Vital and Health Statistics

Advance Data From Vital and Health Statistics: Numbers 161–170

Series 16: Compilations of Advance Data From Vital and Health Statistics No. 17

Data in this report include provisional data from the National Health Interview Survey concerning the entire U.S. adult, black, and Hispanic populations' knowledge of and attitudes about acquired immunodeficiency syndrome and human immunodeficiency virus (HIV) awareness, HIV transmission, and prevention of HIV infection; practice patterns of office-based ophthalmologists over the 12-year period from March 1985 through February 1986; national estimates of health characteristics of person 18 years of age and over in the noninstitutionalized population of the United States who were in the labor force for 1983–85; patterns of inpatient surgery for 1983–87; and data on the prevalence and coprevalence of nine common chronic conditions in a national sample of persons 60 years of age and older and an assessment of the impact of comorbidity. These reports were originally published in 1988 and 1989.

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Contents

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AIDS Knowledge and Attitudes for July 1988

Provisional Data From the National Health Interview Survey

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Introduction

The National Center for Health Statistics has included a special set of supplemental questions on the adult population's knowledge and attitudes about acquired immunodeficiency syndrome (AIDS) in the National Health Interview Survey (NHIS). The first AIDS Knowledge and Attitudes Survey was in the field from August through December 1987. Provisional results of that survey were published on a monthly basis in *Advance Data for Vital and Health Statistics* (Nos. 146, 148, 150, 151, and 153). During the first four months of 1988, the NHIS AIDS questionnaire was revised to meet current program needs for information about AIDS awareness. The revised AIDS Knowledge and Awareness Survey entered the field in May 1988. Provisional findings for May and June, the first two months of data collection with the new questionnaire, were published in *Advance Data for Vital and Health Statistics*, No. 160. This report presents provisional results for July 1988.

The *Advance Data* reports describing the NHIS AIDS data have been restricted to simple descriptive statistics to facilitate their timely release. Thus, these reports do not attempt to explain or interpret differences among population subgroups in AIDS knowledge or to examine relationships among various measures of knowledge, attitudes, and perceived risk. The 1987 and 1988 NHIS AIDS data bases will permit more complex analyses than those presented in this series of *Advance Data* reports, and such analyses are being undertaken by various groups in the Public Health Service.

The AIDS questionnaires were designed to provide estimates of public knowledge and attitudes about AIDS transmission and prevention of AIDS virus infection. The data were needed as input for the planning and development of AIDS educational campaigns and for monitoring major educational efforts, e.g., the series of radio and television public service announcements entitled "America Responds to AIDS" and the brochure "Understanding AIDS," both developed by the Centers for Disease Control.

The 1987 and 1988 AIDS questionnaires were developed by the National Center for Health Statistics and interagency working groups established by the Information, Education and Risk Factor Reduction Subcommittee of the Public Health Service Executive Task Force on AIDS. The working groups included representatives from the Centers for Disease Control; the National Institutes of Health; the Alcohol, Drug Abuse and Mental Health Administration; and the Health Resources and Services Administration.

The current AIDS questionnaire includes items on sources of AIDS information; self-assessed level of AIDS knowledge; basic facts about the AIDS virus and how it is transmitted; blood donation experience; awareness of and experience with the blood test for the AIDS virus; perceived effectiveness of selected preventive measures; self-assessed chances of getting the AIDS virus; personal acquaintance with persons with AIDS or the AIDS virus; and willingness to take part in a proposed national seroprevalence survey. A general risk behavior question, similar to that asked by the Red Cross of potential blood donors, is included in the 1988 AIDS questionnaire.

This report presents provisional data for July 1988 for most items included in the AIDS questionnaire, including questions designed to monitor the household mailing of the AIDS information brochure, coordinated by the Centers for Disease Control. Table 1 displays percent distributions of persons 18 years of age and over by response categories according to age, sex, race, and education. In most cases, the actual questions asked of the respondents are reproduced verbatim in table 1, along with the coded response categories. In a few cases, questions or response categories have been rephrased or combined for clearer or more

concise presentation of results. Refusals and other nonresponse categories are excluded from the denominator in the calculation of estimates, but responses of "don't know" are included.

This report contains few comparisons with data from the 1987 NHIS AIDS survey, and those comparisons that are included must be interpreted with caution. The wording of some questions was changed slightly, and the context in which the questions are asked was modified by the addition of a number of new questions. In addition, the order in which response categories to certain questions were read to respondents was changed between 1987 and 1988 (see technical notes). Thus, differences observed between 1987 and 1988 results may reflect these questionnaire changes as well as actual changes in AIDS knowledge and attitudes.

Selected findings

The following highlights describe various aspects of AIDS knowledge and attitudes as observed in the July 1988 data from the NHIS AIDS survey. Based on the measures included in this survey, AIDS knowledge was maintained in July at about the same level as in June. Those differences cited in the text are statistically significant unless otherwise noted (see table II for approximate standard errors of estimates).

Sources of AIDS information—In July 1988, 86 percent of all adults in the United States reported having seen public service announcements about AIDS on television; 48 percent stated that they had heard AIDS public service announcements on the radio. The proportion of persons who reported having seen or heard such announcements was higher for persons 18–49 years of age than for those 50 years and over and was higher for persons with 12 or more years of school than for those with less than 12 years of school. Twenty-four percent of all adults stated that the announcements they had heard on television and the radio were part of the "America Responds to AIDS" series.

One-fourth (25 percent) of U.S. adults reportedly read brochures or pamphlets about AIDS in the month preceding the May NHIS interview. In June this proportion increased to more than one-half (52 percent), and it remained at that level in July. During the month of June 1988, the Centers for Disease Control mailed a brochure entitled "Understanding AIDS" to all households in the United States. The large proportion of adults who had read AIDS brochures in the 1-month periods preceding the June and July interviews probably reflects the results of this mailing. In July, 68 percent of adults reported ever having read pamphlets or brochures about AIDS, compared to 43 percent in May and 64 percent in June.

By the time they were interviewed in July, 63 percent of all adults reported that they remembered having received the brochure "Understanding AIDS" at the household. Of those who had received the brochure, 58 percent had read all or almost all of it, 21 percent had read half or less, and 20 percent had not read any of the brochure. More than one-half of the adults who stated that they had read at least some of the brochure claimed to have read it carefully, with the remainder having just skimmed through it. About one-third of those who had read the brochure felt that it had given them new information or answered questions that they had about AIDS.

Self-assessed knowledge—As of July 1988, 23 percent of adults stated that they knew a lot about AIDS, 44 percent said they knew some, 25 percent felt they knew a little, and 7 percent claimed to know nothing about AIDS.

General knowledge—General knowledge about AIDS and the AIDS virus showed little change between June and July. The great majority of adults thought it was definitely true that AIDS leads to death (88 percent), that there is no cure for AIDS at present (85 percent), and that the AIDS virus can be transmitted by means of sexual intercourse (81 percent) and from mother to infant (80 percent). Approximately three-fourths (74 percent) of adults thought it was definitely false that an AIDS vaccine is available to the public.

As shown in table 1, there were large differences by education in the proportions of adults responding correctly to these general information questions, with the more highly educated individuals the more likely to provide correct answers. Adults 30-49 years of age responded more accurately, on average, than individuals who were either younger or older, and white adults more often answered correctly than did black adults. There was no consistent difference by gender in general AIDS information level.

Transmission of the AIDS virus—Although the 1987 AIDS survey revealed widespread misinformation about the risk of AIDS virus transmission through casual contact, accurate knowledge in this area increased continuously between August and December. This aspect of AIDS knowledge also improved between May and June 1988, but did not change between June and July.

Blood donation and testing—Based on July data, 42 percent of all adults in the United States have donated blood at some time in their lives, and 14 percent have donated blood since 1985 when automatic testing of blood donations for the AIDS virus began. Six percent of adults reported having donated blood in the 12 months before interview. Younger adults were the most likely to have donated blood recently. The proportion of adults who had donated blood since 1985 increased with education, from 6 percent of persons with less than 12 years of school to 19 percent of those with more than 12 years.

Seventy-five percent of adults had heard of the blood test for the AIDS virus infection. Eighty-three percent of individuals 18–49 years of age had heard of the test, compared to 62 percent of those 50 years and over. Awareness of the AIDS blood test was greater among white than black adults (77 compared to 65 percent) and increased with education, from 52 percent of those with less than 12 years of school to 77 and 87 percent, respectively, of those with 12 years and more than 12 years of school. Two-thirds (67 percent) of adults correctly believed that blood donations are now routinely tested for the AIDS virus.

Only 3 percent of all U.S. adults reported having received counseling about taking the AIDS virus test.

Altogether, 18 percent of adults have had their blood tested for the AIDS virus. This figure includes 8 percent who reported having had the test, about the same as August-December 1987, and 10 percent who denied or were unaware of having had the test but reported having donated blood since 1985, which had been subjected to routine testing for the AIDS virus. Persons age 18–29 years and 30–49 years were more than twice as likely as those age 50 years and over to have had the AIDS blood test (24 and 20 percent, respectively, compared to 9 percent), and men were more likely than women to have done so (21 versus 15 percent). The proportion of adults whose blood had been tested increased with education, from 9 percent of those with less than 12 years of school to 23 percent of those with more than 12 years.

Seventy-five percent of all persons who reported having had their blood tested for the AIDS virus one or more times stated that at least one of the tests was done as a routine part of blood donation, 16 percent (3 percent of the total adult population) reported having taken a test voluntarily, and 12 percent took a test as part of some other activity that included routine blood testing (e.g., military induction, immigration).

Just over half (54 percent) of the individuals who reported having had their blood tested for the AIDS virus reported having received the results of the test. This proportion was much higher for black than for white adults (76 compared to 49 percent) and was greater for persons with less than 12 years of school than for those with 12 or more years (72 compared to 51 percent).

Seven percent of all adults reported plans to have their blood tested for the AIDS virus in the next 12 months. This proportion decreased with age, from 11 percent of persons age 18–29 years to 3 percent of those age 50 years and over.

Five percent of all adults in the United States received blood transfusions between 1977 when the AIDS virus is believed to have entered the United States and 1985 when routine testing of blood donations for the AIDS virus was initiated. As of July 1988, 45 percent of adults stated that the blood supply is now safe for transfusions; 26 percent did not believe the blood supply is safe; and 29 percent were uncertain. The proportion of adults trusting the safety of the blood supply increased with education, was higher for men than women, was higher for white than for black individuals, and was higher for persons 18–49 years of age than for those 50 years and over.

Preventive measures—Thirty percent of adults thought that condoms are very effective in preventing transmission of the AIDS virus, and 54 percent thought that this method is somewhat effective. Eighty-three percent realized that having a monogamous relationship with a person who does not have the AIDS virus is a very effective way to prevent getting the virus. Over half of all adults realized that the diaphragm, spermicidal jellies and creams, and vasectomy are not effective in preventing AIDS virus transmission, with most of the remainder uncertain about the effectiveness of these methods.

Risk of getting the AIDS virus—Three percent of all adults stated that they belonged to one or more of the behavior groups associated with increased risk of AIDS virus transmission, i.e., hemophiliacs, intravenous drug users, homosexuals, etc. This proportion decreased with age, from 4 percent of adults age 18–29 to less than 1 percent of adults age 50 or over.

As of July 1988, 79 percent of U.S. adults believed there is no chance that they have the AIDS virus. Fifteen percent reported a low chance, 2 percent a medium chance, and less than 1 percent a high chance. Americans assessed their chances of getting the AIDS virus as minimal as well. Seventy-two percent reported no chance of getting the virus; 21 percent perceived themselves as being at low risk, 3 percent at medium risk, and less than 1 percent at high risk. Adults age 50 years and over were the least likely to perceive some risk of getting the AIDS virus, and women were slightly less likely than men to feel at risk.

Two-thirds (66 percent) of adults have talked to friends or relatives about AIDS, a proportion that varied with education, from 45 percent of those persons with less than 12 years of school to 78 percent of those with more than 12 years.

One-tenth of the adults in the United States reported knowing or having known someone with AIDS or the AIDS virus. This proportion was higher for adults age 18–49 years than for those age 50 years and over and was twice as high for persons with more than 12 years of school as for those with less education. Most of the individuals who had known someone with AIDS or the AIDS virus stated that more than 6 months had passed since they had seen that person.

Symbols

-	Quantity zero
0	Quantity more than zero but less than 0.05

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, July 1988

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
Total	100	100	100	100	100	100	100	100	100	100	100
1. In the past month, have you—											
1a. Seen any public service announcements about AIDS on television?											
Yes	86	86	90	83	87	86	86	88	80	89	87
No	12	13	9	14	12	12	12	10	16	10	11
Don't know	2	1	1	2	1	2	1	2	3	1	2
1b. Heard any public service announcements about AIDS on the radio?											
Yes	48	54	53	38	52	44	48	45	40	48	52
No	48	42	42	58	43	52	48	47	54	48	43
Don't know	5	4	5	5	5	4	4	8	5	4	5
2. Were any of those public service announcements called "America Responds to AIDS"?											
Yes	24	31	27	16	23	25	23	34	24	27	22
No	10	10	11	9	11	9	10	7	8	11	10
Don't know	54	48	54	60	55	54	55	49	51	53	57
Neither heard nor saw any public service announcements	11	11	8	15	11	11	11	10	17	9	10
3. In the past month, have you read any brochures or pamphlets about AIDS?											
Yes	52	54	56	47	47	57	53	53	40	51	60
No	47	45	43	52	52	42	47	46	59	48	39
Don't know	1	0	1	1	1	1	1	2	1	1	1
4. Have you ever read any brochures or pamphlets about AIDS?											
Yes	68	72	74	60	65	72	69	69	50	68	79
No	31	27	26	39	34	28	31	30	49	31	21
Don't know	1	0	0	1	1	1	1	1	1	1	1
5. Where did you get the pamphlets or brochures?[1,2]											
Clinic, other than work clinic	2	2	2	1	2	2	1	7	5	1	2
Doctor's office (HMO)	8	11	7	5	6	9	7	10	6	7	9
Drug store	1	0	1	0	0	1	1	1	0	1	1
Public health department	1	2	2	0	1	2	1	2	2	1	1
Received in mail without asking	41	37	41	47	39	43	42	37	43	46	37
Red Cross/Red Cross blood donation	2	2	2	1	2	2	2	–	1	2	2
Other blood donation	0	1	1	–	0	0	0	–	–	1	0
School	5	11	4	2	6	5	5	8	3	3	8
Sent/phoned for/requested it	0	0	1	0	1	0	0	0	–	0	1
Federal/State/local government	30	24	29	35	30	29	31	21	29	28	32
Work, other than clinic or nurse	11	8	15	7	12	10	11	11	10	10	12
Work, nurse or clinic	2	2	4	1	1	4	2	3	2	2	3
Other	13	16	13	12	14	13	13	19	11	13	14
Don't know	0	–	0	0	0	0	0	–	0	0	–
6. The Government is mailing a brochure with basic information about AIDS to each household in the country. Was this brochure received at this household?											
Yes	63	60	65	63	62	64	64	61	54	64	67
No	24	24	23	26	24	24	23	28	34	23	20
Don't know	13	16	12	11	14	12	13	11	12	13	13
7. How much of the brochure did you read?[3]											
All or almost all	58	55	61	56	52	63	60	44	47	57	63
About half	13	14	14	13	14	13	12	23	10	16	13
Less than half	8	8	7	10	9	8	8	9	11	8	8
None	20	22	18	20	25	16	20	22	31	19	16
Don't know	1	1	1	1	0	1	1	1	1	0	1
8. When you read it, did you read it carefully, or did you just skim through it?[3]											
Read carefully	45	46	47	43	39	51	45	47	39	46	48
Skimmed through	34	31	34	36	35	33	34	28	29	35	35
Other	1	1	0	1	1	1	1	2	0	1	1
Don't know	0	0	0	0	0	0	0	1	–	0	0
Did not read	20	22	18	20	25	16	20	23	32	19	16
9. Did the brochure give you any new information or answer any questions you had about AIDS?[3]											
Yes	24	31	23	20	22	26	22	38	23	24	24
No	56	46	58	60	53	58	58	39	45	56	59
Don't know	0	0	–	0	0	0	0	0	0	0	0
Did not read	20	22	18	20	25	16	20	23	32	19	16
10. Did you discuss the brochure with anyone else in the family?[3]											
Yes	37	35	43	33	37	38	38	32	34	31	46
No	62	65	57	67	63	62	62	68	66	69	54
Don't know	0	0	–	–	–	0	0	–	–	0	–

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, July 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
13. Did any of your children aged 10-17 read the brochure?[3,4]											
Yes	29	10	29	31	32	26	29	29	27	29	28
No	46	68	46	45	39	52	45	43	46	48	46
Don't know	25	22	25	24	29	21	26	28	27	23	26
14. Was the brochure discussed with any of your children aged 10-17?[3,4]											
Yes	35	15	36	33	35	35	35	31	29	35	35
No	62	85	61	65	60	65	62	60	66	63	61
Don't know	3	–	3	2	6	1	2	8	4	2	4
15. Have you ever discussed AIDS with any of your children aged 10-17?[4]											
Yes	62	37	64	52	54	69	63	60	48	64	65
No	38	63	36	48	46	31	37	40	52	36	35
Don't know	–	–	–	–	–	–	–	–	–	–	–
16. Have any or all of your children aged 10-17 had instruction at school about AIDS?[4]											
Yes	59	37	59	63	57	61	59	58	55	62	59
No	11	16	11	7	6	15	12	9	10	10	12
Don't know	30	46	29	31	37	24	29	32	35	28	29
21. How much would you say you know about AIDS?											
A lot	23	23	30	16	22	24	24	17	11	20	34
Some	44	50	47	37	43	45	44	44	30	47	49
A little	25	24	21	32	27	24	25	28	37	28	16
None	7	4	2	15	8	7	7	11	21	5	1
Don't know	0	–	0	0	0	0	0	–	–	0	–
22. To the best of your knowledge, is there a difference between having the AIDS virus and having the disease AIDS?											
Yes	65	66	72	58	64	66	67	54	40	64	81
No	15	22	15	10	16	14	15	20	18	17	12
Other	0	0	1	0	1	0	0	1	0	0	0
Don't know	19	12	12	32	19	19	18	25	41	18	7
23a. AIDS can reduce the body's natural protection against disease.											
Definitely true	74	77	81	64	74	74	76	57	52	74	86
Probably true	11	11	9	14	12	10	11	13	13	12	9
Probably false	2	2	1	2	2	2	1	4	2	2	1
Definitely false	3	3	3	3	3	3	3	6	4	4	2
Don't know	10	7	6	17	9	11	9	20	29	7	3
23b. AIDS is especially common in older people.											
Definitely true	1	1	1	1	1	1	1	3	2	0	1
Probably true	1	2	1	1	1	1	1	2	2	1	1
Probably false	19	23	16	19	20	18	19	16	19	19	20
Definitely false	71	67	78	67	70	73	73	67	58	75	75
Don't know	8	7	4	13	7	8	7	13	19	5	4
23c. AIDS can damage the brain.											
Definitely true	27	23	27	29	26	28	27	24	27	25	28
Probably true	29	29	29	30	29	30	29	30	27	30	31
Probably false	9	12	9	6	10	8	9	8	4	9	12
Definitely false	6	7	7	4	6	5	6	6	4	6	6
Don't know	29	28	28	31	29	29	28	32	38	29	23
23d. AIDS usually leads to heart disease.											
Definitely true	10	7	9	13	10	10	10	11	13	10	8
Probably true	20	19	21	20	20	20	20	20	20	22	18
Probably false	19	22	20	14	21	17	19	14	11	16	26
Definitely false	14	14	18	9	15	13	14	11	7	13	18
Don't know	38	37	32	44	35	40	37	44	48	39	31
23e. AIDS is an infectious disease caused by a virus.											
Definitely true	64	68	70	53	65	63	64	62	47	63	73
Probably true	18	18	17	20	20	17	19	17	18	20	17
Probably false	2	2	2	3	2	2	2	1	3	2	1
Definitely false	3	3	3	3	3	3	3	3	4	4	2
Don't know	13	9	8	21	11	14	12	17	28	10	6
23f. Teenagers cannot get AIDS.											
Definitely true	1	1	1	2	1	2	1	1	3	1	1
Probably true	1	1	0	1	0	1	1	0	2	0	0
Probably false	4	3	2	5	4	3	3	4	5	3	3
Definitely false	91	94	95	85	92	91	92	88	79	94	95
Don't know	3	1	2	7	3	3	3	6	11	2	1
23g. AIDS leads to death.											
Definitely true	88	88	89	88	87	89	88	89	88	90	86
Probably true	8	10	8	7	9	8	9	5	4	7	12
Probably false	0	0	1	0	0	0	0	–	–	0	1
Definitely false	1	1	1	1	2	1	1	2	1	1	1
Don't know	2	1	1	4	2	2	2	4	7	1	1

