Clients Without Health Insurance at Publicly Funded HIV Counseling and Testing Sites: Implications for Early Intervention

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Synopsis

The characteristics of clients reporting no health insurance were compared with those reporting any health insurance at publicly funded human immunodeficiency virus (HIV) counseling and testing sites in the United States during 1992. Thirty of 65 funded health departments collect data on self-reported health insurance status. Data were dichotomized into two groups, clients reporting any health insurance versus those reporting none, and multivariate logistic models were developed to explore independent associations.

Of the 885,046 clients studied, 440,416 reported that they lacked health insurance. Clients without health insurance were more likely to be male, members of racial or ethnic minorities, adolescent, and HIV seropositive. Prisoners (odds ratio = 0.26), clients of Hispanic ethnicity (odds ratio = 0.52), and clients receiving testing during field visits (odds ratio = 0.53) in drug treatment centers (odds ratio = 0.55) and in tuberculosis clinics (odds ratio = 0.55) were less likely to have health insurance. Injecting drug users, whether heterosexual (odds ratio = 0.65) or homosexual (odds ratio = 0.67), were less likely to have health insurance compared with other behavioral risk groups.

Large numbers of clients receiving publicly funded HIV counseling and testing lack health insurance. Lack of health insurance may interfere with subsequent receipt of needed primary care services among high-risk clients, especially HIV seropositive clients in need of early intervention services.

PERSONS COUNSELED AND TESTED for human immunodeficiency virus (HIV) in publicly funded sites who are found to be seropositive should be provided, onsite or through referral, appropriate medical evaluation and therapy for their HIV disease (*1*). Large numbers of clients who receive testing in publicly funded HIV counseling and testing sites are members of racial and ethnic minorities (2), groups that are medically underserved (*3,4*). In fact, the National Commission on AIDS noted that early intervention among people of color who are infected with HIV is impeded both by "a lack of sufficient health insurance coverage and by a dearth of appropriate health services" (*5*). This study examines the self-reported insurance status of a sample of clients receiving HIV counseling and testing in 1992 through programs funded by the Centers for Disease Control and Prevention (CDC).

Methods

During the period of this study (calendar year 1992), 30 of 65 State, territorial, and local health departments, funded by CDC to provide HIV counseling and testing services, collected client-level data that permitted analysis of self-reported health insurance status by age, sex, race or ethnicity, self-reported risk exposure, HIV serostatus, service delivery site type, and type of HIV testing service provided (that is, anonymous or confidential). The 30 jurisdictions were

Alabama
Arizona
Chicago, IL
Connecticut
Delaware
District of Columbia
Houston, TX
Illinois
Indiana
Kentucky

Louisiana
Maryland
Michigan
Missouri
Nebraska
Nevada
New Jersey
New York
New York City, NY
North Carolina
Ohio
Oklahoma
Pennsylvania
Philadelphia, PA
Puerto Rico
Tennessee
Texas
Utah
Washington
Wisconsin

Clients receiving HIV counseling and testing through publicly funded sites in these jurisdictions were asked to categorize their health insurance status as follows: none, self-insured, public assistance, military or insurance from the Department of Veterans Affairs, or employer paid insurance. Additional client information (for example, demographic charactistics and self-reported risk exposure) was collected during the clinical encounter.

Client-level data were dichotomized (those with any reported health insurance and those with no reported health insurance) and analyzed using univariate and multivariate techniques. Variables found to be relevant in the univariate analyses were entered into forward stepwise multivariate logistic models, exploring both associations across levels within individual variables ("single variable model") and associations across all variables ("full model").

Results

The 30 jurisdictions accounted for a total of 1,158,562 tests during calendar year 1992, representing 43 percent of the total number (2,689,056) of CDC-funded HIV tests performed nationally during that same period. Self-reported health insurance status was available for 885,046 of the 1,158,562 individual client records (76 percent).

About half (440,416) of the 885,046 HIV tests were performed on specimens obtained from persons who reported having no health insurance. Twenty-five percent of the 885,046 tests (221,233) were performed on specimens from persons who indicated that their source of health insurance was through an employer. Fifteen percent of tests (132,851) were from persons reporting public assistance, 10 percent (85,149) from self-insured clients, and less than 1 percent (5,397) from persons with military or veterans' health insurance. For the remaining analyses, client data were dichotomized into the following categories: those with health insurance from any source and those reporting no health insurance.

