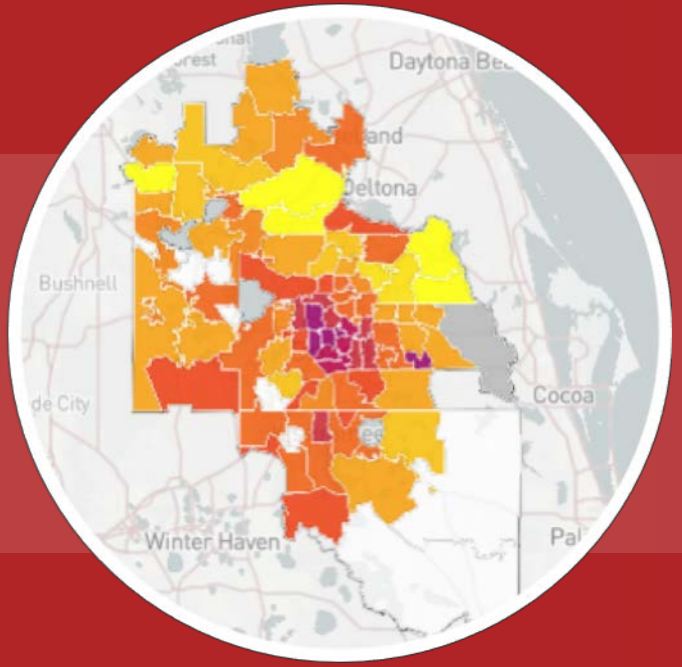
Using Data for Action:
How to Reach Your Community, Policymakers, and Grantors with AIDSVu Data Visualization



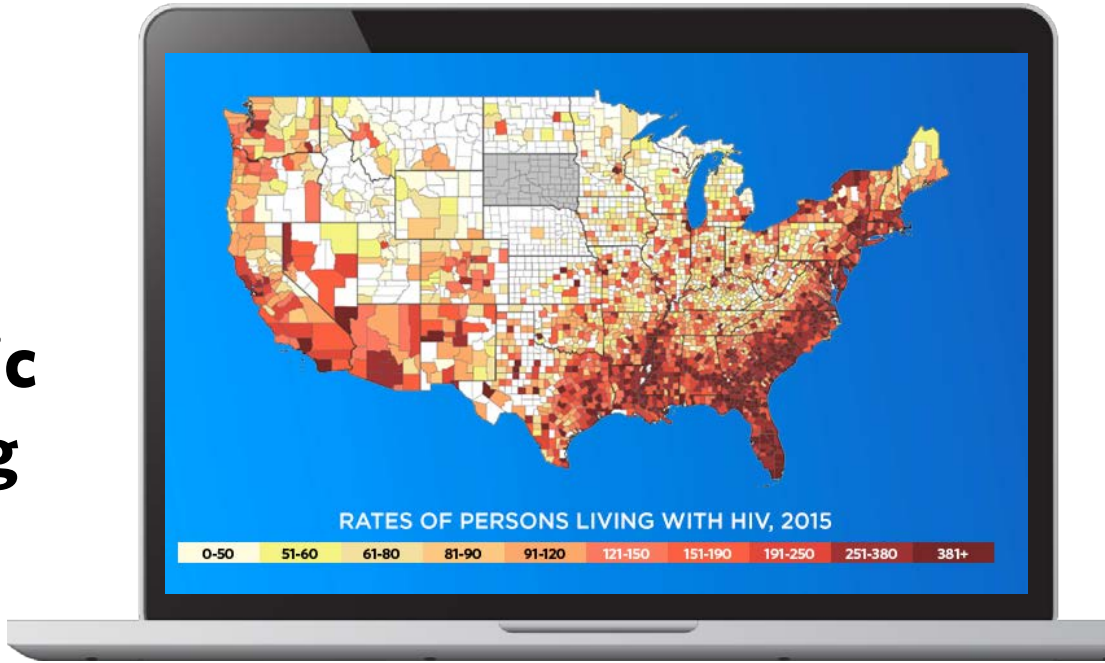
AIDSVu

Agenda

- ***Moderator:*** Amanda D. Castel, MD, MPH, Associate Professor, Milken School of Public Health, George Washington University and Investigator for AIDSVu
- ***Panelists:***
  - Nic Carlisle, JD, Executive Director, Southern AIDS Coalition: *Using AIDSVu in Advocacy*
  - Bisola O. Ojikutu, MD, MPH Assistant Professor of Medicine, Brigham and Women's Hospital: *Using AIDSVu in Academia & Research*
  - Jose Bauermeister, PhD, MPH, Professor of Nursing, University of Pennsylvania: *Using AIDSVu in Grant Writing*
  - Amanda D. Castel, MD, MPH: *Using AIDSVu in Health Departments*

Mission

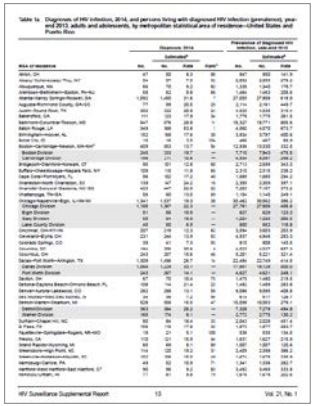
Making data widely available, easily accessible and locally relevant to inform public health decision-making

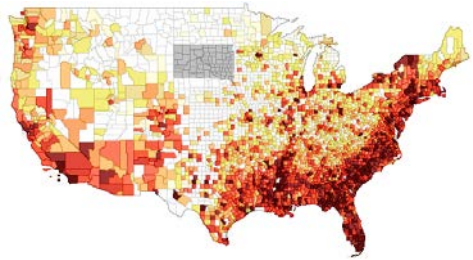


Introduction to AIDSVu

- Interactive online mapping tool to visualize the U.S. HIV epidemic

- Partnership since 2010 between Gilead Sciences and Emory University's Rollins School of Public Health



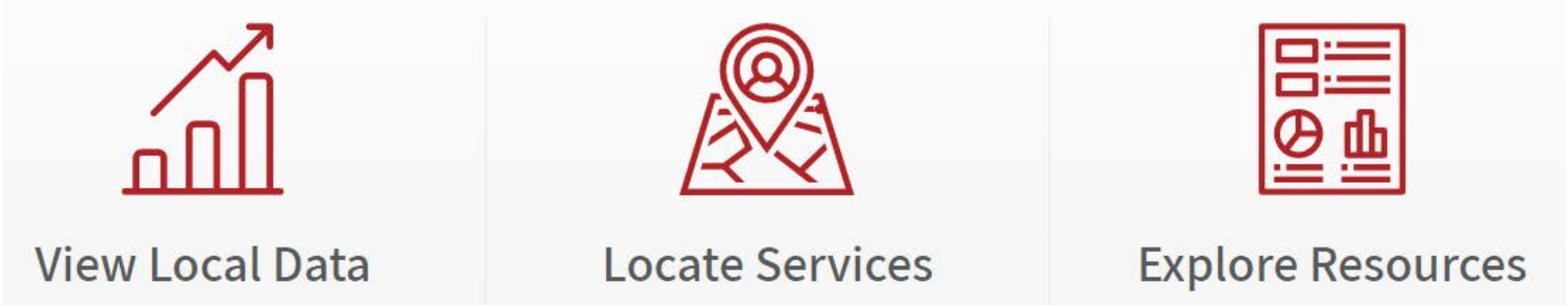


AIDSVu Objectives

- Provide policymakers, advocates, health departments, researchers, experts and others with a valuable public health tool to:
  - Educate the public and other stakeholders
  - Advocate for critical issues and mobilize political commitment
  - Strategically allocate resources and plan programs
  - Monitor progress and trends

AIDSVu Maps & Data

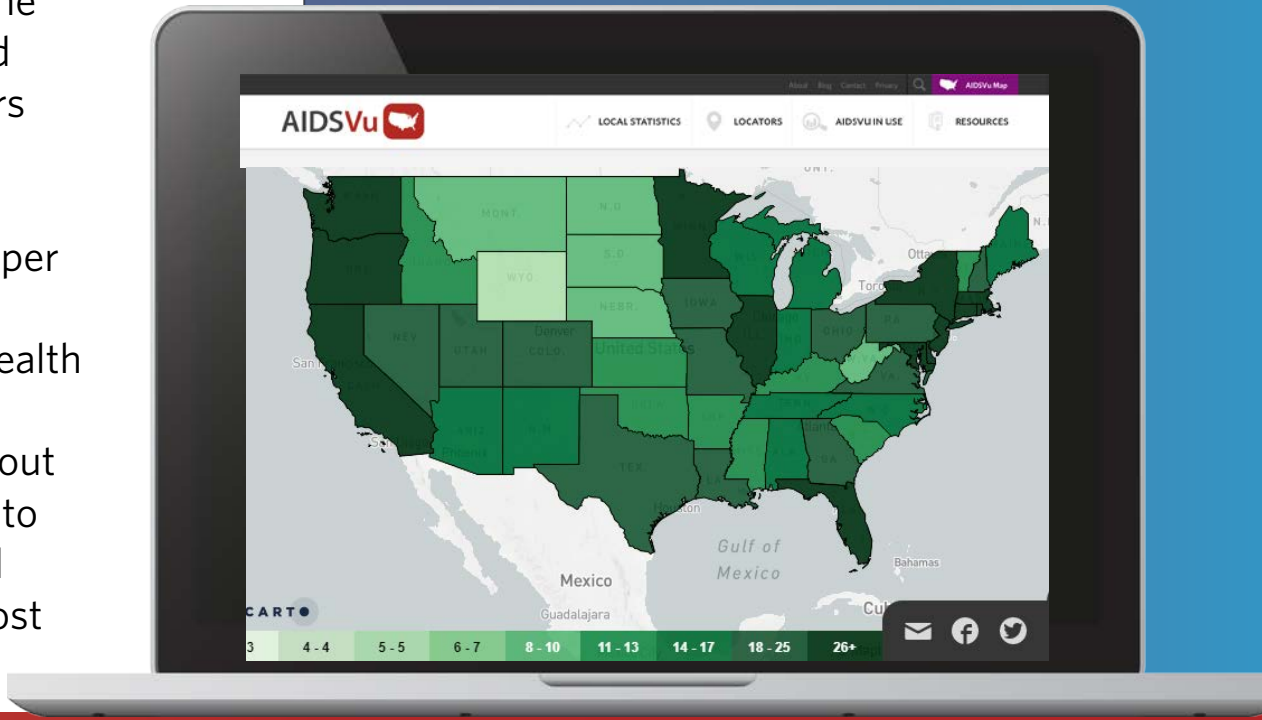
- Displays the latest publicly available data at the city-, county-, and state-levels, which visualize disparities in HIV infections and mortality, both geographically and across different demographic groups



PrEP Use Data & Maps

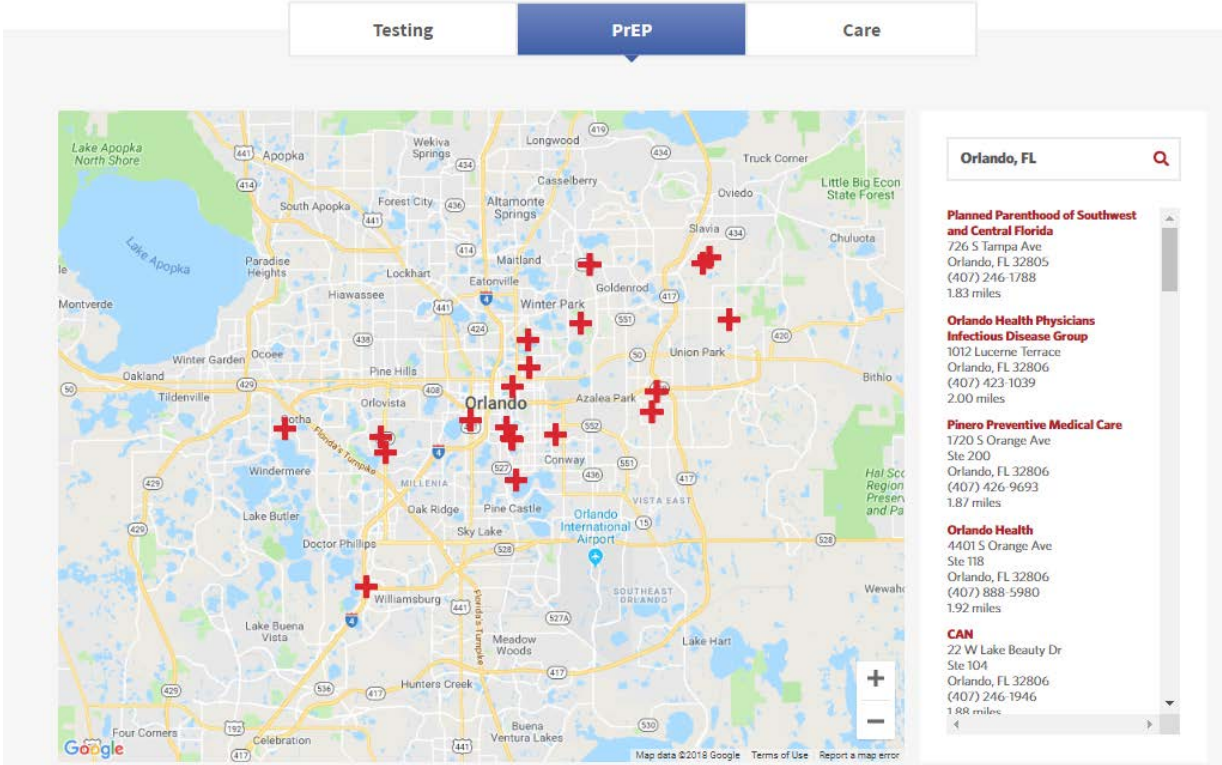
- In March, AIDSVu released the first-ever state-level data and interactive maps of PrEP users and rate of PrEP use

- AIDSVu also released a "Deeper Look" page on PrEP, which provides a space for public health officials, policymakers, and researchers to learn more about PrEP and inform their efforts to increase PrEP awareness and uptake where it is needed most

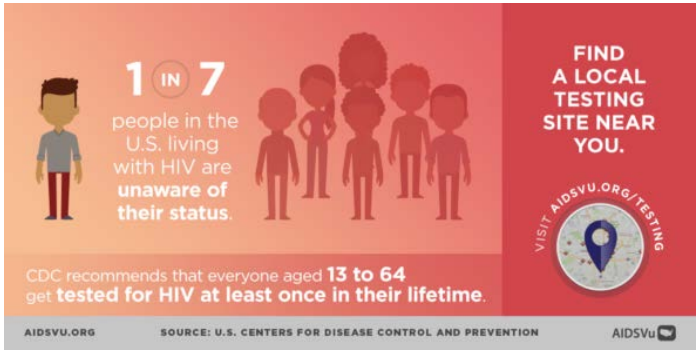


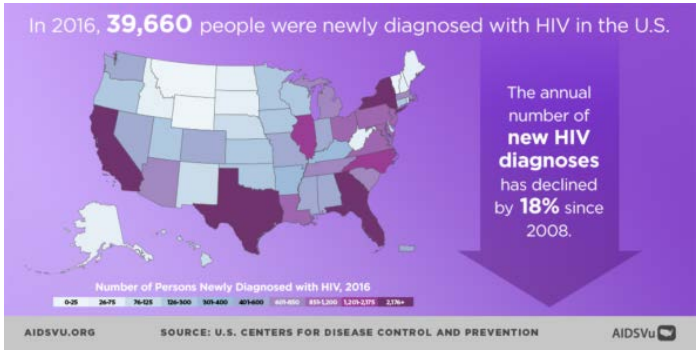
Service Locators

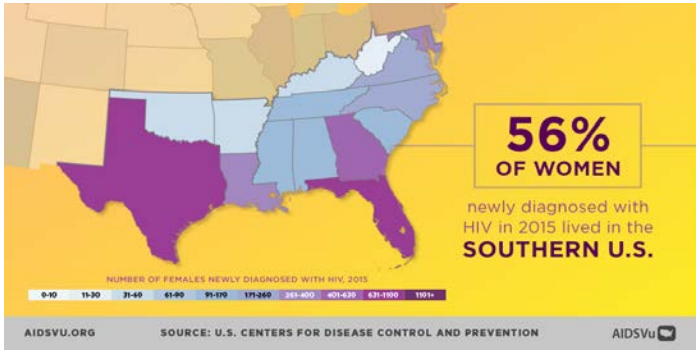
Find HIV testing, Pre-Exposure Prophylaxis (PrEP), and care services near you