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, July 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
23h. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true	53	55	59	45	52	54	56	41	32	52	66
Probably true	23	24	22	22	22	23	22	22	22	25	21
Probably false	4	5	4	4	5	4	4	5	5	5	4
Definitely false	5	6	5	4	5	4	4	8	6	5	4
Don't know	15	11	9	25	15	15	14	24	36	13	6
23i. Looking at a person is enough to tell if he or she has the AIDS virus.											
Definitely true	2	1	2	2	2	2	2	2	3	1	2
Probably true	4	4	3	5	4	3	3	6	7	4	2
Probably false	16	15	15	19	17	15	16	19	21	18	12
Definitely false	69	75	75	57	67	70	71	59	46	70	81
Don't know	9	5	5	18	9	9	8	14	24	8	3
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true	81	82	83	78	80	82	81	80	77	84	81
Probably true	13	14	12	12	14	12	13	12	12	12	13
Probably false	1	1	1	1	1	1	1	1	1	1	2
Definitely false	1	1	1	1	1	1	1	1	1	1	1
Don't know	4	2	2	8	4	5	4	6	10	2	3
23k. A person who has the AIDS virus can look and feel healthy and well.											
Definitely true	47	50	52	38	48	46	48	39	26	47	58
Probably true	29	30	28	29	29	30	29	29	28	30	30
Probably false	6	7	5	7	6	6	6	8	8	7	4
Definitely false	5	4	7	6	6	5	5	9	9	6	3
Don't know	12	9	7	20	11	13	12	15	29	10	5
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.											
Definitely true	80	82	83	76	78	82	81	80	73	82	83
Probably true	13	12	13	14	15	12	13	11	14	12	14
Probably false	0	0	0	0	1	0	0	1	0	0	0
Definitely false	1	1	1	1	1	1	1	2	1	1	1
Don't know	5	4	3	9	5	5	5	6	11	4	2
23m. There is a vaccine available to the public that protects a person from getting the AIDS virus.											
Definitely true	2	2	1	1	2	1	1	3	2	1	1
Probably true	2	3	2	2	2	2	2	2	3	2	1
Probably false	10	11	8	10	10	9	9	10	9	11	9
Definitely false	74	74	80	66	75	73	75	63	58	74	82
Don't know	13	9	9	21	11	15	12	21	28	12	7
23n. There is no cure for AIDS at present.											
Definitely true	85	83	89	83	85	85	87	76	78	85	89
Probably true	6	7	5	6	6	5	5	8	6	6	5
Probably false	1	1	2	1	1	1	1	1	1	1	1
Definitely false	3	5	3	3	3	4	3	6	3	4	3
Don't know	4	4	2	7	4	5	4	8	12	3	1
24. How likely do you think it is that a person will get AIDS or the AIDS virus infection from—											
24a. Living near a hospital or home for AIDS patients?											
Very likely	1	2	1	1	1	1	1	4	3	1	1
Somewhat likely	3	4	2	4	3	4	3	5	6	4	1
Somewhat unlikely	8	8	8	9	8	8	8	11	9	10	5
Very unlikely	35	37	35	32	35	35	35	34	29	36	37
Definitely not possible	46	46	49	42	46	46	48	35	36	44	54
Don't know	6	3	4	11	6	6	6	11	18	5	2
24b. Working near someone with the AIDS virus?											
Very likely	2	2	2	3	3	2	2	5	6	2	1
Somewhat likely	10	11	9	10	9	10	9	14	13	10	7
Somewhat unlikely	11	10	11	10	11	11	10	13	10	12	10
Very unlikely	37	38	38	35	37	37	38	30	29	37	41
Definitely not possible	33	36	34	30	34	33	34	28	27	32	38
Don't know	7	4	5	11	6	8	6	11	16	6	3
24c. Eating in a restaurant where the cook has the AIDS virus?											
Very likely	7	7	7	7	7	7	6	13	12	7	4
Somewhat likely	16	18	16	16	15	17	15	22	17	18	14
Somewhat unlikely	14	15	15	13	15	14	15	12	11	14	17
Very unlikely	33	34	34	32	34	33	35	24	24	32	40
Definitely not possible	17	19	18	14	17	17	18	12	13	18	19
Don't know	12	8	10	19	12	13	12	16	24	12	7

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, July 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
24d. Kissing—with exchange of saliva—a person who has the AIDS virus?											
Very likely	21	16	22	24	20	23	20	29	26	22	18
Somewhat likely	28	30	25	28	29	27	28	27	24	28	29
Somewhat unlikely	14	16	16	10	15	13	15	9	10	13	17
Very unlikely	18	20	19	14	18	17	18	14	12	17	22
Definitely not possible	7	9	9	5	7	8	7	6	5	8	8
Don't know	12	9	9	18	12	12	12	15	23	12	6
24e. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?											
Very likely	2	1	3	3	2	3	2	5	6	2	1
Somewhat likely	5	6	4	6	5	6	5	7	8	5	4
Somewhat unlikely	13	14	10	14	13	12	12	15	12	15	10
Very unlikely	38	37	41	35	40	36	38	34	30	37	42
Definitely not possible	35	39	38	30	35	36	37	29	26	36	41
Don't know	6	4	4	11	6	7	6	10	18	5	1
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?											
Very likely	8	6	8	10	8	8	7	14	12	8	6
Somewhat likely	17	17	16	20	16	18	17	18	21	19	14
Somewhat unlikely	14	14	15	13	15	13	14	13	13	13	16
Very unlikely	30	34	32	24	31	29	30	25	19	29	36
Definitely not possible	20	22	21	17	20	20	21	14	14	20	23
Don't know	11	8	9	17	10	12	10	16	22	11	6
24g. Using public toilets?											
Very likely	5	4	4	6	4	5	4	7	9	5	2
Somewhat likely	13	14	11	14	10	15	12	18	20	14	8
Somewhat unlikely	12	12	12	12	14	11	12	13	8	14	12
Very unlikely	34	35	36	30	35	33	35	30	25	32	41
Definitely not possible	26	27	29	22	27	25	27	18	17	25	31
Don't know	11	7	8	16	10	11	10	13	20	11	5
24h. Sharing needles for drug use with someone who has the AIDS virus?											
Very likely	94	95	95	91	94	94	94	90	88	95	95
Somewhat likely	2	3	2	2	3	2	3	2	3	2	3
Somewhat unlikely	0	–	0	–	0	0	0	0	0	0	0
Very unlikely	1	1	1	1	1	1	1	1	1	1	1
Definitely not possible	1	0	1	1	1	1	1	2	1	0	1
Don't know	2	1	1	5	2	2	2	5	7	1	0
24i. Being coughed or sneezed on by someone who has the AIDS virus?											
Very likely	6	6	6	8	6	7	6	11	13	6	3
Somewhat likely	19	16	18	23	18	20	19	20	21	20	17
Somewhat unlikely	16	17	17	13	17	15	16	15	13	16	17
Very unlikely	29	30	33	23	31	27	30	21	18	28	35
Definitely not possible	18	22	18	14	18	18	18	16	11	18	21
Don't know	12	8	9	19	11	14	12	17	25	11	6
24j. Attending school with a child who has the AIDS virus?											
Very likely	2	2	2	2	2	2	2	4	5	2	1
Somewhat likely	6	5	6	7	6	6	6	9	9	6	4
Somewhat unlikely	11	12	11	10	12	10	11	15	10	14	9
Very unlikely	38	39	40	35	39	37	38	33	29	37	43
Definitely not possible	34	36	35	31	33	35	35	26	25	34	39
Don't know	9	6	6	15	9	9	8	14	21	8	4
24k. Mosquitoes or other insects?											
Very likely	7	8	7	7	7	7	7	11	13	8	4
Somewhat likely	15	15	14	16	15	15	13	24	18	16	12
Somewhat unlikely	9	10	9	7	9	8	9	7	6	8	10
Very unlikely	24	25	26	20	24	23	25	17	17	22	30
Definitely not possible	23	25	24	21	23	24	25	17	15	24	28
Don't know	22	18	19	28	21	23	22	24	31	22	16
25. Have you ever donated blood?											
Yes	42	32	45	45	54	31	44	33	30	38	51
No	58	68	55	54	46	69	56	67	69	62	48
Don't know	0	0	0	0	0	0	0	0	0	0	0
26a. Have you donated blood since March 1985?											
Yes	14	18	16	7	17	11	15	6	6	12	19
No	86	81	83	92	83	89	84	93	94	87	80
Don't know	1	1	0	1	1	0	1	0	1	1	1
26b. Have you donated blood in the past 12 months?											
Yes	6	8	8	3	7	5	7	3	2	6	9
No	93	91	92	96	92	94	92	97	97	94	90
Don't know	1	1	0	1	1	1	1	0	1	1	1

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, July 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
27. Have you ever heard of a blood test that can detect the AIDS virus infection?											
Yes	75	82	83	62	76	75	77	65	52	77	87
No	20	14	14	31	20	20	18	30	40	18	10
Don't know	5	4	3	7	4	5	5	5	9	5	3
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?											
Yes	67	74	74	53	67	66	69	54	41	67	80
No	3	3	4	3	4	3	3	3	2	5	2
Don't know	5	4	5	6	5	6	5	8	8	5	5
Never heard of test[5]	25	18	17	38	24	25	23	35	49	23	13
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?											
Yes	3	6	3	1	3	3	3	5	3	2	5
No	72	76	80	60	72	72	74	60	49	75	82
Don't know	0	0	–	0	0	0	0	0	–	–	1
Never heard of test[5]	25	18	17	38	24	25	23	35	48	23	13
29b. Was the discussion—[1,6]											
With a private doctor?	48	46	40	83	47	49	44	63	51	38	50
At a family-planning clinic?	5	8	1	–	4	5	5	4	–	10	4
On an AIDS hotline?	5	6	5	–	3	6	6	–	–	–	8
At a prenatal clinic?	–	–	–	–	–	–	–	–	–	–	–
At an STD or sexually transmitted disease clinic?	5	7	3	–	6	3	6	–	–	7	5
At an AIDS/HIV counseling and testing site?	7	12	4	–	8	6	7	8	–	10	8
With some other health professional?	42	38	50	34	51	35	48	20	33	42	47
With some other counselor?	11	12	11	9	14	9	13	6	20	11	9
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus?[8]											
Yes	67	71	58	75	73	61	66	63	64	69	67
No	32	27	40	25	26	37	33	31	30	31	31
Don't know	2	2	2	–	1	2	1	6	6	–	1
31. Have you ever been advised by a health professional not to have the blood test for the AIDS virus infection?											
Yes	1	1	0	0	0	1	1	–	0	0	1
No	75	81	83	62	75	74	77	64	51	77	86
Don't know	0	–	–	0	–	0	–	0	0	–	–
Never heard of test[5]	25	18	17	38	24	25	23	35	49	23	13
32. Have you ever been advised by friends or relatives not to have the blood test for the AIDS virus infection?											
Yes	0	1	0	0	0	1	0	1	0	0	1
No	75	81	82	62	75	75	77	64	51	76	87
Don't know	0	–	0	–	0	0	0	–	0	–	–
Never heard of test[5]	25	18	17	38	24	25	23	35	48	23	13
33. Have you had your blood tested for the AIDS virus infection?											
Yes	18	24	20	9	21	15	18	12	9	16	23
No	58	60	63	52	55	61	59	53	42	62	63
Don't know	1	1	1	2	2	1	1	1	2	1	2
Never heard of test[5]	23	16	16	37	22	24	21	34	47	21	11
35a. How many times have you had your blood tested for the AIDS virus infection?											
Once	4	7	5	2	4	4	4	4	3	4	6
Twice	1	1	1	0	1	1	1	1	0	1	1
3–5 times	1	1	1	1	1	1	1	0	0	1	2
6–12 times	1	0	1	0	1	1	1	0	0	0	1
More than 12 times	0	–	0	–	–	0	0	–	–	–	0
Don't know	10	13	12	6	13	8	11	6	5	10	14
Never heard of or never took test[7]	83	76	80	91	80	86	82	88	91	84	77
35b. How many times in the past 12 months have you had your blood tested for the AIDS virus infection?											
None in the past 12 months	2	2	2	1	2	2	2	2	1	2	2
Once	4	7	4	2	4	3	4	4	3	3	5
More than once	2	2	2	1	2	1	2	1	1	1	3
Don't know	10	13	12	6	13	8	11	6	4	10	14
Never heard of or never took test[7]	83	76	80	91	79	86	82	88	91	84	77
36. Was the test/were any of the tests, including those you had before the past 12 months—[1,8]											
Part of a blood donation?	75	71	79	74	77	73	78	53	62	76	77
Part of a blood transfusion?	1	0	2	2	1	2	1	3	0	2	2
Voluntarily sought?	16	20	13	18	14	20	15	25	19	15	16
Part of some other activity that requires a blood sample?	12	14	13	8	14	11	12	14	14	13	12

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, July 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
38. Did you get the results of your test/any of your tests?[8]											
Yes	54	59	50	53	53	55	49	76	72	50	51
No	44	41	47	44	45	43	49	24	28	48	47
Don't know	2	–	3	3	2	1	2	–	–	2	2
41. Do you expect to have a blood test for the AIDS virus infection in the next 12 months?											
Yes	7	11	7	3	8	6	6	11	5	7	7
No	65	66	71	57	64	65	67	49	44	65	76
Don't know	4	5	5	2	4	4	4	5	3	5	4
Never heard of test[5]	25	18	17	38	24	25	23	35	48	23	13
42. Will the test be—[1,9]											
Part of a blood donation?	42	36	49	41	42	42	48	21	26	39	50
Voluntarily sought?	54	64	43	58	50	59	49	78	67	51	54
Part of some other activity that requires a blood sample?	15	9	22	9	19	9	14	14	10	20	12
44a. Did you have a blood tranfusion at any time between 1977 and 1985?											
Yes	5	3	5	6	4	5	5	5	5	5	5
No	94	97	94	92	95	93	94	93	93	94	95
Don't know	1	1	1	2	1	1	1	2	1	1	1
44b. Do you think the present supply of blood is safe for tranfusions?											
Yes	45	48	47	40	49	42	47	34	32	45	53
No	26	30	25	23	24	27	24	32	30	26	23
Other	–	–	–	–	–	–	–	–	–	–	–
Don't know	29	22	27	37	27	31	28	34	38	29	24
45. Here are some methods people use to prevent getting the AIDS virus through sexual activity. How effective is—											
45a. Using a diaphragm?											
Very effective	3	2	3	3	3	3	3	4	4	3	2
Somewhat effective	14	17	12	14	14	14	14	13	13	14	16
Not at all effective	56	61	63	44	54	58	58	43	38	56	65
Don't know how effective	21	17	16	30	23	20	20	31	31	21	15
Don't know method	6	4	6	9	6	6	5	9	14	6	2
45b. Using a condom?											
Very effective	30	33	33	24	31	28	30	29	21	30	34
Somewhat effective	54	56	55	51	55	53	55	46	45	55	58
Not at all effective	6	6	6	6	5	7	6	9	9	6	4
Don't know how effective	8	4	4	16	7	9	7	13	19	6	4
Don't know method	2	2	2	3	2	3	2	4	7	1	1
45c. Using a spermicidal jelly, foam, or cream?											
Very effective	2	3	2	1	2	2	2	2	2	2	2
Somewhat effective	15	18	14	15	16	15	16	15	11	14	19
Not at all effective	54	57	62	41	51	56	55	43	38	56	60
Don't know how effective	22	18	16	32	24	20	21	30	33	22	16
Don't know method	7	5	6	11	7	7	6	10	16	6	4
45d. Having a vasectomy?											
Very effective	2	3	1	1	2	1	1	3	2	2	1
Somewhat effective	3	4	1	3	3	2	3	1	4	2	2
Not at all effective	70	68	79	62	70	71	73	57	49	71	81
Don't know how effective	18	18	11	26	18	18	17	26	28	18	12
Don't know method	7	7	7	8	7	8	6	13	17	6	3
45e. Two people who do not have the AIDS virus having sex only with each other?											
Very effective	83	82	87	77	83	82	84	70	71	83	89
Somewhat effective	8	10	6	8	8	8	7	13	9	8	7
Not at all effective	3	4	3	3	3	3	3	6	4	4	2
Don't know how effective	5	3	2	9	5	5	5	9	12	4	2
Don't know method	1	1	1	2	1	2	1	2	4	1	0
46. What are your chances of having the AIDS virus?											
High	0	1	1	0	1	0	0	1	0	1	1
Medium	2	4	2	1	2	2	2	3	2	2	2
Low	15	22	17	9	18	13	15	17	9	13	21
None	79	71	78	87	77	82	80	73	83	82	75
Don't know	3	3	3	3	2	3	2	6	5	3	2
47. What are your chances of getting the AIDS virus?											
High	0	0	0	0	0	0	0	0	0	0	0
Medium	3	5	3	1	4	2	2	5	2	3	2
Low	21	31	22	13	26	17	22	18	12	20	28
None	72	60	72	82	67	77	73	68	79	73	67
Don't know	3	3	3	4	3	4	3	7	6	4	2
High chance of already having AIDS virus	0	1	1	0	1	0	0	1	0	1	1

