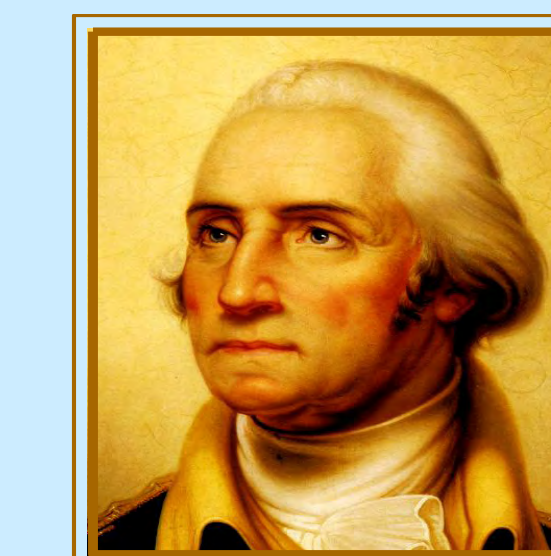# EXPERIENCE WITH OPT-OUT HIV TESTING IN AN URBAN HOSPITAL

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Abstract

Background:
The seroprevalence rate of HIV infection in Washington, D.C., has been estimated to be as high as 5%. In 2006 CDC issued recommendations promoting routine opt-out HIV testing in all health care settings in order to foster earlier detection and treatment.

Methods:
Our Emergency Department (ED) offered OraQuik rapid HIV testing to all patients on an opt-out basis. Demographic data including age, gender, ethnicity, insurance status, and zip code were collected. Patients with positive OraQuik tests had a confirmatory Western Blot and were referred for HIV care.

Results:
6554 patients registered in the ED and were offered HIV testing. 45% were male; 50% African-American, 39% white, 4.5% Hispanic. 3653 patients accepted testing. The OraQuik test was positive in 35 of 3653 patients tested (1.0%); 28 of 35 had positive confirmatory Western Blot tests. 21 were male; 24 African-American, 3 white and 1 Hispanic. Of the 1231 individuals who lived in the lowest median annual household income ($27,964) wards and who were offered the test, 34% chose not to be tested. In contrast, among those (1081) in the highest income area ($130,891), 49% opted out (P < 0.0001).

Conclusions:
Among seropositive individuals 12 of 809 who were tested were from the lowest income ward and 7 of 555 tested lived in the wealthiest ward of the city (NS). Individuals with private insurance opted out more frequently that did those with federal or no insurance (51% v 46%, P = 0.0002).
Among 3653 patients tested, a 0.76% HIV seroprevalence was found, much lower than the predicted seroprevalence rate. However, it is quite possible that this apparently low rate is due to a higher rate among the population that chose not to be tested. Although it appears that higher income and private insurance is more common among those individuals who chose not to be tested, those factors that
inhibit testing need to be explored in order to maximize the effectiveness of the opt-out approach.

Background

Despite significant attention given to education and prevention efforts in the US, an estimated 40,000 new HIV infections have occurred annually in the United States since the early 1990s. Of the estimated 1,039,000 to 1,185,000 persons living with HIV, the CDC approximates that 25% persons with HIV are unaware they are infected.

The CDC's initiative, "Advancing HIV Prevention: New Strategies for a Changing Epidemic" (AHP) stresses the importance of routinely offering HIV testing as part of the medical visit and expands on the 1993 recommendations for testing inpatients and outpatients in acute-care hospital settings. Also, AHP promotes the importance of using rapid HIV tests to facilitate access to early diagnosis in high prevalence areas, for high-risk individuals. The District of Columbia has one of the highest prevalence of HIV in the nation. With over 16,000 cases reported in 2004, the District ranks 1st in prevalence among all US cities. The CDC, NIH, and District of Columbia have provided the materials for the rapid-HIV test to George Washington University Hospital, providing a unique opportunity to fulfill the CDC's initiative.

Table 1. Demographic characteristics and HIV screening acceptance of patients attending GWU ED from September 2006 to June 2007.