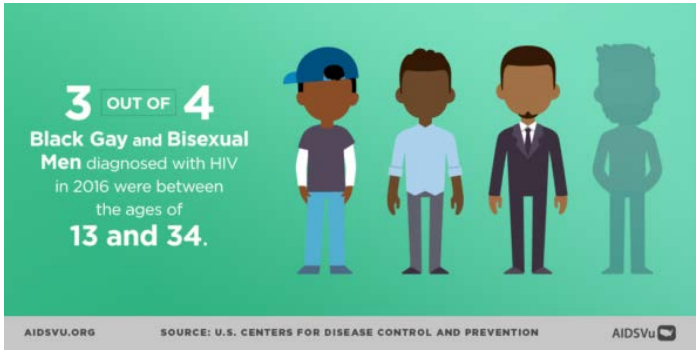


Infographics

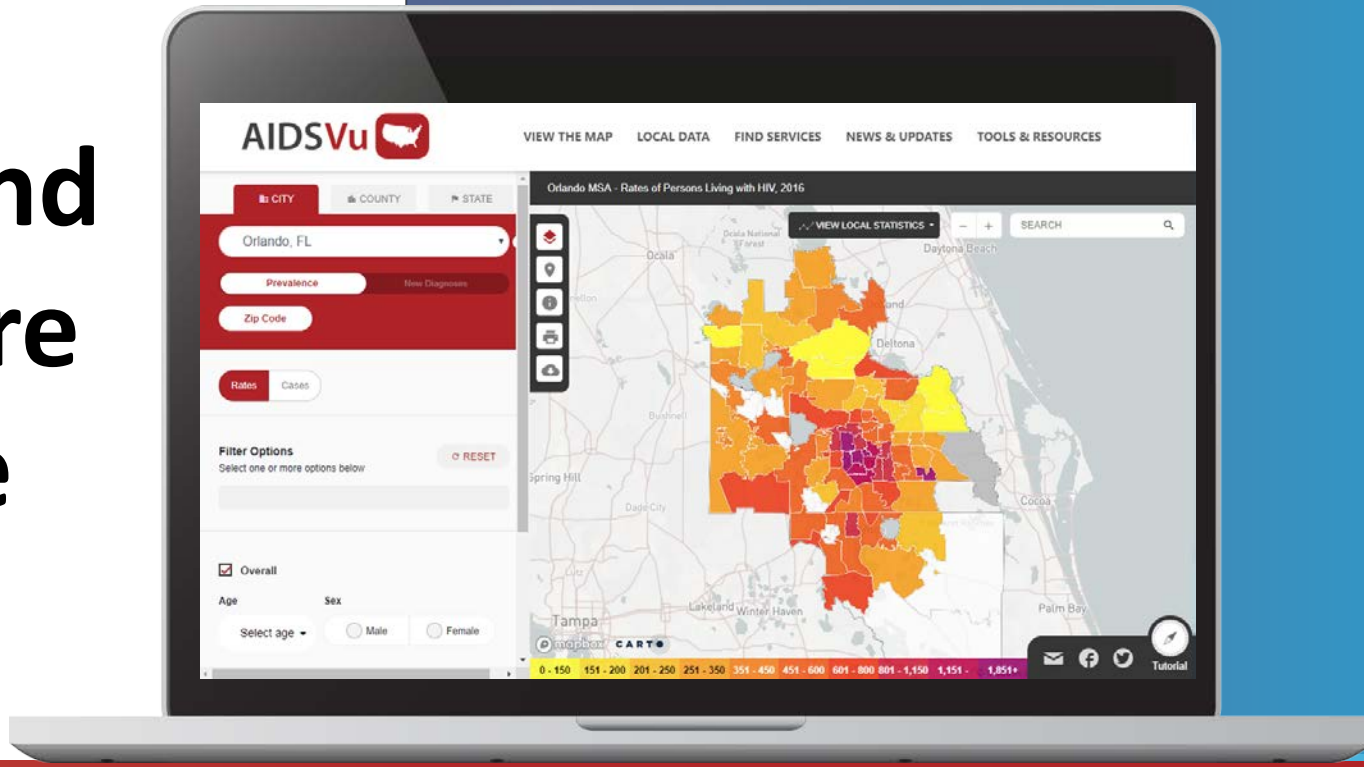






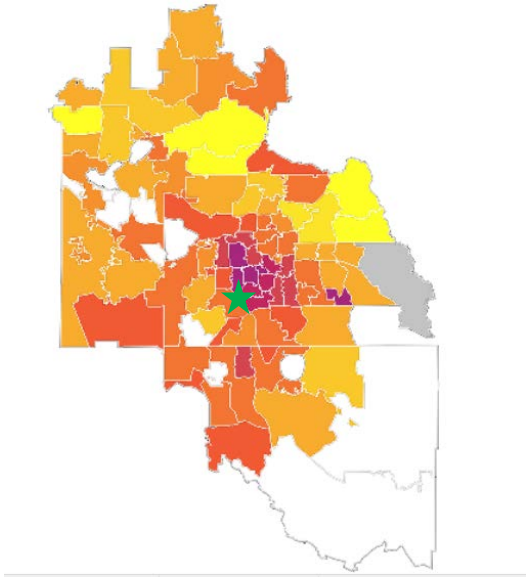


Understand HIV Where *You* Live



HIV in Orlando by ZIP Code

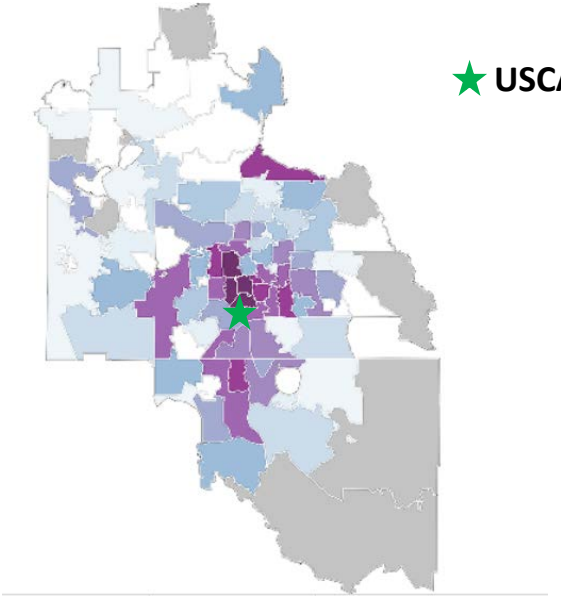
Overall Prevalence Rate



Rates of Persons Living with HIV 2016

0 - 150	151 - 250	251 - 350	351 - 450	451 - 650	651 - 900	901 - 1,200	1,201 -	1,651 -	2,751+

New Diagnoses



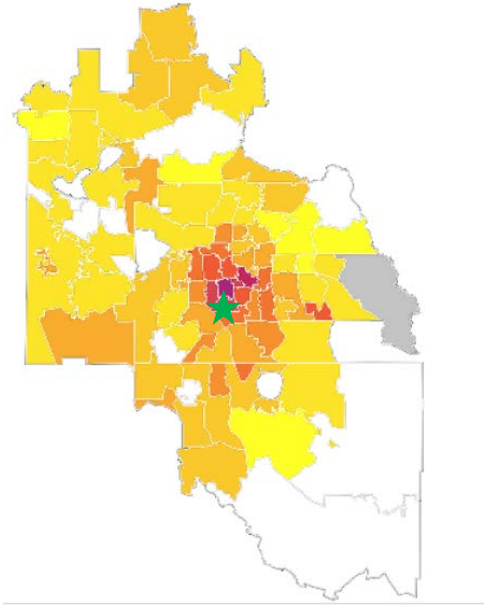
★ **USCA Location**

Number of Persons Newly Diagnosed with HIV, 2012-2016

5 - 8	9 - 11	12 - 16	17 - 21	22 - 29	30 - 40	41 - 53	54 - 72	73 - 113	114+

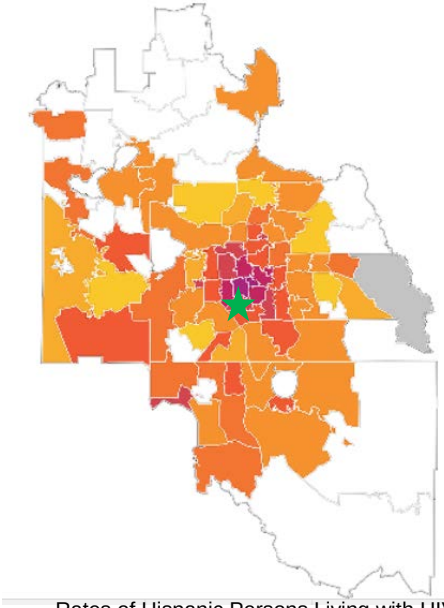
Orlando HIV Prevalence Rates by Race/Ethnicity

White Prevalence



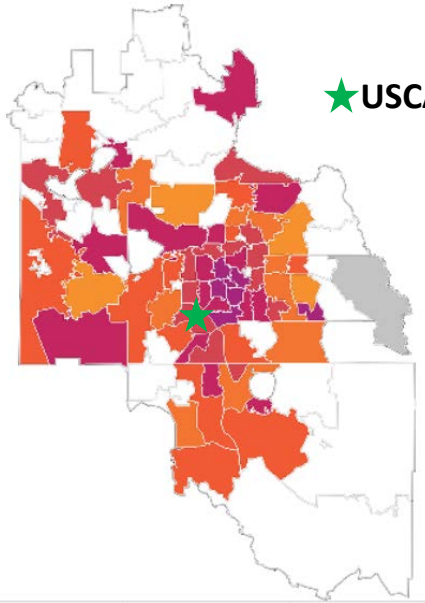
Rates of White Persons Living with HIV, 2016

Hispanic Prevalence



Rates of Hispanic Persons Living with HIV, 2016

Black Prevalence

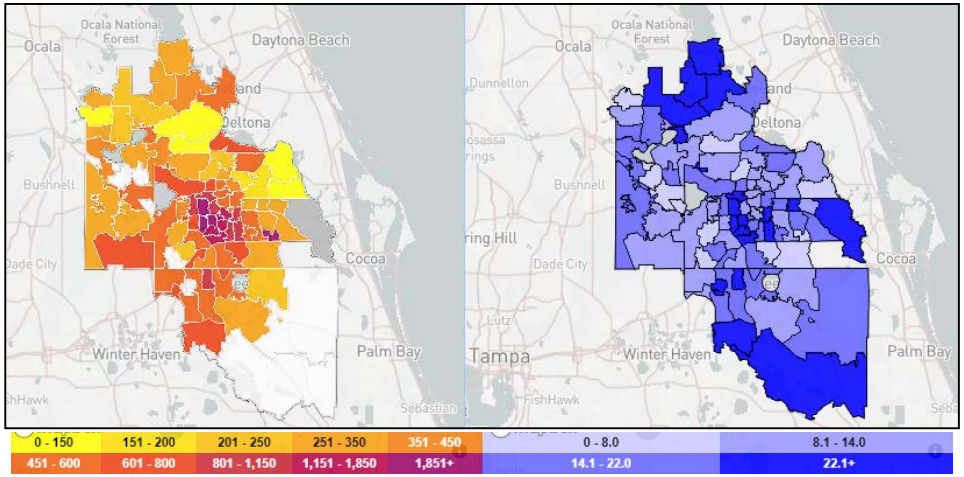


Rates of Black Persons Living with HIV, 2016

0 - 150	151 - 250	251 - 350	351 - 450	451 - 650	651 - 900	901 - 1,200	1,201 -	1,651 -	2,751+

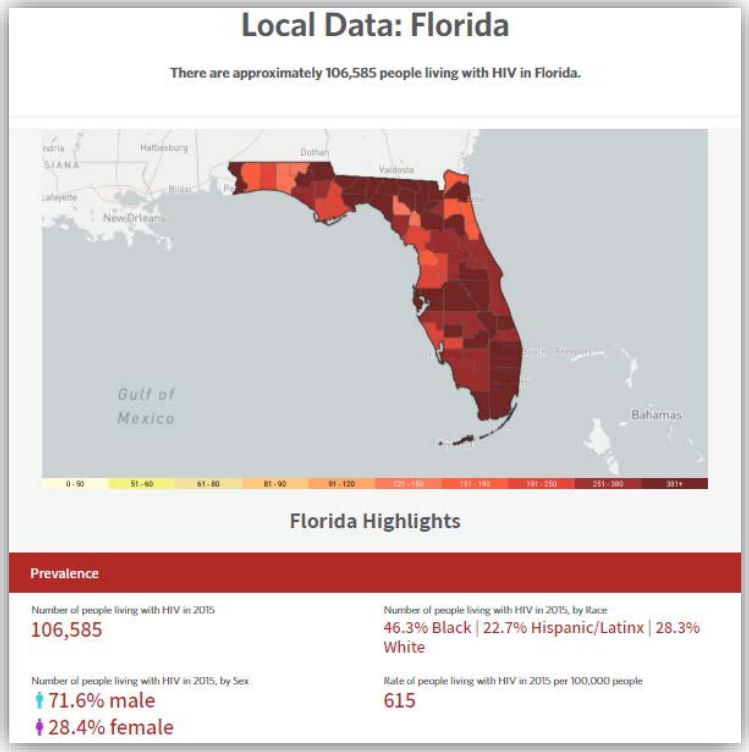
Social Determinants of Health

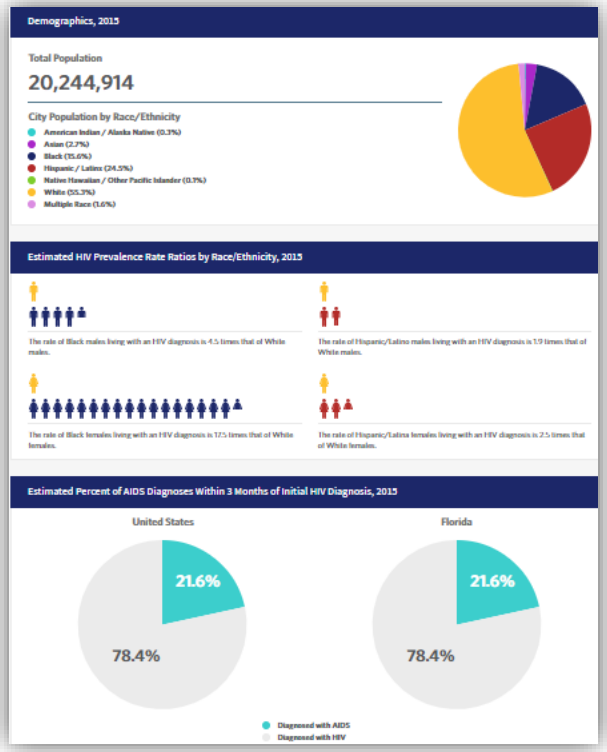
- **AIDSVu data can be visualized alongside:**
  - Poverty
  - High school education
  - Median household income
  - Income inequality
  - People without health insurance



HIV Prevalence Rates and Poverty Rates by ZIP Code

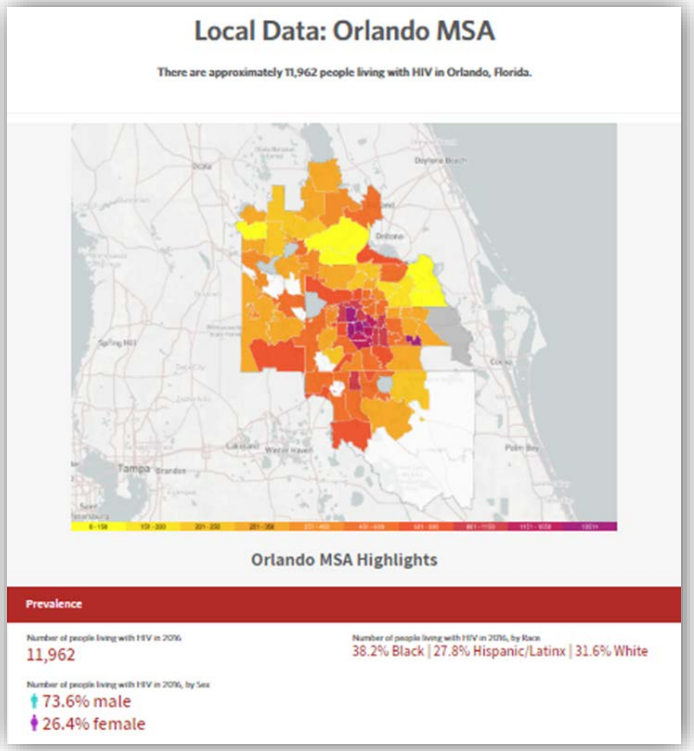
Visualize HIV at the State Level

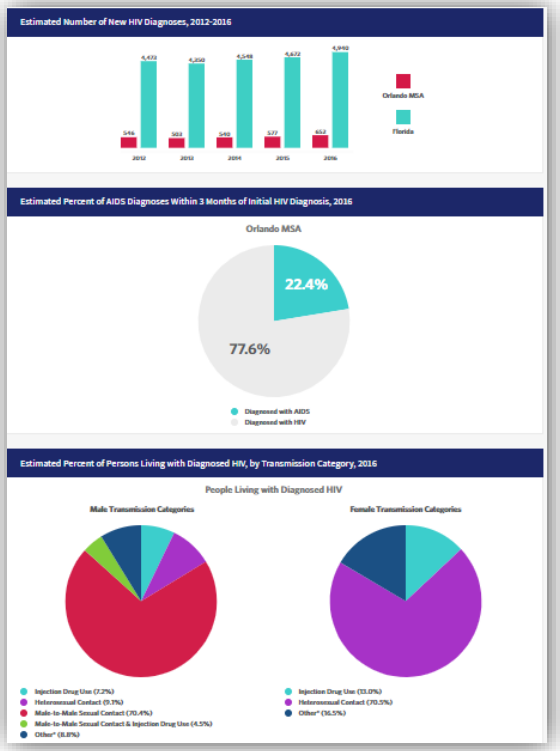




AIDSVu

Visualize HIV at the City Level



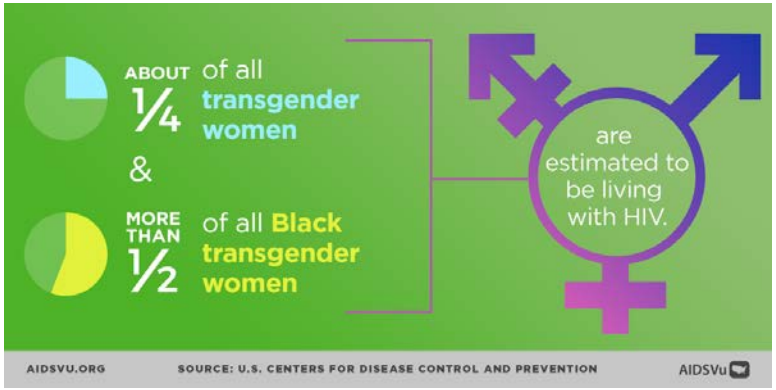


City Profile and Transgender Data

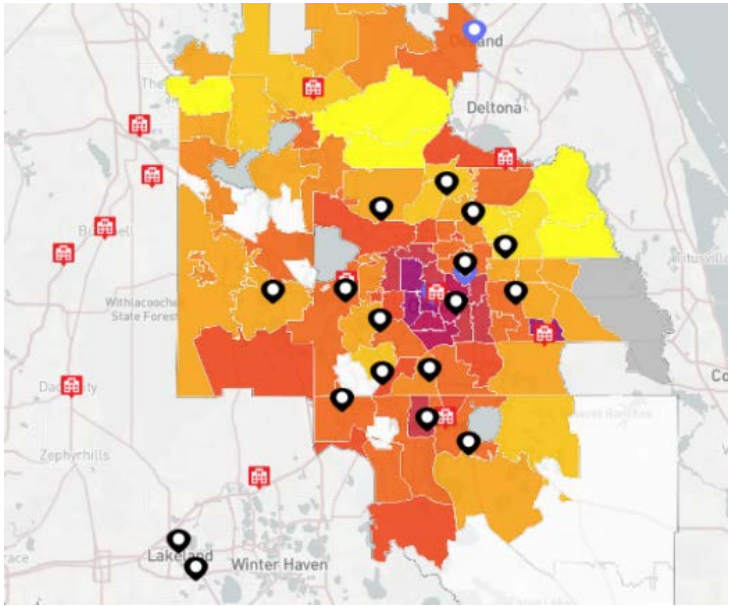
Estimated Number of Transgender People Living with Diagnosed HIV, 2016

Female to Male: 50

Male to Female: 1,268



Service Locators



Rates of Persons Living with HIV, 2016

0 - 150	151 - 200	201 - 250	251 - 350	351 - 450
451 - 600	601 - 800	801 - 1,150	1,151 - 1,850	1,851+