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, July 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age: 18–29 years	Age: 30–49 years	Age: 50 years and over	Sex: Male	Sex: Female	Race: White	Race: Black	Education: Less than 12 years	Education: 12 years	Education: More than 12 years
	Percent distribution[1]										
49. Do you say your chance of getting AIDS is high or medium because you—[10]											
Have had a blood transfusion?	8	5	13	–	8	8	7	13	15	12	–
Have had sexual contact with someone who might have the virus?	15	17	14	2	14	16	11	32	34	13	8
Some other reason?	67	72	60	76	65	71	72	51	46	69	77
52. Have you ever discussed AIDS with a friend or relative?											
Yes	66	72	73	52	63	67	66	63	45	65	78
No	34	28	26	48	36	32	33	37	55	35	22
Don't know	0	0	0	1	1	0	0	0	1	1	0
53. When was the last time you discussed AIDS with a friend or relative?											
0–3 days ago	8	9	9	7	8	8	8	9	8	7	9
4–7 days ago	10	11	11	8	10	10	9	16	8	10	12
8–14 days ago	8	8	9	7	8	9	9	5	6	8	10
15–31 days ago	16	18	19	12	16	17	17	16	9	16	21
More than 31 days ago	18	21	20	12	17	18	19	11	9	19	21
Don't know	5	5	5	5	5	5	5	5	5	5	5
Never discussed[11]	35	28	27	49	37	33	34	38	55	35	22
54. Have you ever personally known anyone with AIDS or the AIDS virus?											
Yes	10	11	13	7	9	11	10	15	7	8	15
No	88	87	85	91	88	87	88	83	92	91	83
Don't know	2	2	2	2	2	2	2	2	2	2	2
55. How long has it been since you saw this person?											
Within past 2 weeks	1	0	1	1	1	1	1	1	0	1	1
2 weeks–less than 1 month	1	1	1	0	1	1	1	2	1	1	1
1 month–less than 3 months	1	1	1	1	1	1	1	1	0	1	2
3 months–less than 6 months	1	0	1	1	1	1	1	3	1	1	1
6 months or more	6	8	7	5	6	7	6	9	5	5	9
Don't know	0	0	0	0	0	0	0	–	–	–	0
Never knew anyone with AIDS[12]	90	89	87	93	91	89	90	85	93	92	85
56. How well do you know this person?											
Very well	1	2	2	1	2	1	1	1	1	1	2
Fairly well	2	3	3	2	3	2	2	6	2	2	3
Not very well	4	3	6	3	4	4	4	4	2	3	6
Don't really know personally	1	2	1	1	1	2	1	1	0	1	2
Other	1	1	1	1	1	1	1	2	0	1	2
Don't know how well	–	–	–	–	–	–	–	–	–	–	–
Never knew anyone with AIDS[12]	90	89	87	93	91	89	90	85	93	92	85
57. Is any of these statements true for you?											
a. You have hemophilia and have received clotting factor concentrates since 1977.											
b. You are a native of Haiti or Central or East Africa who has entered the United States since 1977.											
c. You are a man who has had sex with another man at some time since 1977, even 1 time.											
d. You have taken illegal drugs by needle at any time since 1977.											
e. Since 1977, you are or have been the sex partner of any person who would answer yes to any of the items above (57 a-d).											
f. You have had sex for money or drugs at any time since 1977.											
Yes to at least 1 statement	3	4	3	0	4	2	2	5	2	3	3
No to all statements	97	96	97	100	96	98	98	95	98	97	97
Refused	0	–	–	0	–	0	0	–	–	–	0
Don't know	0	0	–	–	0	–	0	–	–	–	0
58. The U.S. Public Health Service has said that AIDS is one of the major health problems in the country but exactly how many people it affects is not known. The Surgeon General has proposed that a study be conducted and blood samples be taken to help find out how widespread the problem is. If you were selected in this national sample of people to have their blood tested with assurances of privacy of test results, would you have the test?											
Yes	71	77	71	65	72	70	72	66	65	72	72
No	22	19	20	26	21	22	21	25	26	21	20
Other	2	1	2	3	2	2	2	3	2	2	2
Don't know	5	3	7	6	5	6	5	7	7	5	5

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, July 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
59. Why wouldn't you take part in the test?[13]											
Don't want to know if I have AIDS	4	10	4	2	4	4	4	7	4	5	4
Don't want any counseling about AIDS	2	4	1	2	2	2	2	4	4	1	2
Fear I'll get AIDS	7	6	6	8	5	8	6	10	8	6	6
Don't like to give blood	13	15	14	10	9	15	12	18	13	13	11
Don't trust Government programs	6	7	10	3	9	5	7	5	2	5	10
It is a waste of money	3	4	2	3	3	3	3	3	3	3	3
Don't believe AIDS can really be cured anyway	1	2	2	1	1	2	1	5	2	2	0
Other	51	37	50	58	52	50	52	43	47	55	49
Don't know	16	18	16	15	15	17	16	16	18	12	19
61. When Federal public health officials give information about AIDS, do you believe what they say or are you doubtful about the information they give?											
Believe	66	70	68	61	65	67	66	68	58	65	72
Doubtful	26	25	25	29	28	25	27	22	28	28	23
Don't know	8	4	7	11	7	8	7	10	14	7	5
62. When they [public health officials] give advice about how to help keep from getting AIDS, do you believe their advice or are you doubtful about what they say?											
Believe	79	84	82	73	79	80	80	77	69	79	86
Doubtful	15	13	14	18	16	14	15	12	20	16	11
Don't know	6	4	5	9	5	6	5	11	12	5	3

[1] Multiple responses may sum to more than 100.
[2] Based on persons answering yes to question 4 (includes yes to question 3).
[3] Based on persons answering yes to question 6.
[4] Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
[5] Based on persons answering no or don't know to question 27.
[6] Based on persons answering yes to question 29a.
[7] Based on persons answering no or don't know to questions 27 and 33.
[8] Based on persons answering yes to question 33.
[9] Based on persons answering yes to question 41.
[10] Based on persons answering high or medium to question 46.
[11] Based on persons answering no or don't know to question 52.
[12] Based on persons answering no or don't know to question 54.
[13] Based on persons not answering yes to question 58.

Technical notes

The National Health Interview Survey (NHIS) is a continuous, cross-sectional household interview survey. Each week, a probability sample of the civilian noninstitutionalized population is interviewed by personnel of the U.S. Bureau of the Census to obtain information on the health and other characteristics of each member of the household. Supplemental information is collected for all or a sample of household members. The 1988 National Health Interview Survey of AIDS Knowledge and Attitudes was asked of a single randomly chosen adult 18 years of age or over in each family. The estimates in this report are based on completed interviews with 3,248 persons, or about 89 percent of eligible respondents.

Table I contains the estimated population size of each of the demographic subgroups included in table 1 to allow readers to derive provisional estimates of the number of people in the United States with a given characteristic, for example, the number of men who have had their blood tested for the AIDS virus. The population figures in table I are based on first-quarter 1987 data from the NHIS; theyare not official population estimates. Table II shows approximate standard errors of estimates presented in table 1.

Table I. Sample sizes for the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes and estimated adult population 18 years of age and over, by selected characteristics: United States, July 1988

Characteristics	Sample size	Estimated population in thousands
All adults	3,248	174,528
Age		
18-29 years	746	47,725
30-49 years	1,223	66,109
50 years and over	1,279	60,695
Sex		
Male	1,362	82,703
Female	1,886	91,825
Race		
White	2,695	151,003
Black	451	19,107
Education		
Less than 12 years	739	41,503
12 years	1,206	66,475
More than 12 years	1,250	62,363

Both the estimates in table 1 and the standard errors in table II are provisional. They may differ slightly from estimates made using the final data file because they were calculated using a simplified weighting procedure that does not adjust for all the factors used in weighting the final data file. A final data file covering the entire data collection period for 1988 will be available in 1989.

A number of measures of AIDS knowledge declined slightly between 1987 and 1988. These small decreases may reflect the effects of a methodological experiment that was included in the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes during May, June, and July. This experiment was designed to investigate two aspects of questionnaire design effect: the effect of varying the order in which response categories were read to respondents and the effect of varying the order in which questions or subparts of questions were asked. The experiment involved comparison of four different versions of the questionnaire, which were randomly assigned to respondents. In the first version, the response category order and question order were identical to those used for comparable questions in the 1987 AIDS survey. In the second version, the response category order was reversed; in the third version, the question order was modified; and in the fourth version, both the response category order was reversed and the question order was modified. The questions involved were numbers 21, 23, 24, 45–47, 61, and 62.

Table II. Standard errors, expressed in percentage points, of estimated percents from the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes, by selected characteristics: United States, July 1988

		Age			Sex		Race		Education		
Estimated percent	*Total*	*18-29 years*	*30-49 years*	*50 years and over*	*Male*	*Female*	*White*	*Black*	*Less than 12 years*	*12 years*	*More than 12 years*
5 or 95	0.5	1.0	0.8	0.8	0.8	0.6	0.5	1.3	1.0	0.8	0.8
10 or 90	0.7	1.4	1.1	1.1	1.0	0.9	0.7	1.8	1.4	1.1	1.1
15 or 85	0.8	1.7	1.3	1.3	1.2	1.1	0.9	2.2	1.7	1.3	1.3
20 or 80	0.9	1.9	1.5	1.4	1.4	1.2	1.0	2.4	1.9	1.5	1.5
25 or 75	1.0	2.0	1.6	1.6	1.5	1.3	1.1	2.6	1.0	1.6	1.6
30 or 70	1.0	2.2	1.7	1.6	1.6	1.4	1.1	2.8	2.2	1.7	1.7
35 or 65	1.1	2.2	1.8	1.7	1.7	1.4	1.2	2.9	2.3	1.8	1.7
40 or 60	1.1	2.3	1.8	1.8	1.7	1.5	1.2	3.0	2.3	1.8	1.8
45 or 55	1.1	2.3	1.8	1.8	1.7	1.5	1.2	3.0	2.4	1.8	1.8
50	1.1	2.4	1.8	1.8	1.7	1.5	1.2	3.0	2.4	1.9	1.8

Suggested citation

National Center for Health Statistics, D. A. Dawson. AIDS knowledge and attitudes for July 1988, Provisional data from the National Health Interview Survey. *Advance Data From Vital and Health Statistics.* No. 161. DHHS Pub. No. (PHS) 89-1250. Public Health Service. Hyattsville, Md.

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Practice Patterns of the Office-Based Ophthalmologist, National Ambulatory Medical Care Survey, 1985

by Hugo Koch, Division of Health Care Statistics

Introduction

In this report, the findings of the National Ambulatory Medical Care Survey (NAMCS) are used to describe the practice patterns of office-based ophthalmologists over the 12-month period from March 1985 through February 1986. The NAMCS limits itself to that portion of ambulatory care provided in the physician's office. The National Center for Health Statistics, which periodically conducts the survey, obtains the NAMCS data base from a sample of non-Federal physicians selected from the doctors of medicine and doctors of osteopathy who are primarily engaged in office-based, patient-care practice throughout the coterminous United States.

Because the estimates presented in this report are based on a sample rather than on the entire universe of office visits, the data are subject to sampling variability. The Technical notes at the end of this report provide guidelines for judging the precision of the estimates. They also supply a brief description of the sample design and a copy of the data collection instrument.

Most Americans requiring eye care seek it among the following professional providers:

- Ophthalmologists (or oculists)
- Other physicians (doctors of medicine or osteopathy)
- Optometrists
- Opticians

Figure 1 charts the scope of services each group is qualified to perform (Committee on Eye Care for the American People, 1987). Although a substantial degree of overlapping is evident among the four professional groups, ophthalmologists are the

Service	*Ophthalmologists*	*Physicians other than ophthalmologists*	*Optometrists*	*Opticians*
Diagnose systemic disease	X	X		
Screen for eye disease	X	X	X	
Diagnose eye disease	X	X	(1)	
Treat eye disease	X	X	(1)	
Perform eye surgery	X			
Perform refraction to determine need for eyeglasses and contact lenses	X		X	
Prescribe eyeglasses and contact lenses	X		X	
Dispense and fit eyeglasses and contact lenses	X		X	X

[1]Laws in certain States permit optometrists to use drugs in diagnosis and treatment of eye disease

SOURCE: Committee on Eye Care for the American People 1987 *Eye Care for the American People* San Francisco American Academy of Ophthalmology (Copyright 1987 Used with the permission of the American Academy of Ophthalmology)

Figure 1. Eye professionals and their scope of services

only eye-care providers professionally and legally qualified to diagnose and treat all eye problems.

The last comprehensive survey of eye care conducted by the National Center for Health Statistics took place in 1979 and 1980 (NCHS, 1984). A population-based survey, it found that about one of every three Americans made at least one eye-care visit during the 12 months prior to the interview. Forty-three percent of all visits for eye care were made to ophthalmologists, compared with 32 percent to optometrists and 16 percent to physicians other than ophthalmologists. Visits to opticians or optical establishments accounted for most of the remaining 9 percent of visits.

In 1985, office-based ophthalmologists constituted about 92 percent of all active, nonresident ophthalmologists (American Medical Association, 1986). The primary purpose of this report is to describe the practice characteristics of these office-based ophthalmologists, as derived from the estimated 40.1 million office visits made to them over the survey period. As a secondary aim the report explores the role played by other office-based physicians in the screening, diagnosis, and treatment of eye problems.

At appropriate points in the report, contrasts are made with earlier NAMCS findings. This is done chiefly to assess the possible impact on the ophthalmologist's office practice associated with the sometimes dramatic developments in eye-care requirements and delivery that have occurred in the recent past. Among these developments are the following:

- Population growth, especially the disproportionate increase in the elderly subpopulation
- Expanding technologies of ambulatory ophthalmologic care
- Reductions in episodes of hospitalization and in average length of stay
- Competition with other eye-care professionals and the growth of alternative systems of eye-care delivery

Data highlights

General

From March 1985 through February 1986, ophthalmologists within the scope of the National Ambulatory Medical Care Survey (NAMCS) accounted for an estimated 40,062,000 office visits, about 173 visits for every 1,000 members of the civilian noninstitutionalized population. In sheer number of office visits, ophthalmologists were second only to physicians in the primary care specialties (table 1).

Between 1980 and 1985, there was a 30-percent increase in the number of visits to ophthalmologists. In the same time span, there was a concomitant increase of about 20 percent in the number of office-based ophthalmologists, resulting in 1985 in roughly 5 ophthalmologists for every 100,000 Americans.

About 83 percent of these ophthalmologists practiced within the limits of standard metropolitan statistical areas (American Medical Association, 1986), accounting for 88 percent of the 40.1 million visits made to all ophthalmologists in 1985 (table 2). From the findings in table 2, it is clear that ophthalmologists were not unique in their strong preference for metropolitan practice; the preference was shared by most other office-based specialists. Visit distributions in table 2 also indicate an above-average tendency for ophthalmologists to favor solo practice over multiple-member practice forms. There is evidence, however, of a trend away from solo practice. In 1975, multiple-member practice accounted for about 35 percent of visits to ophthalmologists; in 1985 the proportion was 42 percent.

Table 1. Number and percent distribution of visits to office-based physicians by physician specialty: United States, 1985

Specialty of office-based physician	*Visits*	
	Number in thousands	Percent distribution
All office-based physicians	636,386	100.0
General or family practice	193,995	30.5
Internal medicine	73,727	11.6
Pediatrics	72,693	11.4
Obstetrics and gynecology	56,642	8.9
Ophthalmology	40,062	6.3
Orthopedic surgery	31,482	4.9
General surgery	29,858	4.7
Dermatology	24,124	3.8
Psychiatry	17,989	2.8
Otolaryngology	16,097	2.5
Urological surgery	11,699	1.8
Cardiovascular disease	10,617	1.7
Neurology	4,992	0.8
All other office-based physicians	52,408	8.2

Reasons for making an eye-care visit

A useful approach to understanding the clinical scope and content of ophthalmologic office practice is first to examine the reasons that motivated a person to visit an ophthalmologist. These reasons are summarized as follows:

Principal reason for visit	*Percent of visits*
All visits to the ophthalmologist (40,062,000)	100.0
Visits due to abnormal appearance, sensation, or function of the eye (symptom-motivated visits)	41.6
Visits to obtain diagnostic or screening services	20.5
Visits for an eye problem already diagnosed	17.9
Visits for a specific form of treatment	14.9
Visits due to injury or adverse effect	2.6
Other (for example, visit to obtain test results)	2.5

SOURCE: National Center for Health Statistics, D. Schneider, L. Appleton, and T. McLemore. 1979. A reason for visit classification for ambulatory care. *Vital and Health Statistics*, Series 2, No. 78. DHEW Pub. No. (PHS) 79-1352. Public Health Service. Washington: U.S. Government Printing Office.

Table 3 offers a listing of the symptoms or signs of emerging eye problems that the ophthalmologist encountered in office practice. When visits for eye injuries (corneal abrasion, black eye, and so forth) are numbered with other symptom-motivated visits, the list accounts for an estimated 16.7 million symptom-motivated visits, or about 44 percent of all visits to office-based ophthalmologists.

