Expanded surveillance to better address HIV/AIDS in Washington DC and beyond

October 15, 2010

By Dana Thomson

With support from: Richard Elion, MD (WWC), Elizabeth Chacko, PhD (GWU), Sterling Johnson (GWU), Bobby Tollefson (Georgetown), Megan Cagley, (GWU), Kerry Roe (WWC), Tina Celenza (WWC), and Sari Reisner (Harvard)

Outline

- Background
  - HIV / AIDS in DC
  - This Study
- Social Determinates of HIV / AIDS
- Standard HIV / AIDS Surveillance Indicators
- Study Methods & Results
- Conclusions
  - Add SES indicator to HIV / AIDS surveillance
  - Local mapping can be used effectively and safely to understand and intervene on HIV / AIDS

Background

- 1 in 20 adults infected with HIV / AIDS
- HIV / AIDS Case Management Protocols mandate the collection of 30+ pieces of data from individuals enrolled in DC area HIV / AIDS case management programs
- First HIV statistics for DC released in 2007

Social Determinates

"The economic and social conditions that influence the health of individuals, communities, and jurisdictions as a whole… [including] conditions for early childhood development; education, employment, and work; food security, health services, housing, income, and income distribution; social exclusion; the social safety net; [and] job security." – Sharpe, et al. in Social Determinates of Health special issue, 2010

Source: Social Determinates of Health special issue. 2010. Public Health Reports. Vol 125, Suppl 4

Social Determinates & HIV/AIDS

- **Blacks** are 9 times more likely than **whites** to become infected with HIV in the US. – CDC, 2008
- **Low income** black MSMs engage in riskier sexual behavior than **higher income** black MSMs. – Peterson, et al., 1992
- HIV-infected people with **low literacy** have less general knowledge about their disease and are less likely to adhere to treatment than HIV-infected people with **high literacy**. – Waite, et al., 2008

Sources:
CDC. 2008. HIV Surveillance Report. www.cdc.gov/hiv/surveillance/resources/reports/2008report
Peterson JL, Coates TJ, Catania JA, Middleton L, Hilliard B, Hearst N. High-risk sexual behavior and condom use among gay and bisexual African-American men. Am J Public Health 1992;82:1490-4.
Waite KR, Paasche-Orlow M, Rintamaki LS, Davis TC, Wolf MS. Literacy, social stigma, and HIV medication adherence. J Gen Intern Med 2008;23:1367-72.

Surveillance Indicators

What is Collected

- Age
- Sex
- Race / Ethnicity
- Mode of Transmission
- County

What is NOT collected

- Income
- Education
- Housing status

- Local geography
- Health Status (e.g. Tb, hepatitis, STIs)

Consequence of no SES Indicator

- "Gay Epidemic" → "Black Epidemic"
- Can't target HIV prevention and intervention in DC because 60% of the population is black
- Being black or Hispanic is conflated with low SES

Study Outline

- Summarize demographic, social, economic, medical, and geographic characteristics of people diagnosed with HIV / AIDS at Whitman-Walker in calendar year 2007
  - Driven by a social determinates framework
  - Used local-level maps to summarize social, economic, and demographic data

Study Goals

- Publicize potentially useful socio-economic data about a sample of HIV infected individuals in the DC area
- Demonstrate local-level mapping as a tool for HIV / AIDS prevention and intervention

