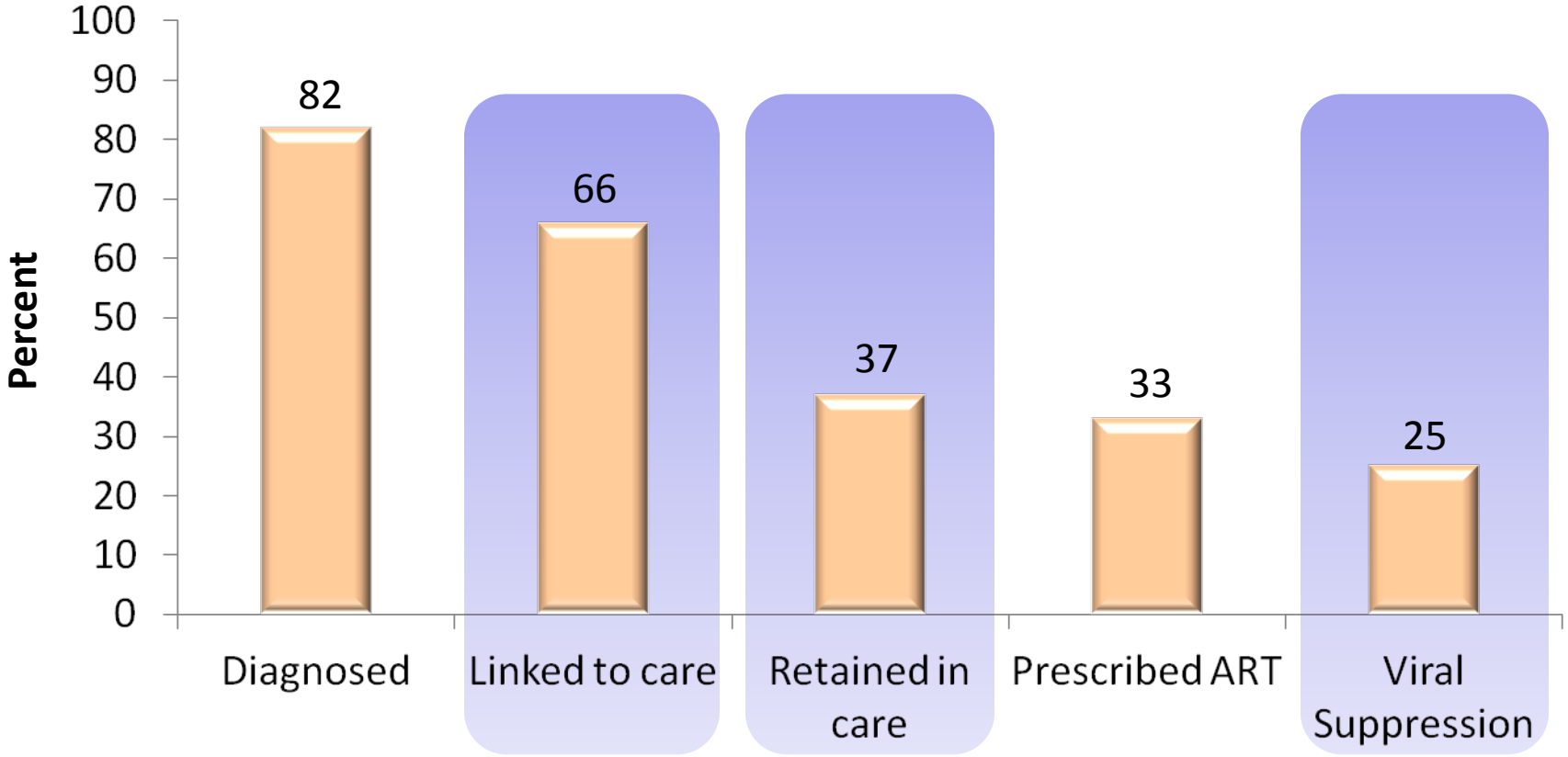
Adults and adolescents living with HIV by age at diagnosis, Georgia and Metro Atlanta 2011



Adults >= age 13, diagnosed by12/31/2010, living as of 12/31/2011, Georgia = 41,934, Metro Atlanta= 23,037

Preliminary data: As of June, 2013 the number of people diagnosed as living with HIV in Georgia is **~50,000**

Persons with HIV Engaged in Selected Stages of the Continuum of Care, United States



Hall et al. XIX International AIDS Conference, 2012

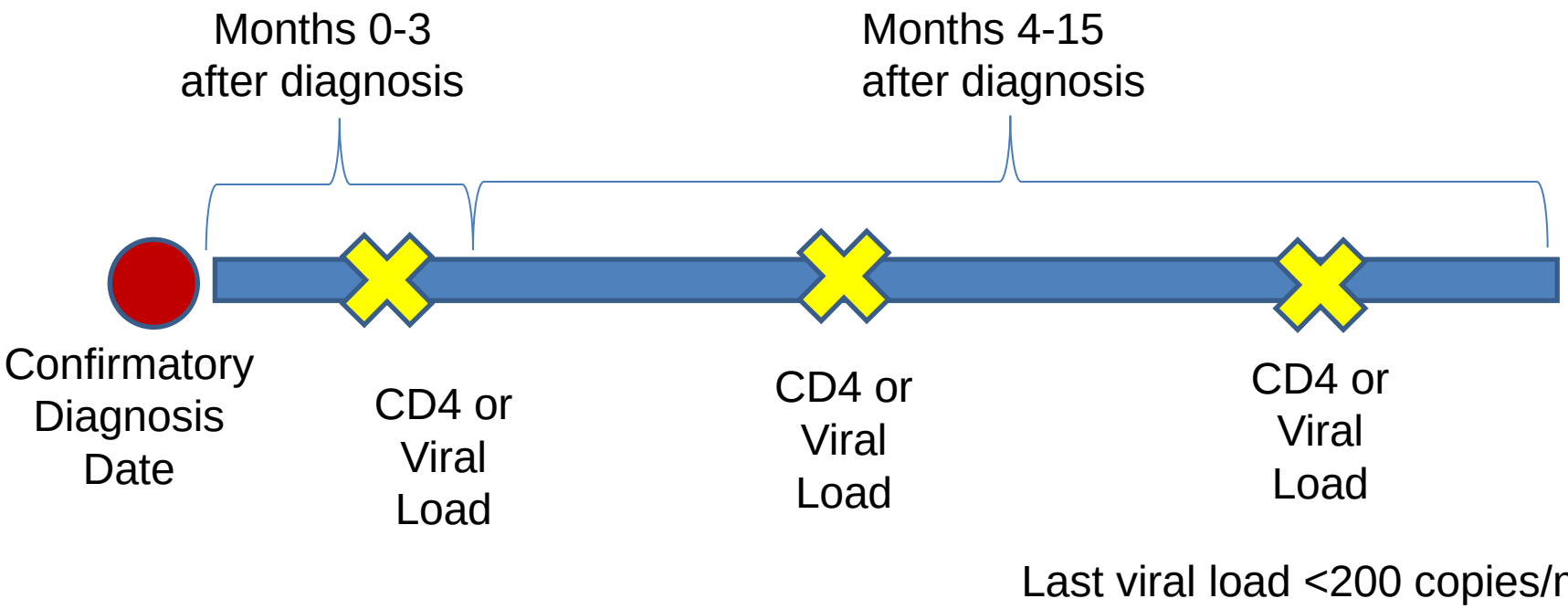
ART, antiretroviral therapy

Care Cascade Methodology, 2011, Atlanta EMA*

- Adults and adolescents are those aged >= 13 years
- Diagnosed between 01/01/11 -12/31/11
- Current address Atlanta Eligible Metropolitan Service Area (EMA)
- Linked to care = CD4 or VL within 3 months of diagnosis , excluding day of diagnosis
- Engaged in care >= 1 CD4 or VL 4-15 months after diagnosis
- Retained in care >= 2 CD4 or VL at least 3 months apart 4-15 months after diagnosis
- Estimated prescribed ART derived from MMP sample
- Viral suppression (VS) = VL<200 copies/ml most recent viral load
- All percentages are % of total number of persons diagnosed with HIV

*EMA: Bartow, Paulding, Carroll, Coweta, Fayette, Spalding, Henry, Newton, Rockdale, Gwinnett, Walton, Barrow, Forsyth, Cherokee, Pickens, DeKalb, Fulton, Clayton, Cobb and Douglas counties.

Care Cascade Methodology

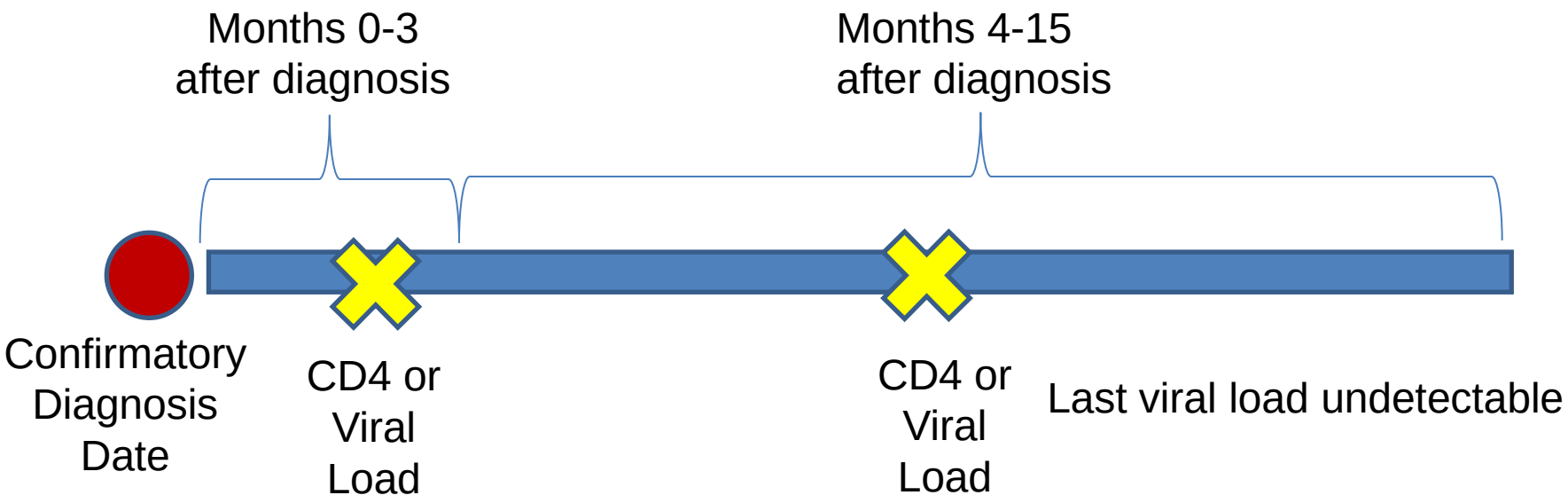


Last viral load <200 copies/ml

This person is:

- **Linked YES**
- **Engaged YES**
- **Retained YES**
- **Virally suppressed YES**

Care Cascade Methodology

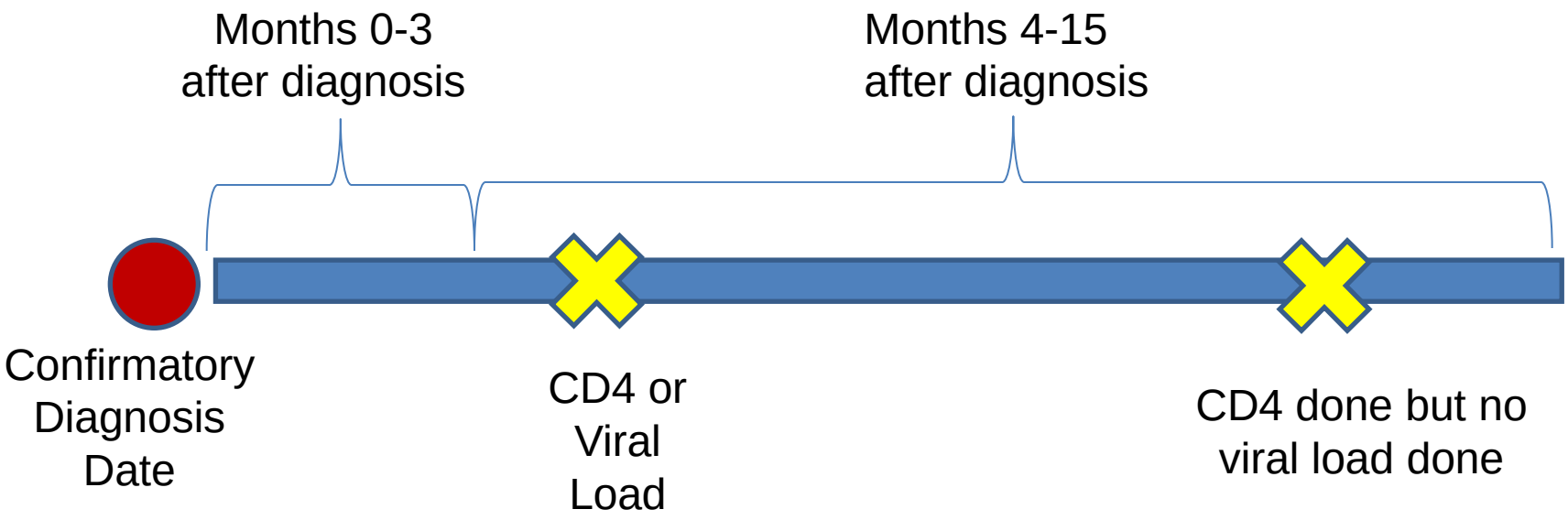


This person is

- **Linked YES**
- **Engaged YES**
- **Retained NO**
- **Virally suppressed YES**

- "Engaged in care" is minimal engagement that indicates the person "touched" the medical system at least once during that 12 month period

Care Cascade Methodology

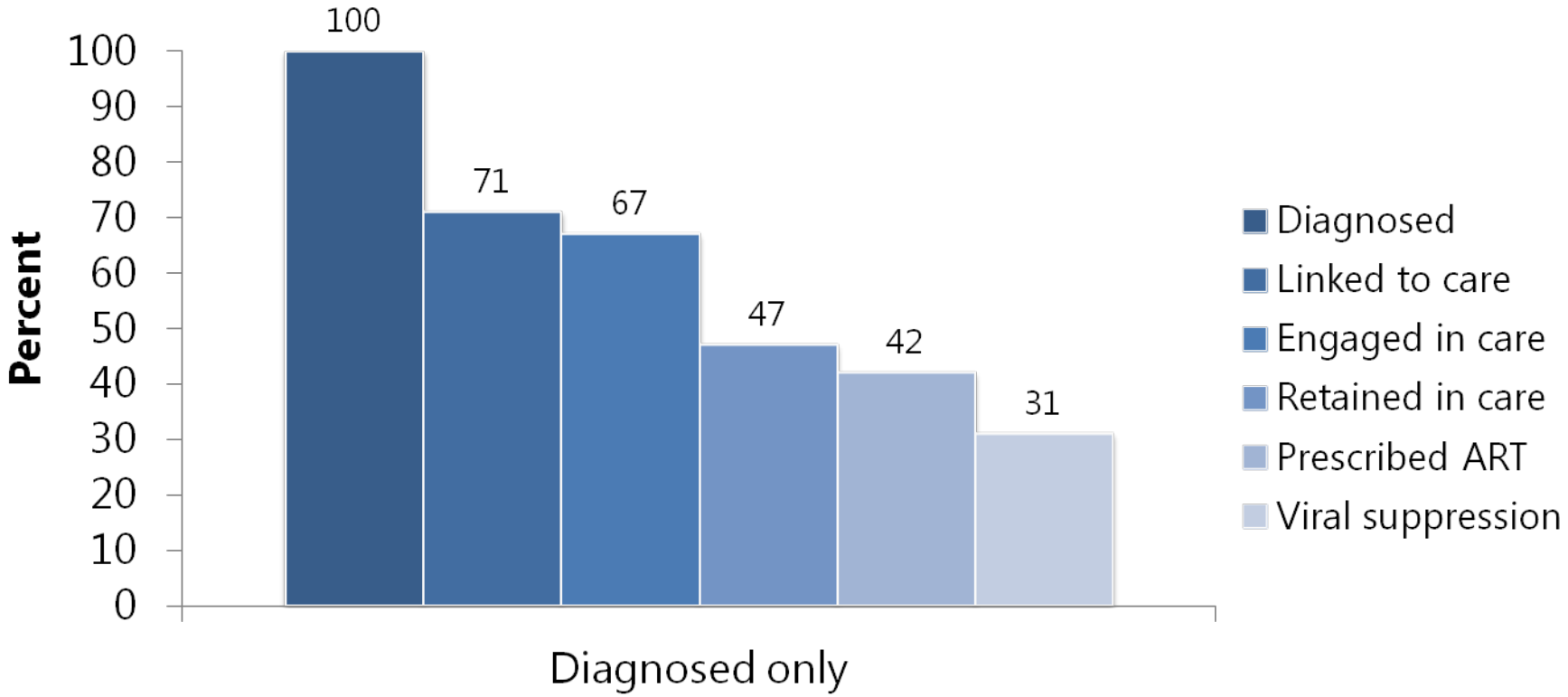


This person is

- **Linked NO**
- **Engaged YES**
- **Retained YES**
- **Virally suppressed NO**

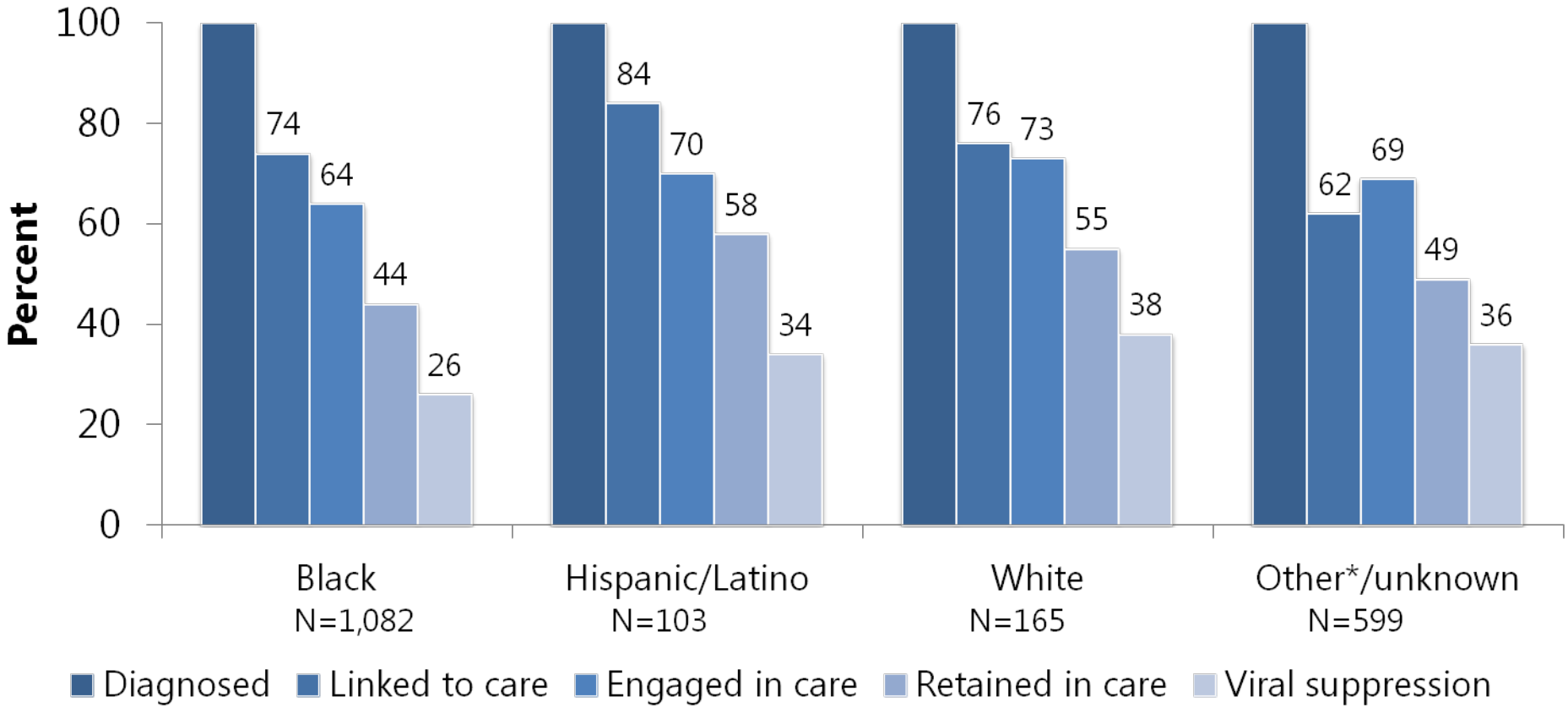
- If no viral load done, it is assumed to be not suppressed

