

Cost of Finding One Newly-Diagnosed HIV Case in New York City

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Background: In 2006, CDC recommended routine HIV screening in healthcare settings. The New York City Department of Health and Mental Hygiene (NYCDOHMH) funds hospitals, clinics, and community-based organizations (CBOs) to conduct HIV testing. The goals of these testing programs are to increase the number of persons tested for HIV and to identify previously undiagnosed HIV cases. We sought to characterize the cost associated with finding new HIV cases in our funded programs.

Methods: NYCDOHMH reviewed 2006 testing data from its testing programs. We matched identified HIV cases against NYC DOHMH's population-based HIV/AIDS Surveillance Registry to determine whether the cases were newly diagnosed or repeat testers who were previously diagnosed. We calculated the cost to identify one newly-diagnosed case, comparing cases identified through screening in healthcare settings with cases identified through targeted testing in CBOs.

Results: In 2006, 30,211 HIV tests were conducted by NYCDOHMH-funded programs, yielding 443 confirmed HIV cases. Routine screening yielded 23,963 tests and identified 360 cases. Targeted testing yielded 6,258 tests and identified 83 cases. 59% cases identified through screening were newly diagnosed, compared with 64% cases identified through targeted testing. The median cost to identify one newly-diagnosed HIV case through routine screening and through targeted testing was \$9,021 (range: \$4,968-\$23,283) and \$47,189 (\$5,863-\$77,184), respectively.

Conclusions: The cost to identify one newly-diagnosed case is lower through routine screening in healthcare settings than through targeted testing in CBOs. However, some CBOs using targeted testing may be as effective in identifying newly-diagnosed cases as some hospitals using routine screening.



COST OF FINDING ONE NEWLY DIAGNOSED HIV CASE IN NEW YORK CITY

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BACKGROUND

- New York City (NYC) continues to have an ongoing HIV epidemic¹
 - Second highest AIDS case rate in US
 - Almost as many AIDS cases as Los Angeles, San Francisco, Miami, and Washington, DC combined
 - While number of new diagnoses has declined in recent years, thousands of new cases of HIV are still diagnosed in NYC every year
- In 2004, NYCDOHMH launched *Take Care New York*, a 10-step plan for New Yorkers to live longer, healthier lives
 - Item 4 in the plan is "Know Your HIV Status"
 - Promotion for initiative includes funding for HIV testing
- In September 2006, CDC released *Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings*
 - HIV screening recommended for patients in all health-care settings
 - Separate written consent for HIV testing is not required; general medical consent is sufficient
 - NY State Law requires separate written consent

¹CDC, AIDS Cases by Geographic Area of Residence and Metropolitan Statistical Area of Residence, 2004

Types of HIV Testing

- Diagnostic testing
 - HIV testing based on clinical signs or symptoms
- Targeted testing
 - HIV testing on subpopulations of persons at higher risk based on behavioral, clinical, or demographic characteristics
- Screening
 - HIV testing all persons in a defined population

BACKGROUND

NYC DOHMH-funded HIV Testing Programs

- Issued request for proposal for rapid HIV testing programs in 2005
- Goal
 - Increase number of persons tested for HIV
 - Identify previously undiagnosed HIV cases
- Nine hospitals and four community-based organizations (CBOs) funded
- Hospitals were to implement HIV testing as routine part of medical care
- CBOs target testing to homeless populations, injection drug users, men who have sex with men (MSM)

NYC HIV/AIDS Surveillance Registry

- Since June 2000, all positive confidential HIV-1 Western blot (WB) results have been reportable in New York State
 - NYC DOHMH processes results for all positive tests conducted in NYC
 - All cases are investigated
 - Prior diagnostic information exists in Registry for cases already known to the NYC DOHMH

METHODS

- HIV testing data were reviewed from funded programs from January 1 through December 31, 2008
 - Date source: 9 hospitals and 4 CBOs
- Clients who tested preliminary positive were matched against cases in DOHMH's HIV/AIDS Surveillance Registry
 - Matching variables (if available): name, date of birth, sex, race, ethnicity, medical record number, social security number
- Matched HIV cases were classified as
 - Newly diagnosed cases
 - Repeat testers who were previously diagnosed
- Calculated cost to identify one newly diagnosed case
 - Compared cases identified through screening with cases identified through targeted testing

RESULTS

HIV Testing Results, by Organization Types

	Total	Hospitals	CBOs
# of tests conducted	30,211	23,963	6,258
# of cases (positivity rate)	443 (1.46%)	360 (1.50%)	83 (1.32%)

Cases Match to HIV/AIDS Surveillance Registry

	Total	Hospitals	CBOs
# Preliminary Positives	482	386	96
# Not Matched	39	26	13
# Matched	443	360	83
# Previously Diagnosed	176	147	29
# Newly Diagnosed	267	213	54
Newly Diagnosed %	60% (0-81%)	59% (31-81%)	65% (0-78%)

Cost to Find One Newly Diagnosed Positive

	Total	Hospitals	CBOs
Median Cost (program costs only)	\$11,383	\$9,021	\$47,189
Median Cost (including test kit costs)	\$12,145	\$10,493	\$52,604

LIMITATIONS

- Data come from first year of program implementation
 - Not all programs started at the same time
 - Data included testing done while programs were ramping up testing efforts
 - This analysis may overestimate the cost to find a newly diagnosed case, compared to cost when programs are fully operational
- Costs reflective of NYC salary and programmatic costs, limiting generalizability of cost comparison to other jurisdictions
- Match to HIV/AIDS Surveillance Registry is not timely (6 month lag)
 - This analysis is not useful for more timely program evaluations

CONCLUSIONS

- Cost to find one newly diagnosed case is lower through routine screening in health-care settings than through targeted testing
- Some agencies using targeted testing may be as effective in identifying newly diagnosed case as some hospitals using routine screening.

NEXT STEPS

- Analyzing data for calendar year 2007
- Using data from analysis to evaluate and compare program performance
- Using analysis to compare targeted testing strategies

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