HIV Care Continuum for Two High Prevalence Counties in Georgia, 2012

Abstract

The Georgia Department of Public Health created an HIV Care Continuum for persons newly diagnosed with HIV infection in 2011 in Fulton and DeKalb Counties. These two counties have the highest HIV prevalence number and rate among all counties in Georgia. In 2011, Fulton and DeKalb Counties had a combined total of 1251 new HIV diagnoses. More than half of the cases (722/1251 or 58%) of the new diagnoses were among blacks. Among 726 new HIV diagnoses in 2011 in Fulton County, 58% were linked to care within 3 months, 46% retained in care, 40% prescribed ART and 42% virally suppressed on last viral load measure. Viral suppression was lowest among Blacks (33%), persons aged 13-24 years (35%), and male injection drug users (28%). Measurements were similar for 525 new HIV diagnoses in DeKalb County. The HIV Care Continuum can help identify disparities, monitor program improvement and viral suppression outcomes on a local level.

Background

- The Centers for Disease Control and Prevention (CDC) presented the HIV Care Continuum, sometimes called the HIV Care Cascade, for the US population in 2012. The CDC national analysis was based on estimates from multiple subsets of the US population living with HIV. For example, linkage to care was extrapolated from the proportion of people linked to care within 3 months of diagnosis in 2009 from a regional study. Retained in care and viral suppression for the nation were based on estimates from local data, and the proportion prescribed antiretroviral therapy (ART) was based on Medical Monitoring Project (MMP) data. Despite these limitations, monitoring the continuum of care on the national, as well as the local level can help to determine weak links in efforts to control HIV.
- Because Georgia law mandates reporting of all HIV-related laboratory tests from laboratory facilities licensed in Georgia to the Georgia Department of Public Health (GDPH), Georgia is able to create multiple care continuums for the state as a whole and stratified by demographic variables using reported laboratory test data. With complete reporting of all CD4 and viral load test results, surveillance now can provide information on care and treatment outcomes.
- The Care Continuum for the HIV prevalent population in Georgia (people living with HIV) is available on the Georgia Department of Public Health website https://dph.georgia.gov/hiv-care-continuum
- Persons newly diagnosed with HIV may be the easiest to link and retain in care. For this reason, we focused our analysis on those diagnosed in 2011 and followed for 15 months to determine linkage, engagement, retention in care and viral suppression in two counties with the highest HIV prevalence in Georgia.

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A more detailed description of the care continuum for Georgia, Atlanta, Fulton and DeKalb Counties can be found at https://dph.georgia.gov/hiv-care-continuum

The 2011 and 2012 care continuum reports plus downloadable slide sets are public domain and may be used in presentations without copyright concerns, though we appreciate attribution for data used.

Methodology

We analyzed the care continuum using those newly diagnosed in 2011 for Georgia overall, and two high-prevalence jurisdictions in Georgia, Fulton and DeKalb County using the following care continuum methodology:

- Adults and adolescents are those aged >= 13 years
- Diagnosed between 01/01/11 -12/31/11
- Alive at least 15 months after diagnosis
- Current residence in Georgia, stratified by residence at diagnosis: any Georgia address, DeKalb County, or Fulton County
- Excludes 52 persons deceased within 15 months of diagnosis
- 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 percentage prescribed ART derived from Medical Monitoring Project (MMP) Georgia sample
- Viral suppression (VS) = VL<200 copies/ml in most recent viral load (VL)
- All percentages are percent of total number of persons diagnosed with HIV

Note that viral load measures are reported directly from laboratories licensed by Georgia to the Georgia Department of Public Health. The proportion of persons on ART is based on an estimation from the sample enrolled in the Medical Monitoring Project (MMP) in Georgia.

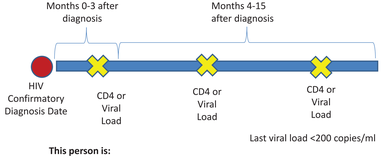
All proportions are percent of total number of persons diagnosed with HIV in the category. Each bar is independent of the one preceding it. Hence it is possible for the proportion engaged in care to be greater than the proportion linked to care.

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

Transmission category was defined as follows:

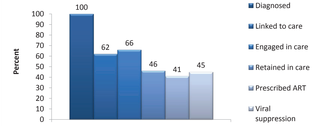
MSM = Male to male sexual contact
IDU = Injection drug use
MSM/IDU = Male to male sexual contact and injection drug use
HET = Heterosexual contact with a person known to have, or to be at high risk for, HIV infection
Other = hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified

HIV Care Continuum Methodology



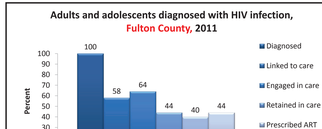
This person is:
- **Linked YES**
- **Engaged YES**
- **Retained YES**
- **Virally suppressed YES**

Results



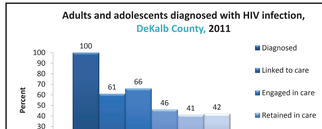
Adults and adolescents >= age 13, diagnosed 01/01/11 -12/31/11, Georgia = 2885