Study Methods

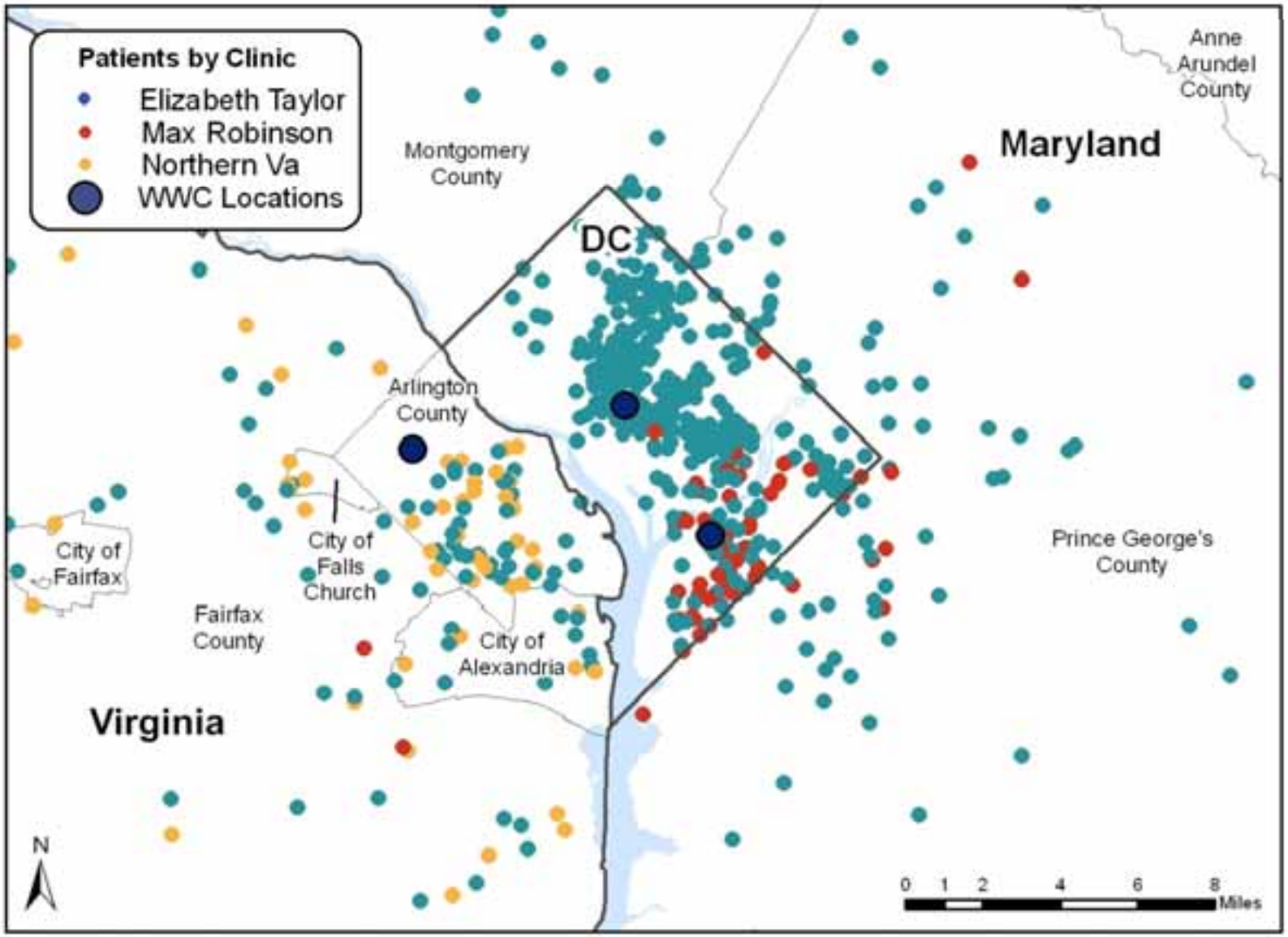
- Sample: 688 patients diagnosed HIV-seropositive at the three Whitman Walker clinics between Jan 1-Dec 31, 2007
  - First sero-positive diagnoses at WWC
  - Not necessarily the patient's first diagnosis
- Digitize 37 pieces of data from case management intake form in patient's paper medical chart

Data Collected, by Clinic

Category	Data Collected	Elizabeth Taylor	Max Robinson	Northern Virginia
Demographic	Location (Census Tract)	X	X	X
	Sex	X	X	X
	Orientation	X	X	X
	Race/Ethnicity	X	X	X
	Age	X	X	X
Medical	Year of First Diagnosis	X	X	X
	Mode of Transmission	X	X	X
	HIV/AIDS status at Intake	X	X	X
	Tuberculosis	X	X	
	Hepatitis C	X	X	
	Sexually Transmitted Infections	X	X	
	Substance Use	X	X	
	Chronic Illnesses	X	X	
Socioeconomic	Housing	X	X	
	Income	X	X	
	Employment Status	X	X	
	Education	X	X	
	Source of Payment	X	X	X

