

HIV Antibody Testing among Adults in the United States: Data from 1988 NHIS

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Abstract: Data collected from 21,168 adults using the 1988 AIDS supplement to the National Health Interview Survey were examined to determine awareness of and experience with HIV antibody testing in the United States. Three-fourths of adults knew of the blood test for HIV antibodies; awareness was lower among Blacks, Hispanics, older adults, and those less educated. Overall, 17 percent of adults had been tested; of these, 73 percent because of blood donation, 14 percent through other non-voluntary programs (such as military induction), and 16 percent sought testing voluntarily. While a smaller

proportion of Black and Hispanic adults had been tested, they were more likely than their White non-Hispanic counterparts to have been tested voluntarily. Persons who reported belonging to groups with high-risk behaviors were also more likely to have been voluntarily tested. Most of those tested voluntarily received their test results, but only one-third also received prevention information. Three percent of adults plan to be tested voluntarily in the next year; about half will seek testing through their doctor or health maintenance organization. (*Am J Public Health* 1990; 80:586-589.)

Introduction

Counseling and testing for antibodies to human immunodeficiency virus (HIV) are important parts of the US Public Health Service plan for the prevention and control of HIV infection and AIDS (acquired immunodeficiency syndrome).¹ Throughout the United States, confidential and/or anonymous counseling and testing sites have been established to provide these services. Between 1985 and September 1988, over 1.4 million persons were counseled and tested in publicly funded test sites.² HIV antibody testing may also be obtained at a variety of other health care settings, but the number tested in these settings is not known. In some instances, such as blood donation and physical examination for military induction, individuals are routinely screened for HIV antibodies.

It is important to have information on the number of persons tested under all the above mentioned circumstances to help evaluate the extent to which these particular prevention strategies have been implemented. To address this need, data were examined on the adult population's experience with the HIV antibody test from the National Health Interview Survey of AIDS Knowledge and Attitudes.

Methods

The National Health Interview Survey (NHIS) is a cross-sectional survey of the US civilian, non-institutionalized population, conducted annually since 1957.³ Each year, members of 40-50,000 households across the country are interviewed in person by Census Bureau personnel. In addition to basic health and demographic information which is collected every year, supplemental surveys on special health topics which change periodically are also included.

Since August 1987, the NHIS has included a set of questions on AIDS. Data collection with the version of the AIDS survey analyzed in this report began in May 1988 and continued throughout 1988 and 1989. The questionnaire, administered to one randomly selected adult 18 years or older in each family included in the NHIS sample, was designed primarily to estimate adults' knowledge about AIDS, HIV

transmission, and prevention of HIV infection. The information obtained has been summarized in previous reports.⁴⁻¹⁰ Questions on knowledge about and use of the HIV antibody test are also included in the survey⁴⁻⁹ and form the basis of this report.

The results are based on interviews conducted from May through October 1988 with 21,168 adults or about 90 percent of eligible respondents. The data were weighted to provide national estimates. These estimates are provisional because the 1988 AIDS records were processed before the other NHIS records and have not yet been merged with them. However, the estimates should differ only slightly from those which will be made using all of the 1988 data. Provisional standard errors for these estimates were calculated by applying a design effect of 1.3 to the standard errors obtained by assuming a simple random sample. These provisional estimates of variance were used to determine the significance of differences observed between proportions; all the differences noted are significant at the 0.05 level.

For analytic purposes, persons tested for HIV antibodies included those who reported they had had their blood tested and those who did not report being tested but who had donated blood since March 1985, when routine screening for HIV antibodies in donated blood began. Information on HIV antibody testing was examined in various demographic subgroups. In addition, two other groups were examined based on information obtained in the survey. The first were persons who reported belonging to one or more of the groups with behaviors associated with an increased risk for acquiring HIV infection (such as men who have had sex with other men or persons who have used illegal drugs by needle). This question is phrased similarly to that used by the Red Cross to screen potential blood donors. Respondents were given a list of statements about risk behaviors and were asked only to indicate if at least one was true for them; they did not indicate which were true. Two percent of respondents reported that at least one of these statements was true. The second group examined included persons who felt they had a high or medium chance of having or getting HIV infection; 3.5 percent of adults fell into this category.