	All patients (%)	Declined Screening (%)	Accepted Screening (%)	P
n	6923	3069	3854	
Gender				
Male	3085 (44.6)	1389 (45.0)	1696 (55.0)	0.297
Female	3838 (55.4)	1680 (43.8)	2158 (56.2)	
Mean age (±SD)	37.3 ±13.2	38.9 ±13.4	36.0 ±12.9	<0.001
Race				
White	2656 (38.4)	1198 (45.1)	1458 (54.9)	<0.001
Black	3,380 (48.8)	1424 (42.1)	1956 (57.9)	
Hispanic	305 (4.4)	147 (48.2)	158 (51.8)	
Other	566 (8.2)	294 (51.9)	272 (48.1)	
Unknown	16 (0.2)	-	-	
Ward residence				
2 (NW DC)	1369 (19.8)	590 (43.1)	779 (56.9)	<0.001
7/8 (SE DC)	1479 (21.4)	575 (38.9)	904 (61.1)	
Other ward	503 (7.3)	198 (39.4)	305 (60.6)	
Out of state	2089 (30.2)	951 (45.5)	1138 (54.5)	
Unknown	1483 (21.4)			
Insurance				
Private	3479 (50.3)	1526 (43.9)	1953 (56.1)	0.001
Public**	785 (11.3)	287 (36.6)	498 (62.4)	
None	609 (8.8)	269 (44.2)	340 (55.8)	
Unknown	2050 (29.6)			

** Includes Medicaid, Medicare, DC Alliance, Chartered Health.

Table 3. Demographic characteristics and HIV screening acceptance of patients attending GWU ED from September 2006 to June 2007.

|	Adjusted OR	95% CI
Female (vs. Male)	0.98	0.89-1.08
Age (quartiles)		
≤26 years old	1.0	--
27-36 years old	0.72	0.63-0.83
37-47 years old	0.56	0.48-0.64
48+ years old	0.52	0.45-0.60
Race		
White	1.0	--
Black	1.21	1.01-1.36
Hispanic	0.91	0.71-1.15
Other	0.77	0.63-0.93
Ward of residence		
2 (NW DC)	1.0	--
7/8 (SE DC)	0.89	0.74-0.93
Other ward	1.07	0.87-1.33
Out of state	0.83	0.72-0.96
Unknown	0.69	0.57-0.83
Insurance		
Private	1.0	--
Public**	1.29	1.09-1.53
None	0.95	0.80-1.14
Unknown	0.96	0.82-1.11

**Includes Medicaid, Medicare, DC Alliance, Chartered Health.

Table 2. Demographic characteristics and HIV screening status of patients in the GWU ED from September 2006 to June 2007.

	HIV-negative screen	HIV-positive screen	P
Total n	3806 (99.0)	40 (1.0)	
Gender	1668 (98.2)	20 (1.8)	<0.001
Male	2138 (99.5)	10 (0.5)	
Female			
Mean age (±SD)	36.0 ±12.9	38.1 ±12.5	0.301
Race			
White	1452 (99.6)	6 (0.4)	0.001
Black	1917 (98.3)	33 (1.7)	
Hispanic	158 (100.0)	0 (0.0)	
Other	269 (99.6)	1 (0.4)	
Ward residence			
2 (NW DC)	771 (99.6)	3 (0.4)	0.017
7/8 (SE DC)	860 (98.3)	15 (1.7)	
Other ward	301 (99.0)	3 (1.0)	
Out of state	1124 (99.5)	6 (0.5)	
Unknown			
Insurance			
Private	1933 (99.5)	10 (0.5)	0.01
Public**	484 (98.4)	8 (1.6)	
None	336 (98.3)	5 (1.7)	
Unknown			