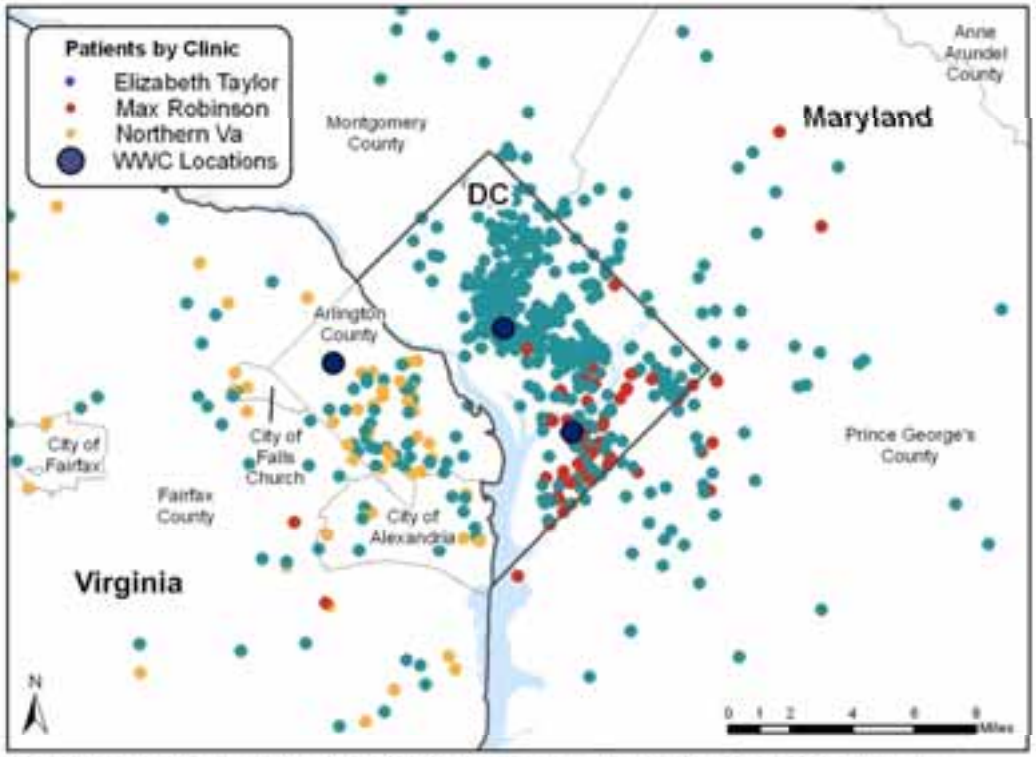
Geography

WWC 2007 HIV/AIDS cases



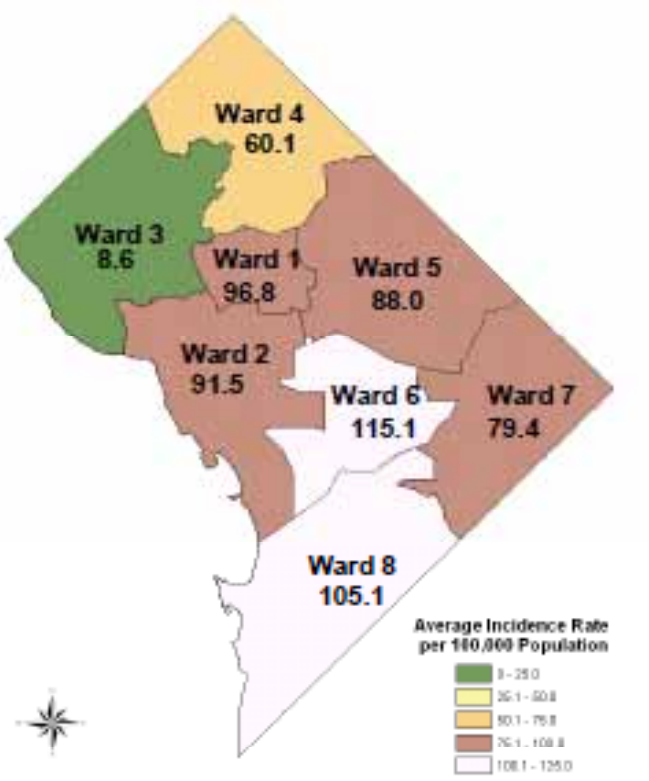
NOTE: Each patients is represented by a random point in the census tract in which s/he lives (or receives mail)