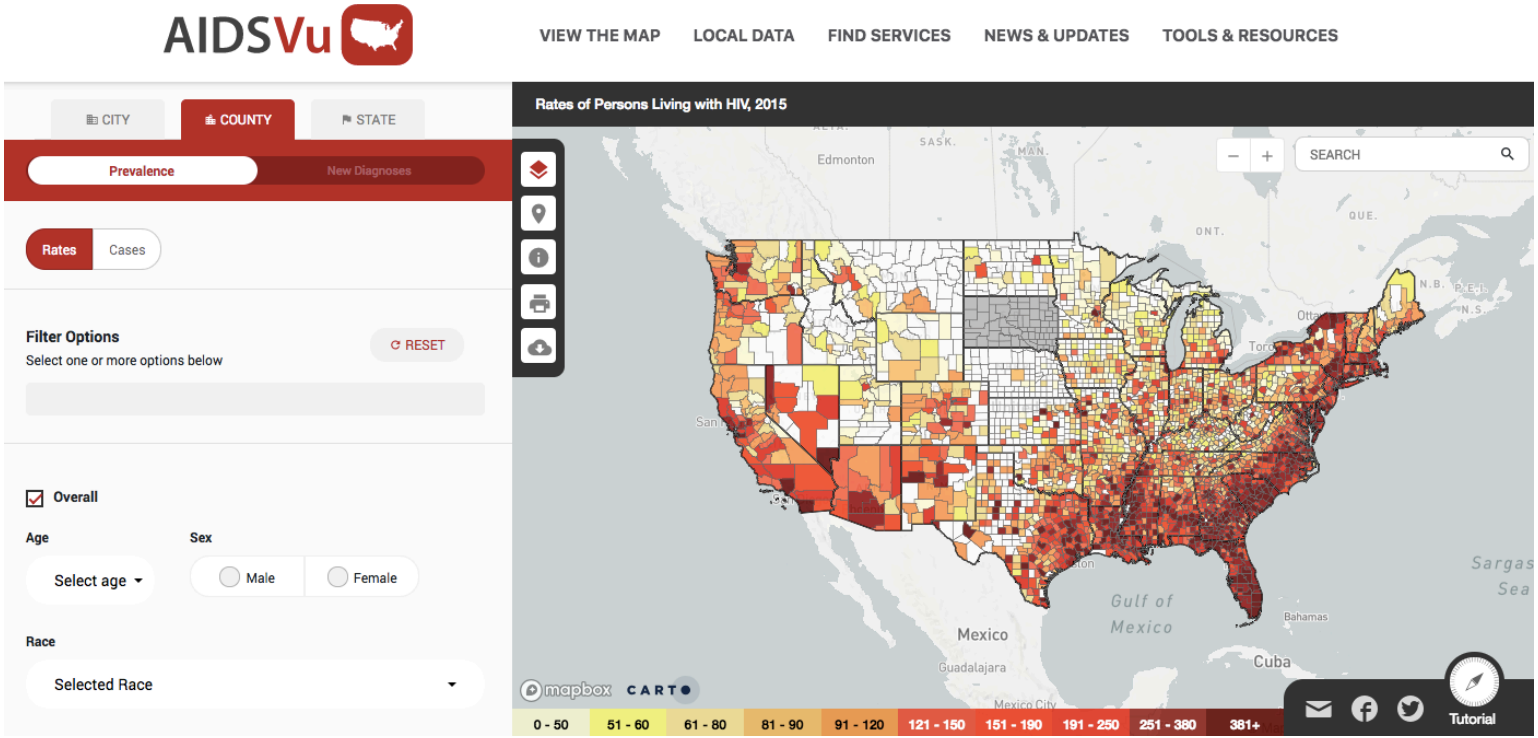
TESTING.
CARE. PREVENTION.

Nic Carlisle, JD

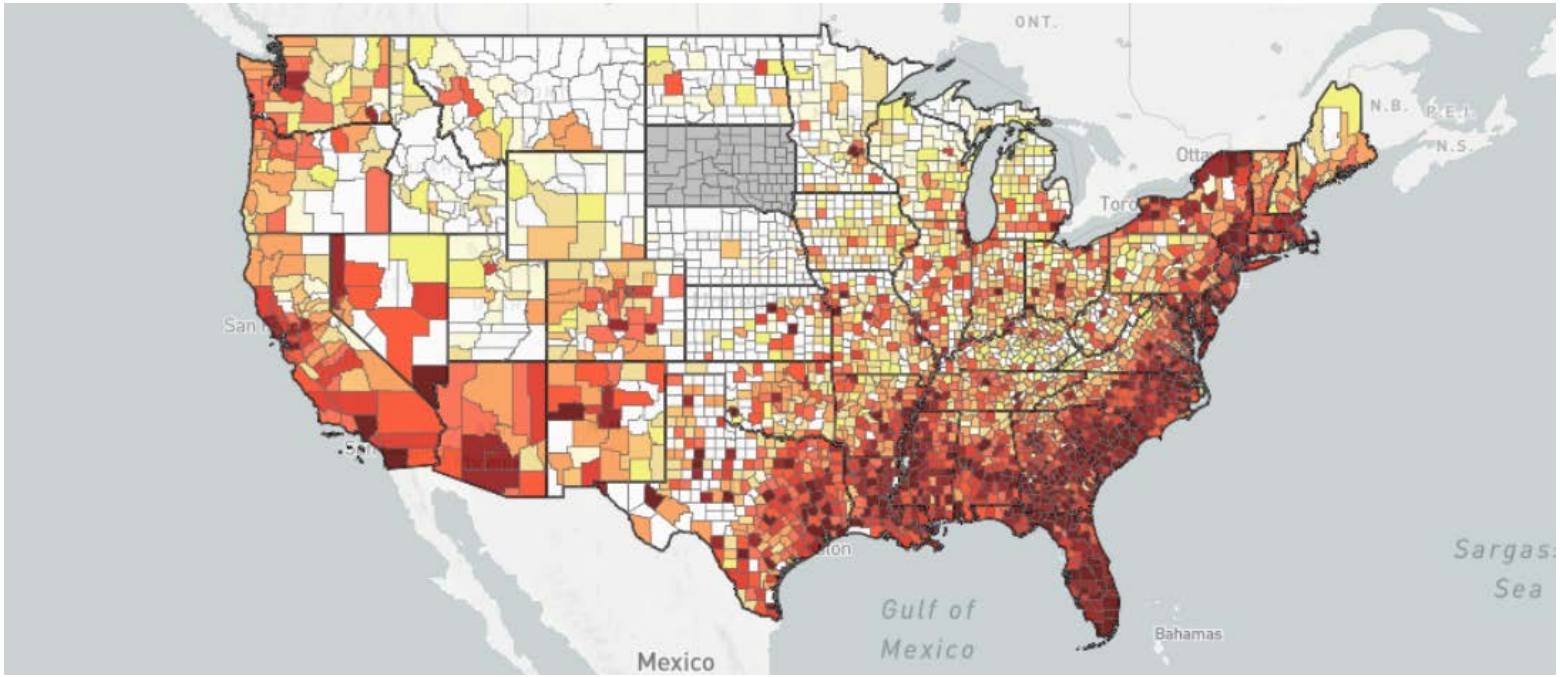
Executive Director, Southern AIDS Coalition

AIDSVu

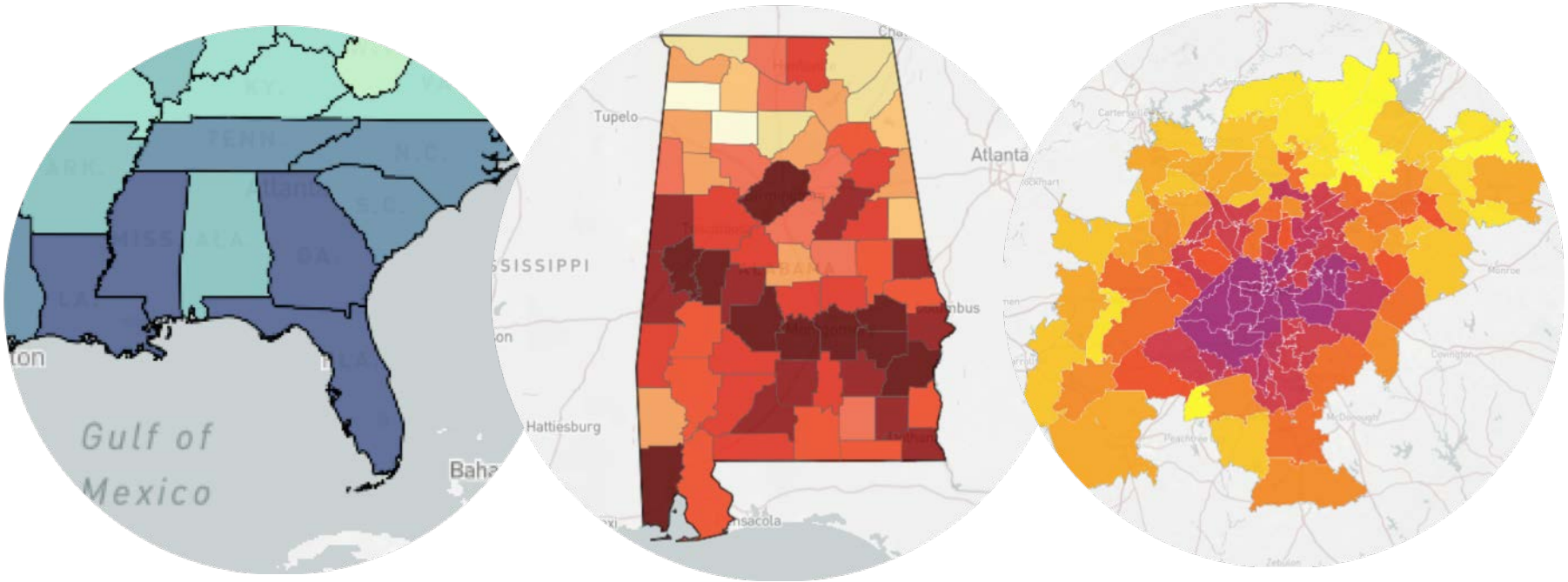
View the Map


AIDSVu
VIEW THE MAP
LOCAL DATA
FIND SERVICES
NEWS & UPDATES
TOOLS & RESOURCES
CITY
COUNTY
STATE
Prevalence
New Diagnoses
Rates
Cases
Filter Options
Select one or more options below
RESET
Overall
Age
Select age
Sex
Male
Female
Race
Selected Race
Rates of Persons Living with HIV, 2015
SEARCH
Edmonton
Mexico
Guadalajara
Gulf of Mexico
Cuba
Bahamas
Sargas Sea
mapbox
CARTO
Tutorial
0 - 50
51 - 60
61 - 80
81 - 90
91 - 120
121 - 150
151 - 190
191 - 250
251 - 380
381+

View the Map for National Advocacy

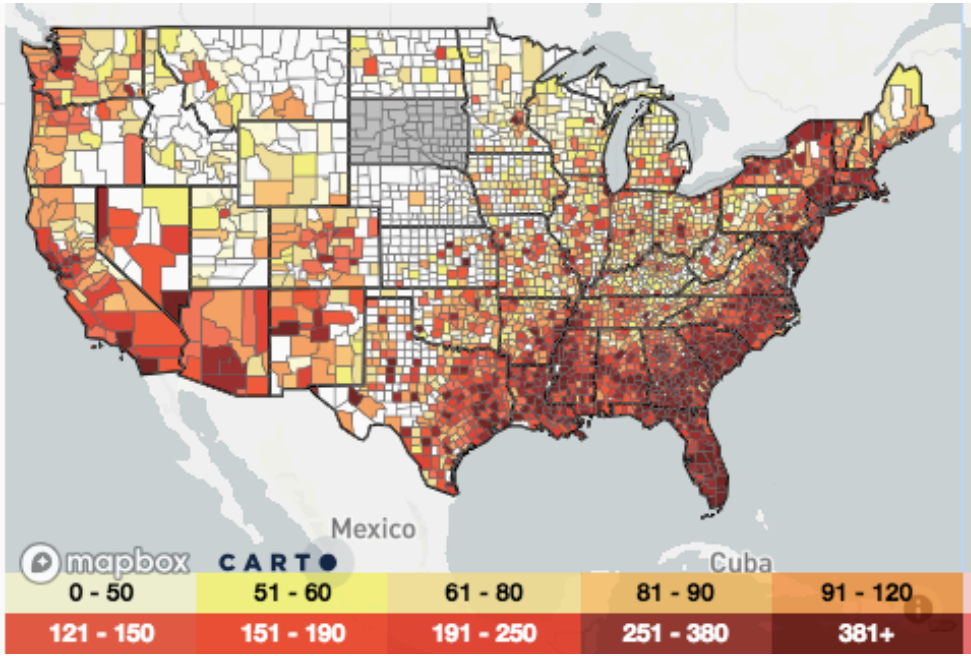


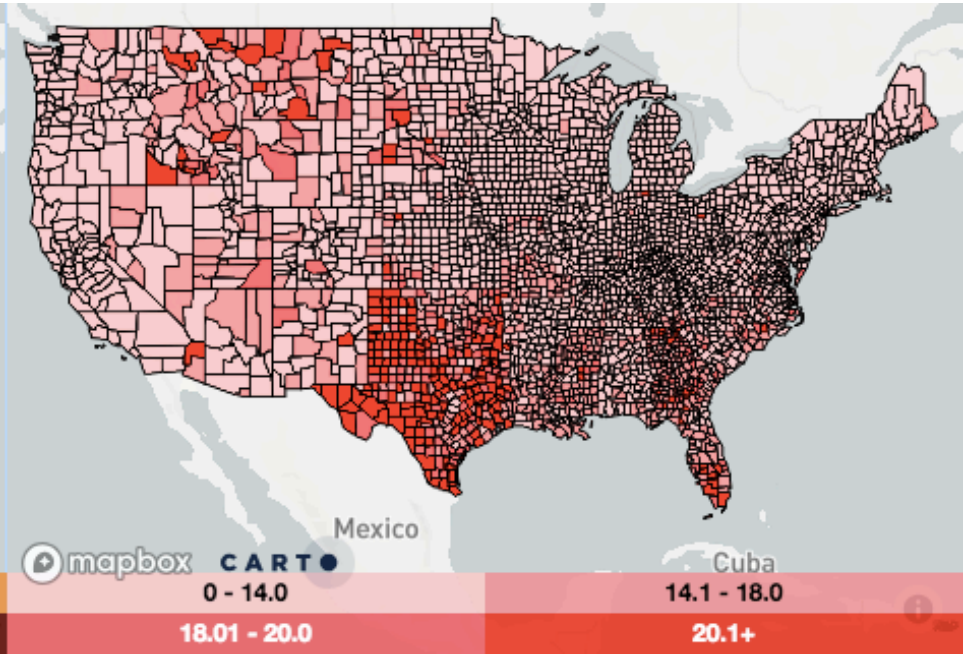
View the Map for State and Local Advocacy



View the Map for Intersectional Advocacy

HIV Prevalence Rates Compared to People Without Health Insurance





Local Data for Making Your Case

Louisiana Highlights

Prevalence

Number of people living with HIV in 2015

19,492

Number of people living with HIV in 2015, by Race

68.2% Black | 4.5% Hispanic/Latinx | 25.0% White

Number of people living with HIV in 2015, by Sex

70.5% male

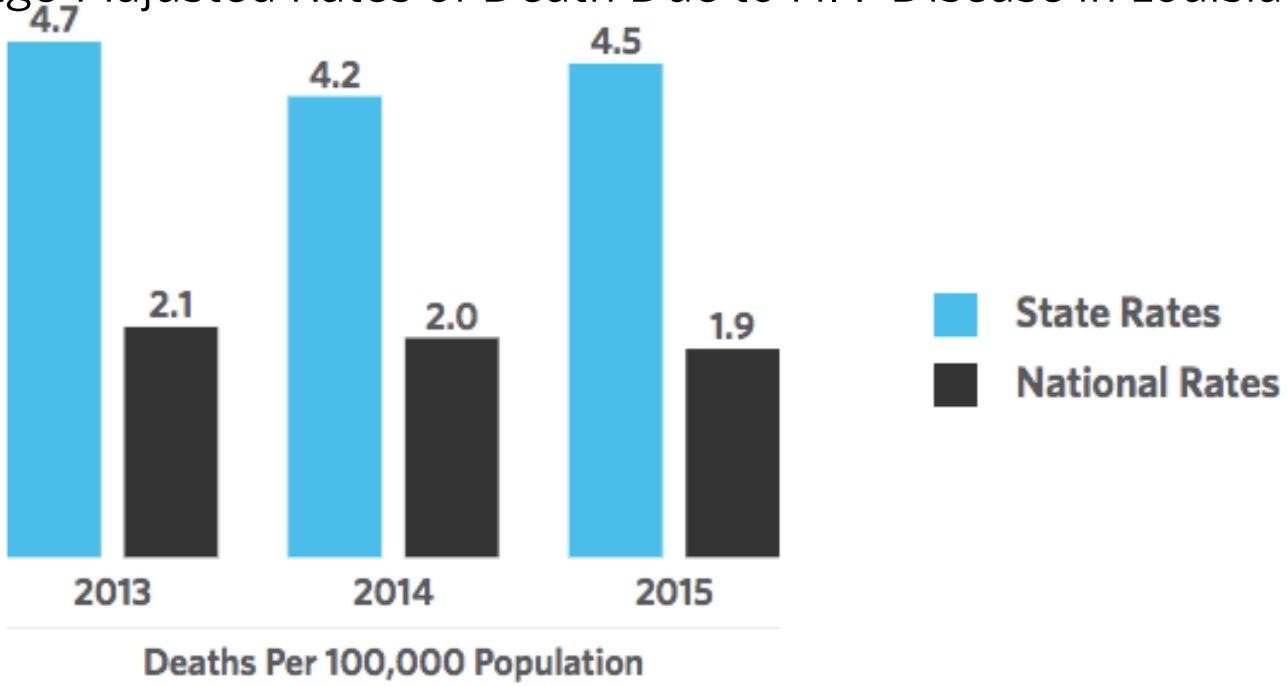
29.5% female

Rate of people living with HIV in 2015 per 100,000 people

504

Local Data for Making Your Case

Age-Adjusted Rates of Death Due to HIV Disease in Louisiana

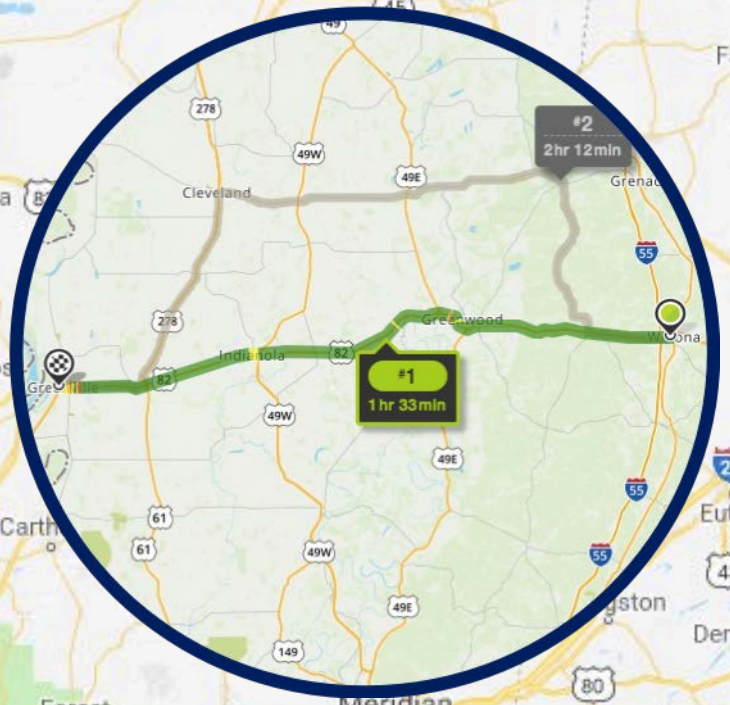


Service Locator

- Find HIV Testing, Pre-Exposure Prophylaxis (PrEP), and Care Services **NEAR YOU**.
- Find HIV Testing, Pre-Exposure Prophylaxis (PrEP), and Care Services **FAR FROM YOU**.