Table 1 presents data on clients with health insurance from any source and those without health insurance, stratified by characteristics. More than half of the men, racial or ethnic minority group members (excluding Asians and Pacific Islanders), and adolescents in our study population reported no health insurance.

In our study population, 81 percent of clients tested in prisons, 67 percent tested in tuberculosis (TB) clinics, 64 percent tested in drug treatment centers, and 61 percent tested in sexually transmitted disease (STD) clinics reported having no health insurance. Low reported rates of health insurance were also observed for persons with a history of injecting drug use, those from the southern United States, and those who were seropositive for HIV antibodies.

A specific reference level was identified for each variable (odds ratio [OR] = 1.00) and OR were calculated for the single and full variable models (table 2). Table 2 also lists the 95 percent confidence intervals for the ORs in the full model. In the single variable model, almost all of the variable levels had significant associations with health insurance status at the 0.0001 level; the exceptions were "race or ethnicity: Asian or Pacific Islander" ($P = 0.9$), "self-reported risk behavior: heterosexual sex . . . " ($P = 0.8$), and "HIV serostatus: indeterminate" ($P = 0.6$). Except for "race or ethnicity: American Indian or Alaskan Native" ($P < 0.05$), "HIV serostatus: indeterminate" ($P < 0.05$), and "race or ethnicity: Asian or Pacific Islander" ($P < 0.0005$), all of the variables in the full model were significantly associated with health insurance status at the 0.0001 level.

In the full model, the largest ORs (that is, strongest association with reporting any health insurance when compared with the variable reference level) were "geographic region: Puerto Rico" (OR = 3.20) and "self-reported risk behavior: health care exposure" (OR = 2.46).

Variables with the smallest ORs (that is, the strongest association with reporting no health insurance when compared with the variable reference level) were noted for prisoners (OR = 0.26); clients of Hispanic ethnicity (OR = 0.52); and clients receiving testing during field visits (that is, off-site testing through outreach workers) (OR = 0.53), in drug treatment centers (OR = 0.55), and in TB clinics (OR = 0.55). Injecting drug users, whether heterosexual (OR = 0.65) or homosexual (OR = 0.67), were less likely than persons with other self-reported risk behaviors to report having health insurance when compared with persons with no acknowledged risk behaviors. Seropositive clients, when compared with seronegative clients, were more likely to be without health insurance—and this association remains even when controlling for all other variables (OR = 0.78).

Table 1. Health insurance status for 885,046 clients of publicly supported HIV counseling and testing sites, 1992 [1]

Characteristic	*Any insurance*		*No insurance*	
	Number	*Percent*	*Number*	*Percent*
Sex:				
Male	191,260	46	226,635	54
Female	252,780	54	213,358	46
Race or ethnicity:				
White	268,005	56	211,124	44
Black	107,199	42	149,364	58
Hispanic	61,070	46	71,673	54
Asian or Pacific Islander	3,546	56	2,840	44
American Indian or Alaskan Native	1,990	49	2,069	51
Other	2,820	46	3,346	54
Type of service delivery site:				
HIV counseling and testing site	238,624	59	164,151	41
Sexually transmitted disease clinic	89,445	39	139,556	61
Family planning clinic	30,168	42	40,835	58
Drug treatment center	18,424	36	33,081	64
Prenatal, obstetric clinic	26,320	68	12,512	32
Community health center	15,393	48	16,409	52
Prison	3,670	19	15,630	81
Hospital, private physician	4,946	66	2,573	34
Tuberculosis clinic	939	33	1,911	67
Field visit	5,308	41	7,713	59
Other	10,929	66	5,664	34
Age (in years):				
Younger than 5	877	65	467	35
5–12	1,292	59	915	41
13–19	54,399	46	63,563	54
20–29	186,079	48	198,541	52
30–39	123,477	51	117,764	49
40–49	53,803	56	42,736	44
50 or older	23,172	61	15,020	39
Self-reported risk behavior:				
Men who have sex with men and inject drugs	2,036	35	3,767	65
Men who have sex with men	39,808	56	30,679	44
Heterosexual injecting drug user	22,942	35	42,587	65
Sexual partner at risk	64,317	52	59,290	48
Child of a woman with HIV or AIDS	745	68	351	32
Diagnosis of sexually transmitted disease	45,229	45	56,276	55
Exchanged sex for drugs or money	5,785	42	7,952	58
Sex under the influence of drugs (not an injecting drug user)	38,977	56	30,227	44
Hemophilia or blood recipient	6,724	61	4,366	39
Victim of sexual assault	4,918	57	3,701	43
Health care exposure	11,500	75	3,782	25
Heterosexual sex, no other risk	151,624	51	148,438	49
No acknowledged risk	45,155	51	44,170	49
Other	3,500	51	3,327	49
Type of HIV testing:				
Anonymous	184,403	59	127,166	41
Confidential	253,698	45	306,824	55
Geographic region:				
South	145,149	41	211,697	59
West	25,533	51	24,906	49
Northeast	124,341	59	87,306	41
Midwest	121,006	55	99,659	45
Puerto Rico	28,601	63	16,848	37
HIV serostatus:				
Negative	432,230	50	424,510	50
Positive	8,410	43	11,315	57
Indeterminate	1,105	50	1,119	50