WWC 2007 HIV/AIDS cases



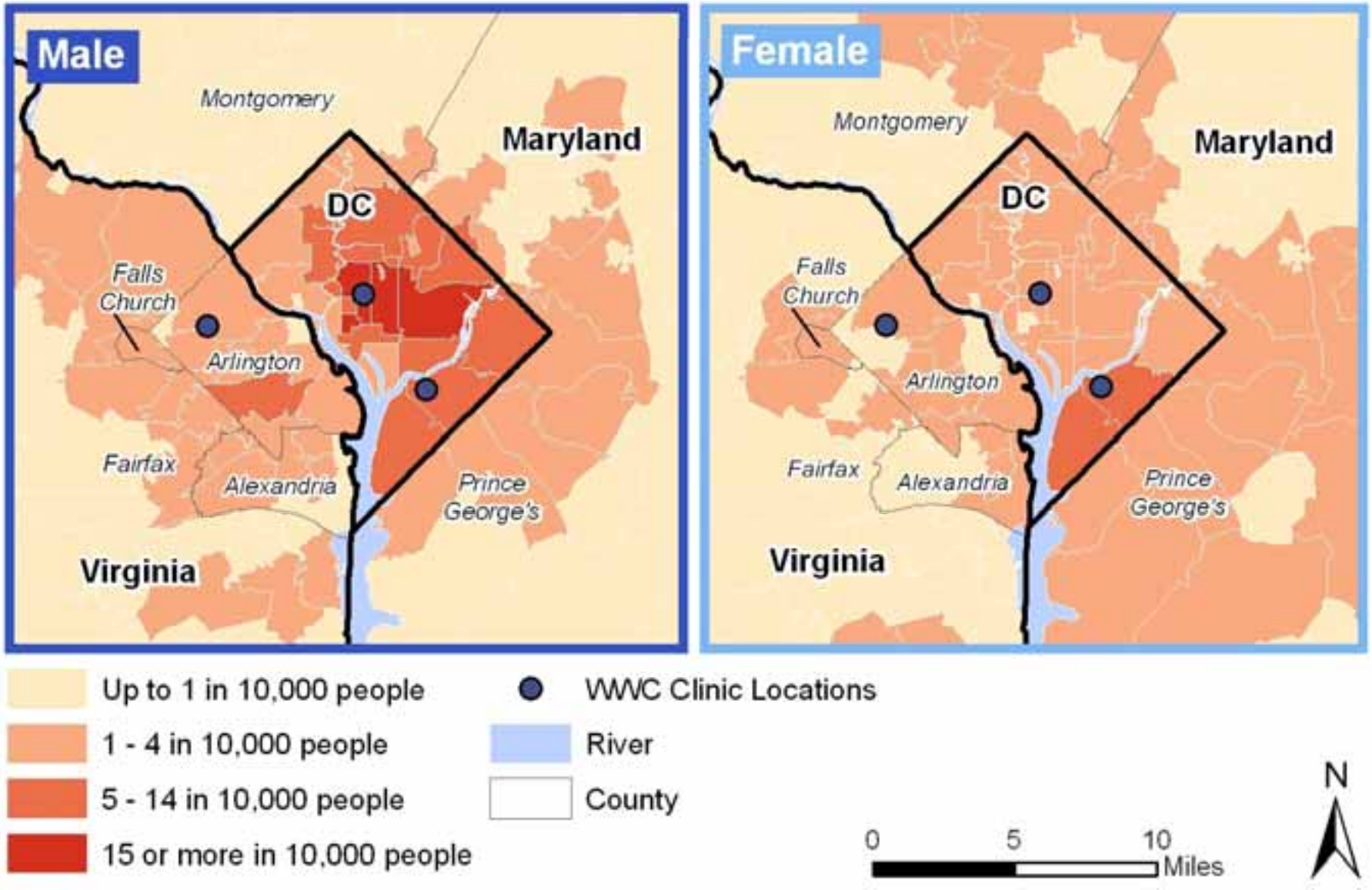
NOTE: Each patients is repeesented by a random point in the census tract in which s/he lives (or receives mail)