Service Locator for Documenting Deserts

A person in Winona, Mississippi has to drive at least 1 hour and 30 minutes to his or her nearest PrEP provider.

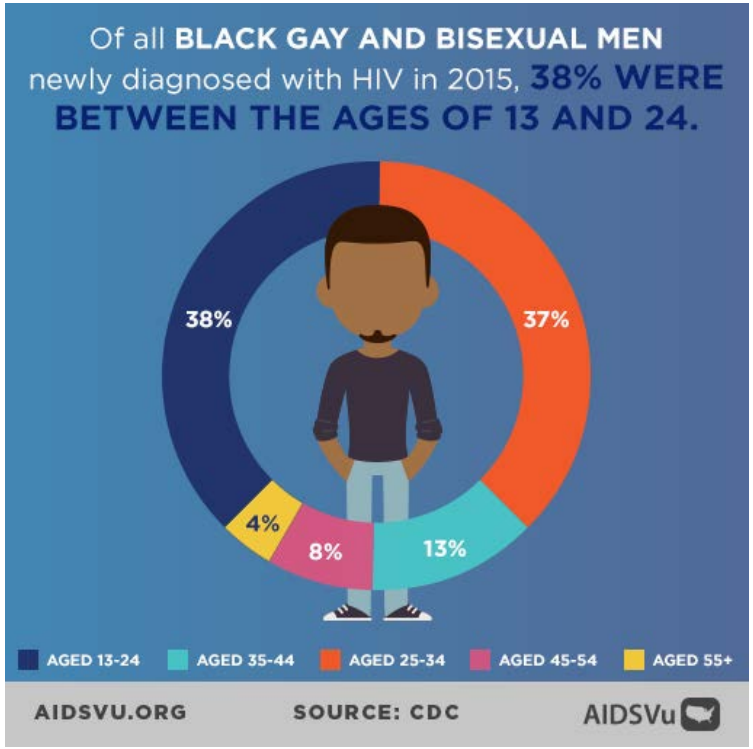


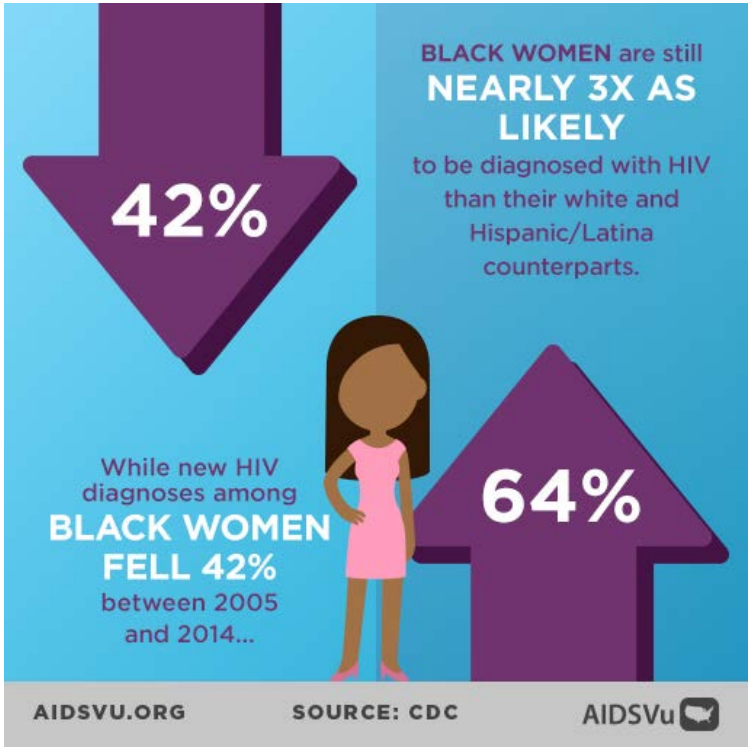
Service Locator for Documenting Deserts

Local Data: Mississippi

- Approximately 9,236 PLHIV
- 72.8% Black, 19.3% White, and 3.2% Latinx
- Rate of Black males living with HIV is 5.4x that of White males
- Some Mississippians have to drive 90 miles or more to access PrEP services

Infographics for Informing a Movement





Contact Information

Nic Carlisle, JD
Executive Director
Southern AIDS Coalition
P: 888-745-2975 (ext. 701)
C: 205-789-4121

JOIN US at www.southernaidscoalition.org

Bisola Ojikutu, MD, MPH

Division of Global Health Equity, Brigham and Women's Hospital, Infectious Disease Division, Massachusetts General Hospital

AIDSVu

Background

- **44%** of the almost 40,000 individuals who were newly diagnosed with HIV in the US in 2016 were Black/African-American

- **53%** of new HIV diagnoses in 2016 occurred in the South (16.3 per 100,000 population) where more than 50% of Black/African-Americans live

- PrEP use is sub-optimal among Black/African-American individuals

Barriers to PrEP Use Among Black/African-American Individuals

INDIVIDUAL-LEVEL*	STRUCTURAL-LEVEL
Low PrEP knowledge	
Stigma	
Homophobia	
Socioeconomic status	
Insurance	
Mistrust	
Low self-perceived risk	

*Ojikutu BO et al. AIDS Behav. 2018

Research Questions

1. Is there an association between proximity to PrEP prescribing clinics and willingness to use PrEP?

2. What is the relationship between structural factors and willingness to use PrEP?

2016 National Survey on HIV in the Black Community (NSHBC)

- Online survey administration in 2016
- Nationally representative sample
- Ages 18-50
- Respondent ZIP Codes at the time of survey administration
- HIV Prevention: **Are you willing to use PrEP?**

Study 1: Is Availability of Clinics that Prescribe PrEP Associated with Greater Willingness to Use It?

Exposure: PrEP prescribing clinic locations from AIDSVu.org

Outcome: willingness to use PrEP via the NSHBC

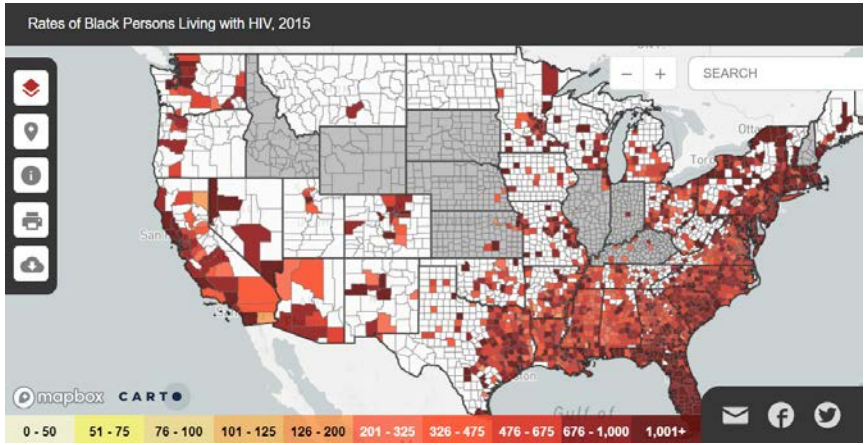
Geographic Unit of Analysis: ZIP Code-level

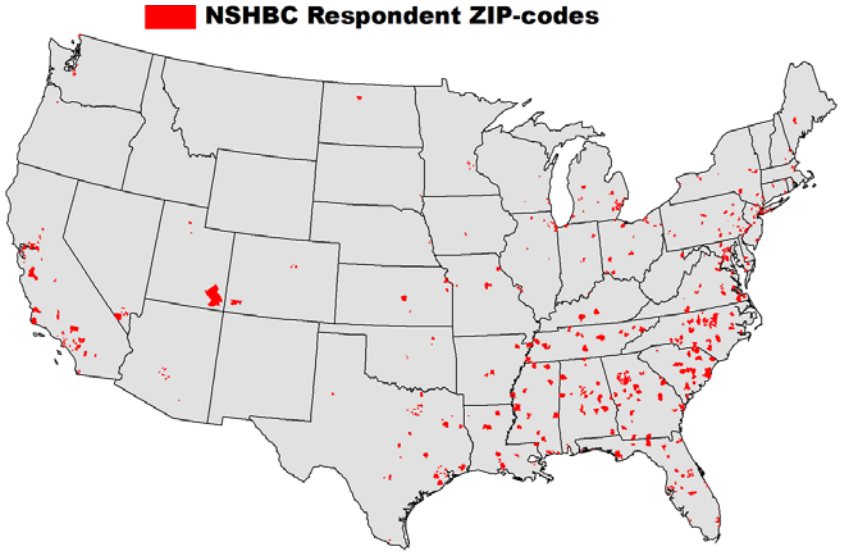
Analysis: Multilevel modeling to determine the association between willingness to use PrEP and PrEP prescribing clinic density

Ojikutu BO et al AIDS 2018. Amsterdam. Abstract # WEPEC253

AIDSVu

VIEW THE MAP | LOCAL DATA | FIND SERVICES | NEWS & UPDATES | TOOLS & RESOURCES





53% of respondents were in the South
91% urban

VIEW THE MAP | LOCAL DATA | FIND SERVICES | NEWS & UPDATES | TOOLS & RESOURCES

Data Sets | Deeper Look | Infographics | How Do You AIDSVu

2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008

National Data Sets

- All State New Diagnoses Data Sets — XLSX
- All County New Diagnoses Data Sets — XLSX
- All State PrEP Data Sets — XLSX
- ZIP3 PrEP Data Sets — XLSX

Zip Code Data

Select City

Download XLSX

***State and ZIP Code-level PrEP use by gender and age

AIDSVu

VIEW THE MAP | LOCAL DATA | FIND SERVICES | NEWS & UPDATES | TOOLS & RESOURCES

PrEP Locator Find Your Provider

About Us | About PrEP | Locator Data | FAQ | Add Provider | Add Locator To Your Site | Contact

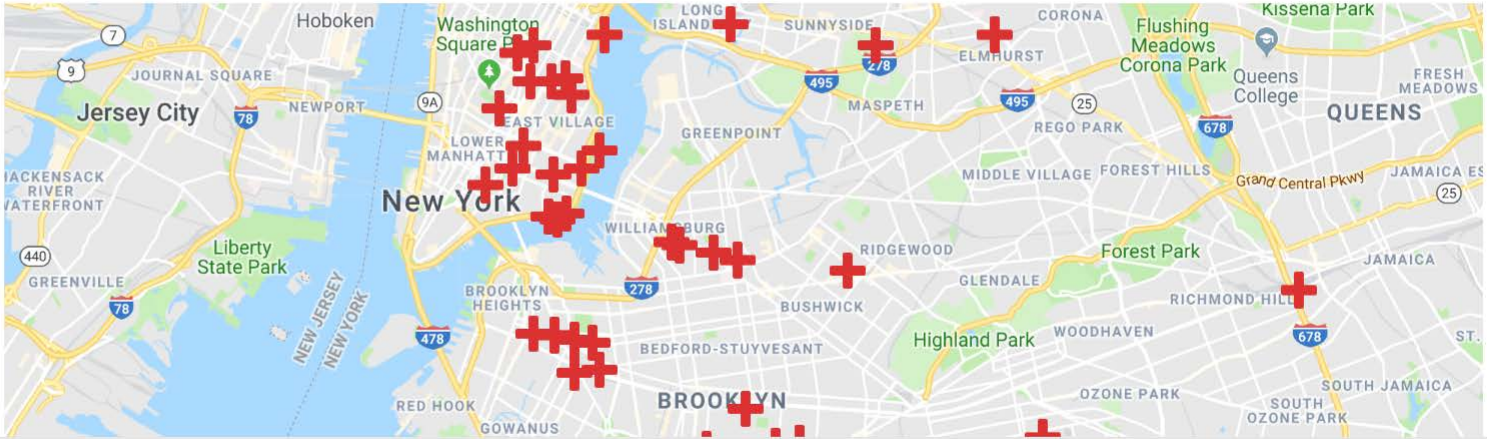
11203

PrEP for uninsured

PrEP access assistance

Heart Care Consultants
4713 Church Ave
Brooklyn, NY 11203
(646) 824-7070
Distance from your location: 0.03 miles

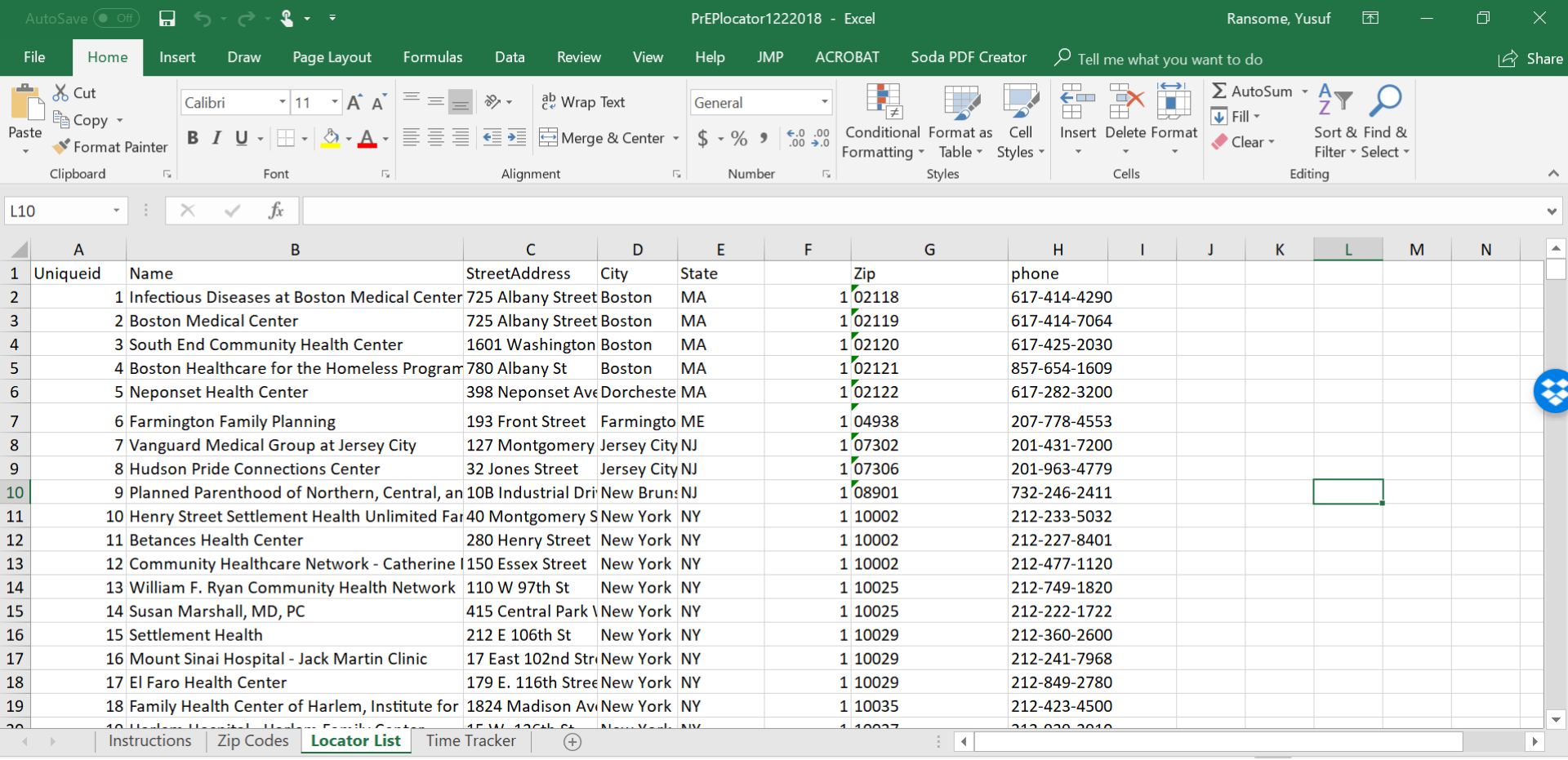
State University of New York Downstate Medical Center
450 Clarkson Ave



CREATED BY: EMORY UNIVERSITY

POWERED BY: NPIN National Prevention Information Network Centers for Disease Control and Prevention