The 10 symptoms or signs that appear in table 3 also motivated some 5.3 million visits to physicians other than ophthalmologists. Thus, of a total of 22.0 million symptom-motivated, eye-care visits, these practitioners—chiefly phy-

Table 2. Percent distribution of office visits by physician location and type of practice, according to physician specialty: United States, 1985

Specialty of office-based physician	All visits	Location of practice[1]		Type of practice	
		Metropolitan	Nonmetropolitan	Solo	Multiple member
	Percent distribution of visits				
All office-based physicians	100.0	79.6	20.4	50 9	49.1
General or family practice	100.0	64.9	35 1	54 8	45.1
Internal medicine	100.0	82.5	17.5	46.1	53.9
Pediatrics	100.0	87.3	12.7	35.4	64.6
Obstetrics and gynecology	100.0	86.6	13.4	49.8	50.2
Ophthalmology	100.0	88.3	11.7	58 0	42.0
Orthopedic surgery	100.0	87 4	12.6	35.6	64.4
General surgery	100 0	70.9	29.1	62 5	37.6
Dermatology	100.0	93.5	6.5	82 5	17.7
Psychiatry	100.0	96.6	3.4	72.5	27.4
Otolaryngology	100.0	89.2	10 8	54.8	45.1
Cardiovascular disease	100.0	88.4	11.6	39.1	61.0
Neurology	100.0	86.7	11.3	39.9	60.1
Urological surgery	100.0	84.8	15.2	38 7	61.3
All other office-based physicians	100.0	86.9	13.1	45.5	54.5

[1]The term "metropolitan" denotes a visit made within a standard metropolitan statistical area

Table 3. Number and percent distribution of symptom-motivated visits to office-based ophthalmologists by the symptoms or signs of eye problems presented by patients: United States, 1985

Symptom or sign of eye problem[1]	Symptom-motivated visits	
	Number in thousands	Percent distribution
All eye symptoms or signs	16,734	100.0
Vision dysfunctions[2]	8,546	51.1
Abnormal sensations of the eye[3]	3,117	18 6
Symptoms not elsewhere classified[4]	1,265	7.6
Abnormal appearance of eyes	880	5.3
Symptoms of eyelids	863	5.2
Discharge from eye	626	3.7
Eye injury (corneal abrasion, black eye, and so forth)	451	2.7
Foreign body	409	2.4
Eye infection and inflammation	297	1.8
Abnormal eye movements	280	1.7

[1]Based on National Center for Health Statistics, D. Schneider, L. Appleton, and T. McLemore, 1979. A reason for visit classification for ambulatory care [RVC] *Vital and Health Statistics*. Series 2, No. 78 DHEW Pub No. (PHS) 79–1352 Public Health Service. Washington: U.S. Government Printing Office.
[2]Blindness, diminished vision, extraneous vision, and double vision. Excludes refractive errors.
[3]Pain itching, burning, and strain.
[4]Contact lens problems, allergy, and swelling.

sicians in primary-care practice—accounted for about 24 percent, as the following tabulation shows:

Specialty of the office-based physician	Percent of visits
All symptom-motivated, eye-care visits (22,020,000)	100.0
Ophthalmologists	76.0
Primary-care physicians	19.2
General or family practitioners	12.6
Pediatricians	3.7
Internists	2.9
Other office-based physicians	4 8

Certain symptoms of eye problems were more likely than others to be presented to the nonophthalmologist, as the findings in table 4 show. These generally were indicators of acute conditions (for example, eye injury, infection, or inflammation) that did not require the ophthalmologist's expertise, lying within the therapeutic reach of other physicians. At the 9 percent of these 5.3 million visits where referral did occur, vision dysfunction was usually involved, requiring more specialized attention.

Diagnostic and screening activity

At 83 percent of their office visits, ophthalmologists ordered or provided at least one diagnostic or screening procedure. The intensity of their screening function is evident in the use of visual acuity testing at 31.2 million (76 percent) of their office visits. It is interesting to note the degree to which ophthalmologists shared overall screening for visual acuity with other office-based specialists:

Specialty of the office-based physician	Percent of visits
Visual acuity testing by all office-based physicians: (40,945,000 visits)	100.0
Ophthalmologists	76 1
Primary-care physicians	18 2
General or family practitioners	8.5
Pediatricians	6 1
Internists	2.1
Obstetricians/gynecologists	1.5
Other office-based physicians	5.7

Thus, physicians other than ophthalmologists were found to test for visual acuity at 9.7 million of their office visits, accounting for nearly 24 percent of this vital screening function.

Principal diagnoses and professional activities

The most precise and cogent description of the clinical content of the ophthalmologist's office practice lies in the formal diagnoses assigned by the physician. Table 5 offers a

Table 4. Number of visits to all office-based physicians chiefly motivated by an active symptom or sign of an eye problem and percent distribution of these visits by type of physician, according to specific eye symptom or sign: United States, 1985

Symptom or sign of eye problem[1]	Visits		
	All office-based physicians	Ophthalmologists	Other M.D. or D.O. physicians[2]
	Number in thousands	Percent distribution	
All symptom-motivated visits for eye care	22,020	76.0	24.0
Vision dysfunctions[3]	9,266	92.2	7.8
Abnormal sensations of the eye[4]	4,170	74.8	25.2
Symptoms not elsewhere classified[5]	1,980	63.9	36.1
Abnormal appearance of the eye	1,627	54.1	45.9
Symptoms of eyelids	1,238	69.7	30.3
Discharge from eye	1,175	53.2	46.8
Eye injury (black eye, corneal abrasion, and so forth)	855	49.7	50.3
Foreign body	704	58.1	*41.9
Eye infection and inflammation	701	42.4	57.6
Abnormal eye movements	*304	91.9	*8.1

[1]Based on National Center for Health Statistics, D Schneider, L Appleton, and T McLemore 1979. A reason for visit classification for ambulatory care [RVC]. *Vital and Health Statistics* Series 2, No 78. DHEW Pub No (PHS) 79–1350 Public Health Service Washington U.S Government Printing Office.
[2]M D is doctor of medicine D O is doctor of osteopathy
[3]Blindness diminished vision, extraneous vision, and double vision Excludes refractive errors
[4]Pain, itching, burning and strain
[5]Contact lens problems, allergy, and swelling

Table 5. Number and percent distribution of the 23 principal diagnoses or professional activities most frequently rendered by office-based ophthalmologists in rank order of frequency of mention: United States, 1985

Rank	Principal diagnosis or other professional activity of ophthalmologist	ICD–9–CM code[1]	Visits		
			Number in thousands	Percent distribution	Cumulative percent
. .	All principal diagnoses or other contacts	...	40,062	100.0	...
1	Cataract and cataract surgery	366; V43	8,085	20.2	20.2
2	Disorders of refraction and accommodation	367	8,058	20.1	40.3
3	Glaucoma	365	4,207	10.5	50.8
4	Other disorders of eye[2]	379	2,610	6.5	57.3
5	Disorders of conjunctiva	372	2,231	5.6	62.9
6	Other retinal disorders[3]	362	1,631	4.1	67.0
7	Inflammation of eyelids	373	1,227	3.1	70 1
8	Keratitis	370	783	2.0	72.1
9	Fitting and adjustment of spectacles and contact lenses	V53	773	1.9	74.0
10	Strabismus and other disorders of binocular eye movements	378	705	1.8	75.8
11	Diabetes with ophthalmic manifestations	250.5	661	1.6	77.4
12	Disorders of iris and ciliary body	364	546	1 4	78.8
13	Corneal opacity and other disorders of cornea	371	512	1.3	80.1
14	Disorders of lacrimal system	375	511	1.3	81 4
15	Visual disturbances[4]	368	444	1.1	82.5
16	Superficial injury of eye and adnexa	918	411	1.0	83.5
17	Observation and evaluation for suspected conditions	V71	368	0.9	84.4
18	Foreign body on external eye	930	355	0 9	85.3
19	Retinal detachments and defects	361	350	0.9	86.2
20	Other disorders of eyelids	374	321	0 8	87 0
21	Congenital anomalies of eye	743	200	0 5	87.5
22	Contusion of eye and adnexa	921	179	0.4	87.9
23	Disorders of optic nerve and visual pathways	377	171	0.4	88.3
..	Residual	. .	4,723	11.7	100 0

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) The V code subclassification is provided for occasions when circumstances other than a disease or injury classifiable to categories 001–999 (the main body of the ICD) are recorded as "diagnoses" or "problems."
[2]Scleritis and episcleritis other disorders of sclera disorders of vitreous body aphakia and other disorders of lens, anomalies of pupillary function, nystagmus and other irregular eye movements and other specified and unspecified disorders
[3]Chiefly macular degeneration
[4]Amblyopia subjective visual disturbances diplopia other disorders of binocular vision visual field objects color vision deficiencies, night blindness, and other specified and unspecified disorders

ranked listing of the 23 first-listed (principal) diagnoses or professional procedures rendered by office-based ophthalmologists. The list accounts for 88 percent of their office practice. Prominent are the vision problems and procedures associated with advancing age; for example, glaucoma, cataract, artificial lens replacement, and macular degeneration—a reminder that the largest single proportion (44 percent) of visits to ophthalmologists were made by patients 65 years old and over. The lists in table 6 further illustrate the substantial extent to which the patient's age affected the clinical content of ophthalmologic office practice. For example, diagnoses of disorders of refraction and of conjunctiva, the first-ranked diagnoses among patients under 65 years of age, are supplanted by cataract and glaucoma in the age group 65 years and over.

Of the diagnoses listed in tables 5 and 6, physicians other than ophthalmologists were chiefly involved with two—disorders of the conjunctiva and superficial injuries of the eye and adnexa. They treated about 50 percent of the conjunctival disorders and 55 percent of the injuries. General practitioners, family physicians, and pediatricians accounted for most of this effort.

Table 7 offers selected comparisons between the clinical content of ophthalmologists' office practices in 1985 and that of 1980. Over this period, the most noteworthy change in diagnostic mix resulted from the virtual doubling of the percent of visits for cataract and cataract surgery. These dramatic increases were chiefly the result of an expanding technology in ambulatory ophthalmologic care that, in this interval alone, produced an 84-percent increase in the number of visits at which ambulatory surgical procedures were provided or ordered in the course of the office visit. Of the total 1.5 million visits for ambulatory surgical procedures made in 1985 to office-based ophthalmologists, the largest single proportion (about 31 percent) involved cataract surgery.

The 1980–85 growth in ambulatory eye surgery was predictably accompanied by a concurrent decrease in the eye surgery performed in the inpatient setting. Findings from a survey of the nation's short-stay, non-Federal hospitals reveal that eye operations performed on inpatients declined in total number from 1,050,000 in 1980 to 718,000 in 1985. A significant part of this decrease was the reduction of lens extractions by more than one half, from 467,000 extractions in 1980 to 211,000 in 1985 (NCHS, 1980 and 1985).

In 1985, as in 1980, determining and correcting errors of refraction and accommodation (ICD–9–CM codes 367 and V53, table 7) continued in sheer volume to dominate the clinical content of office-based ophthalmology. Treated as the principal problem or procedure associated with a visit, this activity accounted for one-fifth of visits to ophthalmologists in both years. (In 1985, a checkbox for "corrective lenses" was added to the data collection form (item 13, figure I, Technical notes). Its intent was to probe for all activities associated with the prescription, provision, or fitting of corrective lenses, whether or not they were the principal activities of the visit.

Table 6. Number and percent distribution of the 10 principal diagnoses most frequently rendered by office-based ophthalmologists in rank order of frequency of mention, according to patient age groups under 65 years of age and 65 years of age or over: United States, 1985

Rank	*Principal diagnosis (ranked)*	*ICD–9–CM code*[1]	*Visits*		
			Number in thousands	Percent distribution	Cumulative percent
...	Visits by patients under 65 years of age	...	22,500	100 0	...
1	Disorders of refraction and accommodation	367	6 992	31.1	31 1
2	Disorders of conjuctiva	372	1,792	8 0	39.1
3	Cataract and cataract surgery	366, V43	1 492	6 6	45 7
4	Glaucoma	365	1 471	6 5	52 2
5	Inflammation of eyelids	373	895	4 0	56 0
6	Other disorders of eye[2]	379	890	4 0	60 0
7	Strabismus and other disorders of binocular vision	378	652	2 9	62.9
8	Keratitis	370	539	2 4	65.3
9	Other retinal disorders[3]	362	502	2 2	67 5
10	Diabetes with ophthalmic manifestations	250 5	435	1 9	68 4
...	Visits by patients 65 years of age and over		17,562	100 0	...
1	Cataract and cataract surgery	366; V43	6,593	37 5	37.5
2	Glaucoma	365	2,736	15 6	53.1
3	Other disorders of eye[2]	379	1,720	9.8	62.9
4	Other retinal disorders[3]	362	1,129	6.4	69.3
5	Disorders of refraction and accommodation	367	1,066	6 1	75 4
6	Disorders of conjunctiva	372	439	2.5	77.9
7	Inflammation of eyelids	373	331	1.9	79.8
8	Disorders of lacrimal system	375	250	1 4	81.2
9	Keratitis	370	244	1.4	82.6
10	Diabetes with ophthalmic manifestations	250 5	225	1.3	83.9

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM). The V code subclassification is provided for occasions when circumstances other than a disease or injury classifiable to categories 001–999 (the main part of the ICD) are recorded as diagnoses or problems.
[2]Scleritis and episcleritis, other disorders of sclera, disorders of vitreous body, aphakia and other disorders of lens, anomalies of pupillary function, nystagmus and other irregular eye movements, and other specified and unspecified disorders.
[3]Chiefly macular degeneration.

Table 7. Number and percent distribution of selected diagnoses and other professional activities of the ophthalmologist: United States, 1985 and 1980

Principal diagnosis or other professional activity of ophthalmologist	ICD-9-CM code[1]	Visits			
		1985		1980	
		Number in thousands	Percent distribution	Number in thousands	Percent distribution
All visits	...	40,062	100.0	30,810	100.0
Disorders of refraction and accommodation	367	8,058	20.1	6,217	20.2
Fitting and adjustment of contact lenses and spectacles	V53	773	1.9	627	2.0
Cataract and cataract surgery	366, V43	8,085	20.2	3,384	10 9
Glaucoma	365	4,207	10.5	3,257	10.6
Disorders of conjunctiva	372	2,231	5.6	1,565	5.1
Other retinal disorders (chiefly macular degeneration)	362	1,631	4.1	779	2.5

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM). The V code subclassification is provided for occasions when circumstances other than a disease or injury classifiable to categories 001-999 (the main part of the ICD) are recorded as "diagnoses" or "problems."

Findings reveal that this professional function was exercised at 10.4 million visits or about 26 percent of all visits to ophthalmologists.)

To receive their share of the market in these basic, vision-care procedures, ophthalmologists had to contend with other eye-care professionals: for example, with optometric vision-care plans (VCP's). It is revealing to note that the rate per population of the basic, vision-care visits to the ophthalmologist (ICD-9-CM codes 367 and V53, table 7) did not diminish between 1980 and 1985, varying from roughly 32 visits per 1,000 members of the civilian noninstitutionalized population in 1980 to 38 visits per 1,000 in 1985. (On the other hand, this apparent growth is not statistically significant.)

Patient characteristics

The preceding findings have demonstrated that problems associated with the aging process (for example, cataracts, glaucoma, and macular degeneration) accounted for a very substantial part of the ophthalmologist's office practice. It is not surprising, then, to find that 44 percent—the largest single proportion of visits to ophthalmologists—were made by patients over 64 years of age (table 8). Indeed, few specialties rivaled ophthalmology in their involvement with this expanding subpopulation. (Between 1980 and 1985, the total civilian population grew by 7 percent, the 65-plus population by a disproportionate 13 percent.)

Visits by females outnumbered visits by males in about the same 6 to 4 ratio that characterized all office practice (table 8). However, the overall visit rate per 1,000 population (203 for females versus 140 for males) was significantly higher for female patients. The apparently higher rate for females over 64 years of age in contrast with males in this age group is not statistically significant.

Table 9 presents visit distributions by race and ethnic origin of patients, contrasting ophthalmologists with all office-based physicians.

Referral and prior visit status

Findings in table 10 reveal the following:

- An above-average proportion of visits to ophthalmologists (23 percent) were made by new patients.
- Also above average, at 7 percent, was the proportion of visits referred by other physicians (doctors of medicine or osteopathy).
- Approximately 16 percent of visits to ophthalmologists, therefore, were either self-directed walk-ins or referrals from sources other than doctors of medicine or osteopathy. Among the most-visited specialties, only dermatologists matched this proportion.
- For every new problem presented to the office-based ophthalmologist (that is, any problem presented by a new patient along with any new problem presented by an old one), there were an average of two return visits (visits by old patients for old problems).

Table 8. Percent distribution of visits to all office-based physicians and ophthalmologists and number of visits to ophthalmologists per 1,000 population by sex and age of patient: United States, 1985

Sex and age of patient	Visits to all office-based physicians	Visits to ophthalmologists	
Both sexes	Percent distribution		Number per 1,000 population[1]
All ages	100.0	100.0	176
Under 15 years	18.7	7.6	59
15-44 years	39.2	24.5	89
45-64 years	21.6	24.2	219
65 years and over	20.5	43.8	652
65-74 years	11.9	21.0	507
75 years and over	8.7	22.8	885
Female	60.9	60.7	203
Under 15 years	9.1	3.8	61
15-44 years	26.3	13.7	98
45-64 years	12.9	14.3	248
65 years and over	12.5	28.9	728
Male	39.1	39.3	140
Under 15 years	9.5	3.7	57
15-44 years	12.9	10.7	112
45-64 years	8.7	9.8	187
65 years and over	8.0	15.0	543

[1]Rates are based on estimates of the civilian noninstitutionalized population of the United States excluding Alaska and Hawaii, as of July 1, 1985

Table 9. Number of office visits to all physicians and to ophthalmologists and percent distribution by race and Hispanic origin of patient: United States, 1985

Race and Hispanic origin of patient	Visits	
	All physicians	Ophthalmologists
	Number in thousands	
All visits	636,386	40,062
	Percent distribution	
All visits	100.0	100.0
Race		
White	90.0	91.6
Black	8.2	6.1
Other[1]	1.8	2.3
Hispanic origin		
Hispanic	6.4	7.0
Non-Hispanic	93.6	93.0

[1]Asian, Pacific Islander, American Indian, or Alaskan Native.

Drug utilization

Tables 11 and 12 explore the utilization of drugs by office-based ophthalmologists (see item 4, Technical notes, figure I). Table 11 lists the agents most frequently prescribed or provided. The 25 listed in table 11 accounted for two-thirds of drug mentions by ophthalmologists. Table 12 gathers the 25.8 million mentions into therapeutic classes. Among the 20.5 million drugs classified as eye preparations, three subclasses were dominant. These were miotics, anti-infective agents, and anti-inflammatory agents. The use of products combining the latter two classes is common; for example, Maxitrol, Blephamide, Vasocidin, Poly-Pred, and Neodecadron.

Physicians other than ophthalmologists also made use of the eye preparations, accounting for about 7 million mentions, or 25 percent of all the utilization of this class in office practice. Most of this nonophthalmologist utilization was the effort of the general or family practitioner (10 percent) and the pediatrician (5 percent). With few exceptions, these practitioners confined drug utilization to anti-infective and anti-inflammatory agents.

Selected sources of payment

The ophthalmologists' sources of payment are examined in table 13. In their reimbursement by Medicaid, Blue Cross/Blue Shield, and other commercial insurance, or in their arrangements with prepayment plans, ophthalmologists were below the averages found for all office practice. Among the sources tabulated in table 13, their major single source of expected payment—at 32 percent of their visits—was through the Medicare program, a predictable finding in view of the fact that such a large proportion of their patients were over 64 years of age. Only internists and specialists in cardiovascular disease could rival this proportion. In 1983, it is noteworthy that ophthalmologists accounted for the second largest share—10.4 percent—of the 15.9 billion dollars in Medicare-approved charges for physicians' services (Committee on Eye Care for the American People, 1987).

Ophthalmologists exceeded the other most-visited specialties in services rendered free of charge (at 5 percent of office visits). This creditable, pro bono action appeared to occur chiefly at visits for routine measurement and correction of refractive errors, services not normally reimbursed by third-party programs, including Medicare.