Adults and adolescents diagnosed with HIV infection, Atlanta EMA, 2011



Adults and adolescents >= age 13, diagnosed 01/01/11 -12/31/11, current address Atlanta EMA = 1949
Linked to care = CD4 or VL within 3 months of diagnosis
Engaged in care >= 1 CD4 or VL 4-15 months after diagnosis
Retained in care >= 2 CD4 or VL at least 3 months apart 4-15 months after diagnosis
Viral suppression (VS) = VL<200 copies/ml in most recent viral load = 596
Note: all percentages are proportion of total number of persons diagnosed with HIV in category

Adults and adolescents diagnosed with HIV infection, by race, Atlanta EMA 2011



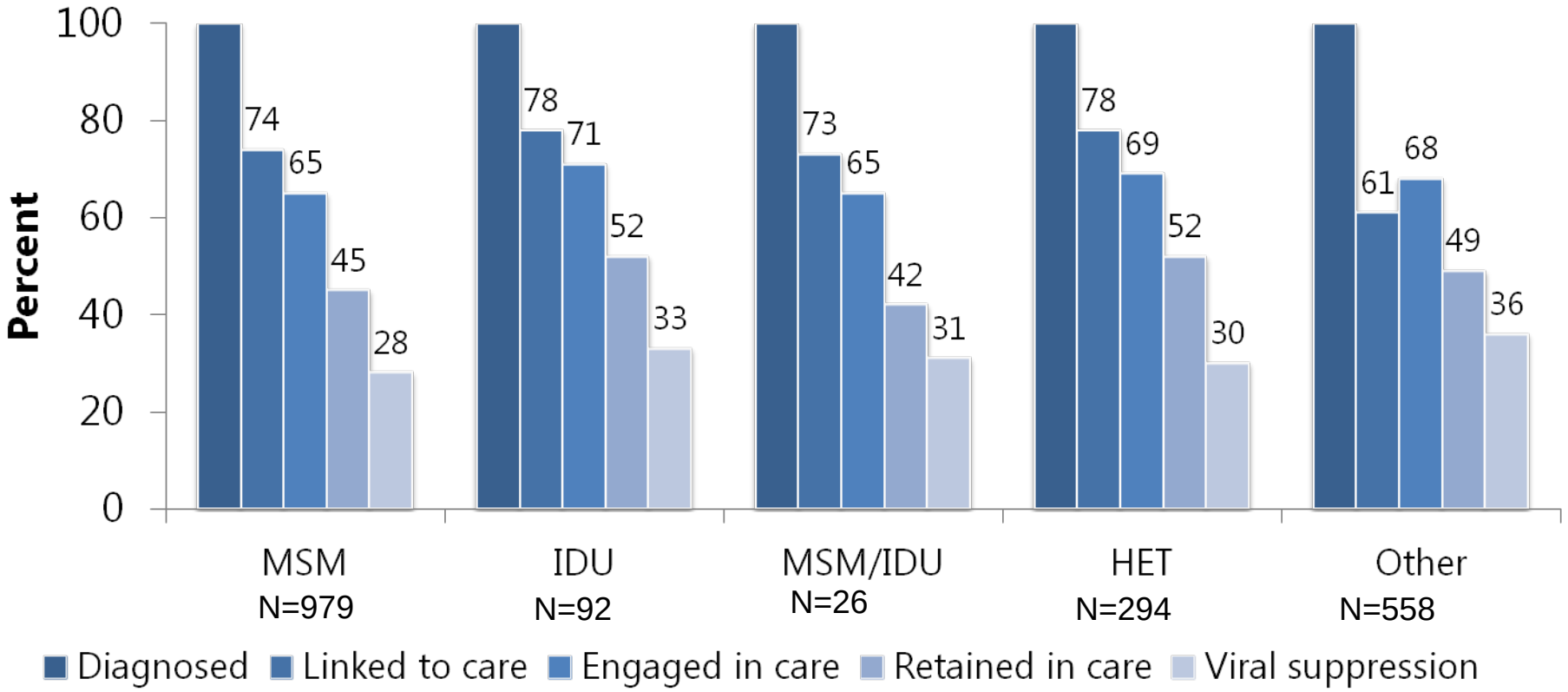
Adults and adolescents >= age 13, diagnosed 01/01/11 - 12/31/11, Atlanta EMA = 1949

*American Indian/Alaska Native, Asian, and Native Hawaiian/Other Pacific Islanders combined equal <1% of new diagnoses and are included in Other/Unknown

Transmission category definitions

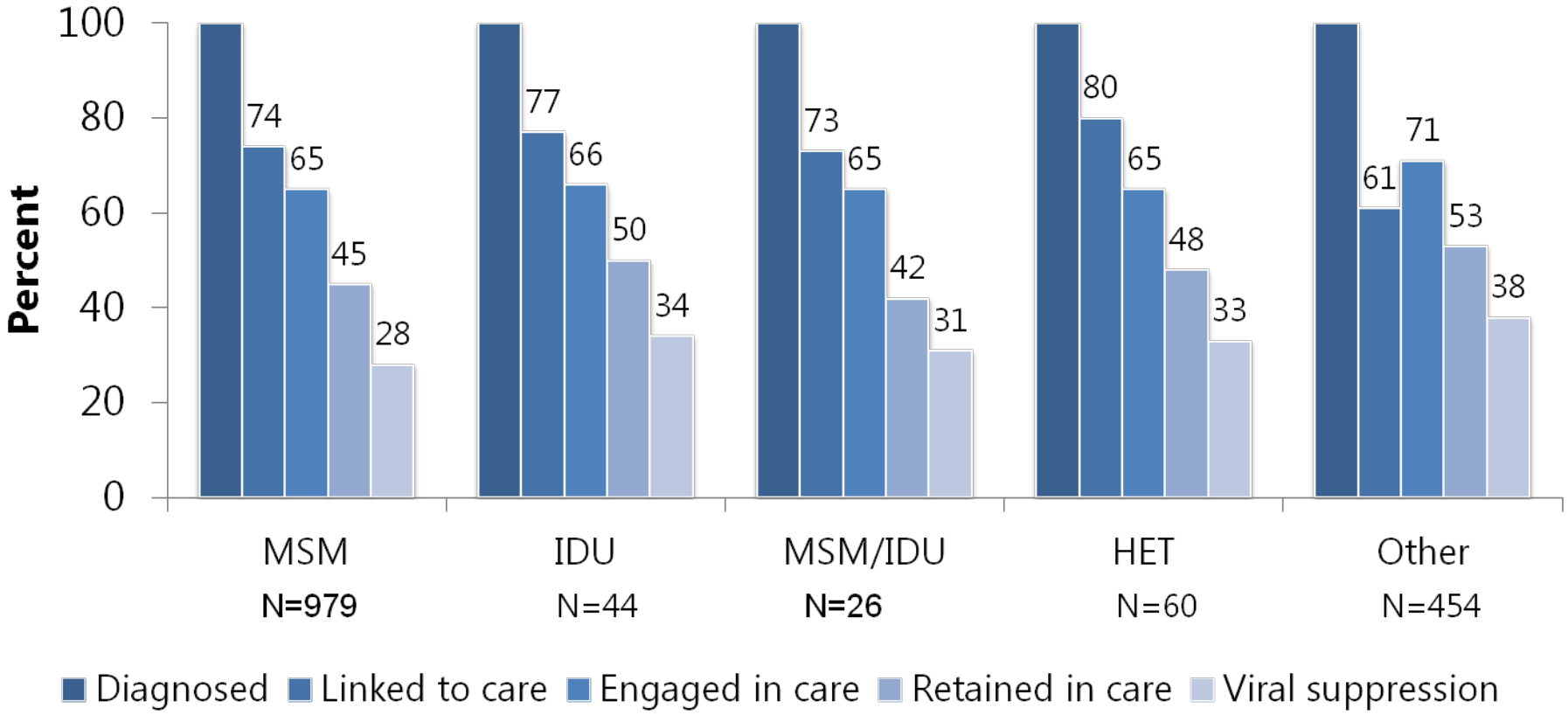
- MSM = Male to male sexual contact
- IDU = Injection drug use
- MSM/IDU = Male to male sexual contact and injection drug use
- HET = Heterosexual contact with a person known to have, or to be at high risk for, HIV infection
- Other = hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified
- Multiple imputation was used to re-distribute transmission category where missing

Adults and adolescents diagnosed with HIV infection, by transmission category*, Atlanta EMA, 2011