Suggest A Provider | Privacy Policy | Terms of Use

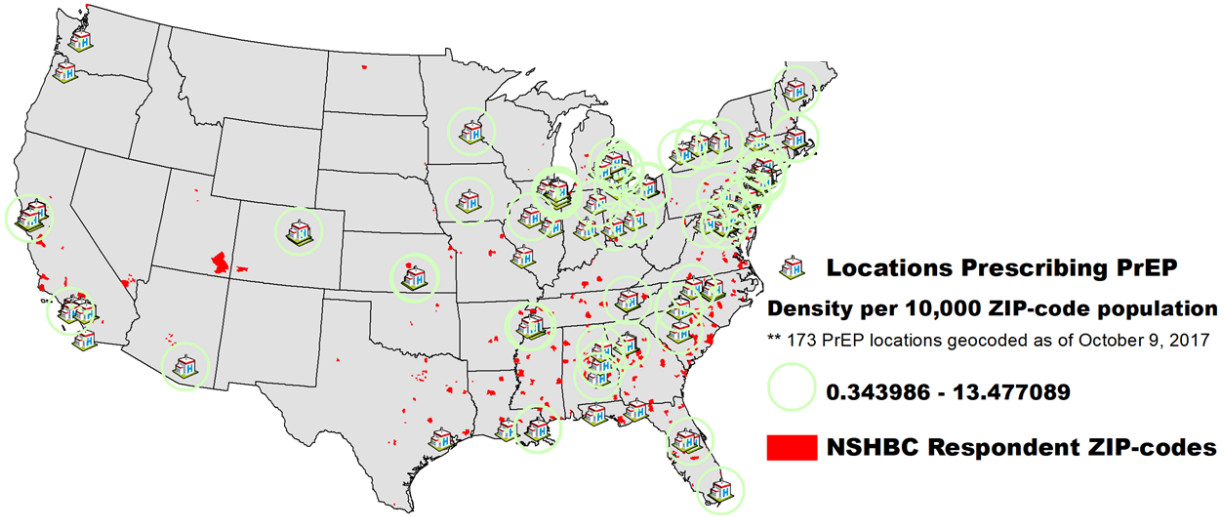


	A	B	C	D	E	F	G	H
1	Uniqueid	Name	StreetAddress	City	State		Zip	phone
2	1	Infectious Diseases at Boston Medical Center	725 Albany Street	Boston	MA	1	02118	617-414-4290
3	2	Boston Medical Center	725 Albany Street	Boston	MA	1	02119	617-414-7064
4	3	South End Community Health Center	1601 Washington	Boston	MA	1	02120	617-425-2030
5	4	Boston Healthcare for the Homeless Program	780 Albany St	Boston	MA	1	02121	857-654-1609
6	5	Neponset Health Center	398 Neponset Ave	Dorcheste	MA	1	02122	617-282-3200
7	6	Farmington Family Planning	193 Front Street	Farmingto	ME	1	04938	207-778-4553
8	7	Vanguard Medical Group at Jersey City	127 Montgomery	Jersey City	NJ	1	07302	201-431-7200
9	8	Hudson Pride Connections Center	32 Jones Street	Jersey City	NJ	1	07306	201-963-4779
10	9	Planned Parenthood of Northern, Central, an	10B Industrial Dri	New Brun	NJ	1	08901	732-246-2411
11	10	Henry Street Settlement Health Unlimited Far	40 Montgomery S	New York	NY	1	10002	212-233-5032
12	11	Betances Health Center	280 Henry Street	New York	NY	1	10002	212-227-8401
13	12	Community Healthcare Network - Catherine I	150 Essex Street	New York	NY	1	10002	212-477-1120
14	13	William F. Ryan Community Health Network	110 W 97th St	New York	NY	1	10025	212-749-1820
15	14	Susan Marshall, MD, PC	415 Central Park \	New York	NY	1	10025	212-222-1722
16	15	Settlement Health	212 E 106th St	New York	NY	1	10029	212-360-2600
17	16	Mount Sinai Hospital - Jack Martin Clinic	17 East 102nd Str	New York	NY	1	10029	212-241-7968
18	17	El Faro Health Center	179 E. 116th Stree	New York	NY	1	10029	212-849-2780
19	18	Family Health Center of Harlem, Institute for	1824 Madison Av	New York	NY	1	10035	212-423-4500

Data Analysis

- Geocoded PrEP locations in ArcMap 10.4
- 173 locations across 127 unique ZIP Codes
- Calculated the density of PrEP clinics per 10,000(10K) residents per ZIP code using 2010 Census denominators
- Calculated driving distance in miles to the nearest PrEP clinic from the population-weighted centroid of all US ZIP codes

NSHBC Respondent ZIP Codes and PrEP Prescribing Clinics



~40% of the sample would need to drive more than one hour to access PrEP

Higher PrEP Density was associated with 16% higher likelihood of willingness to use PrEP

Conclusions

- Among Black individuals, spatial proximity impacts willingness to use PrEP.

- Scale up of PrEP prescription at clinic sites in proximity to where at-risk individuals reside is necessary to increase access and may reduce disparities.

Study 2: Area-level factors and willingness to use PrEP among Black individuals in the South

Exposures:

- HIV diagnoses rates from AIDSVu.org
- Percentage living in poverty

Outcome: Willingness to use PrEP via the NSHBC

Geographic Unit of Analysis: ZIP Code level

Analysis: Regression analysis to determine the association of PrEP willingness with ZIP code-level HIV diagnoses rates and poverty

Ojikutu BO et al. AIDS2018. Amsterdam. Abstract #WEPED359

Social Determinant Data (ZIP code-level)

- Income Inequality (GINI coefficient)
- Median Income
- Percent living in poverty
- Percent high school education
- Percent lacking health insurance

AIDSVu

VIEW THE MAP | LOCAL DATA | FIND SERVICES | NEWS & UPDATES | TOOLS & RESOURCES

Age

Select age

Sex

Male | Female

Race

Selected Race

Transmission Categories

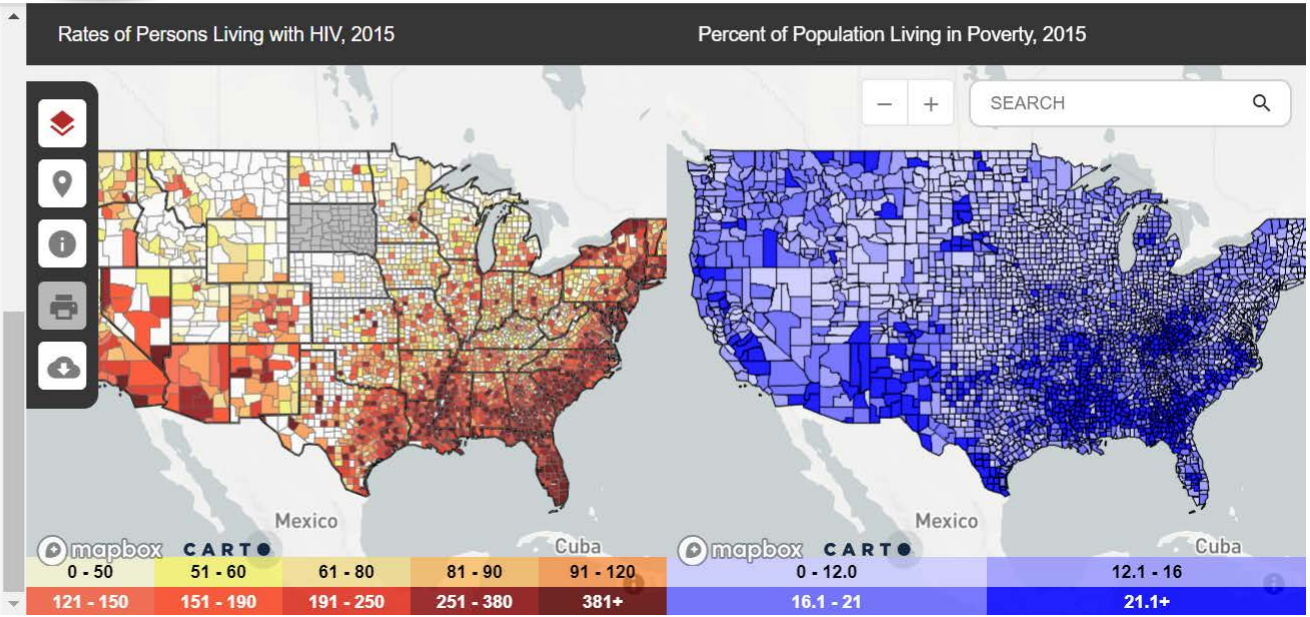
Select a sex above for details

Select transmission category

DATA COMPARISONS

Social Determinants of Health

Poverty



Regression Results

Table 3. Results from regression analysis of ZIP-code level factors predicting willingness to use PrEP	Model 1 Rate Ratio (95% confidence Interval)	Model 2 Rate Ratio (95% confidence Interval)
1. Change in HIV diagnosis rates, 2015 - 2014 (Lower 75th percentile= reference)	1	1
Upper 25th percentile	2.03 (1.03, 4.02), p=0.041	1.93 (0.85, 4.35), p=0.113
2. Poverty level		0.48 (0.25, 0.92), p=0.028
3. Percent black/African American		0.94 (0.58, 1.52), p=0.805
4. Percent unemployed		1.69 (0.92, 3.11), p=0.088

Ojikutu BO et al. AIDS2018. Amsterdam. Abstract #WEPED359

Overall Conclusions

- Need to look beyond the individual to the environment
- AIDSVu is a useful resource for epidemiologic data for the purpose of understanding the impact of environment on HIV epidemic
- Can be combined with many other databases by ZIP code to answer important public health questions

Acknowledgements

- NSHBC participants and advisory committee
- Yusuf Ransome DrPH, Yale School of Public Health
- Laura Bogart PhD, RAND Corporation
- Kenneth Mayer MD, The Fenway Institute
- Patrick Sullivan PhD DVM, Rollins School of Public Health (Emory)
- Thomas Stopka PhD, Tufts University School of Medicine
- Center for Geographic Analysis (CGA) at Harvard University

Jose Bauermeister, PhD, MPH

Professor of Nursing, University of Pennsylvania

AIDSVu

Why Maps? Why Grants?

- Overview
  - Describe ways in which maps can be used for grants
  - Give concrete examples of how AIDSVu maps have been successfully used in research grant proposals
  - Look at how AIDSVu can be used to inform program-based grant proposals

Enriching Data in Planning

- Epidemiologic Data from literature review

- Population Data:
  - Demographic information
  - Social Indicators
  - Health Status
  - Resource distribution

Maps in Grants

- Demarcate areas that merit further study
- Visually illustrate areas of relative need
- Identify service gaps
- Explore mismatches between services and need

Funding Criteria

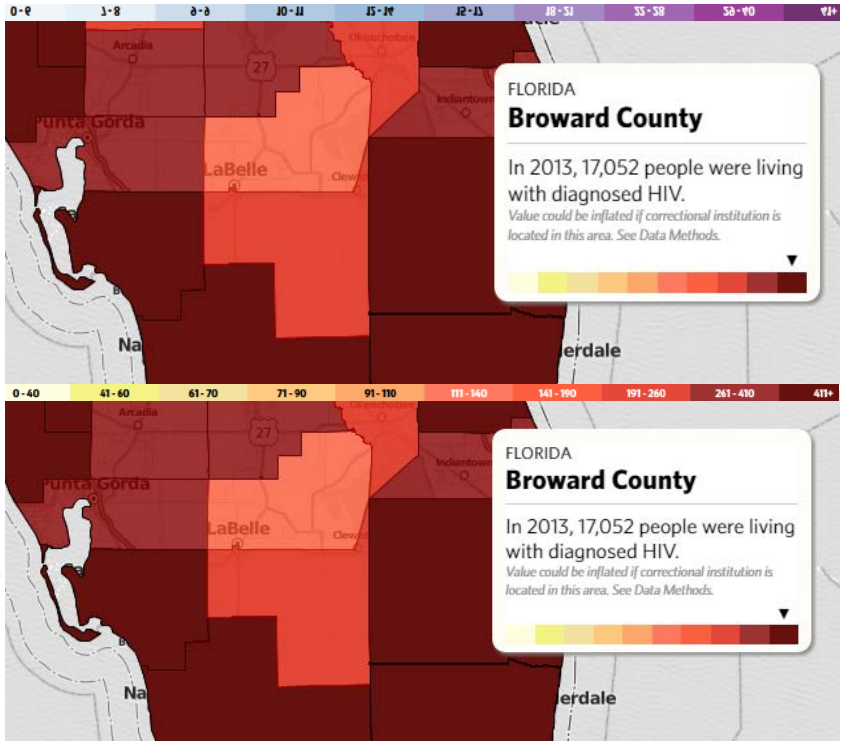
NIH National Institutes of Health
Office of Extramural Research

Grants & Funding
NIH's Central Resource for Grants and Funding Information

Definitions of Criteria and Considerations for Research Project Grant (RPG/R01/R03/R15/R21/R34) Critiques

1. Significance.

R01, R03, R21, R34. Does the project address an important problem or a critical barrier to progress in the field? If the aims of the project are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved? How will successful completion of the aims change the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?



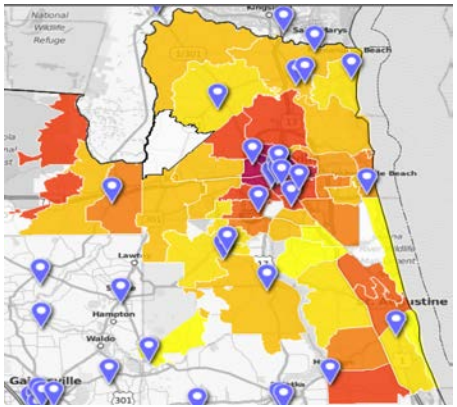
Funding Criteria

National Institutes of Health
Office of Extramural Research

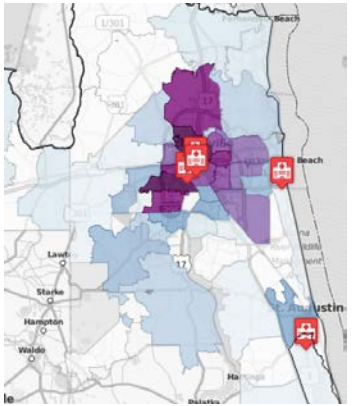
Grants & Funding
NIH's Central Resource for Grants and Funding Information

3. Innovation.

Does the application challenge and seek to shift current research or clinical practice paradigms by utilizing novel theoretical concepts, approaches or methodologies, instrumentation, or interventions? Are the concepts, approaches or methodologies, instrumentation, or interventions novel to one field of research or novel in a broad sense? Is a refinement, improvement, or new application of theoretical concepts, approaches or methodologies, instrumentation, or interventions proposed?



Jacksonville, FL HIV Prevalence and HIV testing locations



Jacksonville, FL HIV New Diagnoses and Ryan White Care Centers

5 - 8	9 - 11	12 - 16	17 - 21	22 - 29	30 - 40	41 - 53	54 - 72	73 - 113	114+
0 - 100	101 - 150	151 - 250	251 - 300	301 - 400	401 - 550	551 - 800	801 - 1,200	1,201 - 1,950	1,951+

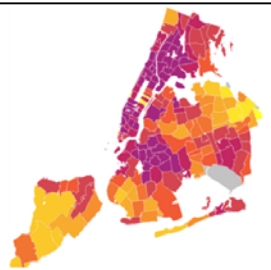
Centers for Disease Control and Prevention

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention Extramural Research Program Office

Mobile Messaging Intervention to Present New HIV Prevention Options for MSM
RFA-PS-15-002
Application Due Date: 03/16/2015

Mobile Messaging

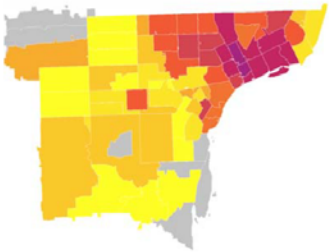
- Research goal: Test the efficacy of a program for HIV prevention mobile messaging (U01)
- Data use: Demarcate area for study



New York HIV prevalence by ZIP code, 2011

New York City was chosen as a study site because it remains an epicenter of the epidemic, with MSM accounting for the majority of infections. NYC surveillance data from the Department of Health and Mental Hygiene (DOHMH)[117] show that approximately 58% of all new HIV diagnoses in 2013 were among MSM, with 46,562 living with diagnosed HIV. Among newly diagnosed males, 72.4% were MSM. Nine out of ten males with new HIV diagnoses resided in one of the 5 NYC boroughs (Bronx 17.2%, Brooklyn 24.1%, Manhattan 28.1%, Queens 17.9%, Staten Island 1.9%), with the remainder residing outside of the boroughs. The HIV diagnosis rate among Black males was 1.5 times higher than the rate among Hispanic males and >2 times higher than white males. Men aged 20-29 accounted for > 40% of new HIV diagnoses.

The Detroit Metro Area (DMA) is one of the most racially segregated areas in the United States[118] and is the state of Michigan's HIV epicenter, accounting for 67% of all HIV/AIDS cases in the state.[119] MSM account for 60% of HIV cases and > two thirds of HIV-positive MSM statewide reside in Southeast Michigan.[119] Similar to other cities such as Atlanta and New York, Detroit zip codes with higher HIV prevalence are also more likely to be inhabited by racial/ethnic minorities and characterized by economic disadvantage.[119] Black MSM account for 59% of all MSM cases, while White and Latino MSM account for 34% and 3%, respectively. The adjusted prevalence of HIV/AIDS among White MSM is 85 infections per 100,000 White males, whereas Black MSM account for an estimated 490 infections per



Detroit HIV prevalence by ZIP code, 2011

Department of Health and Human Services
Part 1. Overview Information

Participating Organization(s)

National Institutes of Health (NIH (http://www.nih.gov))

Components of Participating Organizations

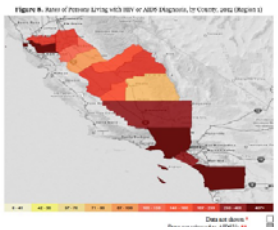
National Institute on Minority Health and Health Disparities (NIMHD (http://www.nimhd.nih.gov/))

Funding Opportunity Title

Behavioral Interventions to Prevent HIV in Diverse Adolescent Men Who Have Sex with Men (U01)

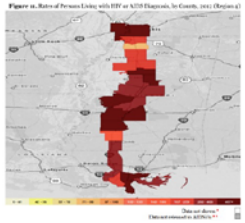
Life Skills Intervention

- Research goal: Adapt and test the efficacy of a multilevel life skills intervention mobile app for adolescent MSM.
- Data use: Visually illustrate areas of need, demarcate areas of intervention

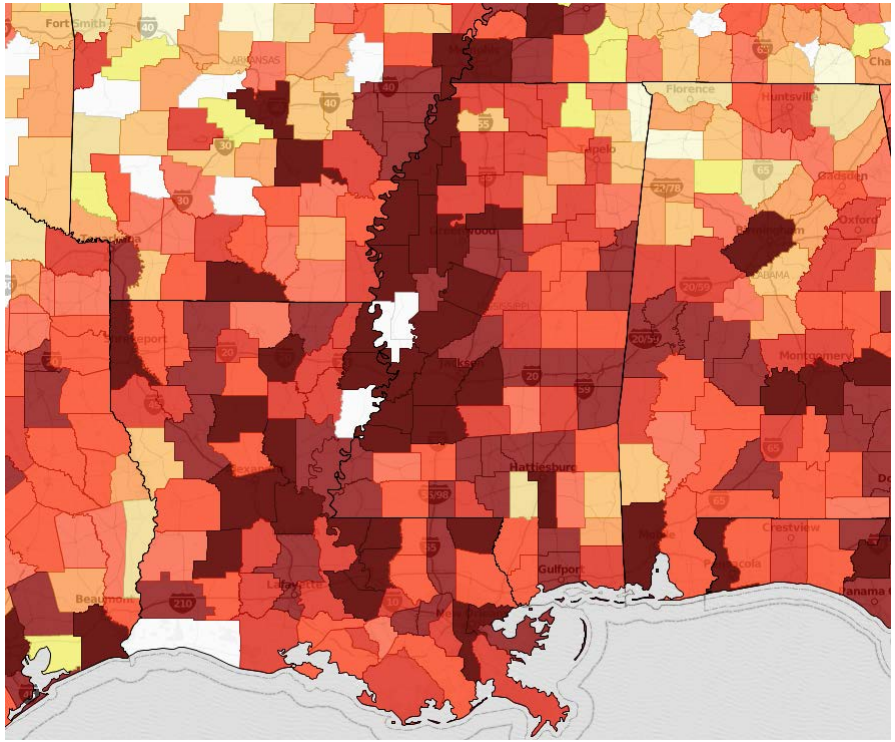


Region 1-San Francisco, CA to San Diego, CA: Region 1 (see Figure 8) stretches from San Francisco to San Diego, along Highways 80, 580, and 5. Other major cities along this corridor include Oakland, Fresno, Bakersfield, and Anaheim. There are 11 counties in Region 1, and recruitment will be restricted to zip codes exclusively in these counties. Based on 2010 Census data, the average population of counties in this region is 6.4% African American (range: 2.1-12.1%), 41.1% Hispanic/Latino(a) (range: 15.3-57.5%), and 15.1% Asian or Pacific Islander (range: 4.3-35.4%). This is the most urban of the four regions, counties are 93.9% urban (range: 85.7-100%) and 6.1% rural (range: 0-14.3%). California

