Effective HIV Case Identification Through Routine HIV Screening at Urgent Care Centers in Massachusetts

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Think HIV offered HIV counseling, testing, and referral to patients at 4 Massachusetts urgent care centers from January to September 2002. We compared the positive diagnosis yield of Think HIV with that of state-funded HIV counseling, testing, and referral sites. Think HIV found an HIV prevalence of 2.0% compared with 1.9% identified by self-referral testing. Urgent care center–based routine HIV counseling, testing, and referral programs are feasible, can have high positive diagnosis yields, and should be the standard of care in high HIV prevalence areas. (*Am J Public Health.* 2005;95:71–73. doi: 10.2105/AJPH.2003.031310)

An estimated 180 000 to 280 000 people in the United States have undiagnosed HIV infection despite Centers for Disease Control and Prevention (CDC) guidelines that advise routine HIV counseling, testing, and referral in hospitals where HIV prevalence exceeds 1.0%.[1–3] In 2003, the CDC began promoting "New Strategies for a Changing Epidemic" to make "HIV testing a routine part of medical care."[4] We designed "Think HIV" to provide routine, voluntary HIV counseling, testing, and referral at Massachusetts hospital-associated urgent care centers in high prevalence areas.

METHODS

Program Overview

The Massachusetts Department of Public Health AIDS Bureau identified 3 hospital-associated urgent care centers and 1 emergency department with an expected HIV seroprevalence of 1.0% or greater. Three of the 4 sites were at urban not-for-profit hospitals, and 1 was at an urban public authority hospital. All hospitals had at least 182 beds (mean=468).

All patients presenting to each of the 4 urgent care centers for any reason were offered confidential HIV counseling and testing with the OraSure HIV-1 antibody detection system (Epitope Inc, Beaverton, Ore), which uses oral mucosal transudate (i.e., cheek swab) with later serological confirmation. Patients returned within 14 days for test results and posttest counseling. Patients failing to return received at least 4 telephone calls and a letter encouraging follow-up. For patients identified as having HIV infection, staff also contacted homeless shelters and offered transportation vouchers for follow-up. Patients informed of their HIV diagnosis were introduced to a linkage nurse from the HIV care clinic who arranged a clinic appointment within 10 days and ensured clinic follow-up.

Data Collection and Analysis

The counselor collected information on a standardized Massachusetts Department of Public Health HIV Counseling and Testing Form (available on request from Eduardo Nettle, HIV counseling, testing, and referral coordinator, Massachusetts Department of Public Health). Think HIV data were compared with data from the Massachusetts Department of Public Health collected at state-funded HIV counseling, testing, and referral sites located within a 10-mile radius of the 4 Think HIV sites. These state-funded sites provide HIV counseling, testing, and referral to patients attracted via outreach, self-referral, or physician referral. Demographics and prevalence were compared with χ^2 tests (a 2-sided $P<0.05$ value was used for statistical significance).

RESULTS

From January through September 2002, the Think HIV program offered routine HIV counseling, testing, and referral to 7026 patients; 2620 (37.3%) accepted testing, and 2444 (93.3%) of these patients had completed HIV test results at the time of this analysis. During the same period, HIV counseling, testing, and referral sites within 10 miles of the Think HIV sites, hereafter referred to as the *self-referral* sites, completed 13 890 tests. Think HIV identified 48 new HIV diagnoses (2.0% undiagnosed HIV prevalence) compared with 262 at self-referral sites (1.9% undiagnosed HIV prevalence).

Patient Characteristics and HIV Prevalence

Gender, race/ethnicity, previous HIV testing, and risk behaviors of Think HIV patients differed significantly from those of self-referral patients (Table 1) but HIV prevalence stratified by these characteristics did not (Table 2). The distribution of patients who were HIV infected differed by risk of transmission between the 2 types of counseling, testing, and referral programs ($P<.0001$).

Among patients in Think HIV who were HIV infected, 12.2% were men who had sex with men, and none were injection drug users.

HIV Among Think HIV Patients Who Had Been Tested Previously

HIV prevalence among Think HIV patients who reported testing in the previous year was 2.2%, similar to the prevalence among those tested more than 1 year earlier (1.9%, $P=.77$). According to the reported date of the most recent negative test result, the estimated incidence of HIV infection was 4.1 infections per 100 person-years.

Return for Results and Referral to Care in Think HIV

Overall, 1382 of 2444 (56.5%) people tested in Think HIV returned for results (56% among patients who were HIV negative and 88% among patients who were HIV infected [$P=.002$]). Of the 48 patients identified as having HIV infection, 42 were informed of their results; all had documented linkage to care defined as at least 1 outpatient HIV primary care visit.