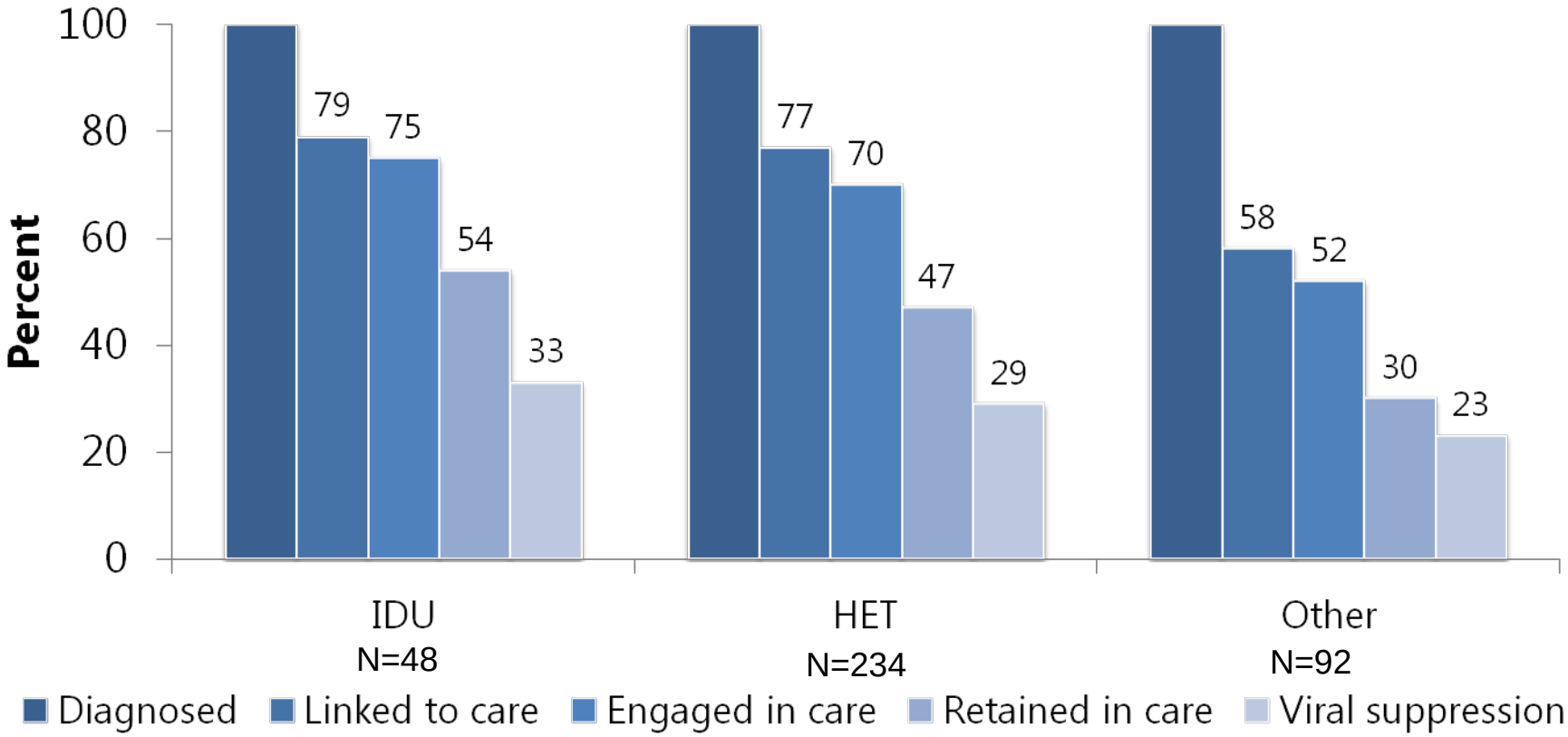
Adults and adolescents >= age 13, diagnosed 01/01/11 - 12/31011, Atlanta EMA = 1949
*Multiple imputation was used to re-distribute transmission category where missing

Adult and adolescent males diagnosed with HIV infection, by transmission category*, Atlanta EMA, 2011



Adult and adolescent males >= age 13, diagnosed 01/01/11 - 12/31/11, Atlanta EMA
*Multiple imputation was used to re-distribute transmission category where missing

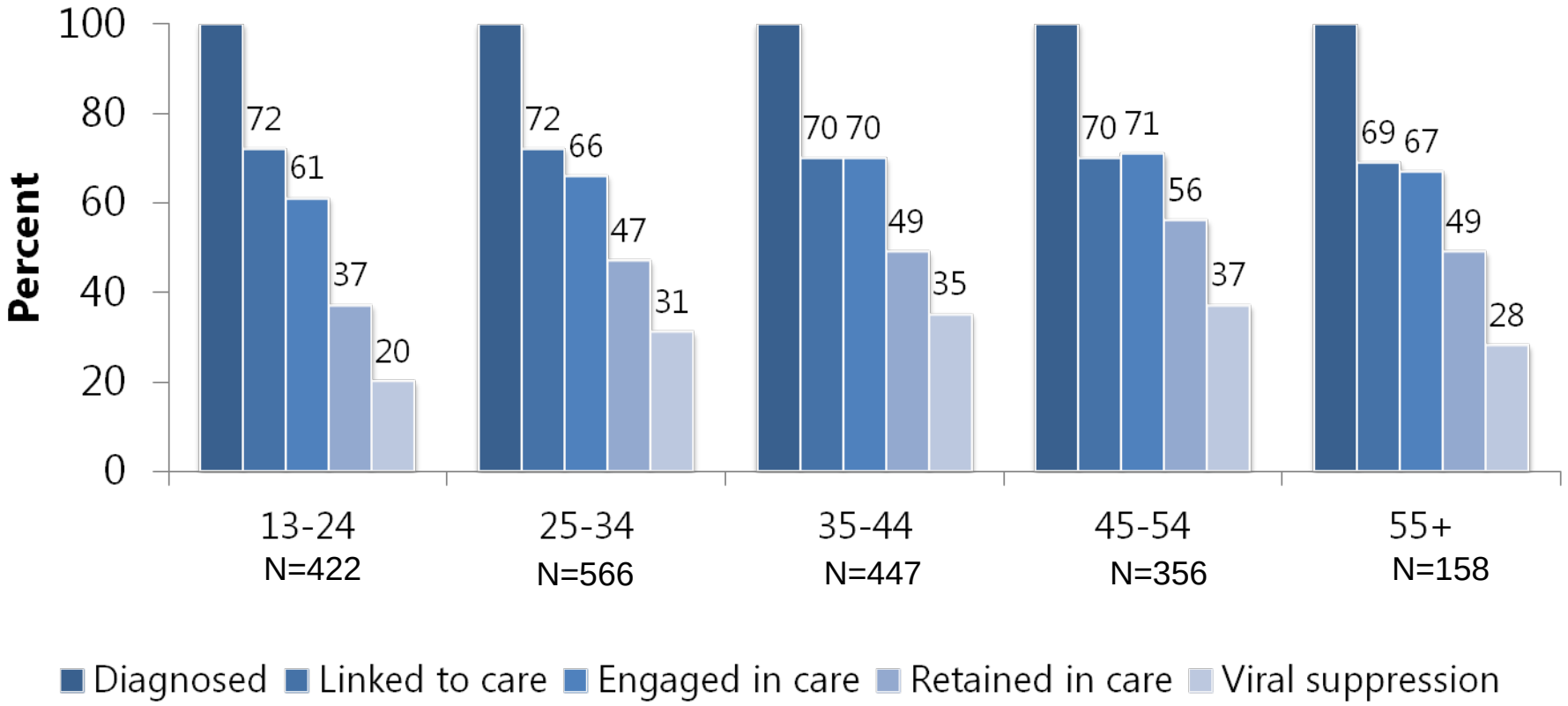
Adults and adolescent females diagnosed with HIV infection, by transmission category*, Atlanta EMA, 2011



Adults and adolescent females >= age 13, diagnosed 01/01/11 - 12/31/11, Atlanta EMA = 374

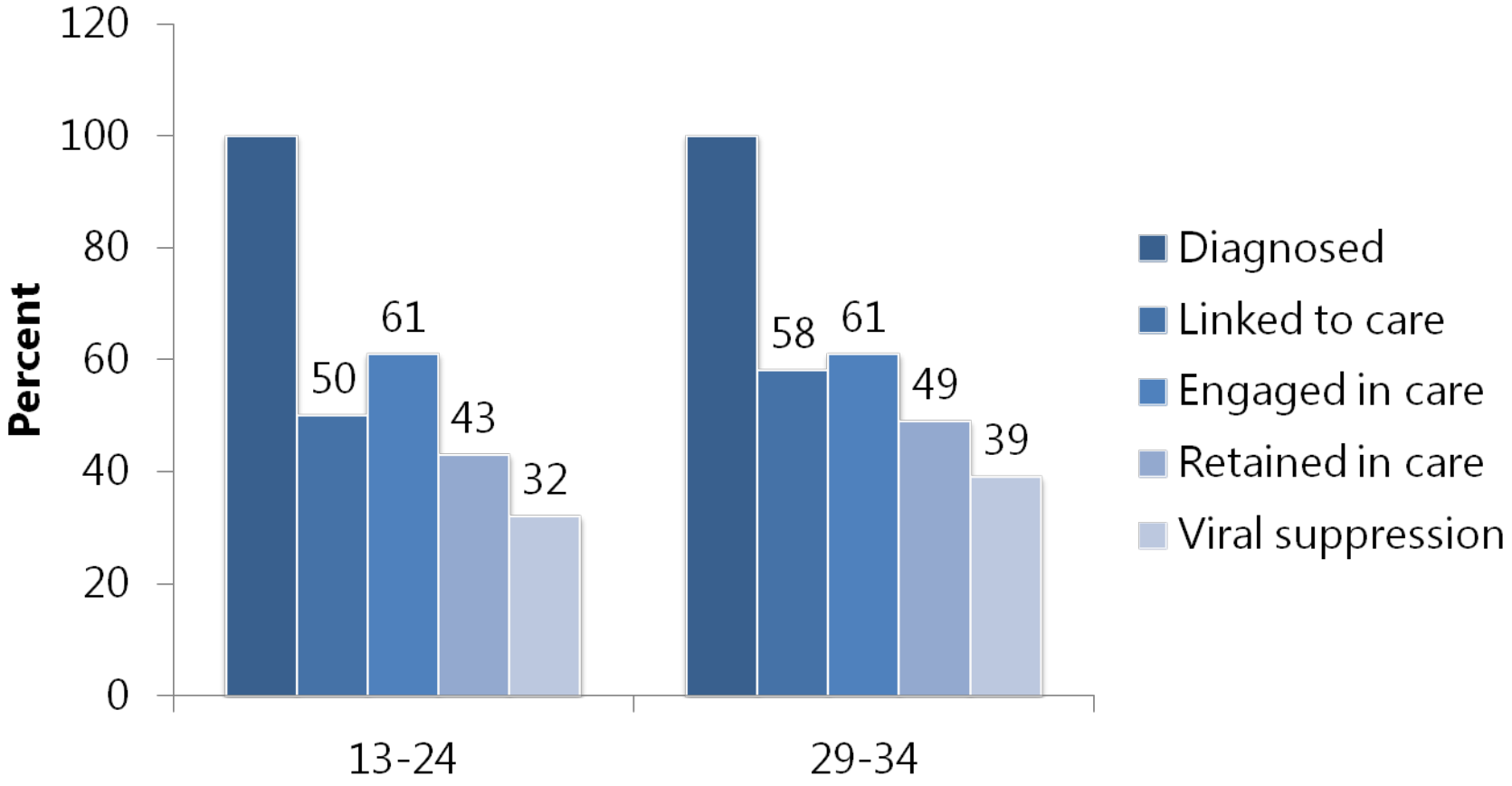
*Multiple imputation was used to re-distribute transmission category where missing