Disposition and duration

At 70 percent of office visits, ophthalmologists instructed patients to return at a specified time, well exceeding the average use of this instruction in overall office practice (table 14). Ophthalmologists were below average in their tendency to rely on the more tentative forms of followup, such as return if needed and telephone contact.

Ophthalmologists in 1985 resorted to hospitalization at only 280,000 (0.7 percent) of their office visits, down 60 per-

Table 10. Percent of office visits resulting from referral by another physician and percent distribution of office visits by prior visit status of patients, according to specialty of physician: United States, 1985

Specialty of office-based physician	Patient referred by another physician	Prior visit status			
		All visits	New patient	Old patient, new problem	Old patient, old problem
	Percent of visits	Percent distribution			
All office-based physicians	5.6	100.0	16.9	22.7	60.4
General or family practice	1.6	100.0	14.1	32.6	53.3
Internal medicine	4.1	100.0	15.3	22.9	61.8
Pediatrics	2.0	100.0	12.8	40.3	47.0
Obstetrics and gynecology	4.2	100.0	14.2	21.3	64.5
Ophthalmology	7.2	100.0	23.3	10.5	66.2
Orthopedic surgery	13.8	100.0	25.4	6.5	68.2
General surgery	13.7	100.0	21.4	17.9	60.7
Dermatology	9.9	100.0	26.0	11.9	62.1
Psychiatry	3.4	100.0	7.8	*0.9	91.2
Otolaryngology	16.3	100.0	31.0	10.6	58.4
Cardiovascular disease	7.3	100.0	11.7	10.2	78.2
Neurology	25.5	100.0	31.7	5.2	63.1
Urological surgery	15.5	100.0	21.9	4.6	73.5
All other office-based physicians	9.5	100.0	18.8	9.6	71.6

Table 11. The 25 drugs (and their generic components) most frequently utilized by ophthalmologists in office practice by rank, number of mentions, and therapeutic use: United States, 1985

Rank	Entry name of drug[1]	Number in thousands	Therapeutic use
...	All drugs	25,820	...
1	Timoptic (timolol)	3,588	Glaucoma therapy
2	Maxitrol (dexamethasone, neomycin, polymixin B)	1,627	Anti-infective, anti-inflammatory
3	Pred-Forte (prednisolone, sodium bisulfite)	1,557	Anti-inflammatory
4	Pilocarpine	1,107	Miotic, cholinergic
5	FML Liquifilm (fluorometholone)	948	Anti-inflammatory
6	Tobrex Ophthalmic (tobramycin)	930	Anti-infective
7	Propine (dipivefrin)	812	Glaucoma therapy
8	Blephamide (sulfacetamide, prednisolone)	740	Anti-infective, anti-inflammatory
9	Mydriacyl (hydracrylamide, tropicamide, bistropamide)	672	Mydriatic
10	Tears Naturale (benzalkonium chloride, sodium edetate)	520	Artificial tears and lubricant
11	Garamycin (gentamycin)	468	Anti-infective
12	Neo-Synephrine (phenylephrine)	441	Vasoconstrictor and mydriatic
13	Inflamase (prednisolone)	403	Anti-inflammatory
14	Neosporin (polymixin B, bacitracin zinc, neomycin)	401	Anti-infective
15	Decadron (dexamethasone)	396	Anti-inflammatory
16	Diamox (acetazolamide)	364	Carbonic anhydrase inhibitor
17	Vasocidin (prednisolone, sulfacetamide)	312	Anti-inflammatory, anti-infective
18	Poly-Pred (prednisolone, neomycin, polymixin B)	300	Anti-inflammatory, anti-infective
19	Neptazane (methazolamide)	267	Carbonic anhydrase inhibitor
20	Cyclogyl (cyclopentolate)	258	Cycloplegic and mydriatic
21	Atropine	252	Cycloplegic and mydriatic
22	Naphcon-A (naphazoline, pheniramine maleate)	248	Ocular decongestant, antihistamine
23	Pilo (pilocarpine)	245	Miotic
24	Homatropine	209	Cycloplegic and mydriatic
25	Neodecadron (dexamethasone, neomycin)	205	Anti-inflammatory, anti-infective

[1]The trade or generic name used by the physician on the prescription or other medical records. The use of trade names is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Table 12. Number and percent distribution of drug mentions of ophthalmologists in office practice by drug class: United States, 1985

Drug class[1]	Number in thousands	Percent distribution
Total	25,820	100.0
Systemic anti-infective agents	1,078	4.2
Antibiotics	1,026	4.0
Autonomic drugs	117	0.5
Cardiovascular drugs	243	0.9
Systemic analgesics	367	1.4
Nonsteroidal anti-inflammatory agents	212	0.8
Electrolytic and water balance agents	169	0.7
Eye preparations	20,516	79.5
Anti-infectives	5,970	23.1
Antibiotics	3,938	15.3
Antivirals	199	0.8
Sulfonamides	1,653	6.4
Anti-inflammatory agents	3,185	12.3
Carbonic anhydrase inhibitors	657	2.5
Miotics	5,663	21.9
Mydriatics	2,388	9.3
Vasoconstrictors	1,113	4.3
All other eye preparations[2]	1,540	6.0
Hormones and synthetic substances	763	3.0
Systemic corticosteroids	689	2.7
Skin and mucous membrane agents	612	2.4
Anti-infectives	533	2.1
Other or undetermined	1,955	7.6

[1]Based on American Hospital Formulary Service. 1985 *Drug Product Information File*. San Bruno, Calif.: The American Blue Book Data Center.
[2]Chiefly lubricants and artificial tears.

cent from the 711,000 admissions (at 2.3 percent of visits) ordered in 1980, confirming a trend toward reduced hospitalization that occurred during this period.

About 36 percent of all office contacts with the ophthalmologist lasted longer than 15 minutes as opposed to the 29 percent found for overall office practice (table 14). The median duration of a visit to an ophthalmologist was about 14.5 minutes, exceeding the overall median duration by about 1 minute.

Summary

In 1985, ophthalmologists within the scope of NAMCS accounted for 40.1 million office visits, about 173 visits per 1,000 members of the civilian noninstitutionalized population.

Between 1980 and 1985 there was a 30-percent increase in the number of visits to office-based ophthalmologists and a pronounced shift in patient age and diagnostic mix toward the group 65 years old and over. Factors contributing directly or indirectly to these developments were as follows:

- A 7-percent increase in the overall population.
- A 13-percent increase in the population 65 years old and over.
- A reduction in hospitalization for eye problems. (Admissions to hospitals by ophthalmologists fell by 60 percent and inpatient eye surgery declined by at least one-third.)
- Shorter lengths of stay for hospital inpatients, from 7.3 days in 1980 to 6.4 days in 1985 (NCHS, 1987a).

Table 13. Percent distribution of office visits by selected sources of payment, according to physician specialty: United States, 1985

Specialty of office-based physician	All visits	Selected sources of payment[1]					
		Medicare	Medicaid	Blue Cross/ Blue Shield	Other commercial insurance	HMO prepaid plan[2]	No charge
	Percent distribution of visits						
All office-based physicians	100.0	16.6	7.6	12.6	20.5	9.1	1.8
General or family practice	100.0	14.7	10.5	9.4	14.9	10.1	1.0
Internal medicine	100.0	33.6	5.0	15.5	16.8	13.3	0.9
Pediatrics	100.0	-	9.1	6.1	15.3	14.0	1.0
Obstetrics and gynecology	100.0	2.7	6.4	15.4	30.4	6.9	2.8
Ophthalmology	100.0	32.0	5.8	11.0	12.6	5.0	4.9
Orthopedic surgery	100.0	13.0	4.1	16.3	36.4	7.1	1.7
General surgery	100.0	24.1	10.7	17.0	24.5	8.4	3.7
Dermatology	100.0	13.5	3.0	16.7	25.6	7.0	2.4
Psychiatry	100.0	5.6	6.1	16.1	29.0	4.7	1.3
Otolaryngology	100.0	12.1	5.5	13.1	21.7	4.9	2.5
Cardiovascular disease	100.0	41.5	3.2	21.5	25.5	2.4	1.4
Neurology	100.0	20.3	6.8	11.6	31.1	6.1	0.7
Urological surgery	100.0	30.8	4.5	20.4	25.6	6.0	2.8
All other office-based physicians	100.0	21.0	5.6	16.4	28.2	5.7	2.9

[1]Will not sum to 100.0 because not all payment sources are identified and more than 1 source of payment may be applied at a given visit.
[2]HMO is health maintenance organization

Table 14. Number of office visits to all physicians and to ophthalmologists and percent distribution by disposition and duration of the visit: United States, 1985

Disposition and duration of visit	All physicians	Ophthalmologists
	Number of visits in thousands	
All visits	636,386	40,062
	Percent distribution	
All visits	100.0	100.0
Disposition[1]		
No followup planned	9.8	8.1
Return at specified time	61.5	69.9
Return if needed	22.9	18.9
Telephone followup planned	4.0	1.2
Referred to other physician	3.2	1.5
Returned to referring physician	0.8	1.0
Admit to hospital	1.6	0.7
Other	0.5	0.7
Duration		
0 minute[2]	2.3	0.3
1–5 minutes	10.3	10.1
6–10 minutes	28.5	25.6
11–15 minutes	30.0	27.7
16–30 minutes	22.7	29.7
31 minutes and over	6.3	6.7

Because more than 1 disposition is possible for a visit, percents will not total 100
[2]Denotes visits at which there was no face-to-face contact between physician and patient

- Expanding technologies in ambulatory ophthalmic surgery, causing an 84-percent increase in those visits to office-based ophthalmologists which involved eye surgery.

Physicians in specialties other than ophthalmology—chiefly general practitioners, family practitioners, or pediatricians—made substantial contributions to the Nation's eye care:

- They accounted for 24 percent of all symptom-motivated eye-care visits, treating without referral about 50 percent of the conjunctival disorders and 55 percent of superficial injuries to the eye or adnexa.
- They performed 24 percent of all screening tests for visual acuity and ordered or provided 25 percent of all ophthalmic drugs that were utilized.

Symbols

- - -	Data not available
. . .	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision
#	Figure suppressed to comply with confidentiality requirements

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Technical notes

Source of data and sample design

The information presented in this report is based on data collected by means of the National Ambulatory Medical Care Survey (NAMCS) from March 1985 through February 1986. The target universe of NAMCS includes office visits made within the coterminous United States by ambulatory patients to nonfederally employed physicians principally engaged in office practice. The specialties of anesthesiology, pathology, and radiology are excluded, as are any telephone contacts and nonoffice visits.

The NAMCS utilizes a multistage probability sample design that involves a sample of primary sampling units, physicians' practices within primary sampling units, and patient visits within physicians' practices. Physician specialty was used as a stratification variable. For 1985, a sample of 5,032 non-Federal, office-based physicians was selected from master files maintained by the American Medical Association and the American Osteopathic Association. Of the 4,104 in-scope physicians, 70 percent responded to the 1985 NAMCS.

For the 1985 study, ophthalmologists were included as a separate sampling stratum. From this stratum, 522 ophthalmologists were selected; of these, 469 were in scope and 346 responded to the study, a response rate of 74 percent. The 1985 NAMCS sample was different from that used in earlier NAMCS surveys, which had included ophthalmology in the same sampling stratum as "other surgical specialties." The increase in physician sample size and the modification of the sampling design in 1985 had the effect of improving reliability of survey estimates for ophthalmologists relative to earlier data years.

Sample physicians were asked to complete Patient Records (figure I) for a systematic random sample of office visits taking place during a randomly assigned 1-week reporting period. Responding physicians completed a total of 71,594 Patient Records. Of these Patient Records, 9,428 were completed by responding ophthalmologists. Characteristics of the physician's practice, such as primary specialty and type of practice, were obtained during an induction interview. The National Opinion Research Center, under contract to the National Center for Health Statistics, was responsible for the data collection and processing operations during the survey.

Sampling errors

The standard error is primarily a measure of the sampling variability that occurs by chance because only a sample, rather than an entire universe, is surveyed. The relative standard error of an estimate is obtained by dividing the standard error by the estimate itself and is expressed as a percent of the estimate. For approximate relative standard errors of aggregate estimates based on all specialties, see McLemore and DeLozier (NCHS, 1987b). Approximate relative standard errors for aggregate estimates of visits to ophthalmologists are shown in table I. Approximate relative standard errors for aggregate estimates of drug mentions made by ophthalmologists are shown in table II.

Tests of significance and rounding

In this report the determination of statistical significance is based on a two-sided *t*-test with a critical value of 1.96 (0.05 level of confidence). Terms relating to differences, such as "greater than" or "less than," indicate that the differences are statistically significant. In the tables, estimates of office visits have been rounded to the nearest thousand. Consequently, estimates will not always add to totals.

NOTE: A list of references follows the text

Assurance of Confidentiality—All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any other purpose.

Department of Health and Human Services
Public Health Service
National Center for Health Statistics

B 467356

1. DATE OF VISIT Month / Day / Year

PATIENT RECORD
NATIONAL AMBULATORY MEDICAL CARE SURVEY

OMB No 0937-0141
Expires 9/30/86
(PHS) 6105-B
456-232

2. DATE OF BIRTH Month / Day / Year

3. SEX
1 ☐ FEMALE
2 ☐ MALE

4. COLOR OR RACE
1 ☐ WHITE
2 ☐ BLACK
3 ☐ ASIAN PACIFIC ISLANDER
4 ☐ AMERICAN INDIAN/ ALASKAN NATIVE

5. ETHNICITY
1 ☐ SPANISH
2 ☐ NON-SPANISH

6. EXPECTED SOURCE(S) OF PAYMENT *Check all that apply*
1 ☐ SELF-PAY
2 ☐ MEDICARE
3 ☐ MEDICAID
4 ☐ BLUE CROSS/ BLUE SHIELD
5 ☐ OTHER COMMERCIAL INSURANCE
6 ☐ HMO/PRE-PAID PLAN
7 ☐ NO CHARGE
8 ☐ OTHER (Specify)

7. WAS PATIENT REFERRED FOR THIS VISIT BY ANOTHER PHYSICIAN?
1 ☐ YES 2 ☐ NO

8. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT *In patient's own words*
a MOST IMPORTANT
b OTHER

9. GLUCOSE TESTS THIS VISIT *(Check all ordered or provided)*
1 ☐ NONE
2 ☐ BLOOD
3 ☐ URINE
4 ☐ ORAL

10. OTHER DIAGNOSTIC SERVICES THIS VISIT *(Check all ordered or provided)*
1 ☐ NONE
2 ☐ BREAST EXAM
3 ☐ PELVIC EXAM
4 ☐ RECTAL EXAM
5 ☐ VISUAL ACUITY
6 ☐ URINALYSIS
7 ☐ HEMATOLOGY
8 ☐ BLOOD CHEMISTRY
9 ☐ PAP TEST
10 ☐ OTHER LAB TEST
11 ☐ BLOOD PRESSURE CHECK
12 ☐ EKG
13 ☐ CHEST X-RAY
14 ☐ OTHER RADIOLOGY
15 ☐ ULTRASOUND
16 ☐ OTHER SERVICE (Specify)

11. PHYSICIAN'S DIAGNOSES
a PRINCIPAL DIAGNOSIS/PROBLEM ASSOCIATED WITH ITEM 8a
b OTHER SIGNIFICANT CURRENT DIAGNOSES

12. HAVE YOU SEEN PATIENT BEFORE?
1 ☐ YES 2 ☐ NO
IF YES, FOR THE CONDITION IN ITEM 11a?
1 ☐ YES 2 ☐ NO

13. NON-MEDICATION THERAPY *(Check all services ordered or provided this visit)*
1 ☐ NONE
2 ☐ PHYSIOTHERAPY
3 ☐ AMBULATORY SURGERY
4 ☐ RADIATION THERAPY
5 ☐ PSYCHOTHERAPY
6 ☐ FAMILY PLANNING
7 ☐ DIET COUNSELING
8 ☐ OTHER COUNSELING
9 ☐ CORRECTIVE LENSES
10 ☐ OTHER (Specify) _____

14. MEDICATION THERAPY *Record all new or continued medications ordered or provided at this visit. Use the same brand name or generic name entered on an Rx or office medical record.*
IF NONE, CHECK HERE ☐

	a NEW MEDICATION? YES	a NEW MEDICATION? NO	b FOR DX IN ITEM 11a? YES	b FOR DX IN ITEM 11a? NO
1 _____	1 ☐	2 ☐	1 ☐	2 ☐
2 _____	1 ☐	2 ☐	1 ☐	2 ☐
3 _____	1 ☐	2 ☐	1 ☐	2 ☐
4 _____	1 ☐	2 ☐	1 ☐	2 ☐
5 _____	1 ☐	2 ☐	1 ☐	2 ☐

15. DISPOSITION THIS VISIT *(Check all that apply)*
1 ☐ NO FOLLOW-UP PLANNED
2 ☐ RETURN AT SPECIFIED TIME
3 ☐ RETURN IF NEEDED PRN
4 ☐ TELEPHONE FOLLOW-UP PLANNED
5 ☐ REFERRED TO OTHER PHYSICIAN
6 ☐ RETURNED TO REFERRING PHYSICIAN
7 ☐ ADMIT TO HOSPITAL
8 ☐ OTHER (Specify) _____

16. DURATION OF THIS VISIT *(Time actually spent with physician)*
_____ Minutes

Figure I. 1985 National Ambulatory Medical Care Survey Patient Record (chief data collection form)

Table I. Approximate relative standard errors of estimated numbers of office visits to ophthalmologists: National Ambulatory Medical Care Survey, 1985

Estimated number of office visits in thousands	*Relative standard error in percent*
100	33 3
200	23 9
400	17.4
800	13 0
1,000	11 9
2,000	9 3
5,000	7.4
10,000	6 6
40,000	6 0

EXAMPLE OF USE OF TABLE An aggregate estimate of 1,500,000 visits to ophthalmologists has a relative standard error of 10.6 percent, or a standard error of 159,000 visits (10.6 percent of 1,500,000).

Table II. Approximate relative standard errors of estimated numbers of drug mentions during visits to ophthalmologists: National Ambulatory Medical Care Survey, 1985

Estimated number of drug mentions in thousands	*Relative standard error in percent*
100	31 6
200	23 1
400	17 3
800	13.4
1,000	12 5
2,000	10 5
5,000	9.0
10,000	8.5
25,000	8.2

EXAMPLE OF USE OF TABLE An aggregate estimate of 1,500,000 drug mentions during visits to ophthalmologists has a relative standard error of 11 5 percent, or a standard error of 172,500 drug mentions (11.5 percent of 1,500,000).