[1] Some totals may be less than 885,046 because of missing data.

Table 2. Multivariate logistic models of health insurance status for 885,046 clients of publicly supported HIV counseling and testing sites, 1992

	Odds ratio		
Variable and level	*Single variable model*	*Full model*	*Full model, 95 percent confidence interval*
Sex:			
Male	1.00	1.00	. . .
Female	1.40	1.36	1.35–1.38
Race or ethnicity:			
White	1.00	1.00	. . .
Black	0.56	0.70	0.69–0.71
Hispanic	0.67	0.52	0.51–0.53
Asian or Pacific Islander	1.00	0.91	0.86–0.96
American Indian or Alaskan Native	0.76	0.92	0.87–0.99
Other	0.64	0.57	0.53–0.60
Service delivery site type:			
HIV counseling and testing site	1.00	1.00	. . .
Sexually transmitted disease clinic	0.44	0.60	0.59–0.61
Family planning clinic	0.51	0.65	0.64–0.66
Drug treatment center	0.38	0.55	0.54–0.56
Prenatal, obstetrical clinic	1.44	1.80	1.76–1.85
Community health center	0.65	0.84	0.82–0.86
Prison	0.16	0.26	0.25–0.27
Hospital, private physician	1.30	1.18	1.12–1.24
Tuberculosis clinic	0.38	0.55	0.51–0.60
Field visit	0.48	0.53	0.51–0.55
Other	1.35	1.60	1.55–1.66
Age (in years):			
30–39	1.00	1.00	. . .
Younger than 5	1.86	1.70	1.50–1.93
5–12	1.37	1.21	1.10–1.33
13–19	0.82	0.80	0.79–0.82
20–29	0.89	0.84	0.83–0.85
40–49	1.20	1.13	1.11–1.15
50 or older	1.48	1.32	1.28–1.35
Self-reported risk behavior:			
No acknowledged risk	1.00	1.00	. . .
Men who have sex with men and inject drugs	0.53	0.67	0.63–0.71
Men who have sex with men	1.27	1.27	1.25–1.30
Heterosexual injecting drug user	0.52	0.65	0.64–0.67
Sexual partner at risk	1.06	1.06	1.04–1.08
Diagnosis of sexually transmitted disease	0.79	1.06	1.04–1.08
Exchanged sex for drugs or money	0.71	0.85	0.82–0.89
Sex under influence of drugs (not an injecting drug user)	1.26	1.28	1.26–1.31
Hemophilia or blood recipient	1.51	1.28	1.23–1.34
Victim of sexual assault	1.30	1.15	1.09–1.20
Health care exposure	2.98	2.46	2.37–2.57
Heterosexual sex, no other risk	1.00	1.03	1.02–1.05
Other	1.12	0.89	0.85–0.94
Type of HIV testing:			
Confidential	1.00	1.00	. . .
Anonymous	1.76	1.40	1.38–1.41
Geographic region:			
Midwest	1.00	1.00	. . .
South	0.57	0.74	0.73–0.75
West	0.84	0.85	0.83–0.87
Northeast	1.17	1.62	1.60–1.64
Puerto Rico	1.46	3.20	3.11–3.29
HIV serostatus:			
Negative	1.00	1.00	. . .
Positive	0.73	0.78	0.76–0.81
Indeterminate	0.97	0.89	0.82–0.98

Discussion

Similar to the findings of an earlier analysis (*6*), the results of this study document that large numbers of clients receiving HIV counseling and testing in publicly funded sites lack health insurance. In our multivariate analyses, prisoners, clients of Hispanic ethnicity, injecting drug users, and clients receiving HIV counseling and testing in TB clinics, drug treatment centers, and during field visits, were among those especially likely to report having no health insurance. We also found that, even after controlling for other variables, HIV seropositive clients were less likely to have health insurance. Deficits in health insurance coverage for Hispanic Americans (*7*), injecting drug users (*8*), and persons with progressive HIV disease (*9*), have been previously described. The strong association between reporting health insurance and HIV counseling and testing in Puerto Rico is most likely a reflection of the distribution of HIV counseling and testing services in Centros de Diagnosticas y Tratarientos in that jurisdiction. Each municipality or region has one of these centers which provides primary care services to a predominantly public assistance clientele.