Adults and adolescents diagnosed with HIV infection, by age, Atlanta EMA, 2011



Adults and adolescents >= age 13, diagnosed 01/01/11 - 12/31011, current address Atlanta EMA = 1949
Note: all percentages are proportion of total number of persons diagnosed with HIV in category

Young Black MSM diagnosed with HIV infection, by age, Fulton/DeKalb Counties, 2010



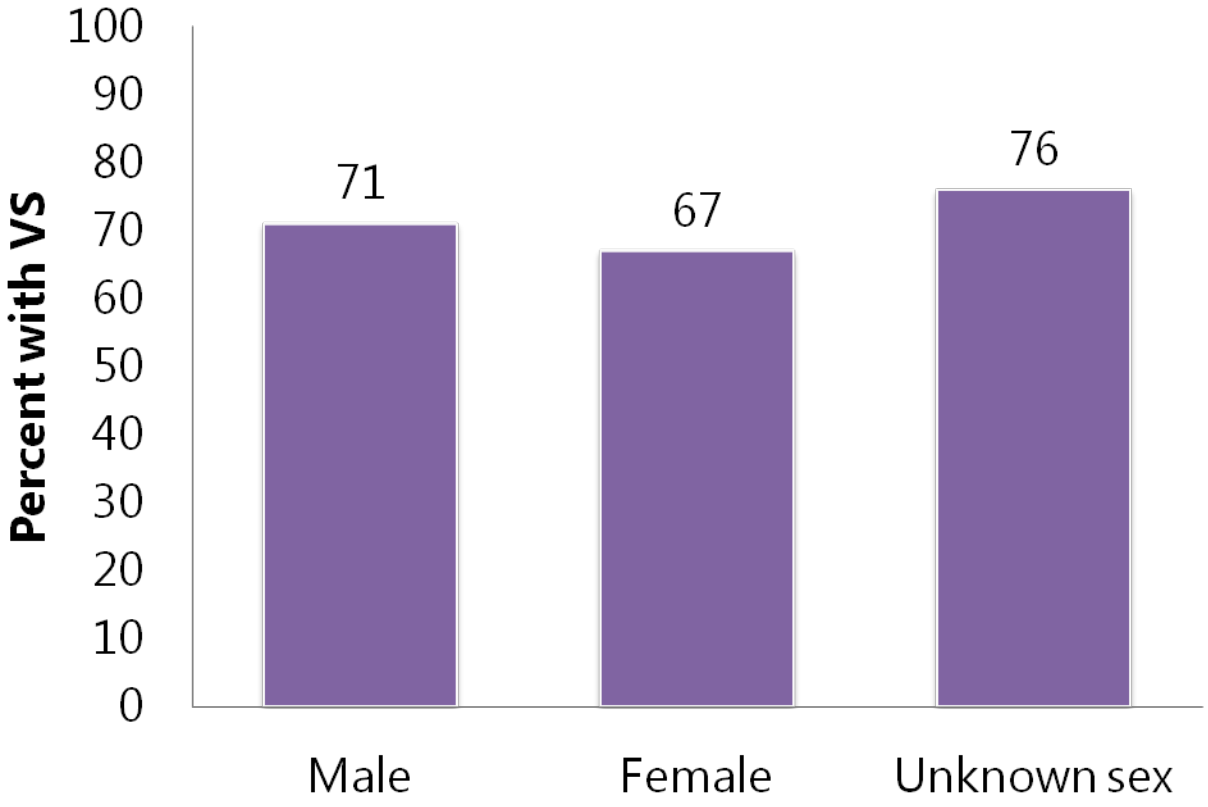
Adults >= age 13, diagnosed between 1/1/2010 and 12/31/2010, living as of 12/31/2011
Address at diagnosis in Fulton and DeKalb counties

ART Use and Viral Suppression Among HIV-Infected Patients in Care

- Cross-sectional study at seven sites in the Centers for AIDS Research Network of Integrated Clinical Systems cohort
- Of 8633 patients with ≥1 medical visit and ≥1 measured viral load in 2010, 89% were taking ART, and 79% had viral loads ≤200 copies/mL
- Lower rates of VS among women, age <50, Blacks, and patients not engaged in continuous care
- Engagement in care was the factor most strongly associated with ART use and viral suppression, after adjustment for nadir CD4 count

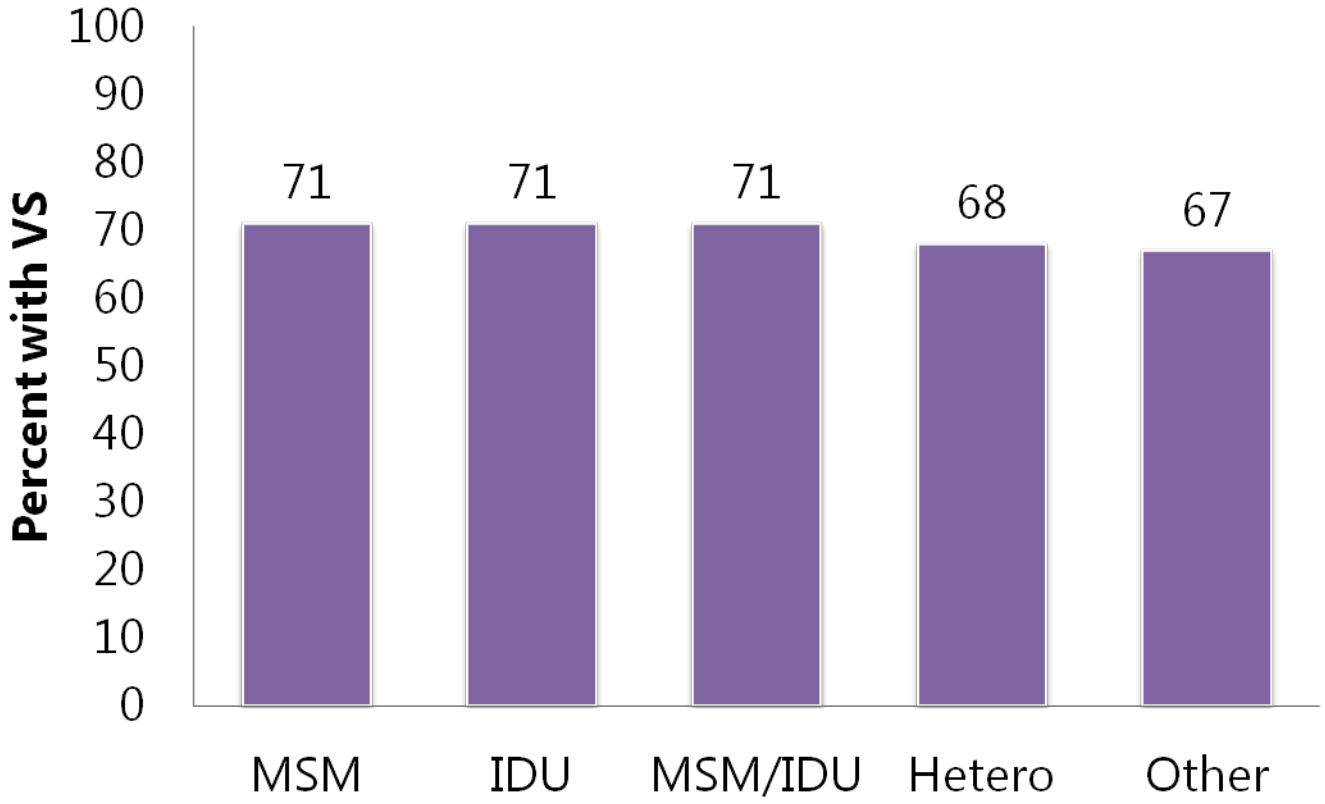
Reference: Dombrowski JC et al. High levels of antiretroviral use and viral suppression among persons in HIV care in the United States, 2010. J Acquir Immune Defic Syndr 2013 Jul 1; 63:299.

Viral suppression (VS) among adults and adolescents living with HIV and retained in care, by sex, Georgia 2011



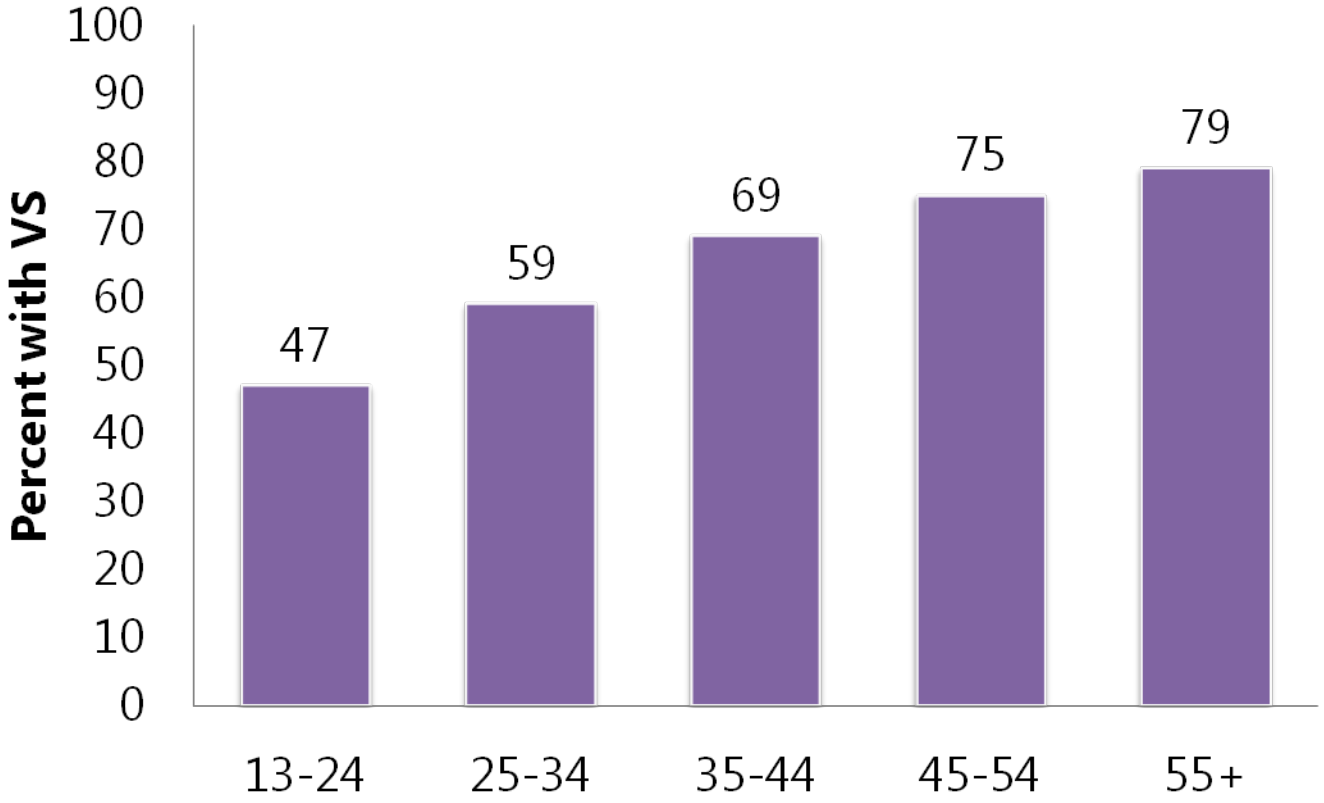
Adults >= age 13, diagnosed by12/31/2010, living as of 12/31/2011, Georgia = 41,934