Recent Issues of *Advance Data From Vital and Health Statistics*

No. 161. AIDS Knowledge and Attitudes for July 1988 (Issued October 13, 1988)

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AIDS Knowledge and Attitudes: August 1988

Provisional Data From the National Health Interview Survey

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Introduction

The National Center for Health Statistics has included a special set of supplemental questions on the adult population's knowledge and attitudes about acquired immunodeficiency syndrome (AIDS) and the human immunodeficiency virus (HIV) in the National Health Interview Survey (NHIS). The first AIDS Knowledge and Attitudes Survey was in the field from August through December 1987. Provisional results of that survey were published on a monthly basis in *Advance Data for Vital and Health Statistics* (Nos. 146, 148, 150, 151, and 153). During the first 4 months of 1988, the NHIS AIDS questionnaire was revised to meet current program needs for information about HIV/AIDS awareness. The revised AIDS Knowledge and Attitudes Survey entered the field in May 1988. Provisional findings for May, June, and July, the first 3 months of data collection with the new questionnaire, were published in *Advance Data for Vital and Health Statistics*, Nos. 160 and 161. This report presents provisional findings for August 1988, comparing results with those obtained 1 year earlier in the baseline survey of August 1987.

The *Advance Data* reports describing the NHIS AIDS surveys have been restricted to simple descriptive statistics to facilitate their timely release. Thus, these reports do not attempt to explain or interpret differences among population subgroups in knowledge about HIV and AIDS or to examine relationships among various measures of knowledge, attitudes, and perceived risk. The 1987 and 1988 NHIS AIDS data bases will permit more complex analyses than those presented in this series of reports, and such analyses are being undertaken by various groups in the Public Health Service.

The AIDS questionnaires were designed to estimate public knowledge and attitudes about HIV transmission and prevention of HIV infection. The data were needed as input for the planning and development of AIDS educational campaigns and for monitoring major educational efforts, for example, the series of radio and television public service announcements entitled "America Responds to AIDS" and the brochure "Understanding AIDS," both developed by the Centers for Disease Control.

The 1987 and 1988 AIDS questionnaires were developed by the National Center for Health Statistics and interagency working groups established by the Information, Education and Risk Factor Reduction Subcommittee of the Public Health Service Executive Task Force on AIDS. The working groups included representatives from the Centers for Disease Control; the National Institutes of Health; the Alcohol, Drug Abuse and Mental Health Administration; and the Health Resources and Services Administration.

The current AIDS questionnaire includes items on sources of AIDS information; self-assessed level of AIDS knowledge; basic facts about HIV and how it is transmitted; blood donation experience; awareness of and experience with the blood test for HIV detection; perceived effectiveness of selected preventive measures; self-assessed chances of becoming infected with HIV; personal acquaintance with persons with AIDS or HIV; and willingness to take part in a proposed national seroprevalence survey. A general risk behavior question, similar to that asked by the Red Cross of potential blood donors, is included in the 1988 AIDS questionnaire.

This report presents provisional data for August 1988 for most items included in the AIDS questionnaire. Table 1 displays percent distributions of persons 18 years of age and over by response categories according to age, sex, race, and education. In most cases, the actual question asked of the respondent is reproduced verbatim in table 1 along with the coded response categories. In a few cases, questions or response categories have been rephrased or combined for clearer or more concise presentation of results. Refusals

and other nonresponse categories are excluded from the denominator in the calculation of estimates, but responses of "don't know" are included.

Questions in the NHIS AIDS surveys used the term "the AIDS virus" rather than HIV because it was felt that the general population might not be familiar with the more scientific terminology. In this report, "the AIDS virus" will be used in place of HIV when it reflects the way an individual question was worded.

This report contains numerous comparisons with data from the 1987 NHIS AIDS survey that must be interpreted with some degree of caution. The wording of some questions was changed slightly, and the context in which the questions were asked was modified by the addition of a number of new questions. Differences observed between 1987 and 1988 results may reflect these questionnaire changes as well as actual changes in AIDS knowledge and attitudes.

Selected findings

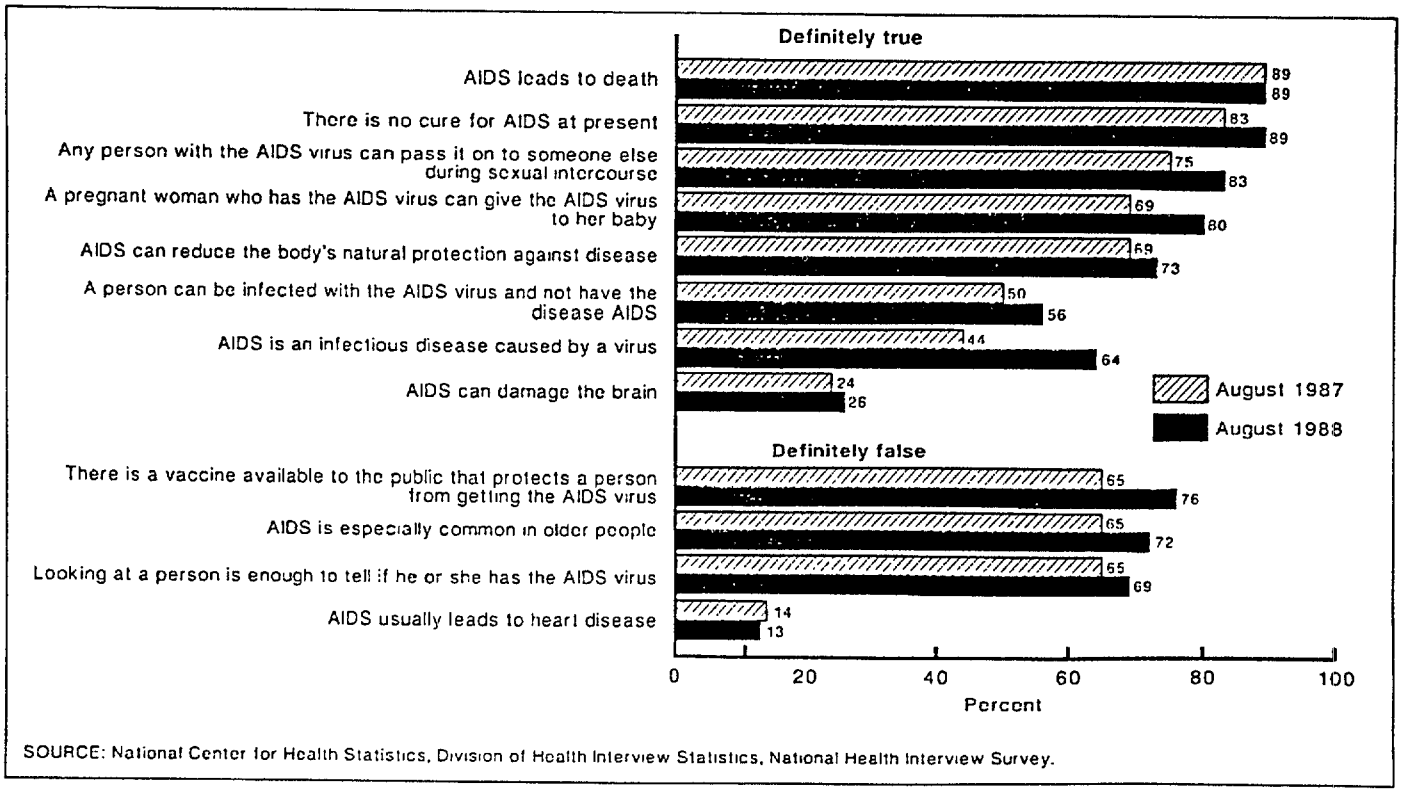
The following highlights describe various aspects of AIDS knowledge and attitudes observed in the August 1988 data from the NHIS AIDS survey, focussing on changes that have occurred in the year since data collection began. Unless otherwise noted, all differences cited in the text are statistically significant (see table II for approximate standard errors of estimates).

Sources of AIDS information—In August 1988, 84 percent of all adults in the United States reported having seen public service announcements about AIDS on television, slightly lower than the estimates of 86 percent in June and July but equal to the figure for May. Forty-five percent of adults stated that they had heard AIDS public service announcements on the radio, compared to 48 percent in July and 49 percent in May and June. Twenty-two percent of all adults stated that the announcements they had heard on television and the radio were part of the "America Responds to AIDS" series.

During June 1988, the Centers for Disease Control mailed a brochure entitled "Understanding AIDS" to all households in the United States. In June and July, 52 percent of all adults reported having read brochures or pamphlets about AIDS in the preceding month, more than twice as many as in May (25 percent). In August 1988, 42 percent of adults stated that they had read brochures or pamphlets about AIDS in the month preceding the interview. The fact that this percent is still much higher than in May could indicate that adults were continuing to read "Understanding AIDS" several weeks after having received it, or it may mean that they did not accurately remember when they received that brochure.

Self-assessed knowledge—As of August 1988, 22 percent of adults stated that they knew a lot about AIDS, 44 percent said that they knew some, 26 percent felt that they knew a little, and 7 percent claimed to know nothing about AIDS. Self-assessed knowledge about AIDS increased steadily between August 1987 and August 1988. At the beginning of that period, 20 percent of adults claimed to know a lot about AIDS; 40 percent reportedly knew some; 30 percent knew a little; and 10 percent knew nothing.

General knowledge—For most of the measures included in the NHIS, basic knowledge about AIDS and HIV increased during the year between August 1987 and August 1988. Figure 1 shows the percent of adults correctly identi-



SOURCE: National Center for Health Statistics, Division of Health Interview Statistics, National Health Interview Survey.

Figure 1. Provisional estimates of percent of adults responding correctly to selected AIDS knowledge items: United States, August 1987 and August 1988

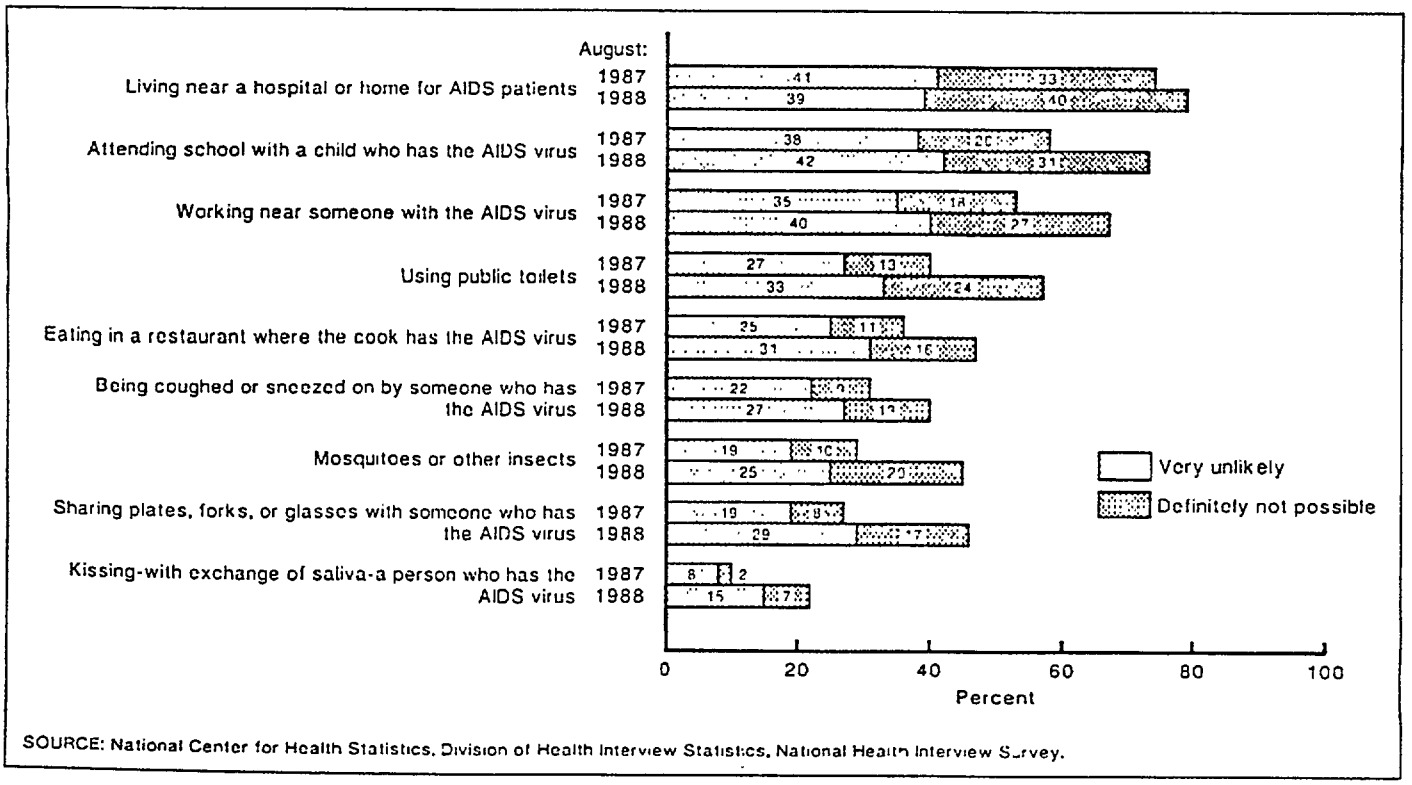
fying various statements about AIDS and HIV as definitely true or definitely false. The largest increase was in the proportion of adults who thought it definitely true that AIDS is an infectious disease caused by a virus—up from 44 to 64 percent. Most increases were smaller, usually between 4 and 10 percentage points. For three statements, there was no statistically significant change. Both in August 1987 and August 1988, 89 percent of adults thought it definitely true that AIDS leads to death. The already high level of awareness of this fact at the time of the baseline survey left little room for further improvement. There also was no change in the low proportions of adults who realized that AIDS can damage the brain and that AIDS does not usually lead to heart disease.

The increase in knowledge about these basic facts was greatest for adults ages 18–29 years, bringing their overall level of knowledge up to that of adults age 30–49 years whose level of knowledge had been higher in August 1987. For older adults, knowledge remained at a lower level. Increases were greater among black than white individuals for most items, reducing but not eliminating the racial differential in knowledge about AIDS.

Misperceptions about HIV transmission—The largest improvement in knowledge between August 1987 and August 1988 was a reduction in the proportion of adults who thought HIV could be transmitted through casual contact with seropositive individuals. The data in figure 2 show both the magnitude of these changes and the amount of misinformation that still exists on this topic. Figure 2 shows the percent of adults who correctly responded that it is very unlikely or definitely not possible to transmit HIV through various activities. In August 1987, 27 percent of adults thought it very unlikely that a person could become infected with HIV by using public toilets, and 13 percent thought it impossible. One year later, in August 1988, the respective proportions were 33 percent who considered this mode of transmission very unlikely and 24 percent who considered it impossible. Similar improvements were noted for the other activities asked about in both the 1987 and 1988 questionnaires, and the improvements in knowledge about transmission were of similar magnitude in all demographic subgroups of the adult population. Generally speaking, the activities still perceived as most threatening are those that involve potential contact with the saliva of a person infected with HIV.

Blood donation and transmission—As of August 1988, 40 percent of all adults in the United States had donated blood at some time in their lives, and 13 percent had donated blood since 1985 when routine testing of blood donations for the AIDS virus began. Two-thirds (66 percent) of adults correctly believed that blood donations are now routinely tested for the AIDS virus.

Seventy-five percent of adults had heard of the blood test for the AIDS virus infection as of August 1988, up from 70 percent in August 1987. Only 4 percent of all U.S. adults reported having received counseling about taking the AIDS virus test—5 percent of those under age 50 years and 1 percent of those age 50 years and over. Altogether, 17 percent of adults reported having had their blood tested for the AIDS virus. This figure includes 9 percent who reported having had the test, about the same as August-December 1987, and another 8 percent who were unaware of having had the test but reported having donated blood since 1985, which had been subjected to routine testing for



SOURCE: National Center for Health Statistics, Division of Health Interview Statistics, National Health Interview Survey.

Figure 2. Provisional estimates of percent of adults who think it very unlikely or definitely not possible to transmit the AIDS virus in selected ways: United States, August 1987 and August 1988

the AIDS virus. Persons age 18–29 years were more than 3 times as likely as those age 50 years and over to have had the AIDS blood test (23 compared to 7 percent), and men were more likely than women to have done so (21 versus 13 percent). The proportion of adults whose blood had been tested increased with education from 7 percent of those with less than 12 years of school to 23 percent of those with more than 12 years.

Just over half (52 percent) of the individuals who were aware of having had their blood tested for the AIDS virus reported having received the results of the test. This proportion was much higher for black than for white adults (77 compared to 45 percent) and was greater among adults age 18–49 years (52 percent) than among those age 50 years and over (46 percent).

Five percent of all adults reported plans to have their blood tested for the AIDS virus in the next 12 months. This proportion decreased with age from 10 percent of persons age 18–29 years to 2 percent of those age 50 years and over.

Five percent of all adults in the United States received blood transfusions between 1977 when the AIDS virus is believed to have entered the United States and 1985 when routine testing of blood donations for the AIDS virus was initiated. As of August 1988, 43 percent of adults stated that the blood supply is now safe for transfusions; 28 percent did not believe the blood supply is safe; and 29 percent were uncertain. The proportion of adults trusting the safety of the blood supply increased with education, was higher for men than for women, was higher for white than for black individuals, and was higher for persons 18–49 years of age than for those 50 years and over.

Preventive measures—Twenty-nine percent of adults thought that condoms are very effective in preventing transmission of the AIDS virus, and 54 percent thought that this method is somewhat effective. These figures represent a slight shift in adults' assessment of the protective qualities of condoms compared to August 1987, when 34 percent of adults considered them very effective and 48 percent somewhat effective. In August 1988, 84 percent of adults realized that having a monogamous relationship with a person who does not have the AIDS virus is a very effective way to prevent getting the virus—the same proportion as 1 year earlier. Over half of all adults realized that the diaphragm, spermicidal jellies and creams, and vasectomy are not effective in preventing AIDS virus transmission, with most of the remainder uncertain about the effectiveness of these methods. These figures also are comparable to those for August 1987.

Risk of getting the AIDS virus—Overall, 3 percent of all adults stated that they belonged to one or more of the behavior groups associated with increased risk of AIDS virus transmission, such as hemophiliacs, intravenous drug users, and homosexuals. This proportion decreased with age from 6 percent of adults age 18–29 years to less than 1 percent of adults age 50 years and over.

As of August 1988, 83 percent of U.S. adults believed there is no chance that they have the AIDS virus. Thirteen percent reported a low chance, 2 percent a medium chance, and less than 1 percent a high chance. Americans assessed their chances of getting the AIDS virus as minimal as well. Seventy-five percent reported no chance of their getting the virus, a proportion that has increased steadily since August 1987 when it was 60 percent. Twenty percent perceived themselves as being at low risk, 2 percent at medium risk, and less than 1 percent at high risk. Perceived risk decreased with advancing age, and women were slightly less likely than men to feel at risk of becoming infected with HIV.