** Includes Medicaid, Medicare, DC Alliance, Chartered Health.

Figure 1. Percent of patients screening accepted and declined by District of Columbia ward location.
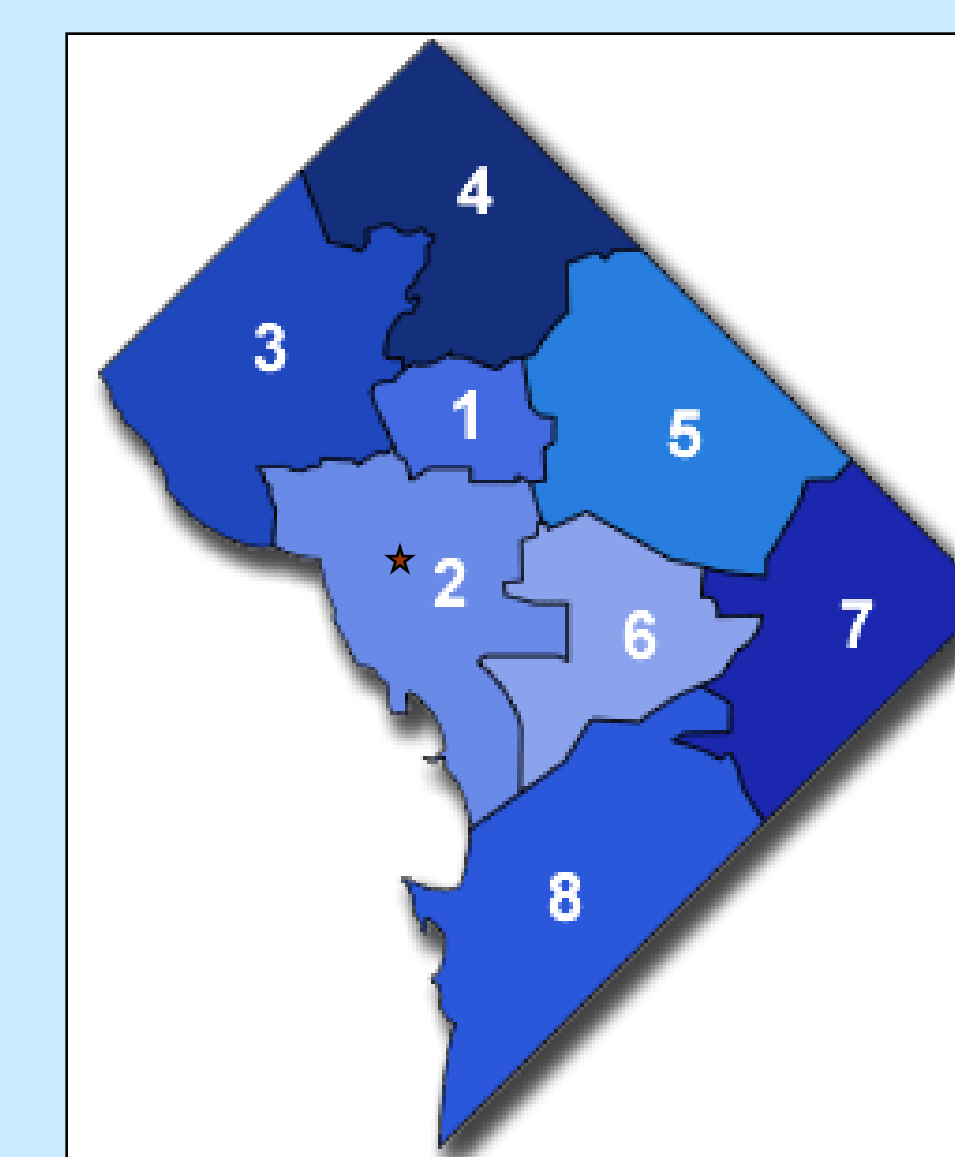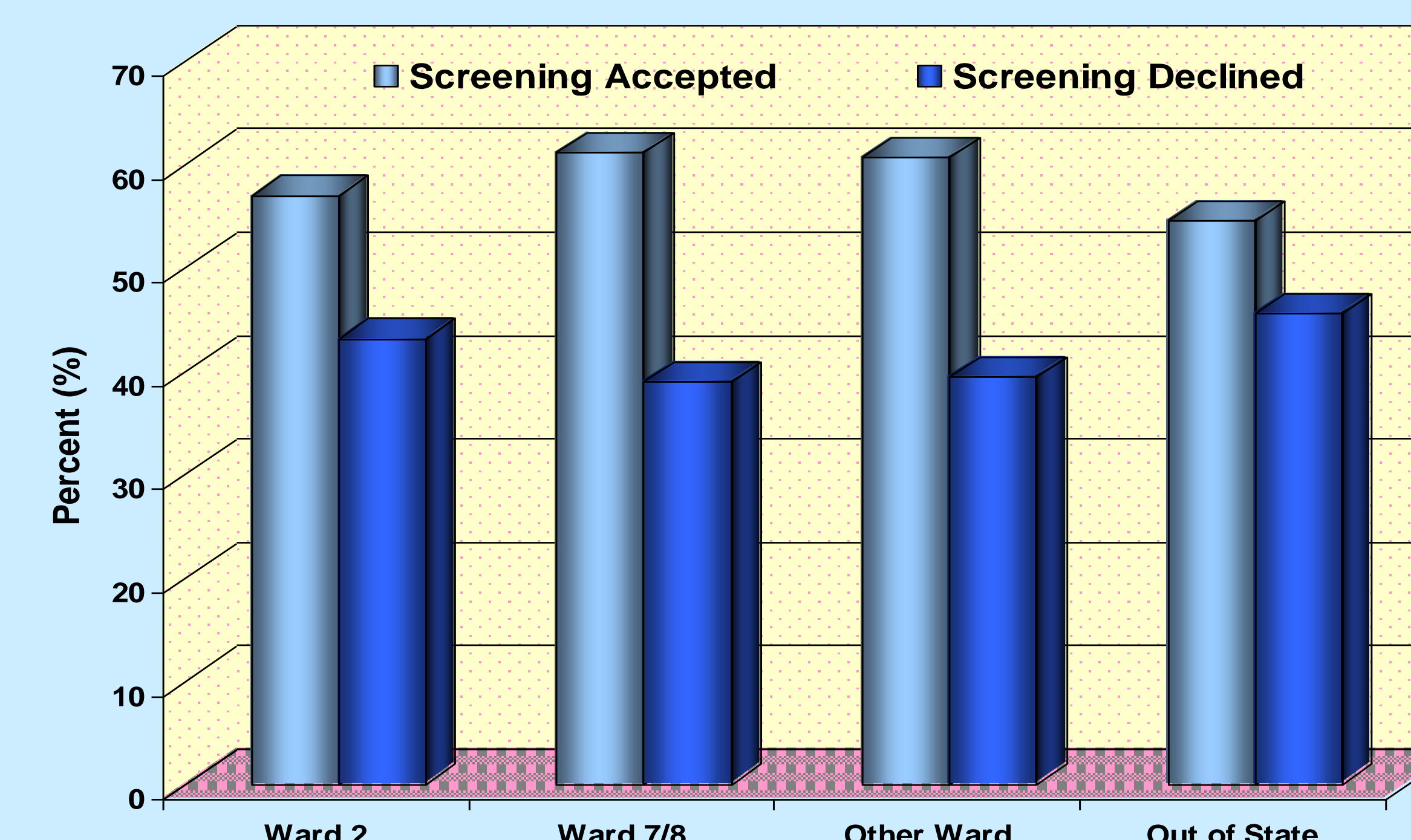
Figure 2. Map of District of Columbia ward location.
Red Star: George Washington University Hospital.
http://app.rrc.dc.gov

