HIV Test–Seeking Before and After the Restriction of Anonymous Testing in North Carolina

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ABSTRACT

Objectives. This study assessed the impact on HIV test–seeking of North Carolina's restriction of anonymous testing to 18 of its 100 counties as of September 1, 1991.

Methods. Trends from 4 months prerestriction to the 16-month restriction period in counties retaining vs counties eliminating anonymous testing were compared.

Results. HIV testing increased throughout the state, but more rapidly where anonymous testing was retained than elsewhere: 64% vs 44%. These differences held for all sociodemographic subgroups and were most pronounced among adolescents and African Americans and other non-Whites.

Conclusions. The data are consistent with a detrimental effect of elimination of anonymous testing, although confounding from differences in AIDS awareness or in repeat tests is possible. (*Am J Public Health.* 1996;86:1446–1450)

Introduction

In 1985, North Carolina initiated a human immunodeficiency virus (HIV) counseling/testing program that, for 6 years, provided both anonymous and confidential testing in all of the state's 100 counties. In anonymous testing, no link between the person's name and test result exists. In confidential testing, the individual's name and HIV status are reported. In 1991, the North Carolina Commission for Health Services, a body of lay and professional persons appointed by the governor and the state medical society, voted to phase out anonymous testing. After considerable public opposition, a compromise was reached: beginning September 1, 1991, anonymous testing was simultaneously discontinued in 82 counties but retained in 18; confidential testing remained available statewide; and permanent abolishment of anonymous testing was contingent on evidence that the loss of such testing would not adversely affect HIV testing rates. On January 1, 1993, anonymous testing resumed in all 100 counties by court order.

North Carolina was scheduled to once again completely eliminate anonymous testing in 1996, but lawsuits have prevented the implementation of this action; the state's Supreme Court is reviewing the case. This report assesses the impact of North Carolina's 1991/92 restriction of anonymous testing on HIV test–seeking.

Methods

HIV testing data from publicly funded stand-alone counseling/testing sites and from other public health clinics in North Carolina were provided by the state's Department of Environment, Health, and Natural Resources. This analysis covers May 1991 through December 1992 (4 months prior to and 16 months during restriction of anonymous testing). Before May 1991, complete computerized data were unavailable. Observations missing month or year of test were eliminated. Persons tested more than once could not be identified.

Variables included individual, test, and test-site characteristics. Individual characteristics were age, race, gender, reason for appearance at the site, insurance status, and risk behaviors (see Tables 1 and 2). Behaviors were not mutually exclusive: individuals could engage in multiple risky behaviors. Test variables were whether a test was declined (after pretest counseling), whether it was anonymous or confidential, the result (positive, negative, unknown, inconclusive), and whether the client received the result. One test-site characteristic was used: whether or not the county offered anonymous testing during the restriction period ("county type"). The individual's county of residence and the specific county in which the test site was located were not available.

We first compared the two county types with respect to the proportion declining a test and the characteristics of those tested. Analyses excluded those seeking treatment for sexually transmitted diseases, tuberculosis, drug problems, and so forth, since the focus was on the impact of policy on individuals' test-seeking behavior rather than on physician practices. Monthly public-sector testing rates, calculated with population denominators from the 1990 census,[1] were graphed to compare 20-month time trends in the two county types.

Quantitative comparison of trends was based on the average monthly number of tests, calculated for each county type separately. The prerestriction period monthly average was subtracted from the restriction period average to obtain percentage change. The percentage point difference in temporal change was used to compare the two county types.

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A seasonally adjusted analysis was also conducted. The prerestriction months (May through August 1991) were compared with the same months in the restriction period (May through August 1992). Similar comparisons could not be made for other months because only 4 prerestriction months of data were available.

We further examined whether insurance status (private, public, or none) was associated with choosing an anonymous or confidential test in counties offering both. Finally, we assessed whether receipt of test results was associated with test type. HIV test results must be communicated in person by a state worker.

Results

During the study period, an HIV test was the recorded "reason for visit" for 71 434 appearances at testing sites. Of the individuals included in this category, 253 were not tested, most (n = 238) simply "declining" the test after receiving counseling (no further information was available). Before restriction, those declining a test were equally divided between the two county types; during the restriction period, however, three times as many declined in counties offering only confidential testing as in counties offering both test types (0.50% vs 0.16%). Thus, in counties that eliminated anonymous testing, a disproportionate number of persons declined the test.

Descriptive data for those tested are shown in Table 1. Women, African Americans, and 18- to 34-year-olds were overrepresented relative to their proportions[1] in North Carolina. Test seekers in the two county types were similar. However, homosexual and bisexual men accounted for a higher percentage of tests in counties retaining vs those eliminating anonymous testing (10% vs 4%).