These findings document that publicly funded HIV counseling and testing programs are, for the most part, reaching clients who might otherwise have limited economic opportunities for receiving counseling and testing services from private sources. In fact, in the majority of service site types evaluated, study clients were more likely to report lacking health insurance than to report having it. The large number of clients without health insurance raises concerns about potential barriers to subsequent receipt of needed primary care services among high-risk clients—especially early intervention for HIV seropositive clients.

Ensuring that HIV seropositive clients diagnosed at publicly funded counseling and testing sites receive early intervention services, either on-site or through referral, is a program requirement for health departments that receive prevention funding from CDC (*1*). However, information from program assessments conducted by CDC staff, as well as a case study evaluation of a seven-site demonstration project (*10*), suggest ongoing difficulties in coordinating client referrals from HIV counseling and testing sites into HIV treatment programs, which are usually off-site and generally operated under a separate management structure.

'The large number of clients without health insurance raises concerns about potential barriers to subsequent receipt of needed primary care services among high-risk clients—especially early intervention for HIV seropositive clients.'

In addition to the administrative challenge of managing interorganizational linkages between these separate programs (*11*), the fact that many of these clients do not have health insurance is likely to affect their receiving needed primary care services, including early intervention services for HIV disease (*12*). Fifty-seven percent of the HIV seropositive clients in our sample reported having no health insurance. Although the implementation of the Ryan White CARE Act has provided additional opportunities for HIV infected persons to receive early intervention services (*13*), health service researchers continue to demonstrate that lack of health insurance can result in inadequate preventive care (*14*) and may present a major barrier to accessing ambulatory medical care (*15–17*).

There are a number of weaknesses in this study. Since the information on health insurance status was self-reported, it may not be completely accurate. Persons may have underreported health insurance status for a number of reasons. Program managers anecdotally report that there is a sizable population of clients who have health insurance but are reluctant to acknowledge it since they are seeking "free services" at publicly funded sites. Also, persons with health insurance may present for HIV testing at public sites (and deny having health insurance) because they do not want their insurers to know that they are seeking testing. However, it should be noted that the clients in our study who reported lacking health insurance shared demographic characteristics in common with previously published descriptions of persons without health insurance coverage (*18*). Nor do the self-reported categories of health insurance status measure adequacy of coverage; persons who report having some form of health insurance may not be adequately covered (*12*). And our data do not include measures of socioeconomic status and educational level, two variables that are associated with insurance status (*18*).

Because information on self-reported insurance status was missing in 24 percent of the available client records, the possibility of ascertainment bias must be considered. Also, because the group we analyzed consisted of only 43 percent of the total number of persons receiving CDC-funded HIV counseling and testing services during the study period, the findings of these analyses may not be generalizable to all clients served through these programs.

Finally, it is apparent that health insurance coverage is only one of several variables that can influence access to health care (*16,19,20*). Other circumstances, whether personal, cultural, environmental, or programmatic, are likely to exert a significant influence on receipt of needed referral services (*21*). However, because information on these variables was not collected, it was not possible to look at the effects of these other important variables in our study.

In summary, this retrospective study demonstrates that large numbers of clients receiving HIV counseling and testing at publicly funded sites report that they don't have health insurance—they include racial or ethnic minority group members, adolescents, injecting drug users, and persons who are HIV seropositive. Lack of health insurance might interfere with subsequent receipt of needed primary care services, especially early intervention for HIV disease. This gap may exist despite the availability of such services developed through other sources, including the private sector.

Further prospective studies are needed to evaluate this supposition. In the interim, however, program managers should carefully examine the adequacy of existing referral systems and consider specific strategies, such as HIV prevention case management (*1,22*), which would help to ensure that newly diagnosed HIV seropositive clients lacking health insurance are provided with assistance to help them access needed early intervention services.

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