Results

Overall, 75 percent of adults in the US had heard of the HIV antibody test (Figure 1). The percent who were aware of the test varied by age, race/ethnicity, and education, with lower levels of awareness noted among those over 50 years

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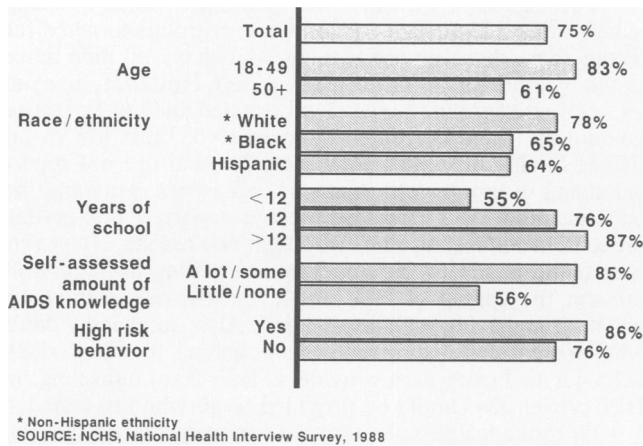


FIGURE 1—Percent of Adults Who are Aware of the HIV Antibody Test, by Demographic Characteristics

of age, among Black and Hispanic adults, and among those with less than 12 years of education. People who were more knowledgeable about AIDS and those who reported belonging to one or more of the high-risk behavior groups were more likely to know about the test.

Seventeen percent of adults had been tested for antibodies to HIV (Table 1); the majority because of blood donation since March of 1985. Men were more likely to have been tested than women, Black and Hispanic adults were slightly less likely than White non-Hispanic adults to have been tested. However, Black and Hispanic persons who were tested were more likely to have voluntary testing and testing by other non-voluntary means than their White non-Hispanic counterparts. The group with the highest proportion tested

TABLE 1—Percent of Adults Undergoing HIV Antibody Testing and Distribution of Those Tested by Circumstance

Group	Percent Tested	Circumstance of Testing for Those Tested*		
		Blood Donation	Voluntary	Other non-voluntary
Total	17	73	16	14
Sex				
Male	20	72	15	16
Female	13	74	17	10
Race/Ethnicity				
White, non-Hispanic	17	76	14	12
Black, non-Hispanic	14	55	26	23
Hispanic	14	58	22	23
Age (years)				
18-29	24	70	17	17
30-49	20	74	16	12
Over 49	7	75	12	10
Region				
West	17	66	21	15
All others**	16	74	14	14
High-risk Behavior				
Yes	35	40	46	14
No	16	74	14	14
Chance of HIV Infection***				
High/medium	24	51	27	23
Low/none	17	74	15	13

*Multiple responses may sum to more than 100%.

**No differences between other regions (Northeast, South, Midwest).

***Chance of having or getting HIV infection.

(35 percent) were those who reported high-risk behaviors for AIDS/HIV and voluntary testing was the most common circumstance for this group.

The characteristics of those tested voluntarily, those tested by all other means (including blood donation), and those not tested are summarized in Table 2. Persons who were tested, regardless of the circumstance were more likely to be younger and better educated than those not tested. Persons tested voluntarily were more likely to be Black and to report high-risk behaviors and a greater chance of HIV infection than those tested under other circumstances and those not tested.

Most (73 percent) of those tested voluntarily were tested only once and 82 percent reported receiving results of their testing. However, of those who got their results, only 32 percent also reported receiving information on how to avoid getting or transmitting HIV.

Six percent of adults planned to be tested in the next year; 45 percent of these had not been tested previously. About half of those with such plans indicated that they would seek testing voluntarily. Figure 2 shows where those with plans for voluntary testing will reportedly go to be tested. Over half (52 percent) will get tested through a doctor or at a health maintenance organization (HMO).