Data on insurance status were collected only during the restriction period. Test seekers in counties retaining anonymous testing included a higher proportion with private or employer insurance than those in other counties (36% vs 27%).

Changes in Test-Seeking over Time

Monthly testing increased throughout the study period (Figure 1). However, it increased more rapidly in counties that retained anonymous testing. Table 2 shows monthly numbers of tests in the two county types during the prerestriction and restriction periods and during a seasonally comparable restriction period, as well as the percentage change with and without seasonal adjustment. Differences between county types are shown in the last two columns. Without adjustment for seasonal trends, counties retaining anonymous testing had a 20 percentage point greater increase in testing than counties eliminating it (increase of 64% vs increase of 44%). In each race or gender category, testing increased more rapidly in counties where anonymous testing was retained (range of increase: 49% to 107%) than in counties where it was not (28% to 58%). A similar pattern was seen in every age group: differences ranged from 4 to 61 percentage points. Two risk behavior groups showed the inverse pattern of smaller increases in counties that retained anonymous testing: persons with a history of sexually transmitted disease diagnosis and persons who had sex for drugs or money.

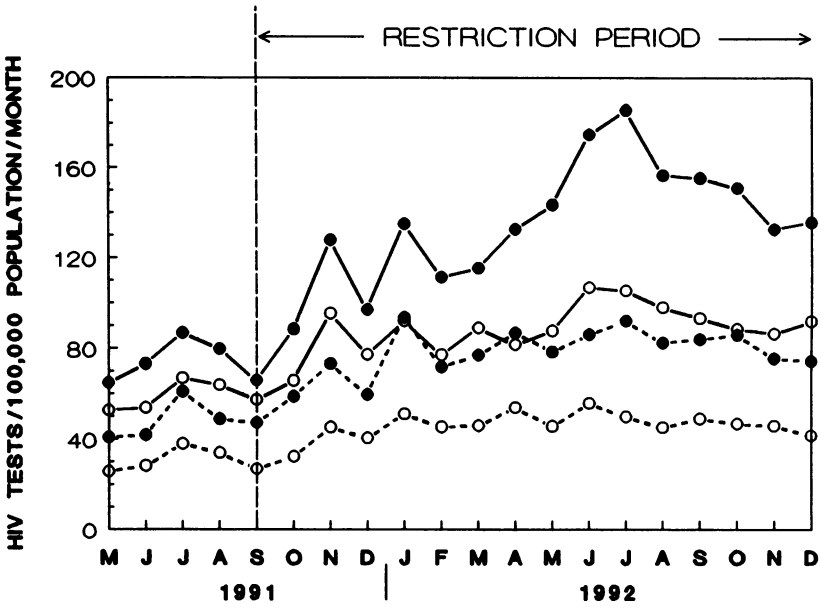
TABLE 1—HIV Testing at Publicly Funded Test Sites in North Carolina, May 1991 to December 1992

	All Counties (No. Tests = 71 181), %	Counties with Anonymous Testing for 4 Months Only (No. Tests = 33 069), %	Counties with Anonymous Testing throughout Period (No. Tests = 38 112), %
Gender[a]			
Male	44.1	39.9	47.7
Female	55.6	59.7	52.0
Missing	0.3	0.4	0.3
Race[a]			
White	64.8	65.2	64.5
African American	32.3	31.7	32.8
Other non-White	2.9	3.1	2.7
Missing	<0.01	<0.01	0.01
Age, y[a]			
12 and under	0.6	0.6	0.6
13–17	5.5	7.4	4.0
18–24	30.0	31.3	28.9
25–34	36.3	34.8	37.5
35–44	18.6	17.4	19.7
45+	8.3	7.6	8.9
Missing	0.6	0.8	0.4
HIV risk factors[b]			
Sex with men (male subjects)	7.4	3.9	10.3
Intravenous drug user	6.5	7.3	5.9
Sex partner is intravenous drug user	10.2	11.2	9.3
Sex partner is HIV positive	3.4	2.6	4.1
Sexually transmitted disease diagnosis since 1978	21.7	20.6	22.7
Sex for drugs or money	4.0	3.4	4.5
Health insurance status[a]			
None	27.2	28.0	26.5
Public	8.2	10.3	6.3
Private	31.3	26.5	35.5
Missing[c]	33.3[c]	35.2	31.7

Note. All values reported represent individuals whose "reason for visit" was an HIV test.
[a]Column percentages sum to 100% for each category.
[b]Not all persons reported an HIV risk factor, and some reported more than one HIV risk factor; hence, these column percentages do not sum to 100%.
[c]Collection of data on health insurance began during the restriction period; hence, most of those missing this information were tested in the prerestriction period. During the period when this information was collected, 3% of the subjects were missing.