As has been true since August 1987, in August 1988 almost two-thirds (65 percent) of adults reported having talked to friends or relatives about AIDS. One in 10 adults in the United States reported knowing or having known someone with AIDS or the AIDS virus. This proportion was higher for adults age 18–44 years than for those age 50 years and over, was slightly higher for women than for men, and was twice as high for persons with 12 or more years of school as for those with less education. Most of the individuals who had known someone with AIDS or the AIDS virus stated that more than 6 months had passed since they had seen that person.

Symbols

-	Quantity zero
0	Quantity more than zero but less than 0.05

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, August 1988

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
Total	100	100	100	100	100	100	100	100	100	100	100
1. In the past month, have you—											
1a. Seen any public service announcements about AIDS on television?											
Yes	84	85	85	83	83	85	85	84	79	85	86
No	14	14	14	15	15	14	14	14	20	14	12
Don't know	2	1	1	3	2	1	2	2	2	1	2
1b. Heard any public service announcements about AIDS on the radio?											
Yes	45	55	48	35	50	41	45	48	34	45	52
No	51	42	48	60	46	55	51	48	63	52	43
Don't know	4	3	4	5	4	4	4	3	3	3	5
2. Were any of those public service announcements called "America Responds to AIDS"?											
Yes	22	33	22	14	21	24	22	28	21	24	22
No	11	11	11	11	12	10	10	17	13	11	11
Don't know	53	45	54	59	53	54	55	44	49	52	57
Neither heard nor saw any public service announcements	13	11	13	15	13	13	13	11	17	13	11
3. In the past month, have you read any brochures or pamphlets about AIDS?											
Yes	42	43	47	36	38	46	42	48	30	44	48
No	57	56	52	62	61	52	57	52	69	55	50
Don't know	1	1	1	1	1	1	1	0	1	1	1
4. Have you ever read any brochures or pamphlets about AIDS?											
Yes	67	71	73	58	62	72	67	68	46	70	77
No	32	29	27	41	38	28	32	32	53	30	22
Don't know	1	1	0	1	0	1	1	0	1	0	1
5. Where did you get the pamphlets or brochures?[1,2]											
Clinic, other than work clinic	2	4	2	2	2	3	2	3	3	2	2
Doctor's office (HMO)	11	14	11	7	8	13	10	14	9	11	11
Drug store	1	2	1	1	1	2	1	3	2	2	1
Public health department	3	3	3	1	2	3	2	6	3	2	3
Received in mail without asking	40	37	40	44	41	40	41	43	40	43	38
Red Cross/Red Cross blood donation	1	1	1	1	2	1	2	–	1	1	2
Other blood donation	0	0	0	0	1	0	0	0	0	0	0
School	5	10	4	1	4	5	5	3	3	3	7
Sent/phoned for/requested it	0	–	1	0	0	0	0	1	–	1	0
Federal/State/local government	30	26	30	34	31	29	32	20	32	29	30
Work, other than clinic or nurse	11	9	15	7	12	10	11	13	5	12	12
Work, nurse or clinic	4	3	5	3	2	5	4	5	1	3	5
Other	13	15	14	11	15	12	13	15	12	12	15
Don't know	0	–	0	1	0	0	0	–	1	0	0
15. Have you ever discussed AIDS with any of your children aged 10-17?[3]											
Yes	60	35	63	43	45	72	62	53	41	58	71
No	40	65	37	57	55	28	38	47	59	42	29
Don't know	–	–	–	–	–	–	–	–	–	–	–
16. Have any or all of your children aged 10-17 had instruction at school about AIDS?[3]											
Yes	59	45	59	68	52	65	58	64	54	57	66
No	13	21	14	6	11	15	14	10	10	14	14
Don't know	28	34	27	26	36	20	28	26	36	30	20
21. How much would you say you know about AIDS?											
A lot	22	22	27	17	21	23	24	15	10	18	34
Some	44	53	47	33	43	45	44	41	31	48	48
A little	26	22	22	34	27	25	25	34	38	28	17
None	7	3	3	16	8	7	7	11	21	5	2
Don't know	0	–	–	0	–	0	0	–	0	–	–
22. To the best of your knowledge, is there a difference between having the AIDS virus and having the disease AIDS?											
Yes	65	68	69	57	64	65	66	57	44	63	79
No	16	21	18	11	15	17	16	17	17	19	13
Other	0	0	0	0	0	0	0	0	–	0	0
Don't know	19	11	13	32	20	18	18	26	39	18	8
23a. AIDS can reduce the body's natural protection against disease.											
Definitely true	73	79	81	61	74	73	76	60	51	72	88
Probably true	13	12	11	17	13	13	13	12	17	16	8
Probably false	2	2	1	2	1	2	1	6	3	1	1
Definitely false	3	3	2	3	2	3	2	8	4	3	1
Don't know	9	5	5	17	9	9	8	15	24	8	2

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, August 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
23b. AIDS is especially common in older people.											
Definitely true	1	1	0	0	1	0	1	1	1	1	0
Probably true	1	1	1	1	1	1	0	2	1	1	0
Probably false	19	18	19	21	21	18	20	14	20	21	18
Definitely false	72	74	75	67	69	74	72	72	62	71	78
Don't know	8	6	6	11	9	7	7	10	16	7	4
23c. AIDS can damage the brain.											
Definitely true	26	26	24	27	25	26	25	35	26	24	28
Probably true	32	31	33	32	32	32	33	27	29	33	33
Probably false	9	9	10	7	9	8	9	4	5	9	10
Definitely false	7	7	10	4	8	6	7	7	4	6	8
Don't know	27	27	24	30	25	28	27	26	35	28	20
23d. AIDS usually leads to heart disease.											
Definitely true	9	7	9	11	8	10	8	16	12	9	7
Probably true	24	25	22	25	24	23	24	21	23	25	22
Probably false	19	20	22	13	20	17	19	12	10	18	24
Definitely false	13	14	16	9	15	12	13	12	8	11	18
Don't know	36	34	31	42	33	39	35	39	47	37	28
23e. AIDS is an infectious disease caused by a virus.											
Definitely true	64	71	70	52	65	63	64	66	49	63	74
Probably true	19	16	16	23	19	18	19	16	20	20	16
Probably false	2	2	2	3	2	2	2	3	3	2	2
Definitely false	4	4	4	3	3	5	4	2	4	4	3
Don't know	11	7	8	18	11	12	11	13	24	11	5
23f. Teenagers cannot get AIDS.											
Definitely true	1	1	0	1	1	1	0	1	1	0	0
Probably true	1	0	1	1	1	1	0	2	2	0	0
Probably false	3	2	2	6	3	3	3	4	5	3	2
Definitely false	93	96	95	87	92	93	94	88	83	94	97
Don't know	3	1	2	6	3	3	2	6	9	2	1
23g. AIDS leads to death.											
Definitely true	89	88	91	87	88	90	89	90	86	91	88
Probably true	8	9	7	8	8	7	8	7	6	7	10
Probably false	0	1	0	0	0	0	0	0	–	0	0
Definitely false	1	1	1	1	1	1	1	0	2	0	1
Don't know	2	1	1	4	2	2	2	3	6	1	1
23h. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true	56	62	62	46	55	57	58	51	39	55	67
Probably true	21	19	20	24	22	20	21	18	17	25	19
Probably false	4	4	4	3	4	3	4	3	5	4	3
Definitely false	5	6	5	3	5	4	4	6	7	4	4
Don't know	14	9	10	23	14	15	13	21	32	12	7
23i. Looking at a person is enough to tell if he or she has the AIDS virus.											
Definitely true	1	1	1	2	2	1	1	2	3	1	1
Probably true	4	4	3	4	4	3	3	6	4	4	3
Probably false	16	14	15	19	16	16	16	15	17	18	13
Definitely false	69	74	75	58	68	69	70	64	52	69	79
Don't know	10	6	6	17	10	10	9	13	23	8	4
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true	83	86	86	80	81	85	84	85	79	87	83
Probably true	12	11	10	13	13	11	12	11	12	10	13
Probably false	1	1	1	1	2	1	1	0	1	1	1
Definitely false	1	1	1	0	1	0	1	1	1	0	1
Don't know	3	1	2	6	4	3	3	3	8	2	2
23k. A person who has the AIDS virus can look and feel healthy and well.											
Definitely true	47	50	53	38	49	46	48	45	35	42	60
Probably true	30	31	29	29	28	31	30	27	24	34	28
Probably false	7	6	5	9	7	6	7	6	11	7	3
Definitely false	4	5	4	4	4	5	4	6	6	5	3
Don't know	12	7	9	19	12	12	11	15	24	12	6
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.											
Definitely true	80	82	83	75	76	84	80	82	75	81	82
Probably true	15	14	13	17	17	12	15	13	15	15	15
Probably false	0	0	0	0	0	0	0	0	–	0	0
Definitely false	0	0	0	–	0	0	0	0	0	0	0
Don't know	5	4	3	8	6	3	5	5	10	4	2

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, August 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
23m. There is a vaccine available to the public that protects a person from getting the AIDS virus.											
Definitely true	1	1	1	1	2	0	1	2	2	1	1
Probably true	3	4	2	2	3	2	2	6	3	3	2
Probably false	8	10	6	10	9	8	8	10	10	8	8
Definitely false	76	78	83	68	76	76	79	65	62	77	84
Don't know	12	7	9	19	10	13	11	17	24	12	5
23n. There is no cure for AIDS at present.											
Definitely true	89	90	91	85	87	90	90	82	82	90	92
Probably true	6	4	5	8	7	5	5	9	8	5	5
Probably false	0	1	0	0	1	0	0	1	0	0	1
Definitely false	2	3	1	1	2	1	1	3	1	2	1
Don't know	4	2	2	6	4	3	3	5	9	3	1
24. How likely do you think it is that a person will get AIDS or the AIDS virus infection from—											
24a. Living near a hospital or home for AIDS patients?											
Very likely	2	2	2	1	2	2	1	6	3	2	1
Somewhat likely	4	4	3	5	5	3	3	6	6	4	2
Somewhat unlikely	8	8	7	8	7	8	8	8	9	9	5
Very unlikely	39	41	40	37	39	39	39	38	35	39	42
Definitely not possible	40	41	43	36	39	41	42	29	28	40	47
Don't know	8	4	5	13	8	7	6	13	20	6	2
24b. Working near someone with the AIDS virus?											
Very likely	2	3	2	2	2	3	2	5	3	3	2
Somewhat likely	10	11	9	10	9	10	9	12	13	10	7
Somewhat unlikely	13	16	13	12	14	13	13	16	12	14	13
Very unlikely	40	39	42	38	41	39	41	33	31	40	46
Definitely not possible	27	28	29	23	26	28	28	22	22	27	30
Don't know	8	3	5	15	8	8	7	11	19	7	3
24c. Eating in a restaurant where the cook has the AIDS virus?											
Very likely	6	7	6	6	6	7	5	12	8	7	5
Somewhat likely	19	19	17	21	19	19	18	21	20	22	14
Somewhat unlikely	16	16	17	14	17	15	16	13	12	17	17
Very unlikely	31	32	33	27	32	30	32	24	26	27	39
Definitely not possible	16	19	17	13	15	17	17	16	13	15	19
Don't know	12	7	10	19	11	12	11	16	21	12	6
24d. Kissing—with exchange of saliva—a person who has the AIDS virus?											
Very likely	20	16	20	23	18	21	20	19	22	22	16
Somewhat likely	30	30	30	31	31	29	31	30	27	33	29
Somewhat unlikely	15	16	17	13	14	16	15	15	10	14	19
Very unlikely	15	18	16	12	17	14	16	12	13	13	19
Definitely not possible	7	10	8	5	8	7	7	10	7	7	8
Don't know	12	9	9	17	11	13	11	15	20	12	8
24e. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?											
Very likely	2	1	2	2	2	1	1	4	4	1	1
Somewhat likely	7	6	7	8	8	7	6	11	7	9	6
Somewhat unlikely	14	14	15	14	15	14	15	12	14	17	11
Very unlikely	36	34	38	36	36	37	37	32	31	35	42
Definitely not possible	33	40	33	26	31	34	33	30	26	32	38
Don't know	8	5	5	13	8	7	7	11	17	7	3
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?											
Very likely	7	7	7	8	7	8	7	10	9	8	6
Somewhat likely	21	19	20	22	20	21	20	23	21	22	18
Somewhat unlikely	15	15	16	14	15	15	15	14	12	16	15
Very unlikely	29	30	30	27	29	28	30	23	25	25	35
Definitely not possible	17	21	18	12	17	16	17	17	13	15	20
Don't know	12	8	9	18	11	13	11	13	21	13	6
24g. Using public toilets?											
Very likely	5	6	3	5	4	5	4	8	8	5	2
Somewhat likely	12	11	10	13	11	12	10	18	16	13	7
Somewhat unlikely	14	14	16	13	15	14	15	11	11	17	14
Very unlikely	33	33	36	31	35	32	35	27	27	30	41
Definitely not possible	24	27	27	19	25	23	25	21	16	23	31
Don't know	12	9	8	19	11	13	11	15	22	13	5

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, August 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
24h. Sharing needles for drug use with someone who has the AIDS virus?											
Very likely	95	97	97	91	94	95	95	92	88	97	97
Somewhat likely	2	2	1	3	2	2	2	3	4	1	1
Somewhat unlikely	0	0	0	0	0	0	0	1	0	0	–
Very unlikely	1	1	0	1	1	0	1	1	1	1	0
Definitely not possible	0	0	0	0	0	0	0	1	0	0	0
Don't know	3	1	1	6	2	3	2	2	7	1	1
24i. Being coughed or sneezed on by someone who has the AIDS virus?											
Very likely	6	5	5	9	6	7	6	9	9	6	5
Somewhat likely	22	19	22	25	21	24	22	25	24	26	18
Somewhat unlikely	18	21	19	16	19	18	19	17	16	17	21
Very unlikely	27	30	30	23	29	25	28	22	18	25	35
Definitely not possible	13	18	14	9	13	13	13	12	11	13	15
Don't know	12	7	10	19	11	13	12	15	22	12	6
24j. Attending school with a child who has the AIDS virus?											
Very likely	1	1	1	1	1	1	1	3	2	1	0
Somewhat likely	6	5	6	7	6	6	5	9	6	7	4
Somewhat unlikely	12	13	12	11	11	12	12	11	11	13	10
Very unlikely	42	40	44	40	45	39	43	35	36	40	47
Definitely not possible	31	36	31	26	29	32	31	27	25	31	34
Don't know	9	5	6	16	8	10	8	15	20	8	4
24k. Mosquitoes or other insects?											
Very likely	7	8	7	6	7	7	6	11	10	7	5
Somewhat likely	16	18	15	15	16	15	15	19	19	18	12
Somewhat unlikely	10	11	9	9	9	10	10	9	6	12	10
Very unlikely	25	25	28	22	26	24	26	24	18	24	31
Definitely not possible	20	21	21	17	19	21	21	13	14	18	25
Don't know	23	18	19	31	22	24	22	24	33	22	17
25. Have you ever donated blood?											
Yes	40	31	44	44	53	29	42	35	31	38	49
No	59	69	56	56	47	70	57	65	68	62	51
Don't know	0	0	0	1	1	0	0	1	1	0	0
26a. Have you donated blood since March 1985?											
Yes	13	18	16	5	16	10	13	10	4	13	18
No	87	82	84	94	83	90	86	89	95	87	81
Don't know	1	1	1	1	1	0	1	1	1	0	1
26b. Have you donated blood in the past 12 months?											
Yes	6	8	7	2	7	5	6	4	2	6	8
No	93	91	92	97	92	95	93	96	97	94	91
Don't know	1	1	1	1	1	0	1	1	1	0	1
27. Have you ever heard of a blood test that can detect the AIDS virus infection?											
Yes	75	82	81	61	73	75	76	67	56	75	85
No	21	16	15	30	21	20	19	28	35	21	11
Don't know	5	1	3	9	5	4	5	5	9	4	4
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?											
Yes	66	73	73	52	65	67	67	56	46	66	78
No	3	3	3	3	3	3	3	4	2	3	3
Don't know	6	6	5	6	6	6	6	7	8	6	5
Never heard of test[4]	26	18	19	39	27	25	24	33	44	25	15
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?											
Yes	4	6	5	1	4	4	3	7	2	3	5
No	71	76	76	60	69	72	72	60	54	72	80
Don't know	0	0	0	0	0	0	0	0	0	0	–
Never heard of test[4]	26	18	19	39	27	25	24	33	44	25	15
29b. Was the discussion—[1,5]											
With a private doctor?	42	54	28	67	42	42	42	41	45	46	39
At a family-planning clinic?	4	3	6	–	6	3	2	14	9	7	2
On an AIDS hotline?	1	1	2	–	1	2	2	–	–	2	2
At a prenatal clinic?	5	10	–	–	2	7	4	5	8	–	6
At an STD or sexually transmitted disease clinic?	2	–	4	–	4	1	2	3	–	2	3
At an AIDS/HIV counseling and testing site?	5	3	8	–	6	4	6	3	2	3	7
With some other health professional?	51	49	55	33	55	48	55	37	77	45	49
With some other counselor?	14	14	12	23	17	11	11	24	21	5	17
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus?[5]											
Yes	66	64	67	66	63	68	66	62	64	71	63
No	33	36	32	34	35	32	34	34	29	29	37
Don't know	1	–	2	–	2	–	–	4	6	–	–