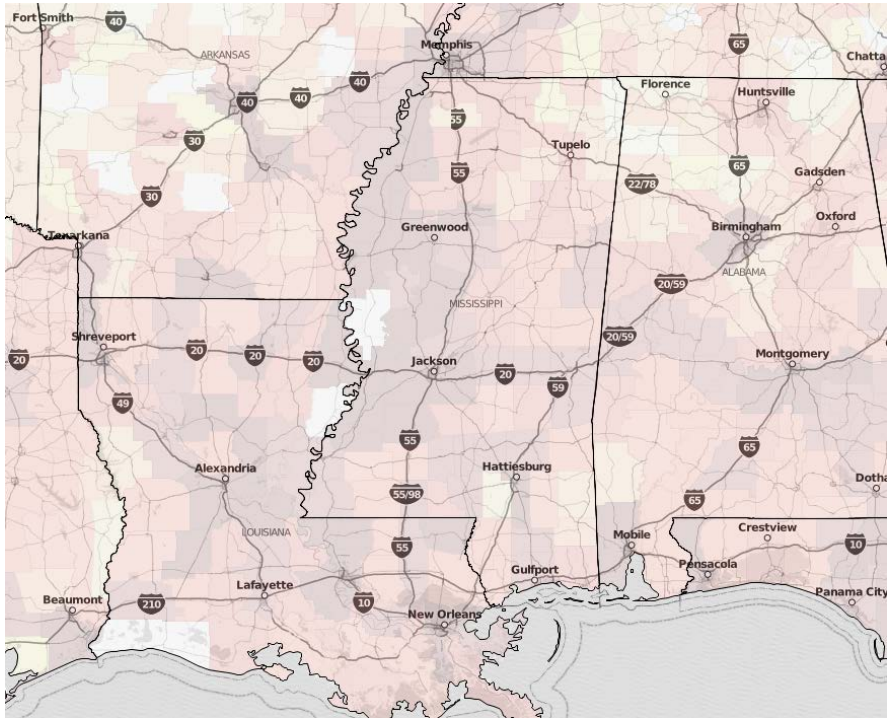
Region 4- Memphis, TN to New Orleans, LA: Region 4 stretches from Memphis to New Orleans through Tennessee, Mississippi, and Louisiana along Highway 55. Other major cities along this corridor include Jackson, MS and Baton Rouge, LA. Region 4 has 20 counties in Region 4, and recruitment will be restricted to zip codes that lie exclusively in these counties. Relative to 2010 Census data from the other sampled regions, this region contains the highest percentage of racial and ethnic minorities (with the highest percentage of African Americans) and is the most rural. The population of counties in this region is (on average) 45.1% African American (range: 24.9-82.2%), 3.6% Hispanic or Latino(a) (range: 0.9-13.8%), and 1.1% Asian or Pacific Islander (range: 0.2-4.3%). On average, counties in Region 4 are 54.6% urban (range: 0-99.4%) and 39.4% rural (range: 0.6-100%). HIV prevalence in



Identify Intervention Area



Explore Area



Department of Health and Human Services
Part 1. Overview Information

Participating Organization(s)	National Institutes of Health (NIH)
Components of Participating Organizations	*Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD) National Institute on Drug Abuse (NIDA) National Institute of Mental Health (NIMH) National Institute on Minority Health and Health Disparities (NIMHD)
Funding Opportunity Title	Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN) Research Program Grants (U19)
Activity Code	U19 Research Program – Cooperative Agreements
Announcement Type	New
Related Notices	• September 29, 2015 - Notice of Technical Assistance Webinar and Follow-Up Conference Call for the Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN) Research Program Grants (U19) and the (ATN) Coordinating Center (CC) (U24). See Notice NOT-HD-15-029.
Funding Opportunity Announcement (FOA) Number	RFA-HD-16-035

Adolescent Trials Network

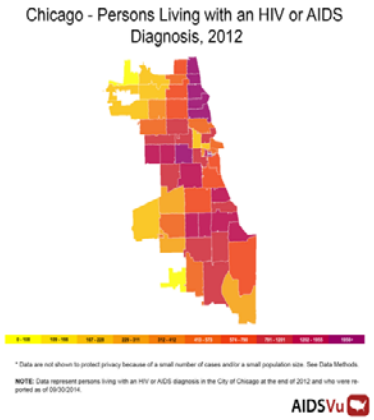
- Research goal: Develop and assess technology-based interventions for adolescents
- Data use: Demarcate study areas, illustrate areas of relative need.

1. Site Epidemiology

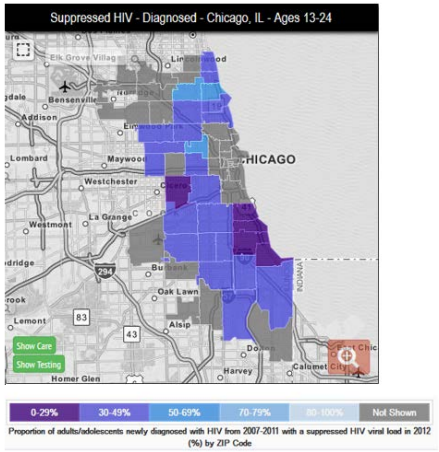
Data from the Chicago Department of Health's most recent 2014 HIV/STI Surveillance publication notes while the number of new HIV infection diagnoses in Chicago has remained stable from 2009-2013, with approximately 1,000 new infections annually, there was an approximately 8% increase among 13-24 year olds (CDPH, 2014). The 2013 rate of HIV infection diagnoses in Chicago (40.4 per 100,000) is approximately 2.5 times higher than the national rate, and the prevalence rate for Chicago (827.9/100,000) is nearly 3 times the national rate. The majority of STI diagnoses in Chicago are concentrated among adolescents and young adults. Those 13 to 24 years old accounted for 65% of gonorrhea cases and 70% of chlamydia cases. The total number of reported primary and secondary (P&S) syphilis cases increased 6.5% from 2012 to 2014.

2. Description of Clinical Services

The Division of Adolescent and Young Adult

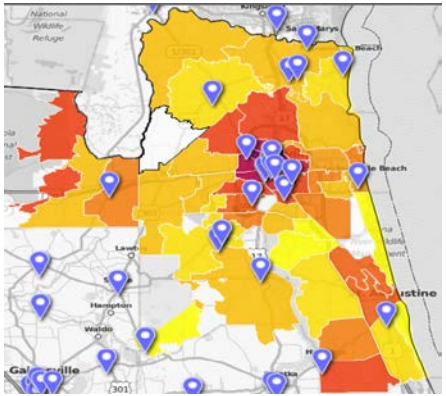


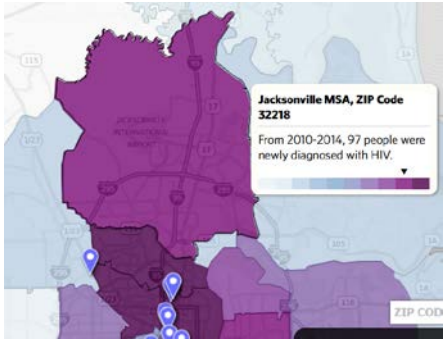
4. **Data on viral suppression among 13-24 year olds**



Service Application: Testing

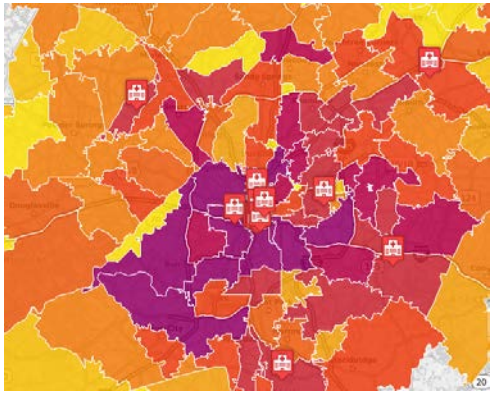
- Service question
  - In Jacksonville, FL, are areas of need getting adequate access to prevention services?
- HIV testing distribution
- Possible Service Solutions
  - Mobile van to outreach in that area
  - Justify funding a local HIV testing site.

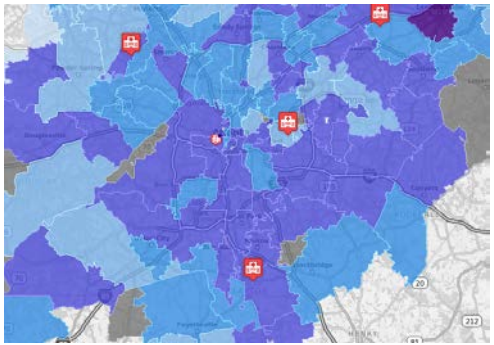




Service Application: Ryan White

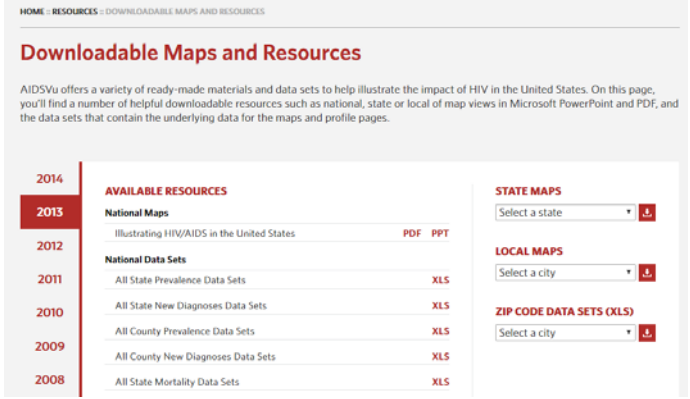
- Service question
  - Do areas of high HIV case burden in Atlanta, GA, have proximal HIV care services?
- Ryan White Center distribution
- Possible Service Solutions
  - Add more Ryan White Center capacity
  - Develop telemedicine program

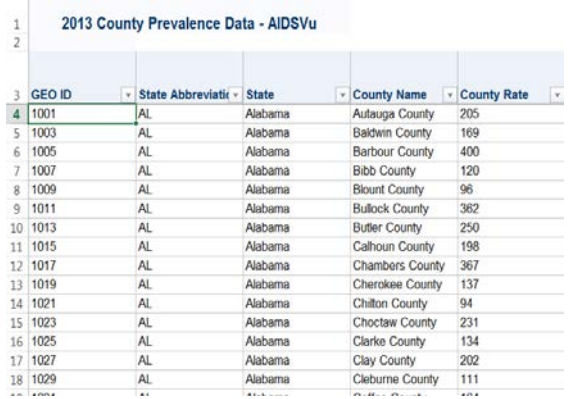




Using the Data

- Use AIDSVu data for your area to get the most current picture of your local epidemic
- To conduct more advanced analyses such as geospatial assessments
- Dataset is rich, hundreds of columns of granularity





2013 County Prevalence Data - AIDSVu

GEO ID	State Abbreviati	State	County Name	County Rate
1001	AL	Alabama	Autauga County	205
1003	AL	Alabama	Baldwin County	169
1005	AL	Alabama	Barbour County	400
1007	AL	Alabama	Bibb County	120
1009	AL	Alabama	Blount County	96
1011	AL	Alabama	Bullock County	362
1013	AL	Alabama	Butler County	250
1015	AL	Alabama	Calhoun County	198
1017	AL	Alabama	Chambers County	367
1019	AL	Alabama	Cherokee County	137
1021	AL	Alabama	Chilton County	94
1023	AL	Alabama	Choctaw County	231
1025	AL	Alabama	Clarke County	134
1027	AL	Alabama	Clay County	202
1029	AL	Alabama	Cleburne County	111

Get More Info

- You may want
  - Assistance in thinking through how maps might be used in your grant application
  - Help designing a custom map view for your grant application
  - Guidance in understanding the raw data and how to use it

- Contact us at info@aidsvu.org
  - We are happy to help!

Amanda D. Castel, MD, MPH

Associate Professor, Milken School of Public Health,
George Washington University

AIDSVu

AIDSVu and the DC Department of Health

- One of the first cities to participate and contribute data to AIDSVu
- One of 37 cities to contribute zipcode-level data
- One of 3 cities to contribute census tract-level data

AIDSVu Objectives and Public Health Uses at the Local Level

AIDSVu Objectives

- Objective #1: To educate the public and other stakeholders
- Objective #2: Strategically allocate resources and plan programs
- Objective #3: To monitor progress and trends

Sample Uses at the Local Level

- Example #1: Using AIDSVu to complement local surveillance data
- Example #2: Using AIDSVu to inform applied public health research efforts
- Example #3: Using AIDSVu to monitor progress in achieving 90-90-90 goals

Using AIDSVu to Complement Local Surveillance Data

AIDSVu

The Demographics and Geography of Washington, DC

Demographics, 2015

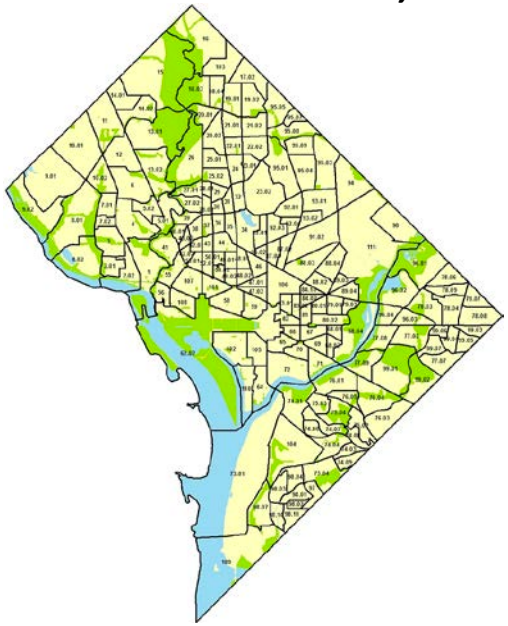
Total Population

670,377

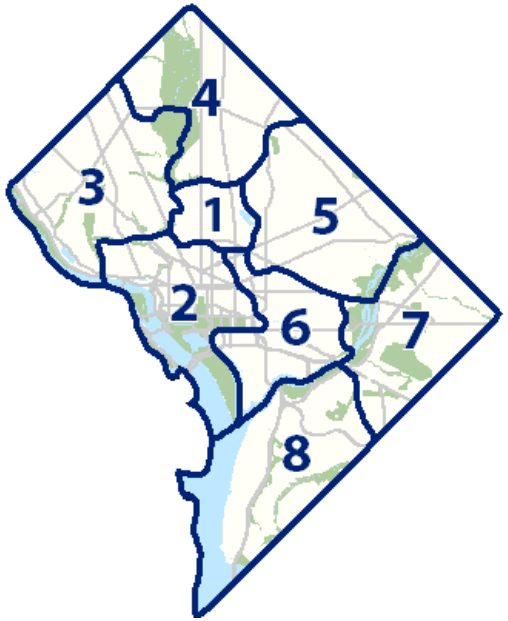
City Population by Race/Ethnicity

- American Indian / Alaska Native (0.2%)
- Asian (3.9%)
- Black (46.9%)
- Hispanic / Latinx (10.7%)
- White (36.1%)
- Multiple Race (2.2%)

DC Census Tracts, N=179

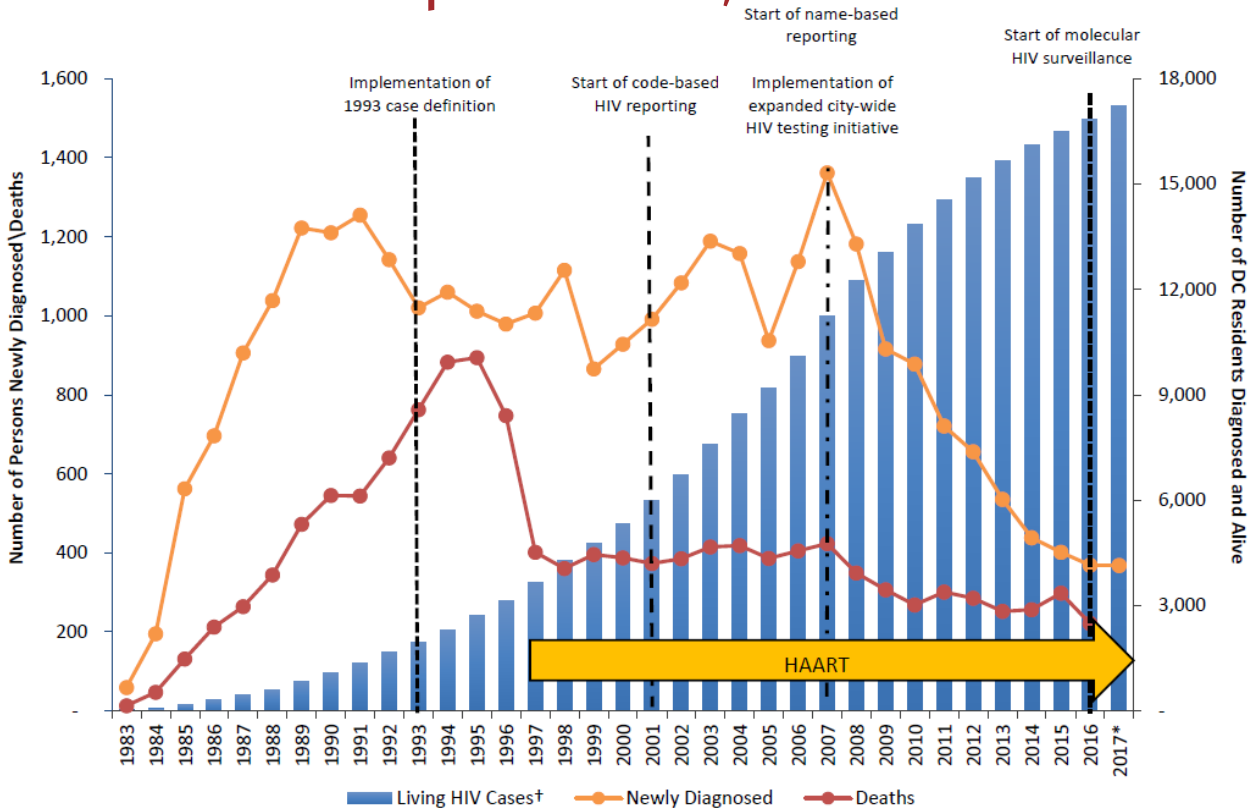


DC Wards, N=8



The DC HIV Epidemic, 1983- 2017

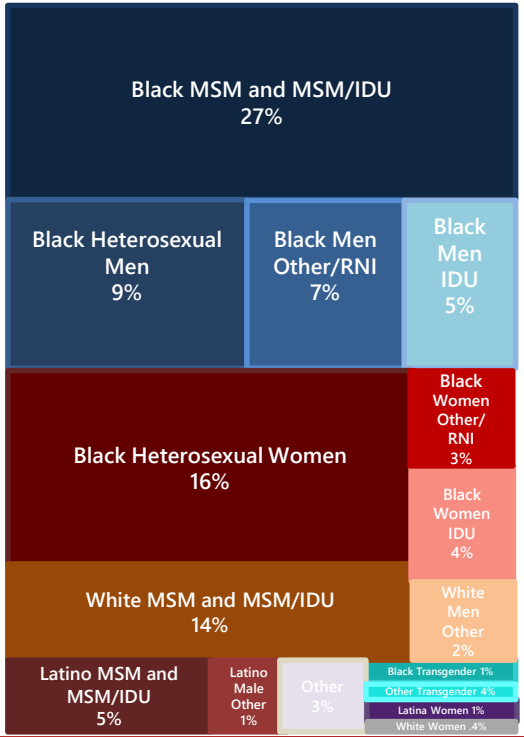
Source: DC Department of Health Annual Epidemiology Report, 2018