Viral suppression (VS) among adults and adolescents living with HIV and retained in care, by transmission category, Georgia 2011



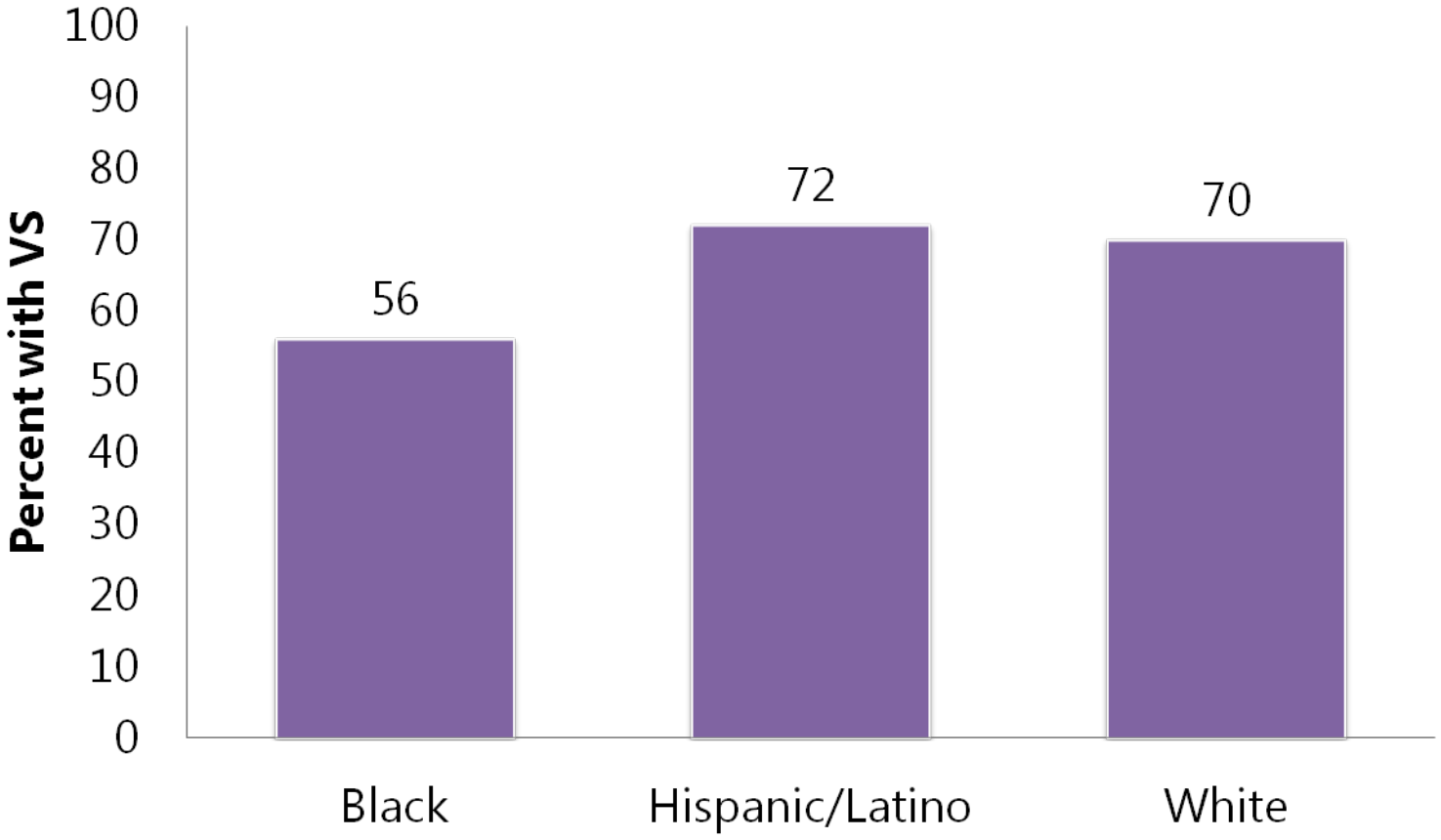
Adults >= age 13, diagnosed by12/31/2010, living as of 12/31/2011, Georgia = 41,934

Viral suppression (VS) among adults and adolescents living with HIV and retained in care, by age, Georgia 2011



Adults >= age 13, diagnosed by12/31/2010, living as of 12/31/2011, Georgia = 41,934

Viral suppression (VS) among adults and adolescents living with HIV and engaged in care, by race/ethnicity, Georgia 2011



Care Cascades can help us…

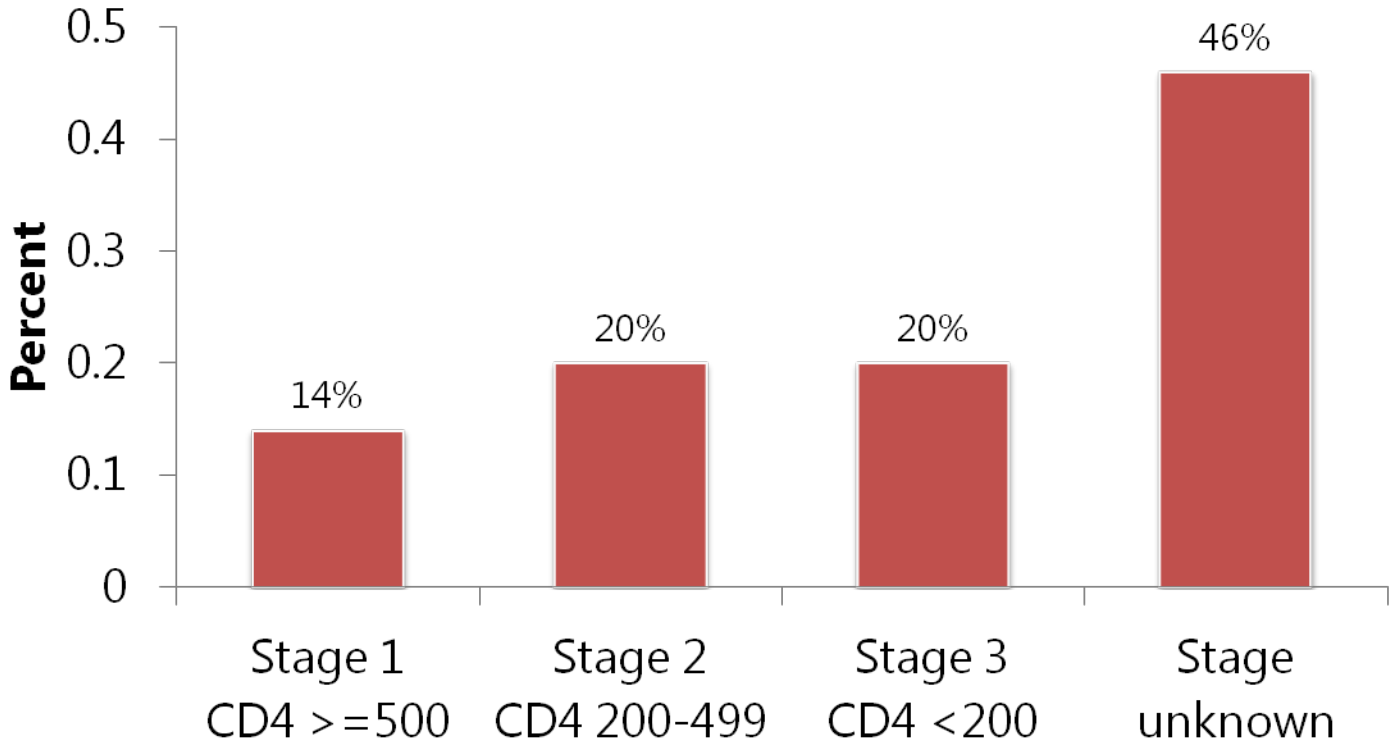
- Focus our efforts for linkage, retention and viral suppression
- Identify groups at increased risk for dropping out of each step in the cascade
- Monitor our progress in improvement
- Identify disparities not only in prevalence but in care
- Evaluate efforts addressing specific populations
- Follow efforts in specific counties, census tracts, zip codes and some specific facilities
- Improve surveillance completeness (race, sex, transmission category)

Stage of HIV disease at diagnosis

- Stage at diagnosis is defined by the first CD4 done within 3 months of diagnosis
- Stage 1 = CD4 >=500
- Stage 2 = CD4 200-499
- Stage 3 = CD4 <200 or OI