Among the 2885 adults and adolescents diagnosed with HIV infection in 2011 with residence at diagnosis in Georgia, 62% were linked to care within 3 months of diagnosis, 66% were minimally engaged in care with at least 1 CD4 or viral load (VL) 4-15 months after diagnosis, 46% retained in care with at least 2 CD4 or VL measures 4-15 months after diagnosis, 41% prescribed ART (estimated) and 45% were virally suppressed



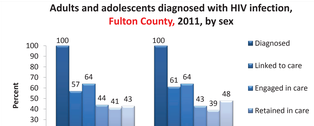
Adults and adolescents >= age 13, diagnosed 01/01/11 -12/31/11, Fulton County = 726

Among the 726 adults and adolescents diagnosed with HIV infection in 2011 with residence at diagnosis in Fulton County, 58% were linked to care within 3 months of diagnosis, 64% were minimally engaged in care with at least 1 CD4 or viral load (VL) 4-15 months after diagnosis, 46% retained in care with at least 2 CD4 or VL measures 4-15 months after diagnosis, 40% prescribed ART (estimated) and 42% were virally suppressed.



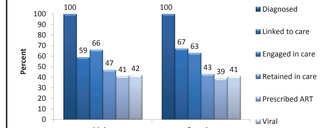
Adults and adolescents >= age 13, diagnosed 01/01/11 -12/31/11, DeKalb County = 525

Among the 525 adults and adolescents diagnosed with HIV infection in 2011 with residence at diagnosis in DeKalb County, 61% were linked to care within 3 months of diagnosis, 66% were minimally engaged in care with at least one CD4 or VL 4-15 months after diagnosis, 46% retained in care with at least 2 CD4 or VL measures 4-15 months after diagnosis, an estimated 41% prescribed ART (estimated) and 42% were virally suppressed



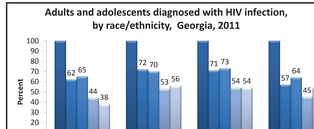
Adults and adolescents >= age 13, diagnosed 01/01/11-12/31/11, Fulton County = 726
Excludes 9 cases for whom sex was not reported

Among those diagnosed with HIV infection in 2011 with residence at diagnosis in Fulton County, males were less likely than females to be linked to care within 3 months of diagnosis (59% vs. 67%); engaged, retained, and estimated ART use are similar. VS was higher among females than males, and also higher than estimated ART use. Better estimates for ART use are being sought.

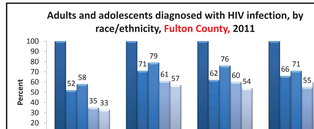


Adults and adolescents >= age 13, diagnosed 01/01/11-12/31/11, DeKalb County = 525
Excludes 1 case for whom sex was not reported

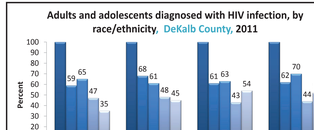
Among those diagnosed with HIV infection in 2011 with residence at diagnosis in DeKalb County, males were less likely than females to be linked to care within 3 months of diagnosis (59% vs. 67%), but engaged, retained, ART use and VS are similar



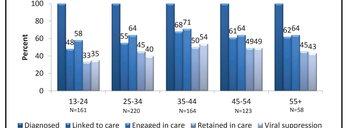
- Among 1616 Blacks diagnosed with HIV infection in 2011 in Georgia and living as of 03/31/2013, 62% were linked to care within 3 months of diagnosis, 65% engaged, 44% retained and 38% virally suppressed.
- Among 144 Hispanic/Latinos, 72% were linked, 70% engaged, 53% retained and 56% virally suppressed.
- Among 271 White, 71% were linked, 73% engaged, 54% retained and 54% virally suppressed
- Because American Indian/Alaska Native, Asian, and Native Hawaiian/Other Pacific Islanders combined equal <2% of new diagnoses in Georgia, these groups are included in Other/Unknown category . Race was not reported for the great majority of persons included in this category.
- Among 854 persons in the Other/Unknown Race category, 57% were linked to care within 3 months, 64% engaged, 55% retained and 54% virally suppressed



- Among 422 Blacks diagnosed with HIV infection in 2011 in Fulton County, 52% were linked to care within 3 months of diagnosis, 58% engaged, 35% retained and 33% virally suppressed.
- Among 28 Hispanic/Latinos, 71% were linked, 79% were engaged, 61% were retained and 57% were virally suppressed.
- Among 50 Whites, 62% were linked, 76% were engaged, 60% were retained and 54% were virally suppressed.
- Because American Indian/Alaska Native, Asian, and Native Hawaiian/Other Pacific Islanders combined equal <2% of new diagnoses in Fulton County, these groups are included in Other/Unknown category shown to the far right on this slide. Race was not reported for the great majority of persons included in this category.
- Among 226 persons in the Other/Unknown Race category, 66% were linked to care within 3 months, 71% were