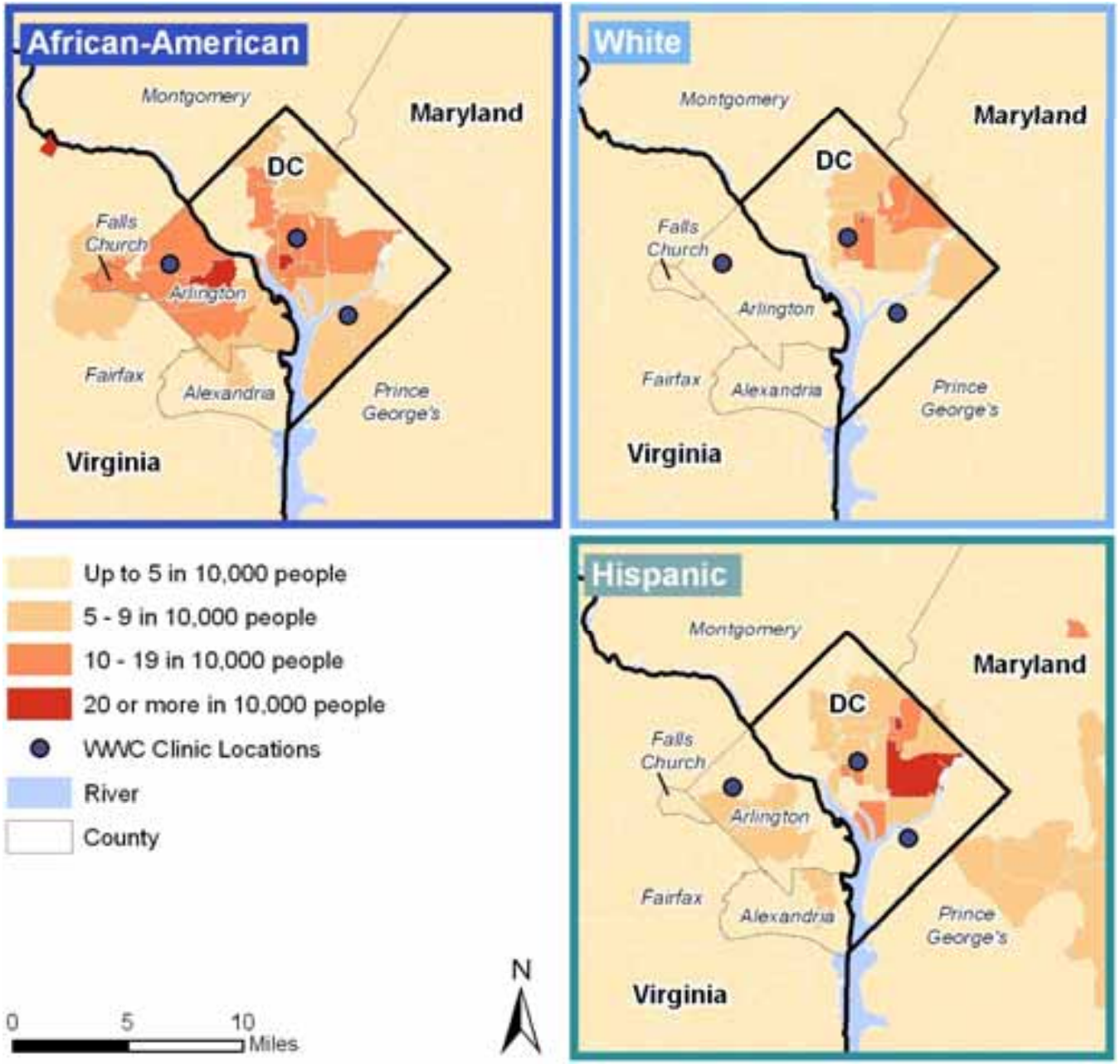
Average Rate of HIV cases, 2001-2006

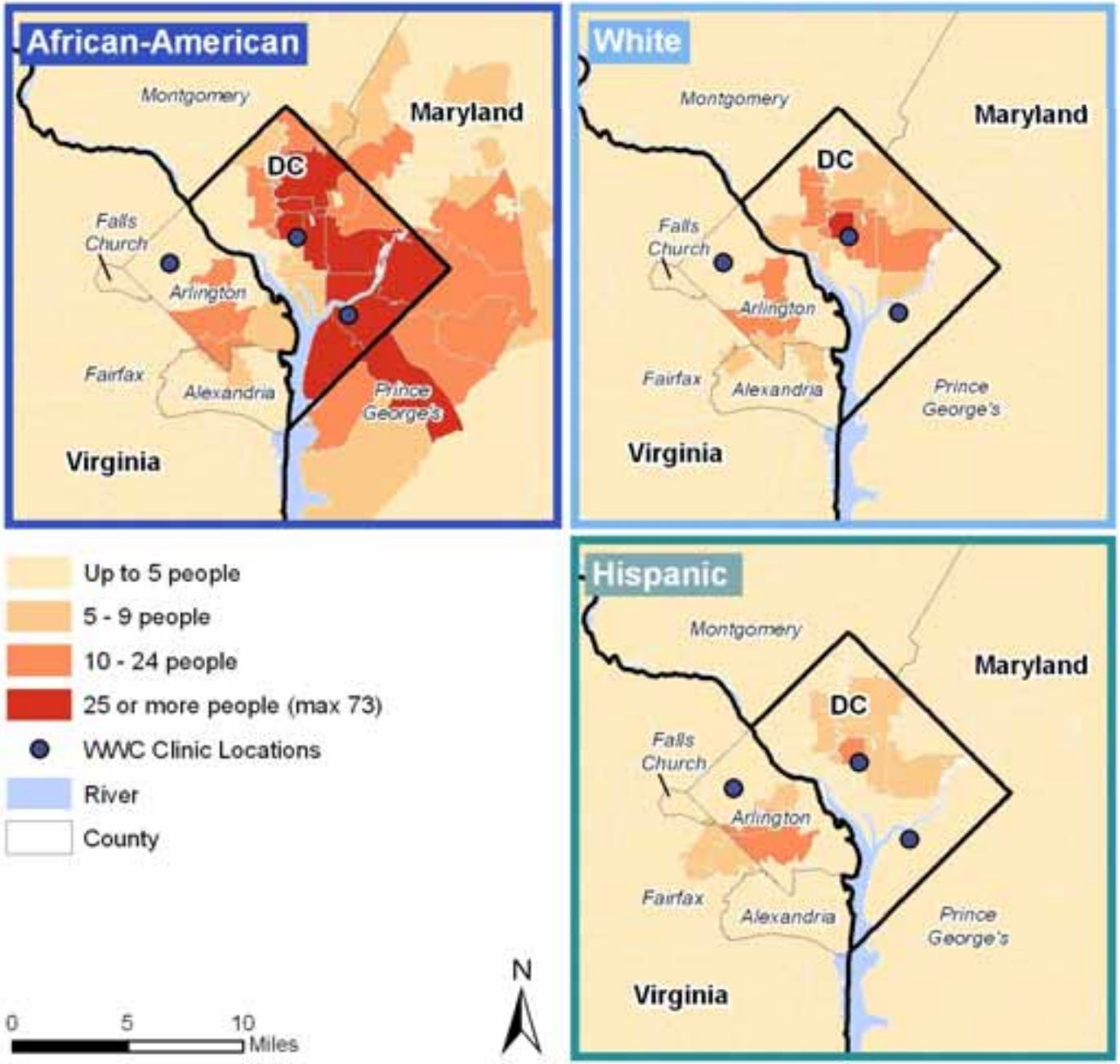


* Numbers found below each ward refer to the rate of newly reported HIV cases per 100,000 population. Rates were calculated using 2000 Census data. For 15% of cases, ward information was not available and therefore not displayed on this map.