Seasonally Adjusted Changes over Time

Seasonal adjustment magnified differences between the two county types. Across all subgroups, testing in counties retaining anonymous tests increased at a rate that was 11 to 101 percentage points



Note. Darkened circles represent counties that retained anonymous testing throughout the study period; open circles represent counties that eliminated anonymous testing during the restriction period; solid lines denote African Americans and other non-Whites combined; and dashed lines denote Whites.

FIGURE 1—Population-based monthly rates of HIV testing at public-sector test sites among those whose recorded reason for visit was an HIV test.

greater than the rate in counties eliminating them, with one exception: persons with a history of sexually transmitted disease diagnosis, for whom the increase was smaller. In counties retaining the anonymous option, testing more than doubled for females, African Americans, other non-Whites, 13- to 17-year-olds, and 18- to 24-year-olds. Among homosexual men and among intravenous drug users, testing actually declined in counties that eliminated anonymous tests.

Private Insurance

In counties offering a choice, persons with private insurance were 2.9 times more likely to choose an anonymous rather than a confidential test (74% vs 26%). Those with public or no insurance were slightly less likely to obtain an anonymous test (46% vs 54%).

Receipt of Test Results

Most individuals received results at a follow-up visit; a small percentage were contacted by clinic workers or disease intervention specialists. Persons tested confidentially were more likely to not receive their results than those tested anonymously (21.3% vs 8.7%). Within counties offering a choice, the figures were 30.3% and 8.2%. Among persons who tested positive, the percentages not receiving results were nearly identical.

Discussion

The association between availability of anonymous testing and a greater increase in testing could be causal or either partially or wholly due to unmeasured differences between the two types of counties. Because the entire population of tests in North Carolina, rather than a random sample, was analyzed, the results do not represent "chance" findings.

Counties retaining anonymous testing were more urban and had more acquired immunodeficiency syndrome (AIDS) cases[2] than the other counties, and hence residents probably were more aware of the epidemic.[3] Also, since duplicate tests could not be identified, we could not estimate the number of repeat tests or determine whether they occurred more frequently in counties offering anonymous testing. National data indicate high rates of repeat testing over a 5-year period.[4] Our data did not permit examination of either how frequently individuals crossed county lines to obtain an anonymous test or the extent to which persons provided false names when getting a confidential test. North Carolina does not require proof of identification for persons tested confidentially. At confidential test sites in Colorado, 27% of test seekers admitted they gave false identifying information.[5]

Circumstantial evidence from this study supports a detrimental effect of elimination of anonymous testing. A higher proportion of individuals declined a test after pretest counseling at sites offering only confidential testing, even though an HIV test was the recorded reason for their visit, and a lower proportion of persons who were tested confidentially received their results.

Persons with private health insurance strongly preferred an anonymous test. This finding is not surprising: confidential positive HIV tests appear on medical records, which are accessible by court order and are routinely requested for insurance and employment applications. Studies have shown that persons with AIDS frequently lose their private health insurance[6] and/or are refused treatment by health care providers.[7] Also given the importance of confidentiality as a determinant of teens' behavior[8] and the rise in AIDS cases among adolescents nationwide, the large differential between adolescents in the two types of counties is noteworthy.

Numerous studies suggest a link between availability of anonymous testing and test-seeking behavior and/or attitudes,[9–15] with high-risk groups particularly reluctant to be tested confidentially.[5,8–12,14–21] Residents of US states that restrict access to test results by employers and insurers and that provide anonymous testing are more likely to have been tested than those living in states without such policies.[22]

Those advocating elimination of anonymous testing point out that confidential testing enables state agencies to contact HIV-positive individuals regarding partner notification. Many individuals voluntarily notify sexual or needle contacts, and some states legally require HIV-infected individuals to do so. Moreover, two states[23,24] have reported successful partner notification programs when index case patients are tested anonymously. Concerns have also been raised about partner notification for female index case patients in instances in which there has been a history of domestic violence.[25,26] Indeed, partner notification has led to physical abuse, abandonment, and threats on these women's lives.[26,27]

TABLE 2—Average Number of HIV Tests per Month in North Carolina Counties, May 1991 to December 1992: Percentage Change from Prerestriction to Restriction Period and Difference, by County Type