Program Costs

Program costs for the first 9 months totaled $232 000 and included (1) an HIV

TABLE 1—Selected Characteristics of Participants in the Think HIV Program and in State-Funded Self-Referral HIV Counseling, Testing, and Referral Centers

	Think HIV (N = 2444) n (%)	Self-Referral Testing (N = 13 890) n (%)	*P*
Female[a]	1048 (43)	6447 (46)	.0006
Mean age, y[b]	33.8	33.4	.07
Race/Ethnicity			< .0001
White	480 (20)	4763 (34)	
African American	888 (36)	2764 (20)	
Hispanic	660 (27)	4201 (30)	
Other	416 (17)	2162 (16)	
No. of previous HIV tests[c]			< .0001
0	1377 (58)	6744 (51)	
1–2	793 (33)	4945 (37)	
≥ 3	209 (9)	1549 (12)	
Risk behavior			.001
Injection drug use	111 (5)	1071 (8)	
Men who have sex with men	49 (2)	835 (6)	
Sexual exposure other than men who have sex with men	1696 (69)	7429 (53)	
No sexual exposure	92 (4)	226 (2)	
Unknown or not reported	496 (20)	4329 (31)	

[a]1% had missing data for gender. Calculations are based on those for whom data were available.
[b]4% had missing data for age. Calculations are based on those for whom data were available.
[c]4% had missing data for number of previous tests. Calculations are based on those for whom data were available.

TABLE 2—HIV Prevalence, by Selected Characteristics of Participants in Think HIV Program and in State-Funded Self-Referral HIV Counseling, Testing, and Referral Centers

	Think HIV HIV+/Total (%)	Think HIV 95% CI	Self-Referral Testing HIV+/Total (%)	Self-Referral Testing 95% CI
Gender				
Male	33/1391 (2.4)	1.6, 3.2	181/7343 (2.5)	2.1, 2.8
Female	15/1048 (1.4)	0.7, 2.2	76/6447 (1.2)	0.9, 1.4
Race/Ethnicity				
White	1/480 (0.2)	0.0, 0.6	49/4763 (1.0)	0.7, 1.3
African American	29/888 (3.3)	2.1, 4.4	63/2764 (2.3)	1.7, 2.8
Hispanic	8/660 (1.2)	0.4, 2.0	107/4201 (2.5)	2.1, 3.0
Other	10/416 (2.4)	0.9, 3.9	43/2162 (2.0)	1.4, 2.6
No. of previous tests				
0	26/1377 (1.9)	1.2, 2.6	121/6744 (1.8)	1.5, 2.1
1–2	17/793 (2.1)	1.1, 3.2	99/4945 (2.0)	1.6, 2.4
≥ 3	2/209 (1.0)	0.0, 2.3	25/1549 (1.6)	1.0, 2.2
Risk behavior				
Injection drug use	0/111 (0.0)	. . .	48/1071 (4.5)	3.2, 5.7
Men who have sex with men	6/49 (12.2)	3.1, 21.4	40/835 (4.8)	3.3, 6.2
Sexual exposure other than men who have sex with men	33/1696 (1.9)	1.3, 2.6	111/7429 (1.5)	1.2, 1.8
No sexual exposure	2/92 (2.2)	0.0, 5.2	9/226 (4.0)	1.4, 6.5
Unknown or not reported	7/496 (1.4)	0.4, 2.4	54/4329 (1.2)	0.9, 1.6

Note. CI = confidence interval.

counselor, (2) an HIV clinical nurse specialist for program infrastructure and training, (3) a part-time HIV linkage nurse, (4) OraSure test kits and processing, and (5) serum enzyme immunoassay and Western blot for confirmation of positive results. Think HIV costs were $95 per test performed, $170 per result given, $4850 per positive test result, and $5500 per each person who had HIV infection and was linked to care. Costs for the self-referral program during the same time were estimated at $105 per test performed and $5550 per positive test result.

DISCUSSION

Think HIV identified 48 new cases of undiagnosed HIV infection (HIV prevalence = 2.0%). Routine HIV counseling, testing, and referral through this program was as successful at HIV case identification as was self-referral screening. Think HIV reached a higher proportion of African Americans and risk behavior categories (other than men who have sex with men) than did self-referral programs but yielded a higher prevalence of HIV positive men who have sex with men than did self-referral programs. Think HIV costs totaled less than $5000 per each newly identified HIV-infected patient.

Programs such as Think HIV will be most efficient in areas of highest HIV prevalence. In 2000 to 2001, at least 6 states reported 2 to 6 times more cases than Massachusetts.[5] An extension of routine HIV counseling, testing, and referral programs similar to Think HIV in high HIV prevalence settings may have substantially higher positive diagnosis yields than our already successful program. ■

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Contributors

All authors contributed significantly to the origination and design of the study and to the writing of the brief. R.P. Walensky, E. Losina, L. Malatesta, J.F. McGuire, and K.A. Freedberg designed and initiated the study. J.F. obtained funding. R.P. Walensky, E. Losina, and K.A. Freedberg interpreted the data and prepared the manuscript. R.P. Walensky, E. Losina, and J.F. McGuire supervised implementation. G.E. Barton, C.A. O'Connor, P.R. Skolnik, and J.F. McGuire compiled the data.

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Human Participant Protection

This work was approved by the Partners human research committee (Protocol 2002-P-002041/1).

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