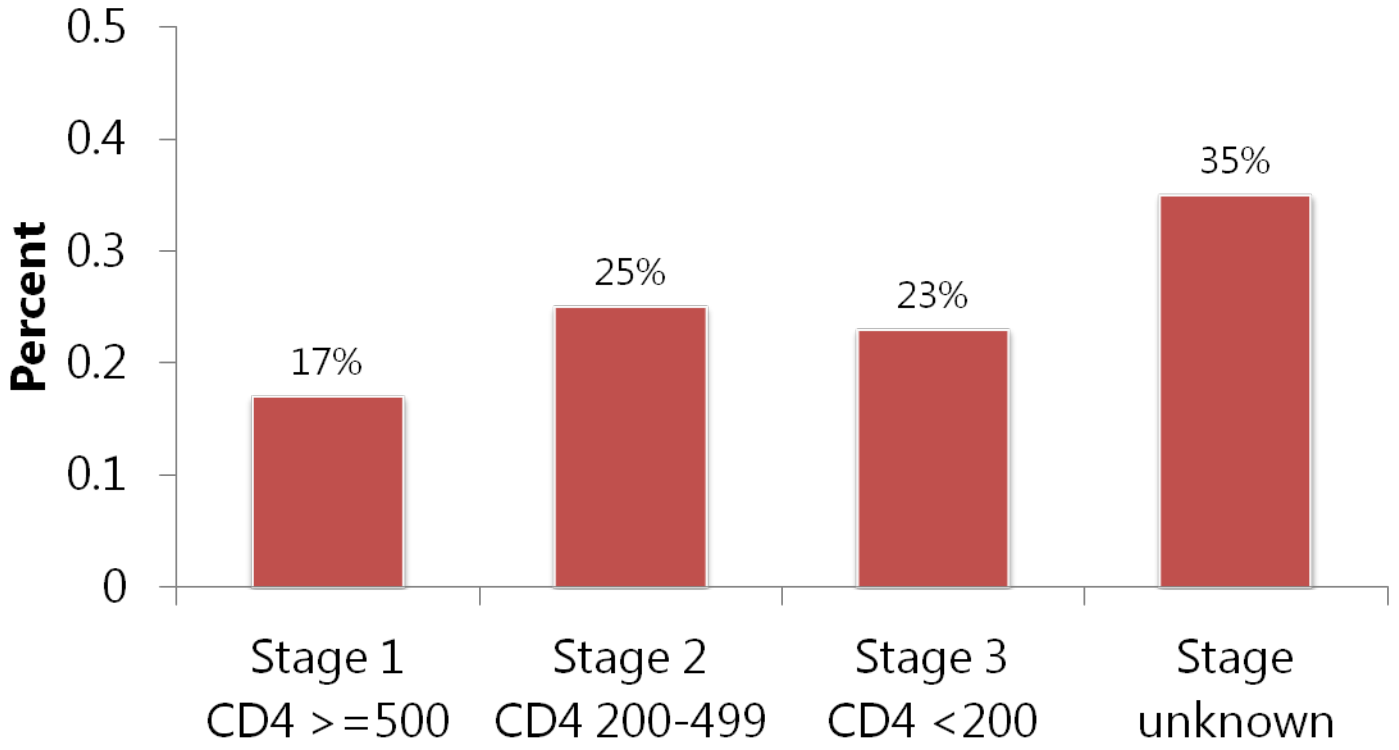
- Stage at diagnosis is unknown if no CD4 done within 3 months of diagnosis

Stage of disease by earliest CD4 count within 3 months of HIV diagnosis, adults and adolescents, Atlanta EMA, 2011



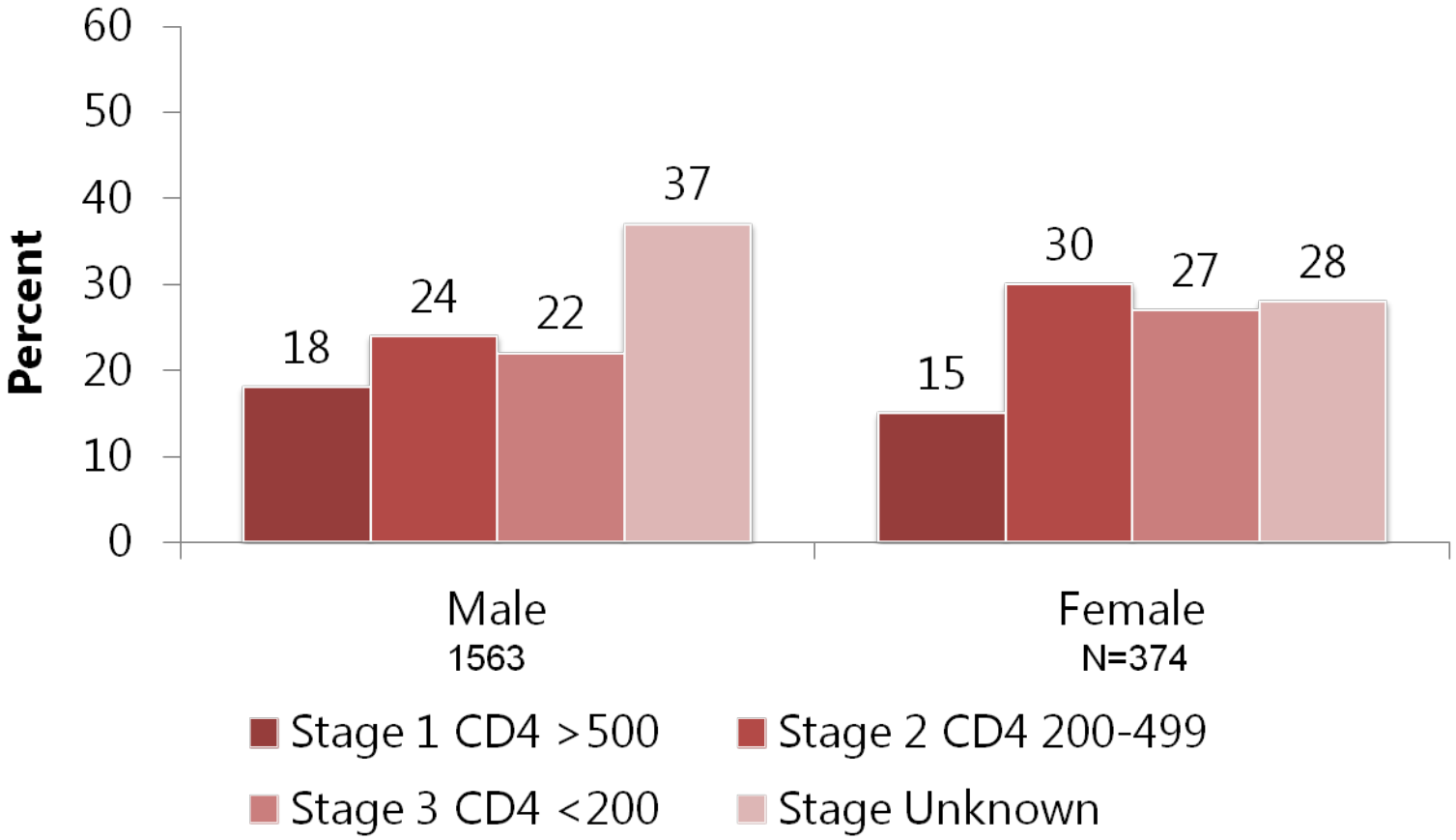
Adults and adolescents >= age 13, diagnosed 1/1/2011 - 12/31/2011, Atlanta EMA = 1949
CD4<200 = Stage 3 disease (AIDS)
Stage unknown = no CD4 within 3 months of diagnosis

Stage of disease by earliest CD4 count within 12 months of HIV diagnosis, adults and adolescents, Georgia 2011



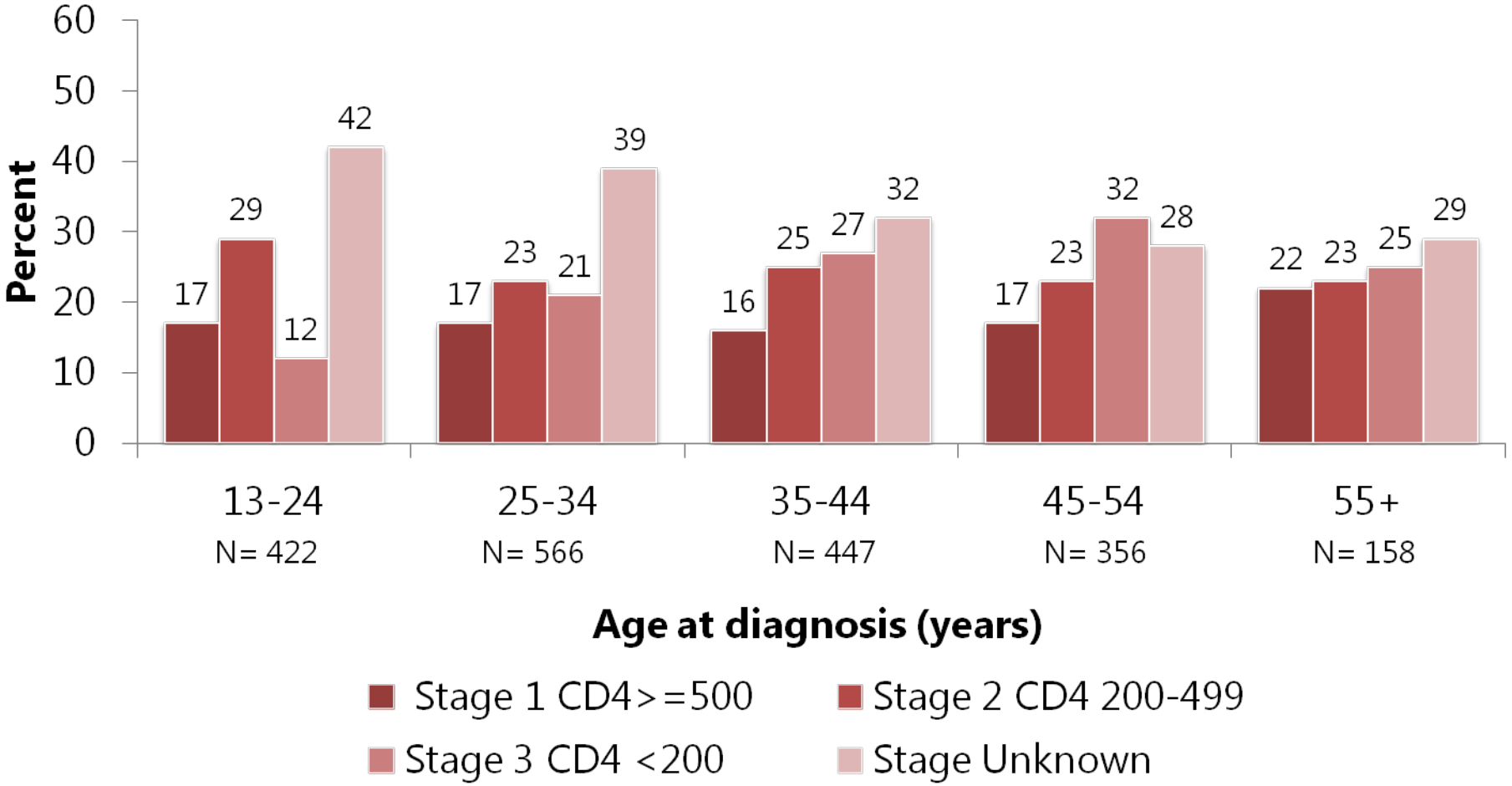
Adults and adolescents >= age 13, diagnosed 1/1/2011 - 12/31/2011, Atlanta EMA = 1949
CD4<200 = Stage 3 disease (AIDS)
Stage unknown = no CD4 within 12 months of diagnosis