	Counties with Anonymous Testing for 4 Months Only			Counties with Anonymous Testing throughout Period			Difference in % Change between Two County Types	
	Pre-restriction Period, No.	Restriction Period		Pre-restriction Period, No.	Restriction Period			
		Full 16 Months, No. (% Change)	Seasonally Adjusted, No. (% Change)		Full 16 Months, No. (% Change)	Seasonally Adjusted, No. (% Change)	Full 16 Months	Seasonally Adjusted
Overall	1203	1736 (44.3)	1926 (60.1)	1246	2047 (64.3)	2371 (90.3)	20.0	30.2
Gender								
Male	533	679 (27.5)	743 (39.5)	646	963 (49.1)	1111 (72.0)	21.6	32.5
Female	664	1051 (58.3)	1175 (77.0)	599	1078 (80.1)	1253 (109.3)	21.8	32.3
Race								
White	791	1133 (43.3)	1236 (56.4)	827	1318 (59.4)	1458 (76.3)	16.2	19.9
African American	378	550 (45.3)	630 (66.5)	392	673 (71.8)	843 (115.2)	26.6	48.7
Other non-White	34	54 (57.1)	61 (76.6)	27	56 (106.5)	70 (159.3)	49.4	82.6
Age, y								
13–17	72	135 (87.5)	149 (108.0)	35	86 (148.6)	107 (208.7)	61.1	100.7
18–24	333	564 (69.3)	622 (86.5)	301	613 (104.0)	675 (124.5)	34.7	38.0
25–34	455	607 (33.5)	671 (47.6)	509	767 (50.6)	893 (75.4)	17.2	27.9
35–44	236	301 (27.5)	342 (44.7)	260	404 (55.5)	485 (86.6)	28.1	41.9
45+	108	130 (20.9)	143 (33.3)	142	177 (25.1)	211 (48.9)	4.2	15.6
HIV risk factors[a]								
Sex with men (male subjects)	71	62 (−12.4)	65 (−9.1)	174	201 (15.4)	221 (27.0)	27.8	36.1
Intravenous drug user	122	119 (−3.1)	130 (6.5)	102	114 (12.7)	137 (35.2)	15.8	28.7
Sex partner is intravenous drug user	155	191 (23.5)	203 (31.0)	128	188 (47.0)	224 (75.2)	23.6	44.2
Sex partner is HIV positive	39	44 (11.5)	48 (21.0)	55	84 (52.1)	98 (76.5)	40.7	55.5
Sexually transmitted disease diagnosis since 1978	133	388 (191.2)	489 (267.2)	181	493 (172.0)	661 (264.7)	−19.2	−2.5
Sex for drugs or money	46	59 (30.1)	60 (32.4)	78	86 (10.7)	112 (43.7)	−19.4	11.3

Note. All values reported represent individuals whose "reason for visit" was an HIV test. Those 12 years of age or younger were excluded.
[a]These categories were not mutually exclusive. Persons could be in more than one category or in none of the categories.

Between May 1991 and December 1992, HIV test-seeking at publicly funded sites in North Carolina increased more rapidly in counties that retained anonymous testing than in counties that eliminated it. Seasonal adjustment magnified the differences, particularly in some high-risk groups: adolescents, African Americans, other non-Whites, partners of intravenous drug users, and persons with infected partners. Since counties were not randomized, the disparity in testing trends could be at least partly due to differences in awareness about AIDS or in numbers of repeat tests. Nevertheless, our data are consistent with a detrimental effect of elimination of anonymous testing, and evidence from other studies supports this conclusion. Clinicians referring patients to public HIV test sites should be aware of how testing options may affect test-seeking behavior. Those making policy decisions affecting the availability of anonymous testing must take into account possible consequences for high-risk and/or vulnerable persons. □

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Alcohol and Drug Use, Abuse, and Dependence among Welfare Recipients

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ABSTRACT

Objectives. This paper presents national estimates of heavy drinking, drug use, and alcohol and drug abuse and/or dependence among recipients of selected welfare programs.

Methods. Data from the 1992 National Longitudinal Alcohol Epidemiologic Survey were analyzed.

Results. The percentages of welfare recipients using, abusing, or dependent on alcohol or drugs were relatively small and consistent with the general US population and those not receiving welfare benefits.

Conclusions. Although a minority of welfare recipients have alcohol or drug problems, substance abuse prevention and treatment services are needed among high-risk subgroups. (*Am J Public Health.* 1996;86: 1450–1454)

Introduction

The network of federal programs designed to help the nation's needy has rapidly grown since the Great Depression, most notably as the result of the War on Poverty. Recent concerns regarding these programs, referred to collectively as welfare, have generated great debate in the current administration and among lawmakers. At the center of this often intense and emotional political debate are characterizations of welfare recipients that are usually not supported by empirical data. One such characterization depicts the welfare mother in particular as having an alcohol or drug problem. It was the objective of the present study to provide the most recent national estimates of the prevalence of heavy alcohol use, drug use, and alcohol and drug abuse and dependence among welfare recipients participating in five social services programs: Aid to Families with Dependent Children (AFDC); the Special Supplemental Food Program for Women, Infants, and Children (WIC); food stamps; supplemental security income (SSI); and Medicaid. The major goal of the study was to identify high-risk subgroups of the welfare population in need of prevention,

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