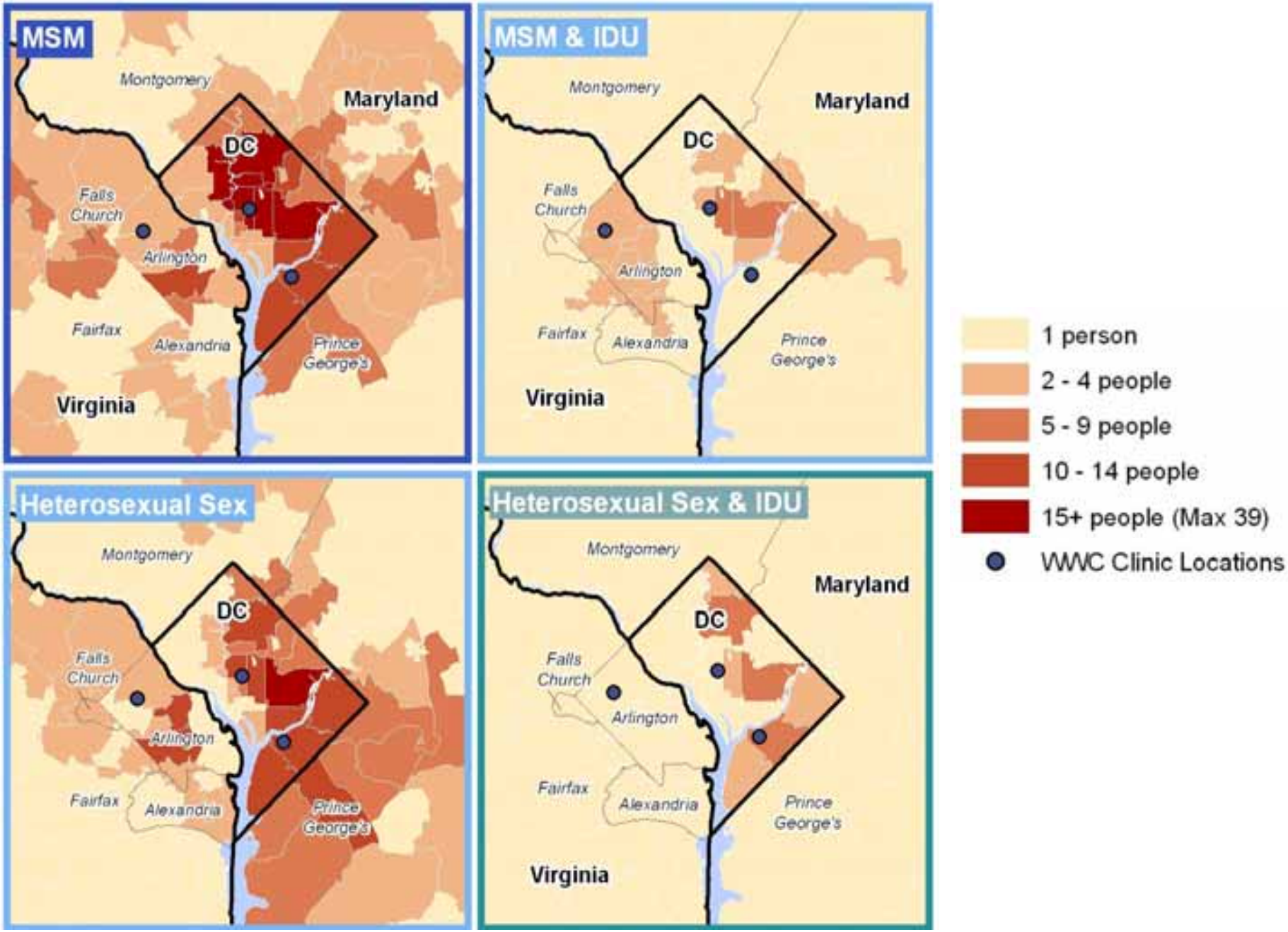
Demographics


Male
Montgomery
Maryland
DC
Falls Church
Arlington
Fairfax
Alexandria
Prince George's
Virginia
Female
Montgomery
Maryland
DC
Falls Church
Arlington
Fairfax
Alexandria
Prince George's
Virginia
Up to 1 in 10,000 people
1 - 4 in 10,000 people
5 - 14 in 10,000 people
15 or more in 10,000 people
WWC Clinic Locations
River
County
0
5
10
Miles
N