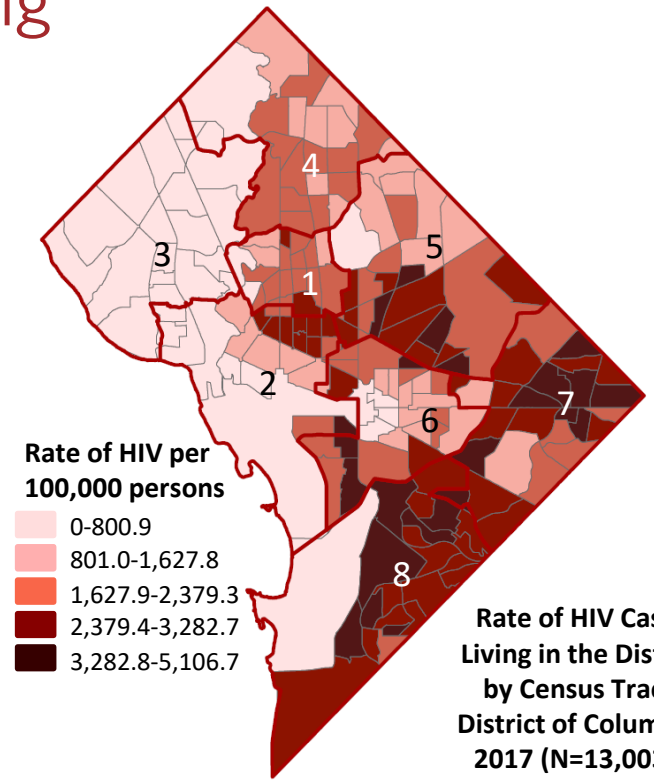


Using AIDSVu to Translate Surveillance Data into Public Health Messaging

Table 24. Diagnoses of HIV infection, by area of residence, 2015 and 2016—Unite

	2015					
	Adults and adolescents		Children		Total	
Area of residence	No.	Rate[a]	No.	Rate[a]	No.	Rate[a]
Alabama	658	16.2	0	0.0	658	13.6
Alaska	24	4.0	0	0.0	24	3.3
Arizona	695	12.3	4	0.3	699	10.3
Arkansas	271	11.0	0	0.0	271	9.1
California	4,983	15.4	8	0.1	4,991	12.8
Colorado	378	8.3	1	0.1	379	7.0
Connecticut	273	8.9	2	0.4	275	7.7
Delaware	104	13.0	0	0.0	104	11.8
District of Columbia	364	63.0	1	1.1	365	54.4
Florida	4,672	27.0	15	0.5	4,687	23.2
Georgia	2,585	30.7	7	0.4	2,592	25.4
Hawaii	121	10.1	0	0.0	121	8.5
Idaho	40	3.0	1	0.3	41	2.5
Illinois	1,525	14.2	6	0.3	1,531	11.9
Indiana	633	11.5	4	0.4	637	9.6
Iowa	124	4.8	0	0.0	124	4.0
Kansas	154	6.5	2	0.4	156	5.4
Kentucky	341	9.2	1	0.1	342	7.7
Louisiana	1,112	28.8	2	0.2	1,114	23.9
Maine	46	4.0	1	0.6	47	3.5
Maryland	1,193	23.7	1	0.1	1,194	19.9



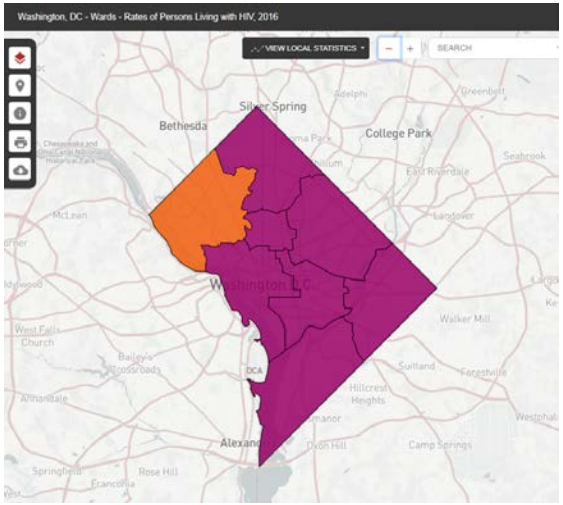


Proportion of HIV Cases Living in DC, by Race/Ethnicity, Gender Identity and Mode of Transmission, District of Columbia, 2017

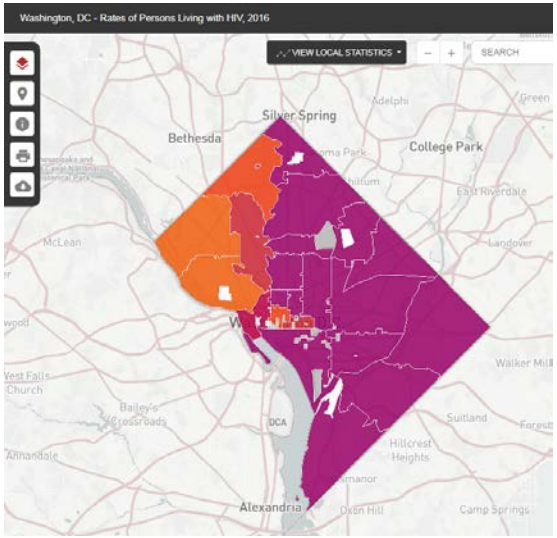
Rate of HIV Cases Living in the District by Census Tract, District of Columbia, 2017 (N=13,003*)

AIDSVu Interactive Mapping Features Allow for Increased Granularity of Surveillance Data

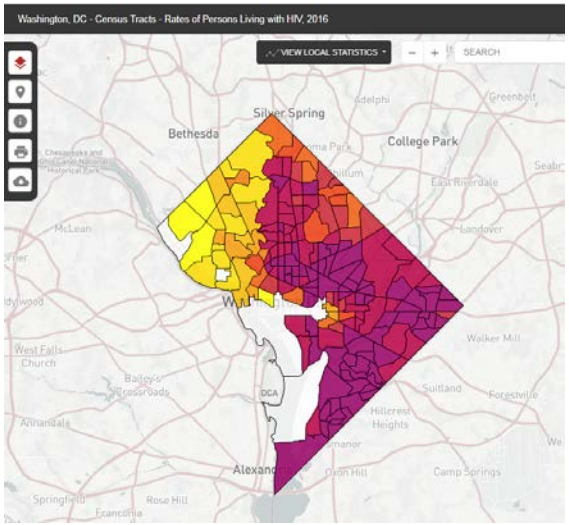
Ward-level Prevalence Rate



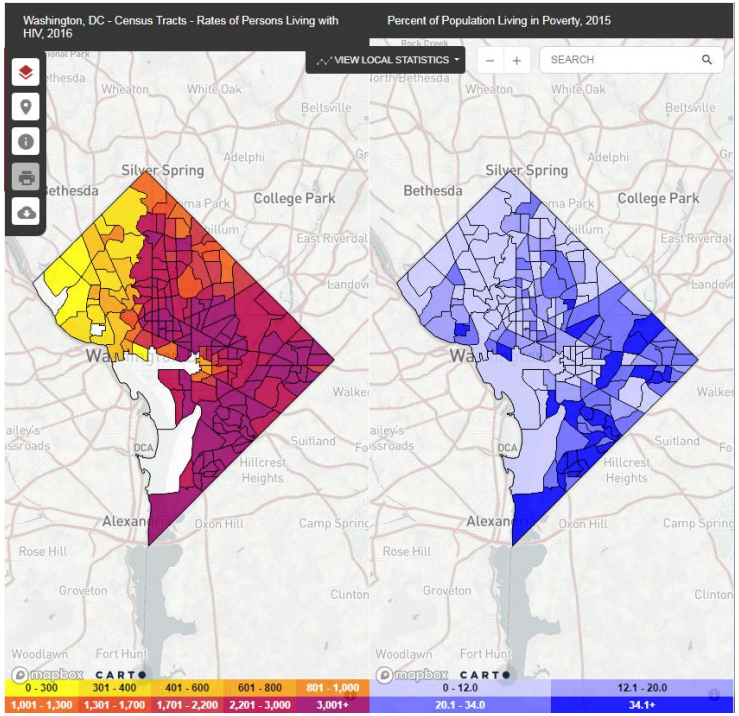
Zipcode-level Prevalence Rate



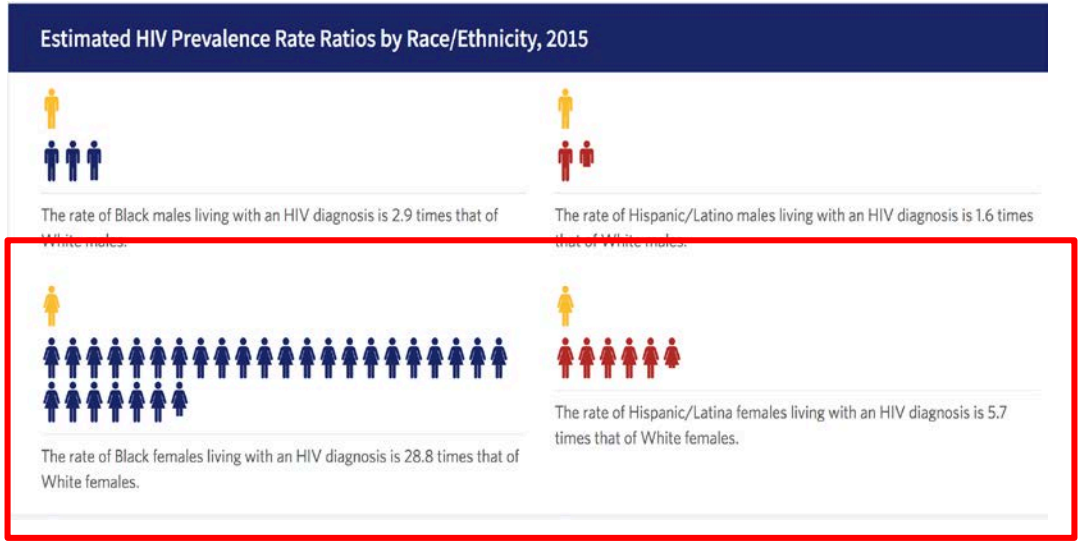
Census tract-level Prevalence Rate

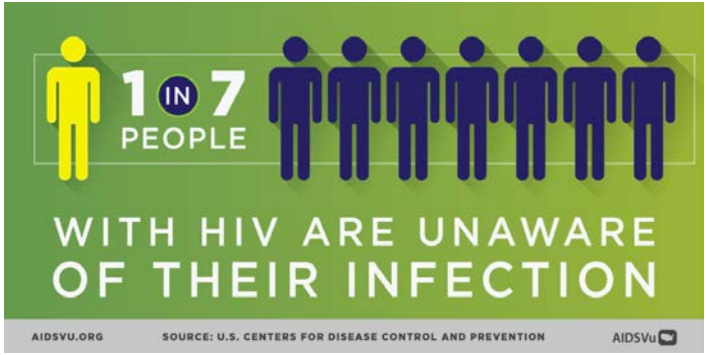


AIDSVu Interactive Mapping Features Help Contextualize the Epidemic



Use of AIDSVu Infographics to Educate the Public and Motivate for Action





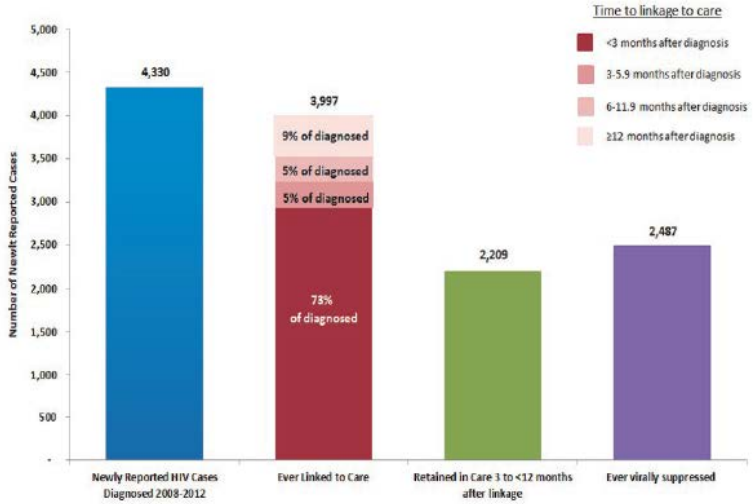
Using AIDSVu to Inform Applied Public Health Research Efforts

Study: Feasibility of Using HIV Care Continuum Outcomes to Identify Geographic Areas for HIV Testing

- **Background**:
  - HIV care continuum outcomes:
    - 25-30% of persons with undiagnosed infection
    - 49% of people diagnosed with HIV are out of care
    - 57% of people are virally suppressed
  - Persons with poor HIV care continuum outcomes may be contributing to onward HIV transmission

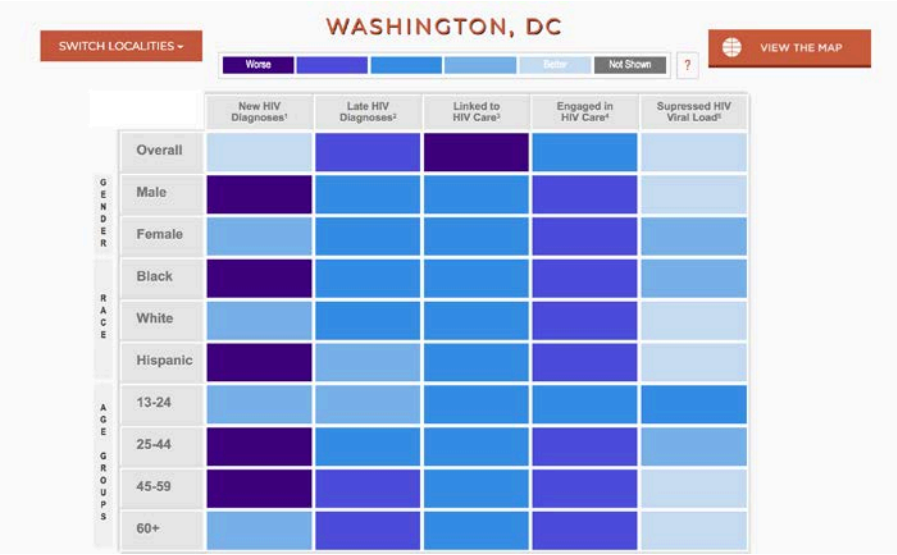
- **Objectives**: To determine if HIV testing in targeted geographic areas, defined by care continuum parameters, would be a feasible strategy to identify HIV+ persons needing linkage or re-engagement in care

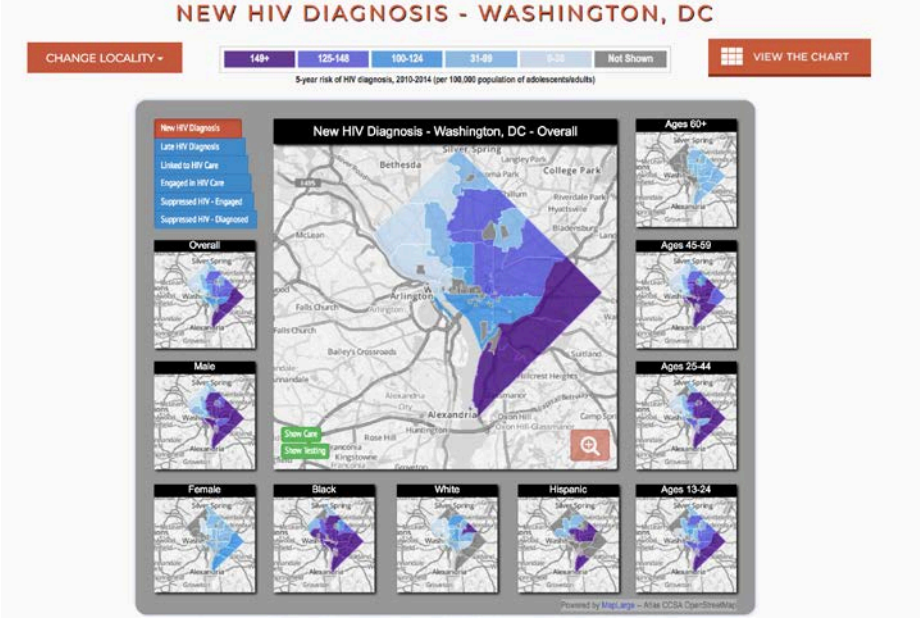
Figure 1. Care Dynamics at Time of Diagnosis for Newly Diagnosed HIV Cases
District of Columbia, 2008-2012