Discussion

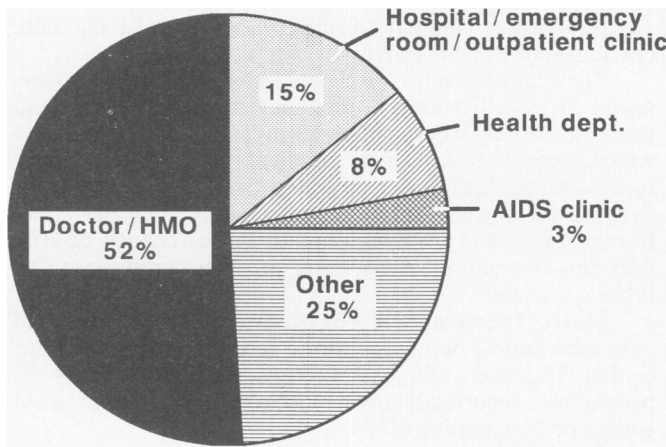
Some caution is necessary when interpreting data from the NHIS. While the complex sampling methods used in the survey assure a representative national sample and the response rate to the survey is good, much of the data presented are based on self-report by the participants and cannot be verified. This is especially important when dealing with a sensitive topic such as HIV testing which may affect the person's willingness to respond honestly. However, the figures on HIV antibody testing obtained with the survey have remained relatively stable throughout 1988.⁹ Also, the

TABLE 2—Comparison of Demographic Characteristics of Those Tested Voluntarily for HIV Antibodies, Those Tested under Other Circumstances, and Those Not Tested

Characteristics	Circumstance of Testing		
	Voluntary	Other*	Not Tested
	Percent with characteristic		
Race/Ethnicity			
White, non-Hispanic	78	85	79
Black, non-Hispanic	15	8	11
Hispanic	7	5	6
Other	5	2	3
Age (years)			
18-29	40	37	24
30-49	48	47	38
Over 49	12	16	39
Years of School			
Less than 12	14	10	24
12 or more	85	90	74
High-risk Behavior			
Yes	14	3	2
No	86	96	96
Chance of HIV Infection**			
High/medium	9	4	3
Low/none	89	95	94

*Includes those tested because of blood donation and as part of other activities which required testing.

**Chance of having or getting HIV infection.



SOURCE: NCHS, National Health Interview Survey, 1988

FIGURE 2—Distribution of Reported HIV Antibody Testing Sites for Those Planning Voluntary Testing in the Future

information on blood donation is consistent with other data on blood donors.¹¹⁻¹³

In general, awareness of the HIV antibody test is high. However, it is lower than desired in certain important groups such as racial/ethnic minorities. This accounts for at least some of the deficit in testing rates among these groups; when testing rates were examined among those aware of the test, the racial/ethnic differences were smaller and no longer statistically significant. These lower levels of knowledge about the HIV antibody test and lower testing rates for Black and Hispanic adults are particularly important because of the higher rates of AIDS and HIV infection in these two populations.¹⁴ There are also differences in AIDS rates among various subgroups within the Hispanic population.¹⁵ We were unable to examine differences among these various subgroups because of the small numbers in our data set. The same survey instrument will ultimately be used for 20 months (May 1988 through December 1989) making it possible to examine HIV antibody testing experience within Hispanic subgroups in the future. Awareness of the test increased slightly from 1987 to 1988 among adults in the US⁶; however, it remained the same throughout 1988.⁹ Efforts to increase the use of HIV antibody testing should also include ways to increase awareness about the test.