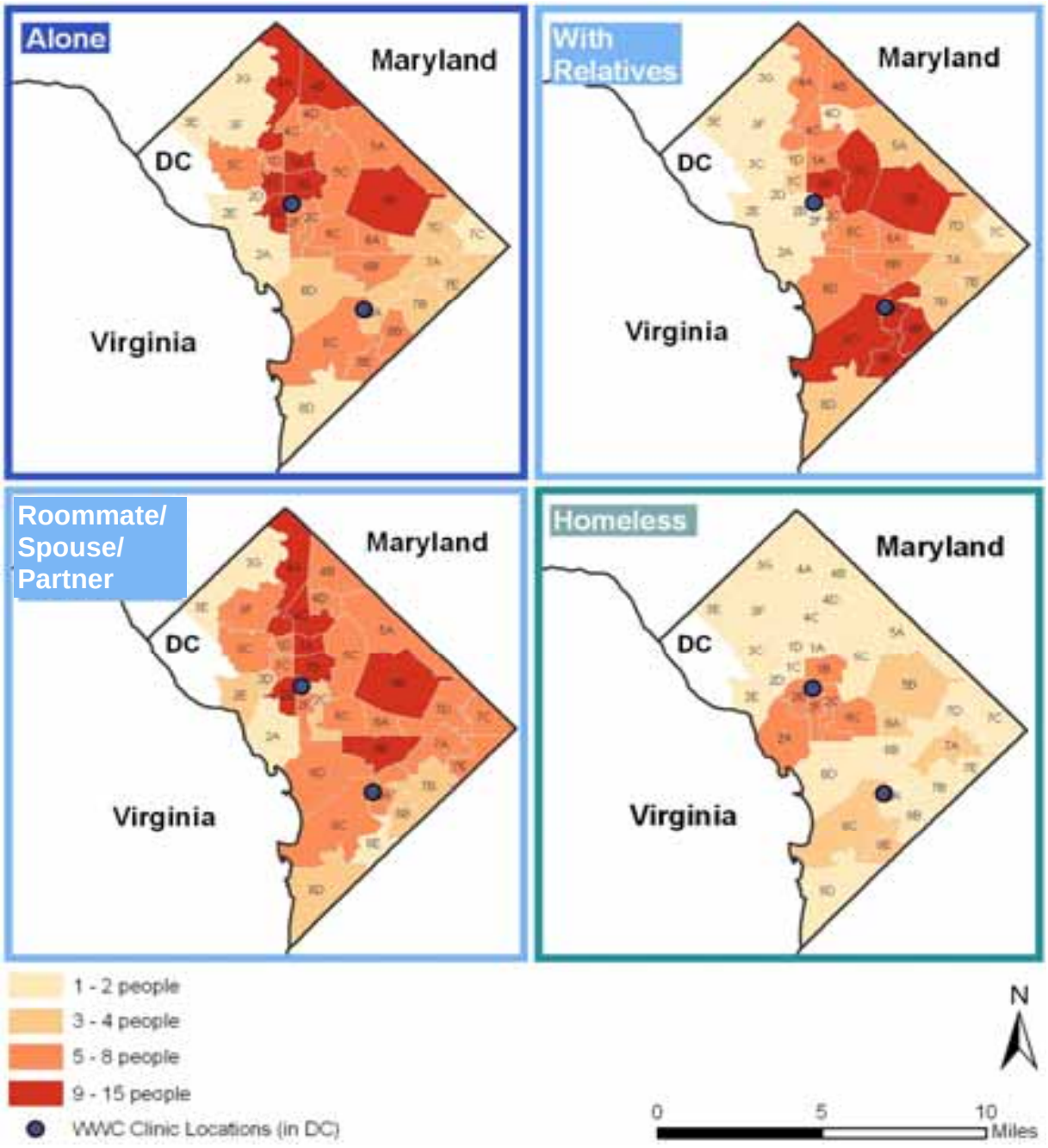

African-American
Montgomery
Maryland
DC
Falls Church
Arlington
Fairfax
Alexandria
Prince George's
Virginia
White
Montgomery
Maryland
DC
Falls Church
Arlington
Fairfax
Alexandria
Prince George's
Virginia
Hispanic
Montgomery
Maryland
DC
Falls Church
Arlington
Fairfax
Alexandria
Prince George's
Virginia
Up to 5 in 10,000 people
5 - 9 in 10,000 people
10 - 19 in 10,000 people
20 or more in 10,000 people
WWC Clinic Locations
River
County
N
0
5
10
Miles