Stage of disease by CD4 count within 12 months of HIV diagnosis, adults and adolescents, by sex, Atlanta EMA, 2011



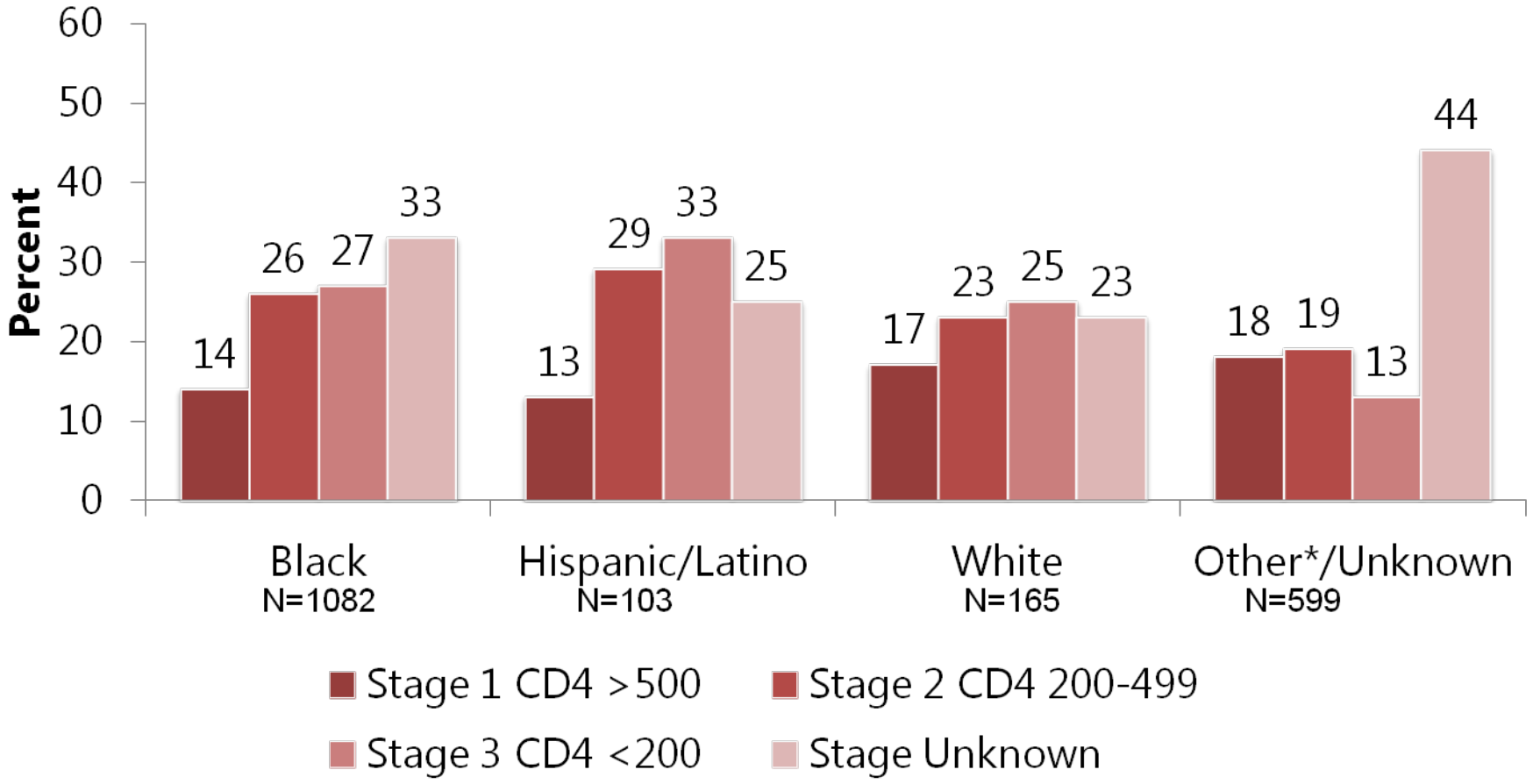
Adults and adolescents >= age 13, diagnosed 1/1/2011 - 12/31/2011, Atlanta EMA = 1949
CD4<200 = Stage 3 disease (AIDS)
Stage Unknown = no CD4 within 12 months of diagnosis
Excludes 12 cases for which sex was not reported

Stage of disease by earliest CD4 count within 12 months of HIV diagnosis, adults and adolescents, by age (years), Atlanta EMA, 2011



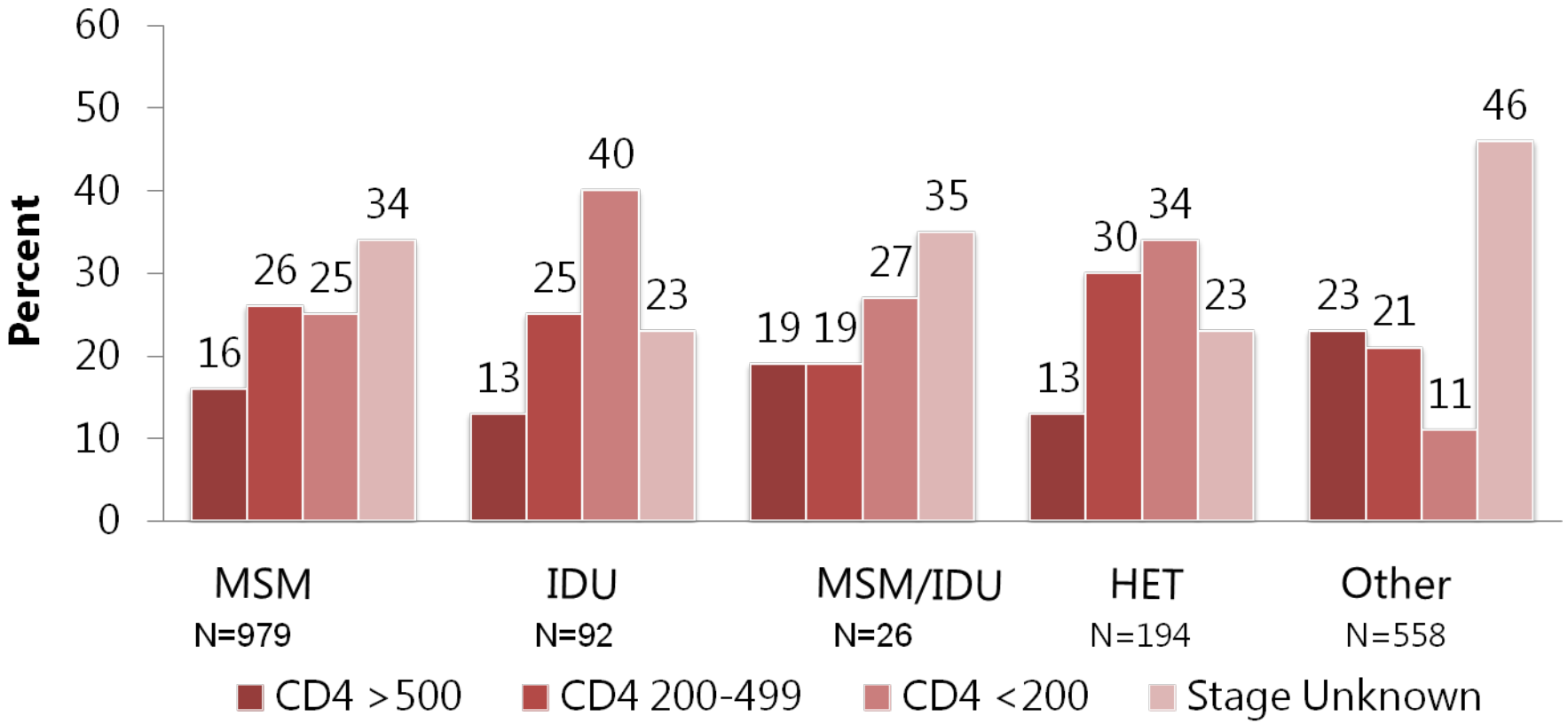
Adults and adolescents >= age 13, diagnosed 1/1/2011 - 12/31/2011, Atlanta EMA = 1949
CD4<200 = Stage 3 disease (AIDS)
Stage Unknown = no CD4 within 3 months of diagnosis

Stage of disease by CD4 count within 12 months of HIV diagnosis, adults and adolescents, by race/ethnicity, Atlanta EMA, 2011



Adults >= age 13, diagnosed 1/1/2011 - 12/31/2011, Atlanta EMA = 1949
CD4<200 = Stage 3 disease (AIDS)
Stage Unknown = no CD4 within 3 months of diagnosis
*American Indian/Alaska Native, Asian and Native Hawaiian/Pacific Islander groups together constitute <1% of adults diagnosed with HIV in Georgia, 2010 and are grouped with other/unknown race/ethnicity

Stage of disease by earliest CD4 count within 12 months of HIV diagnosis, adults and adolescents, by transmission category*, Atlanta EMA, 2011



Adults and adolescents >= age 13, diagnosed 1/1/2011 - 12/31/2011, Atlanta EMA = 1949
CD4<200 = Stage 3 disease (AIDS) Stage Unknown = no CD4 within12 months of diagnosis
*Multiple imputation was used to re-distribute transmission category where missing

Stage of disease (earliest CD4) at or within 12 months of diagnosis can help us…

- Quantify late diagnoses
- Evaluate screening initiatives
- Identify disparities
- Monitor trends in earlier diagnosis
- Assess outreach and screening efforts
- Follow trends
- Triage into appropriate care

Limitations

- Incomplete reporting
- Definition of heterosexual transmission (sexual contact with a known HIV infected partner or person with increased risk, i.e., MSM or IDU)
- Lack of transmission category information
- Missing data for race/ethnicity, sex, transmission category, and address at diagnosis
- Missing laboratory reports
- CD4 within 3 months of diagnosis yields high unknown stage in Georgia

Uncertainties

- Populations for which data are missing may be fundamentally different
- How to obtain data for transsexual category
- How to improve completeness of reporting
- Data on ART use
- Understanding barriers to ART adherence

Questions?

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