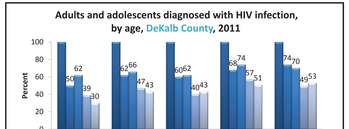


- Among 300 Blacks diagnosed with HIV infection in 2011 and living in DeKalb County, 59% were linked to care within 3 months of diagnosis, 65% were engaged, 47% were retained and 35% were virally suppressed.
- Among 31 Hispanic/Latinos, 68% were linked, 61% engaged, 48% retained and 45% virally suppressed.
- Among 46 Whites, 61% were linked, 63% engaged, 43% retained and 54% virally suppressed
- Because American Indian/Alaska Native, Asian, and Native Hawaiian/Other Pacific Islanders combined equal <2% of new diagnoses in DeKalb County, these groups are included in Other/Unknown category shown to the far right on this slide. Race was not reported for the great majority of persons included in the Other/Unknown category.
- Among 148 persons in the Other/Unknown Race category, 62% were linked to care within 3 months, 70% were engaged, 44% were retained and 52% were virally suppressed.



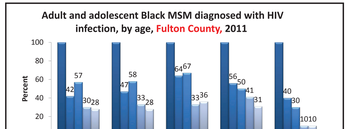
Adults and adolescents >= age 13, diagnosed 01/01/11 - 12/31011, Fulton County = 726

Viral suppression increases from 35% among those aged 13-24 years to 54% among those aged 35-44 and then decreases again to 43% among those aged 55 years and older

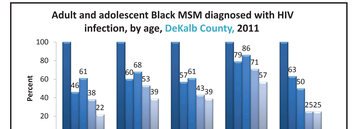


Adults and adolescents >= age 13, diagnosed 01/01/11 - 12/31011, current address DeKalb County =525

Both linked to care within 3 months and viral suppression generally increase with increasing age. Viral suppression increases from 30% among age 13-24 years to 53% among those age 55 years and older



- Among 300 adult and adolescent Black MSM diagnosed with HIV infection in 2011, Fulton County, by current age (in years), linkage to care varies from 40% and 42% for the oldest and youngest age groups respectively to 64% for ages 35-44 years.
- Viral suppression is lowest (10%) for age 55+ years, higher for age groups 13-24 years and 25-34 years , and highest for ages 35-44 years at 36%
- Note the small N in some groups (e.g. 10 persons represented in the age 55+ groups) and use caution in interpretation



- Among 203 adult and adolescent Black MSM diagnosed with HIV infection in 2011, DeKalb County, by age (in years)., linkage to care varies from 46% with the youngest age group (13-24 years) to 79% for ages 45-54 years.
- Viral suppression is lowest for age 13-24 years at 22% and highest for ages 45-54 years at 57%.
- Note the small N in some groups (e.g. 8 persons represented in the age 55+ years groups) and use caution in interpretation.

Conclusions

- Overall, the HIV Care Continuum for Georgia, Fulton County and DeKalb County is similar for the total population, for stratification by sex
- The youngest age group (aged 13-24 years at diagnosis) had the lowest proportions of linkage, engagement and retention in care as well as viral suppression viral suppression in both Fulton and DeKalb Counties.
- Stratified by race/ethnicity, Blacks newly diagnosed with HIV infection in 2011 had lower proportions along most measures of the HIV Care Continuum compared to other race/ethnicities
- Viral suppression among Blacks (B) compared to Hispanic/Latinos (H/L) and Whites (W) by residence at diagnosis revealed disparity in all three geographic regions considered

Percent with Viral Suppression (VL<200) on last VL in 2012

Region	Black	Hispanic/Latino	White
Georgia	38%	56%	54%
Fulton County	33%	57%	54%
DeKalb County	35%	45%	54%

- Multiple stratifications (e.g., sex by race by transmission category by County) can focus attention on specific subgroups, e.g., young (age 13-24 years) Black MSM in Fulton County

Constructing the care continuum by jurisdiction can help us:

- Encourage qualitative research methods to gather insight from disparate groups (focus groups, survey etc.)
- Focus our efforts for linkage, retention and viral suppression.
- Identify groups at increased risk for dropping out of each step in the continuum.
- Monitor our progress in improvement of linkage, retention, and viral suppression.
- Identify disparities not only in prevalence but in care
- Evaluate efforts addressing specific populations with low viral suppression.
- Monitor efforts in improving viral suppression in specific counties, census tracts, zip codes and some specific facilities
- Encourage improvement in surveillance data completeness (race, sex, transmission category)

Limitations

- Incomplete case reporting
- Missing data for race/ethnicity, sex, transmission category information (risk factors)and address at diagnosis
- Surveillance data collection is on-going which will result in decreased number of "unknown" cases in future analyses
- Individuals may be reported with aliases or false identifying information making de-duplication a continuous process
- Missing laboratory reports
- Federal laboratory facilities are not mandated by Georgia state law to report. DeKalb County contains a large Veterans Administration hospital. Diagnoses of HIV infection are reported but not laboratory values and thus may lead to underestimation of linked, engaged, retained and viral suppression for this population
- Multiply stratified care continuums can hone in on very specific populations (e.g., young Black MSM in a single county) but caution must be used in interpretation because of small numbers.

Acknowledgements

The Georgia Department of Public Health HIV/AIDS Program staff