Methods

Patients were informed that free HIV screening test was being offered to all ED patients regardless of their perceived risk of infection and that they could opt-out of the screening test by simply verbally declining. The screening was offered by trained HIV screeners from 8am-midnight every day of the week. Patients were given an opportunity to review the test literature and to ask the screening personnel any questions they may have had about the HIV screening program. Patients who accepted screening were tested using the OraQuick Rapid HIV-1/2 Antibody test (OraSure Technologies Inc, Bethlehem PA). Testing was performed in parallel to the provision of standard ED care. Results were available within 20-40 minutes and negative results were relayed to the patient by the screener. All patients who had a negative screening test were given additional information about preventing HIV infection, and the results were noted on the ED record. Positive results were reviewed by a second screener and the ED attending physician. A Western Blot confirmatory test on all preliminary positive results was sent from the ED. An infectious disease physician was informed of all the preliminary positive patients. The patient was contacted within three days with the results of the confirmatory result and follow-up care was then established for the patient.

Data on age, gender, race, zip code of residence, insurance status, acceptance or refusal of HIV test, and the test results were collected for each patient by the screening personnel. Chi-square test and logistic regression analyses were used to assess associations between acceptance and declining of HIV screening and demographic characteristics.

Comparison of proportions employed Chi-square analysis and continuous variables by Students t test. All testing was two-tailed with a significance of P < 0.05 (Stata 9.0).

Summary of Results

For bivariable analyses, chi-square test T-test was used for categorical variables and continuous analyses (age). Multivariable logistic regression was used to identify independent correlates of test acceptance. Statistical significance was attained at a p=0.05. Table 1 shows that there was a significant difference in age, ethnicity, residence, and insurance status of the patients who accepted screening verses those who declined screening. There was no significant difference in gender for those who accepted verses declined screening. Table 2 shows that there was a statistically significant difference in gender, ethnicity, residence, and insurance status of those who screened positive for HIV. Table 3 shows the OR for the demographic characteristics identified. Figure 1 highlights the percentage of patients accepting and declining testing in each DC ward.

Confirmed Positives
- 26 of 40 (65%) the initial positives were able to be confirmed
- 7 (26.9%) were confirmed negative; 1 result was pending.

Discussion and Conclusions

- 34% of the 1231 individuals from lowest median annual household income wards and who were offered the test chose not to be tested
- 49% of the 1081 in the highest income area opted out of testing
- Those with public insurance were nearly 30% more likely to accept testing than those with private insurance.
- 12 if 809 individual from lowest income was were seropositive.
- 7 of 555 individuals from the wealthiest ward of the city were seropositive.
- No difference by gender of individuals who accepted and declined testing.
- Odds of acceptance is lower for higher age groups (i.e., younger ones are more likely to accept)
- Blacks are significantly more likely to accept testing than whites