As of October 1988, approximately one in six civilian adults had been tested for HIV antibodies, primarily through blood donation. While those with high-risk behaviors who were tested were more likely to be tested voluntarily, 40 percent were tested as a result of blood transfusion. The observation that some individuals with high-risk behaviors for HIV infection have donated blood despite attempts to encourage self-deferral is not new. Further interpretation of these data is limited because the survey was not designed to address this particular issue. First, we have no information on whether any of these high-risk blood donors indicated at the time of their donation that their blood should not be used for transfusion. Thus, we cannot estimate how much of this donated blood was actually transfused. Secondly, we have no information on when these individuals engaged in high-risk behavior or on the specific dates of blood donation. For some of these donors, the high-risk behaviors may have occurred after their donation.

The characteristics of those seeking voluntary testing indicate that a higher proportion were in groups targeted for testing (e.g., those reporting high-risk behaviors) than those tested by other means or those not tested. However, many in these targeted groups have yet to be tested and most of those voluntarily tested perceived themselves to be at low or no risk of having or getting HIV infection and did not report belonging to groups with high-risk behaviors. This may be one reason why a large percentage reported not getting prevention counseling along with their test results. However, counseling is at least as important as testing in helping to prevent the spread of HIV and even low-risk individuals benefit from having such information. Also, some individuals who present for testing may be unwilling to admit risky behavior to health care providers. Post-test counseling on HIV prevention should be provided to all who are tested.

Of those tested voluntarily, 18 percent did not get the results of their tests. This figure includes those who were tested blindly and could not get their results and those who had not yet received their results when interviewed, as well as those who chose not to get their results. Presumably, most were in the latter category, this figure is similar to the 10-20 percent non-return rate reported to the Centers for Disease Control's Counseling and Testing Statistical Reporting System for persons tested at publicly funded HIV counseling and testing sites (K. Cahill, CDC, personal communication). At present the small size of the group who did not get their test results identified in our survey makes it difficult to further characterize them reliably; it will be important to do so in the future when the number of sample cases is larger.

The information on the number who plan to be tested in the coming year can be used to help ensure that the future demand for testing can be met. According to the figures obtained in the survey, approximately five million adults may voluntarily seek HIV antibody testing in the next year. Many of these persons indicated that they would go to their doctor or HMO to be tested. Evidence from other studies suggests that at least some physicians are reluctant to discuss AIDS and associated risk behaviors with their patients.^{16,17} Thus, there continues to be a need to educate physicians and other primary health care providers so that they will have the information and skills necessary to provide adequate pre- and post-test counseling for their patients who request HIV testing.

Counseling and testing for antibodies to HIV will continue to be important parts of the effort to control the spread of this infection. The recent recommendation that HIV-infected individuals be immunologically monitored to identify candidates for prophylaxis against *Pneumocystis carinii* pneumonia may lead to an increase in testing.¹⁸ The NHIS AIDS survey will continue to provide a way to monitor the national experience with HIV antibody testing. A public use data tape containing the data collected in 1987 is currently available; the 1988 data tape was to be available at the end of 1989. During 1990, the survey will be expanded to include more questions about HIV antibody testing.

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May 7 Designated as National Nurses' Day

Each year, a day is set aside to recognize the outstanding contributions made by the nursing profession. This year, May 7 has been designated "National Nurses' Day" and a nationwide observance will highlight the important work and health care provided by the more than two million registered nurses in the United States. The American Nurses' Association (ANA) and its 53 constituent nurses' associations will take part in activities to recognize the numerous contributions nurses make to the health of citizens of the US.

"Nurses Together in Caring" is the theme adopted by ANA for this year's nursing celebration. Nurses play a pivotal role in enhancing and promoting health care and the well-being of patients and family members. The US is experiencing a nationwide nursing shortage at the present time. During the next decade, more than 600,000 additional nurses will be needed. ANA and the state nurses' associations are working together to combat this shortage and misperceptions about nursing as a career. ANA is calling for organized groups to work together to solve the nursing shortage problem, help improve nurses' salaries and working conditions, and provide a greater role for nurses in decision-making processes. For additional information, contact: ANA, 2420 Pershing Road, Kansas City, MO 64108.



Together
in Caring

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