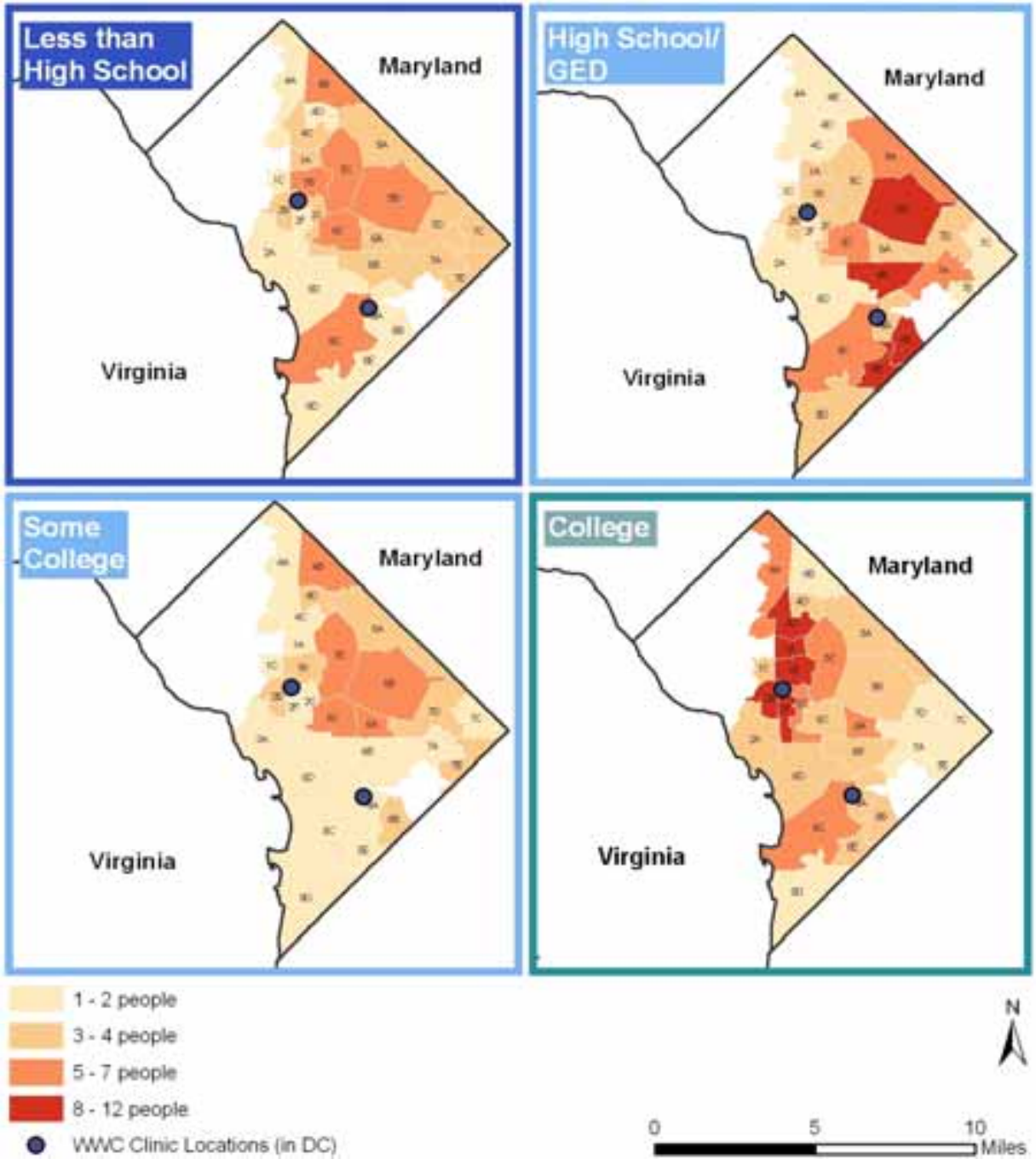

African-American
White
Hispanic
Montgomery
Maryland
DC
Falls Church
Arlington
Fairfax
Alexandria
Prince George's
Virginia
Up to 5 people
5 - 9 people
10 - 24 people
25 or more people (max 73)
WWC Clinic Locations
River
County
N
0
5
10
Miles

Medical


MSM
Montgomery
Maryland
DC
Falls Church
Arlington
Fairfax
Alexandria
Prince George's
Virginia
MSM & IDU
Montgomery
Maryland
DC
Falls Church
Arlington
Fairfax
Alexandria
Prince George's
Virginia
Heterosexual Sex
Montgomery
DC
Falls Church
Arlington
Fairfax
Alexandria
Prince George's
Heterosexual Sex & IDU
Montgomery
Maryland
DC
Falls Church
Arlington
Fairfax
Alexandria
Prince George's
Virginia
1 person
2 - 4 people
5 - 9 people
10 - 14 people
15+ people (Max 39)
WWC Clinic Locations

Socioeconomic


Alone
Maryland
DC
Virginia
With Relatives
Maryland
DC
Virginia
Roommate/ Spouse/ Partner
Maryland
DC
Virginia
Homeless
Maryland
DC
Virginia
1 - 2 people
3 - 4 people
5 - 8 people
9 - 15 people
WWC Clinic Locations (in DC)
N
0
5
10
Miles


Less than High School
Maryland
Virginia
High School/ GED
Maryland
Virginia
Some College
Maryland
Virginia
College
Maryland
Virginia
1 - 2 people
3 - 4 people
5 - 7 people
8 - 12 people
WWC Clinic Locations (in DC)
N
0
5
10
Miles

Conclusions

- Maps
  - Reveal patterns that are otherwise hidden
  - Highlight sub-populations and neighborhoods most affected by HIV / AIDS
- Socioeconomic data is key to understanding HIV / AIDS risk; add it to local and national surveillance

Next Steps

- Apply these methods to HIV / AIDS datasets representative of the population

Thank you!

Dana Thomson
www.dchivaids.wordpress.org
dchivaids@gmail.com