AIDSVu

AIDSVu HIV Care Continuum for Washington, DC





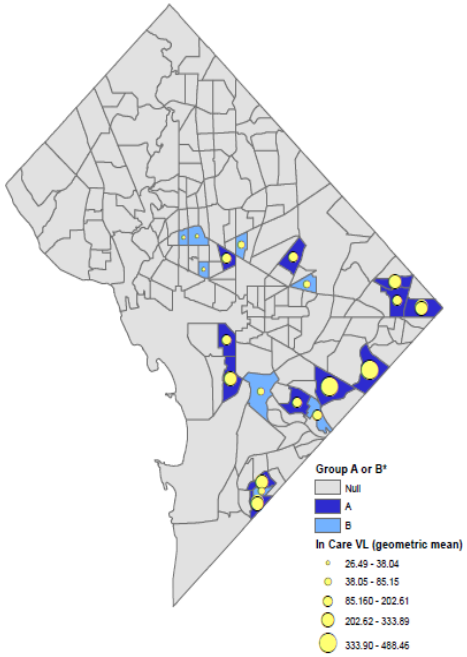
Source: HIVcontinuum.org

Methods

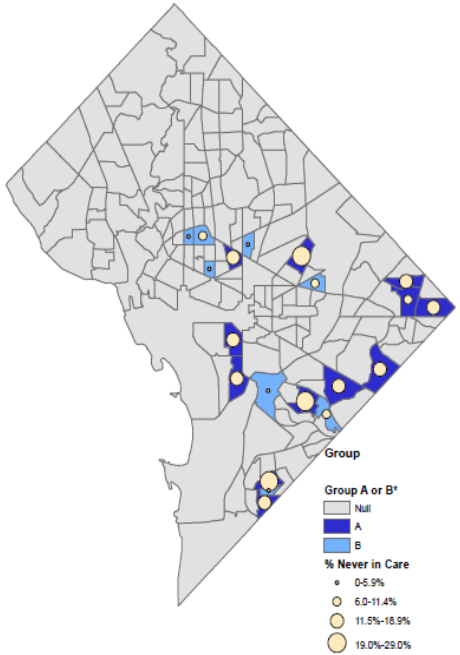
- Used routinely reported HIV surveillance and laboratory data from District of Columbia Department of Health to identify the census tract (CT) of residence for persons
  - Age 13 and older
  - Diagnosed 2008-2012 & alive at end of 2013
  - Excluded homeless, incarcerated, and unknown addresses
- Calculated three care continuum indicators for each CT
  - Monitored viral load (geometric mean VL)
  - Proportion of persons diagnosed but never in care (NIC)
  - Proportion of persons out of care (OOC)
- Developed a statistical algorithm to stratify CTs using an aggregate continuum measure
  - “Higher risk areas” (HRAs) -- Above the median for all three indicators
  - “Lower risk areas” (LRAs) -- Below the median for all three indicators

Results: Geospatial Mapping of Continuum of Care Outcomes by Census Tract

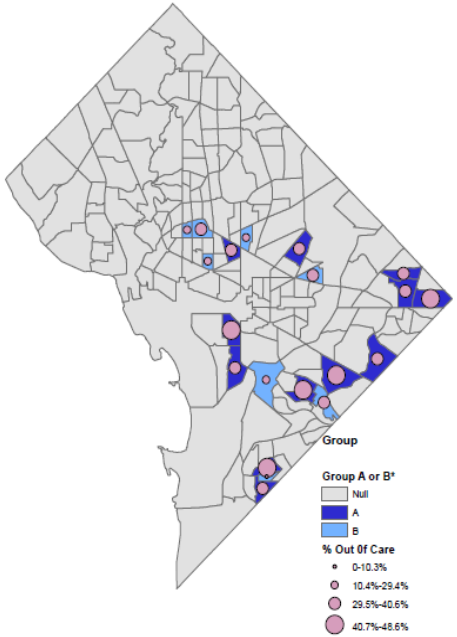
Group and In Care VL by Census Tract



Group and % Never in Care by Census Tract

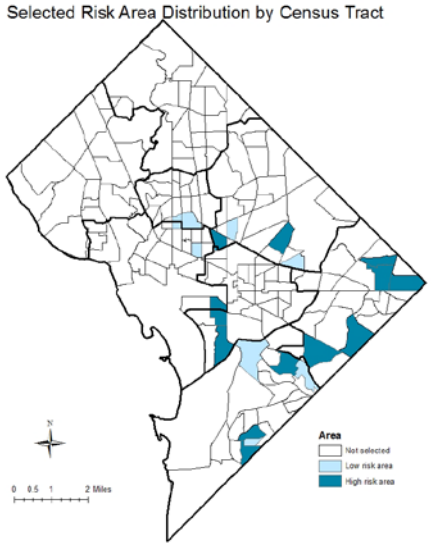


Group and % Out of Care by Census Tract

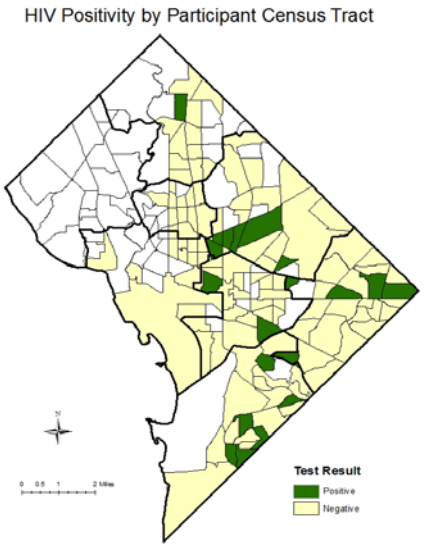


Source: Castel et al. *JAIDS*, 2017

Using Surveillance Data to Direct CBO-led HIV Testing Efforts Identified New Diagnoses and Persons Needing Linkage to Care



Geographic distribution of risk areas, and HIV positivity by risk area and participant census tract



Geographic distribution of HIV positivity by participant census tract

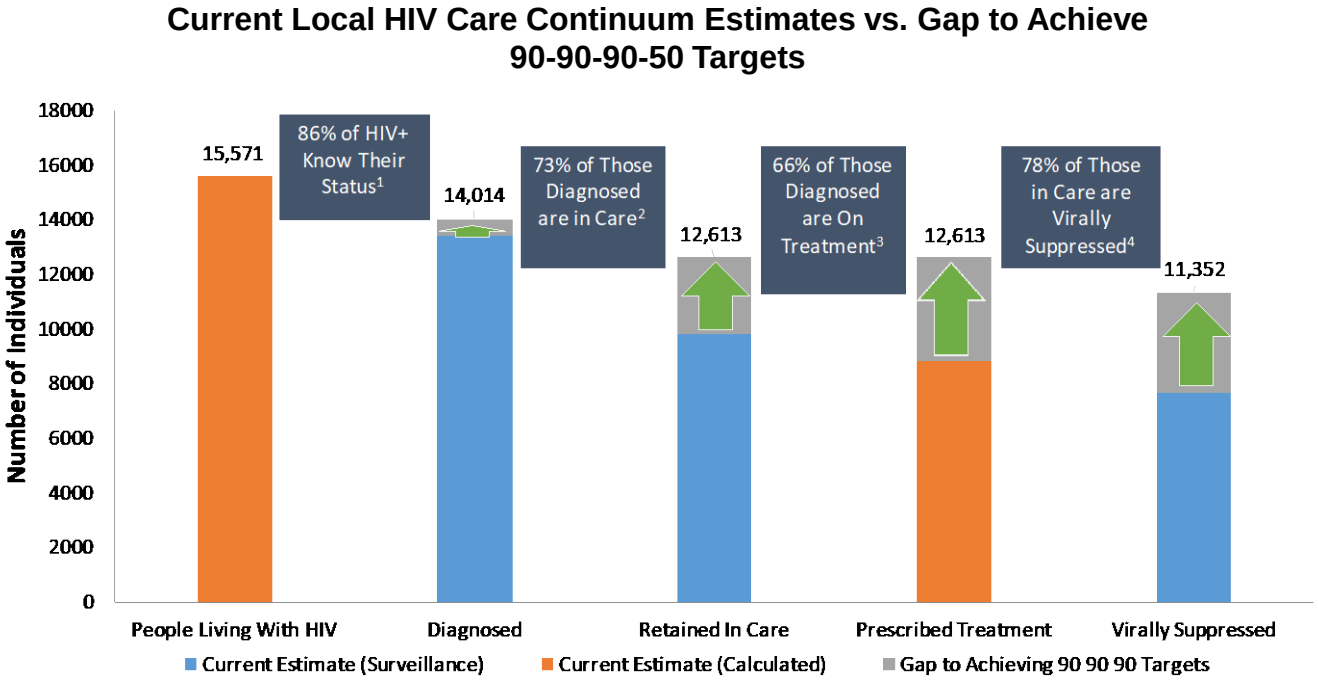
Source: Castel et al. *JAIDS*, 2017

Results:

- Identified 28 HIV positive persons
  - 13 previously diagnosed
  - 6 previously diagnosed and out of care
  - 9 new diagnoses requiring linkage to care

Using AIDSVu to Monitor Progress in Achieving 90-90-90 Goals

The DC DOH Plan to End HIV: 90-90-90-50

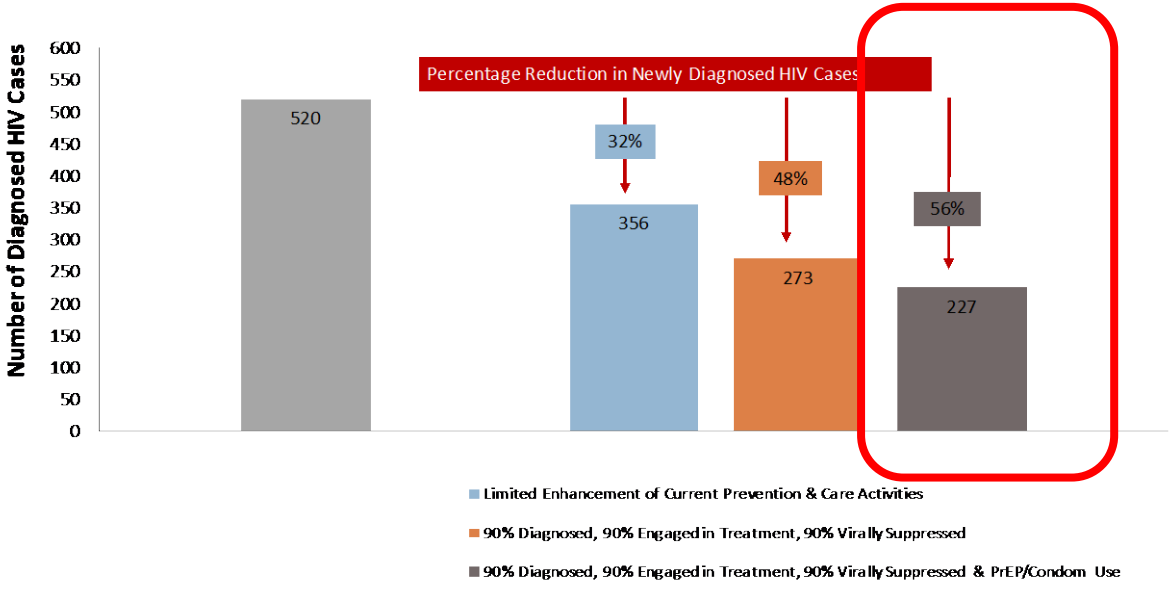


By 2020:

- 90% of District residents will know their HIV status
- 90% of those with HIV will be on treatment
- 90% of those on treatment will achieve viral suppression
- 50% reduction in new diagnoses

Source: DC Dept. of Health Plan to End AIDS, 2016

How will DC get to 90-90-90-50?

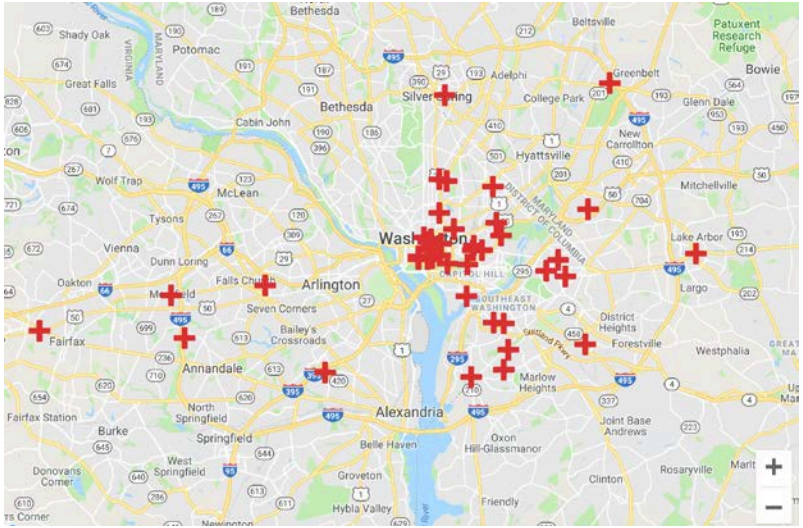


Source: DC Dept. of Health Plan to End AIDS, 2016

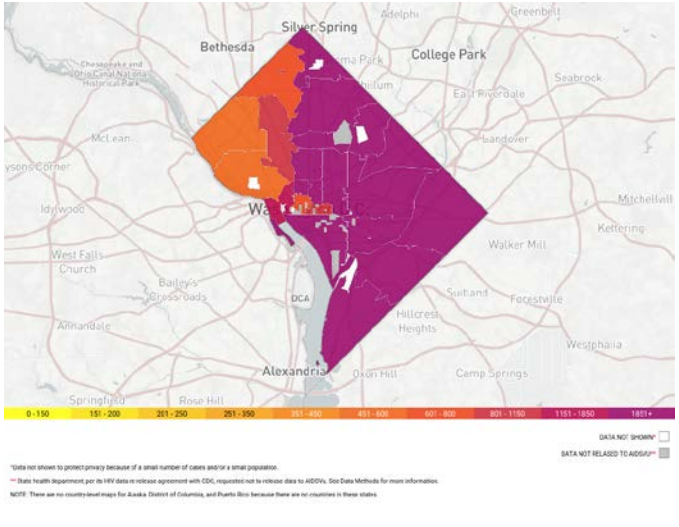
<u>Pre-exposure Prophylaxis (PrEP) Scale-up</u>

- To ensure PrEP was available to highest risk groups in need:
  - MSM of color, TGW, Black heterosexual women
- Assumed that 2,000 DC residents have ever been prescribed PrEP
- Would need to get 8,000 DC residents on PrEP consistently to achieve a 56% reduction in new HIV cases by 2020

Monitoring PrEP Uptake in Washington, DC



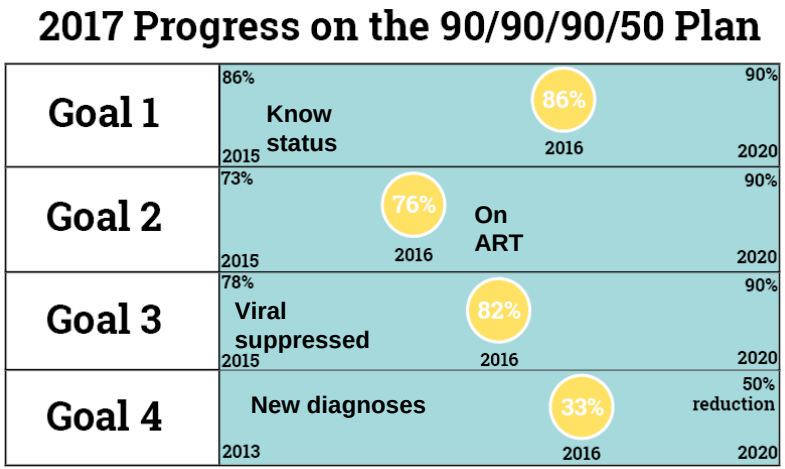
PrEP Provider Locations in DMV Area

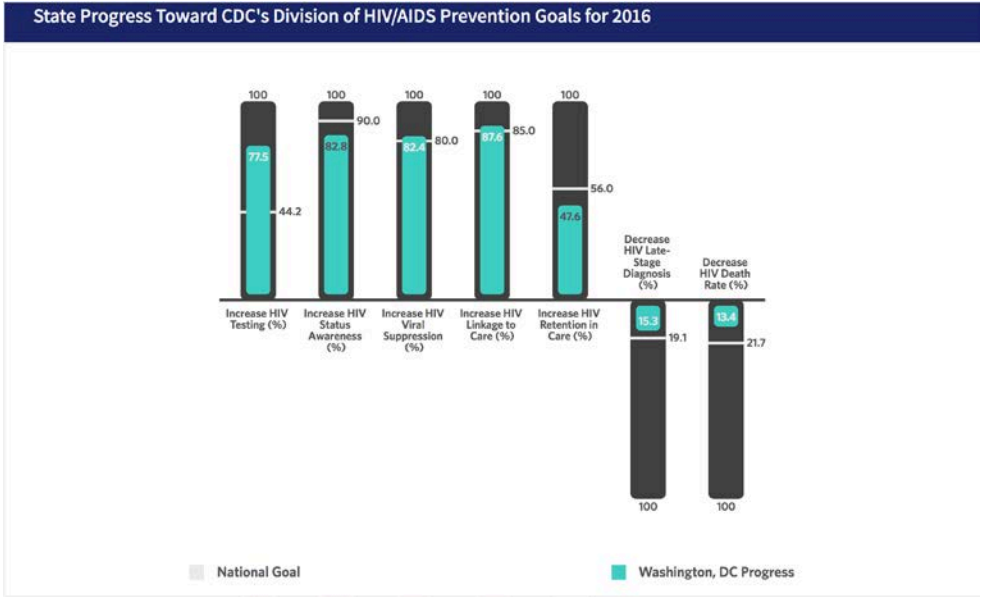


Rate of Person Living with HIV, 2016

According to AIDSVu there were 1,571 PrEP users as of the end of 2016 in Washington, DC

Monitoring Local Progress Compared to National Progress





Source: Ending the HIV Epidemic in DC: 2017 Progress Report, DC Appleseed, 2017

Benefits of AIDSVu Data for Health Departments

- Access to zipcode level data for over 35 cities
- Overlay resources to allow health departments to visualize resource locations on the AIDSVu maps
- Download state or city profiles and map data for free to use in analyses
- Compare maps of social determinants of health to see how HIV in each city compares to these determinants
- Provides a platform to share local HD work and learn from other HIV initiatives
- Local data have the potential to reach almost one million AIDSVu users
- Access personalized infographics depicting HIV in one's city
- Promote city initiatives through social media boosting to over 13K AIDSVu followers

Conclusions

- Complements traditional surveillance data and provides supplemental resources to help understand the data and take action
- Provides additional context related to social determinants of health
- HIV data can help direct public health action (e.g.,HIV testing efforts) and research methods
- Can assist with monitoring programmatic responses at the local, state, or regional level

AIDSVu is a valuable additional resource to describe, disseminate, and inform public health responses as the local level

Thank you!

acastel@gwu.edu

info@AIDSVu.org
AIDSVu
@AIDSVU

AIDSVu