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, August 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
31. Have you ever been advised by a health professional not to have the blood test for the AIDS virus infection?											
Yes	0	0	1	–	0	0	0	0	0	0	1
No	74	82	80	61	73	75	75	67	56	75	84
Don't know	0	–	0	–	0	–	0	–	–	–	0
Never heard of test[4]	26	18	19	39	27	25	24	33	44	25	15
32. Have you ever been advised by friends or relatives not to have the blood test for the AIDS virus infection?											
Yes	0	–	1	0	0	0	0	0	0	0	0
No	74	82	81	61	73	75	75	67	56	75	85
Don't know	0	–	0	–	0	–	–	–	–	–	0
Never heard of test[4]	26	18	19	39	27	25	24	33	44	25	15
33. Have you had your blood tested for the AIDS virus infection?											
Yes[6]	17	23	21	7	21	13	17	19	7	16	23
No	57	58	60	53	52	62	59	47	48	59	62
Don't know	2	2	1	2	2	1	2	1	1	2	2
Never heard of test[4]	24	16	18	38	25	24	23	33	43	23	14
35a. How many times have you had your blood tested for the AIDS virus infection?[7]											
Once	5	7	6	1	5	4	4	7	3	5	6
Twice	1	1	2	0	1	0	1	3	1	1	1
3–5 times	1	2	2	0	2	1	1	3	1	0	2
6–12 times	0	0	0	0	1	0	0	0	0	0	0
More than 12 times	0	0	0	0	0	0	0	–	–	0	0
Don't know[8]	9	12	10	4	11	7	9	5	2	9	12
Never heard of or never took test[8]	84	77	80	94	80	88	84	82	93	84	78
35b. How many times in the past 12 months have you had your blood tested for the AIDS virus infection?[7]											
None in the past 12 months	2	2	2	1	2	1	2	2	0	1	3
Once	4	7	6	1	5	3	4	9	3	4	5
More than once	2	2	3	0	3	1	2	2	1	1	3
Don't know[8]	9	12	10	5	11	7	9	6	2	9	12
Never heard of or never took test[8]	84	77	79	94	79	87	84	81	93	84	77
36. Was the test/were any of the tests, including those you had before the past 12 months—[1]											
Part of a blood donation?[5,7]	72	69	71	79	71	72	76	48	51	73	74
Part of a blood transfusion?[9]	1	0	2	3	1	2	1	1	3	1	1
Voluntarily sought?[9]	17	20	16	11	15	20	13	41	37	13	16
Part of some other activity that requires a blood sample?[9]	13	15	11	11	16	8	10	30	17	11	13
38. Did you get the results of your test/any of your tests?[9]											
Yes	52	51	53	46	52	51	45	77	73	54	45
No	47	49	45	54	47	48	53	23	23	45	55
Don't know	1	–	2	–	1	1	1	–	4	1	–
41. Do you expect to have a blood test for the AIDS virus infection in the next 12 months?											
Yes	5	10	6	2	7	5	5	8	3	5	7
No	64	66	71	56	62	66	67	50	49	65	73
Don't know	5	7	5	3	5	4	4	8	4	5	5
Never heard of test[4]	26	18	19	39	27	25	24	33	44	25	15
42. Will the test be—[1,10]											
Part of a blood donation?	40	35	49	29	45	33	47	11	11	38	48
Voluntarily sought?	50	55	47	42	43	59	46	62	74	62	36
Part of some other activity that requires a blood sample?	16	18	12	23	20	12	12	35	12	9	23
44a. Did you have a blood tranfusion at any time between 1977 and 1985?											
Yes	5	3	6	6	4	6	5	5	6	5	5
No	93	96	93	92	94	92	93	94	92	94	93
Don't know	1	1	1	2	1	2	1	1	2	1	2
44b. Do you think the present supply of blood is safe for tranfusions?											
Yes	43	45	45	38	47	39	45	33	34	41	50
No	28	31	28	26	25	31	27	34	30	31	23
Other	0	–	0	–	–	0	0	–	–	–	0
Don't know	29	24	27	36	29	30	28	33	36	28	26
45. Here are some methods people use to prevent getting the AIDS virus through sexual activity. How effective is—											
45a. Using a diaphragm?											
Very effective	2	2	2	2	3	1	2	6	4	2	1
Somewhat effective	12	14	9	13	12	11	12	15	10	13	12
Not at all effective	57	60	67	44	54	61	59	50	40	57	68
Don't know how effective	23	18	18	31	24	21	23	20	33	24	15
Don't know method	6	5	4	9	7	6	5	9	14	5	3

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, August 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
45b. Using a condom?											
Very effective	29	34	32	23	34	25	30	27	22	29	34
Somewhat effective	54	57	56	50	52	57	55	51	46	56	57
Not at all effective	4	3	5	5	3	6	4	7	6	5	3
Don't know how effective	10	5	6	18	9	10	9	11	21	9	5
Don't know method	2	1	1	4	2	2	2	3	5	1	1
45c. Using a spermicidal jelly, foam, or cream?											
Very effective	1	1	1	1	1	1	1	2	1	1	1
Somewhat effective	14	20	13	11	15	14	15	12	9	13	19
Not at all effective	55	56	63	44	52	57	56	48	42	56	61
Don't know how effective	24	19	18	35	25	22	23	27	36	25	15
Don't know method	6	4	5	10	7	5	5	10	13	6	4
45d. Having a vasectomy?											
Very effective	1	1	1	1	1	1	1	1	1	1	1
Somewhat effective	2	5	1	1	3	2	2	5	2	2	3
Not at all effective	71	69	82	60	70	72	74	61	52	71	82
Don't know how effective	19	18	12	28	19	18	18	23	30	20	11
Don't know method	7	7	4	10	7	7	6	10	15	6	4
45e. Two people who do not have the AIDS virus having sex only with each other?											
Very effective	84	87	87	77	85	83	86	73	73	85	89
Somewhat effective	7	6	7	8	6	7	6	12	8	6	6
Not at all effective	2	3	2	2	2	2	2	4	3	2	2
Don't know how effective	6	4	3	10	6	6	5	9	11	6	2
Don't know method	2	1	1	3	2	2	1	3	4	1	1
46. What are your chances of having the AIDS virus?											
High	0	1	1	0	0	1	0	1	0	1	0
Medium	2	2	2	1	2	1	1	2	1	1	2
Low	13	18	16	7	15	12	13	15	6	13	18
None	83	77	80	89	80	85	83	77	89	83	78
Don't know	2	2	1	3	2	2	1	5	3	2	1
47. What are your chances of getting the AIDS virus?											
High	0	0	0	0	0	0	0	–	0	0	0
Medium	2	3	2	1	2	2	2	3	1	2	3
Low	20	28	22	11	22	17	20	21	10	19	27
None	75	66	73	84	72	77	76	70	84	76	68
Don't know	3	2	2	4	2	3	2	5	4	2	2
High chance of already having AIDS virus	0	1	1	0	0	1	0	1	0	1	0
49. Do you say your chance of getting AIDS is high or medium because you—[11]											
Have had a blood transfusion?	9	4	8	23	9	8	9	13	20	13	3
Have had sexual contact with someone who might have the virus?	22	35	15	8	32	7	17	59	36	8	26
Some other reason?	66	69	71	47	57	78	67	49	36	82	65
52. Have you ever discussed AIDS with a friend or relative?											
Yes	65	74	74	49	61	69	66	61	45	64	79
No	34	26	26	50	39	30	34	39	55	35	20
Don't know	1	0	1	1	0	1	1	1	0	1	1
53. When was the last time you discussed AIDS with a friend or relative?											
0–3 days ago	6	9	7	4	6	7	6	10	5	6	7
4–7 days ago	10	10	11	9	9	11	10	13	9	9	12
8–14 days ago	6	7	8	4	5	7	7	5	3	7	8
15–31 days ago	16	19	18	12	15	17	17	12	11	16	20
More than 31 days ago	20	25	24	13	19	21	21	16	13	20	26
Don't know	6	3	6	7	6	5	6	4	4	6	6
Never discussed[12]	35	26	26	51	39	31	34	39	55	36	21
54. Have you ever personally known anyone with AIDS or the AIDS virus?											
Yes	10	11	12	7	9	10	9	16	6	8	14
No	89	87	86	92	88	89	90	80	92	91	84
Don't know	2	2	2	2	2	1	1	4	2	1	1
55. How long has it been since you saw this person?											
Within past 2 weeks	1	0	1	0	1	1	1	0	0	0	1
2 weeks–less than 1 month	0	0	0	0	0	0	0	1	1	0	
1 month–less than 3 months	0	1	0	0	0	1	0	1	0	0	1
3 months–less than 6 months	1	1	1	1	1	1	1	1	0	1	2
6 months or more	7	8	9	4	7	6	6	13	5	5	10
Don't know	0	0	0	0	0	0	0	1	0	0	1
Never knew anyone with AIDS[13]	90	89	88	94	91	90	91	84	94	92	86

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, August 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
56. How well do you know this person?											
Very well	1	1	1	1	1	1	1	1	0	1	1
Fairly well	2	2	3	1	2	2	2	5	1	2	3
Not very well	4	5	5	2	4	4	4	4	3	3	6
Don't really know personally	2	2	2	1	2	1	1	3	1	1	2
Other	1	1	1	1	1	1	1	2	1	1	2
Don't know how well	–	–	–	–	–	–	–	–	–	–	–
Never knew anyone with AIDS[13]	90	89	88	94	91	90	91	84	94	92	86
57. Is any of these statements true for you?											
a. You have hemophilia and have received clotting factor concentrates since 1977.											
b. You are a native of Haiti or Central or East Africa who has entered the United States since 1977.											
c. You are a man who has had sex with another man at some time since 1977, even 1 time.											
d. You have taken illegal drugs by needle at any time since 1977.											
e. Since 1977, you are or have been the sex partner of any person who would answer yes to any of the items above (57 a-d).											
f. You have had sex for money or drugs at any time since 1977.											
Yes to at least 1 statement	3	6	2	1	3	2	2	5	2	3	3
No to all statements	97	94	97	99	97	97	97	95	98	97	97
Refused	0	–	0	0	0	0	0	–	0	0	–
Don't know	0	0	0	0	0	0	0	0	0	–	0
58. The U.S. Public Health Service has said that AIDS is one of the major health problems in the country but exactly how many people it affects is not known. The Surgeon General has proposed that a study be conducted and blood samples be taken to help find out how widespread the problem is. If you were selected in this national sample of people to have their blood tested with assurances of privacy of test results, would you have the test?											
Yes	70	75	74	61	69	70	70	72	65	69	74
No	22	20	19	28	23	21	22	22	27	23	18
Other	2	2	2	4	3	2	3	1	2	2	3
Don't know	6	4	6	7	5	6	5	5	5	6	5
59. Why wouldn't you take part in the test?[14]											
Don't want to know if I have AIDS	4	4	6	2	4	3	3	4	2	4	4
Don't want any counseling about AIDS	1	1	1	1	1	1	1	1	1	0	1
Fear I'll get AIDS	7	7	7	7	7	7	7	9	8	10	3
Don't like to give blood	12	17	12	9	11	13	12	14	8	16	11
Don't trust Government programs	6	7	7	4	6	5	6	5	3	5	8
It is a waste of money	3	1	3	5	4	3	4	–	4	3	2
Don't believe AIDS can really be cured anyway	2	1	3	2	2	2	2	0	4	1	2
Other	53	47	50	58	53	53	53	52	54	49	57
Don't know	16	19	14	16	13	18	15	18	19	15	13
61. When Federal public health officials give information about AIDS, do you believe what they say or are you doubtful about the information they give?											
Believe	64	71	67	54	64	63	64	62	54	63	70
Doubtful	29	24	29	33	30	29	30	25	32	30	26
Don't know	7	5	5	12	6	8	6	13	14	7	4
62. When they [public health officials] give advice about how to help keep from getting AIDS, do you believe their advice or are you doubtful about what they say?											
Believe	77	82	80	70	78	77	79	71	67	78	84
Doubtful	17	14	16	20	18	16	17	18	21	18	13
Don't know	6	3	4	9	5	7	5	11	12	5	3

[1] Multiple responses may sum to more than 100.
[2] Based on persons answering yes to question 4 ,ncludes yes to question 3).
[3] Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
[4] Persons answering no or don't know to question 27.
[5] Based on persons answering yes to question 29a.
[6] Includes persons answering yes to question 26a and no or don't know to questions 27 and 33.
[7] Based on yes answers to question 33. See footnote 6.
[8] Persons answering no or don't know to questions 26a, 27, and 33.
[9] Based on persons answering yes to question 33; excludes persons answering yes to question 26a.
[10] Based on persons answering yes to question 41.
[11] Based on persons answering high or medium to question 46.
[12] Based on persons answering no or don't know to question 52.
[13] Based on persons answering no or don't know to question 54.
[14] Based on persons not answering yes to question 58.

Technical notes

The National Health Interview Survey (NHIS) is a continuous, cross-sectional household interview survey. Each week, a probability sample of the civilian noninstitutionalized population is interviewed by personnel of the U.S. Bureau of the Census to obtain information on the health and other characteristics of each member of thehousehold. Supplemental information is collected for all or a sample of household members. The 1988 National Health Interview Survey of AIDS Knowledge and Attitudes was asked of a single randomly chosen adult 18 years of age or over in each family. The estimates in this report are based on completed interviews with 3,159 persons, or about 88 percent of eligible respondents.

Table I contains the estimated population size of each of the demographic subgroups included in table 1 to allow readers to derive provisional estimates of the number of people in the United States with a given characteristic, for example, the number of men who have had their blood tested for the AIDS virus. The population figures in table I are based on first-quarter 1987 data from the NHIS; they are not official population estimates. Table II shows approximate standard errors of estimates presented in table 1. Both the estimates in table 1 and the standard errors in table II are provisional. They may differ slightly from estimates made using the final data file because they were calculated using a simplified weighting procedure that does not adjust for all the factors used in weighting the final data file. A final data file covering the entire data collection period for 1988 will be available in 1989.

Table I. Sample sizes for the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes and estimated adult population 18 years of age and over, by selected characteristics: United States, August 1988

Characteristic	Sample size	Estimated population in thousands
All adults	3,159	174,528
Age		
18–29 years	733	47,725
30–49 years	1,210	66,109
50 years and over	1,216	60,695
Sex		
Male	1,308	82,703
Female	1,851	91,825
Race		
White	2,668	151,003
Black	395	19,107
Education		
Less than 12 years	721	41,503
12 years	1,201	66,475
More than 12 years	1,171	62,363

Table II. Standard errors, expressed in percentage points, of estimated percents from the National Health Interview Survey of AIDS Knowledge and Attitudes, by selected characteristics: United States, August 1988

Estimated percent	Total	Age			Sex		Race		Education		
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
5 or 95	0.5	1.0	0.8	0 8	0.8	0.7	0.5	1.4	1.0	0.8	0.8
10 or 90	0.7	1 4	1.1	1.1	1.1	0.9	0.7	1.9	1.4	1.1	1.1
15 or 85	0.8	1.7	1.3	1.3	1.3	1.1	0.9	2.3	1.7	1.3	1 3
20 or 80	0.9	1.9	1.5	1.5	1.4	1.2	1.0	2.6	1.9	1.5	1.5
25 or 75	1.0	2.1	1.6	1.6	1.5	1.3	1.1	2.8	2.1	1.6	1.6
30 or 70	1.0	2 2	1.7	1.7	1.6	1.4	1.1	3.0	2.2	1.7	1.7
35 or 65	1.1	2.3	1.8	1.8	1.7	1.4	1.2	3.1	2.3	1.8	1.8
40 or 60	1.1	2.3	1.8	1.8	1.7	1.5	1.2	3 2	2.3	1.8	1.8
45 or 55	1.1	2.4	1.8	1.8	1.8	1.5	1.2	3.2	2.4	1.8	1.9
50	1.1	2.4	1.8	1 8	1.8	1.5	1.2	3 2	2.4	1.9	1.9

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AIDS Knowledge and Attitudes for September 1988

Provisional Data From the National Health Interview Survey

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Introduction

The National Center for Health Statistics has included a special set of supplemental questions on the adult population's knowledge and attitudes about acquired immunodeficiency syndrome (AIDS) in the National Health Interview Survey (NHIS). The first AIDS Knowledge and Attitudes Survey was in the field from August through December 1987. Provisional results of that survey were published on a monthly basis in *Advance Data for Vital and Health Statistics* (Nos. 146, 148, 150, 151, and 153). During the first four months of 1988, the NHIS AIDS questionnaire was revised to meet current program needs for information about AIDS awareness. The revised AIDS Knowledge and Awareness Survey entered the field in May 1988. Provisional findings for May and June, the first two months of data collection with the new questionnaire, for July, and for August were published in *Advance Data for Vital and Health Statistics*, Nos. 160, 161, and 163, respectively. This report presents provisional results for September 1988.

The *Advance Data* reports describing the NHIS AIDS data have been restricted to simple descriptive statistics to facilitate their timely release. Thus, these reports do not attempt to explain or interpret differences among population subgroups in AIDS knowledge or to examine relationships among various measures of knowledge, attitudes, and perceived risk. The 1987 and 1988 NHIS AIDS data bases will permit more complex analyses than those presented in this series of *Advance Data* reports, and such analyses are being undertaken by various groups in the Public Health Service.

The AIDS questionnaires were designed to provide estimates of public knowledge and attitudes about AIDS transmission and prevention of AIDS virus infection. The data were needed as input for the planning and development of AIDS educational campaigns and for monitoring major educational efforts, e.g., the series of radio and television public service announcements entitled "America Responds to AIDS" and the brochure "Understanding AIDS," both developed by the Centers for Disease Control.

The 1987 and 1988 AIDS questionnaires were developed by the National Center for Health Statistics and interagency working groups established by the Information, Education and Risk Factor Reduction Subcommittee of the Public Health Service Executive Task Force on AIDS. The working groups included representatives from the Centers for Disease Control; the National Institutes of Health; the Alcohol, Drug Abuse and Mental Health Administration; and the Health Resources and Services Administration.

The current AIDS questionnaire includes items on sources of AIDS information; self-assessed level of AIDS knowledge; basic facts about the AIDS virus and how it is transmitted; blood donation experience; awareness of and experience with the blood test for the AIDS virus; perceived effectiveness of selected preventive measures; self-assessed chances of getting the AIDS virus; personal acquaintance with persons with AIDS or the AIDS virus; and willingness to take part in a proposed national seroprevalence survey. A general risk behavior question, similar to that asked by the Red Cross of potential blood donors, is included in the 1988 AIDS questionnaire.

This report presents provisional data for September 1988 for most items included in the AIDS questionnaire. Table 1 displays percent distributions of persons 18 years of age and over by response categories according to age, sex, race, and education. In most cases, the actual questions asked of the respondents are reproduced verbatim in table 1, along with the coded response categories. In a few cases, questions or response categories have been rephrased or

combined for clearer or more concise presentation of results. Refusals and other nonresponse categories are excluded from the denominator in the calculation of estimates, but responses of "don't know" are included.

This report contains few comparisons with data from the 1987 NHIS AIDS survey, and those comparisons that are included must be interpreted with caution. The wording of some questions was changed slightly, and the context in which the questions are asked was modified by the addition of a number of new questions. Differences observed between 1987 and 1988 results may reflect these questionnaire changes as well as actual changes in AIDS knowledge and attitudes.

Selected findings

The following highlights describe various aspects of AIDS knowledge and attitudes as observed in the September 1988 data fron the NHIS AIDS survey. Based on the measures included in this survey, AIDS knowledge was maintained in September at about the same level as in August 1988. Those differences cited in the text are statistically significant unless otherwise noted (see table II for approximate standard errors of estimates).

Sources of AIDS information—In September 1988, 83 percent of all adults in the United States reported having seen public service announcements about AIDS on television; 43 percent stated that they had heard AIDS public service announcements on the radio. The proportion of persons who reported having seen or heard such announcements was higher for persons 18–49 years of age than for those 50 years and over and was higher for persons with 12 or more years of school than for those with less than 12 years of school. Twenty percent of all adults stated that the announcements they heard on television and the radio were part of the "America Responds to AIDS" series.

Thirty-four percent of U.S. adults reportedly read brochures or pamphlets about AIDS in the month preceeding the September NHIS interview, compared to 42 percent in August. However, 66 percent (67 percent in August) of all adults reported that they had ever read any brochures or pamphlets about AIDS. Of those who reported in September that they had ever read brochures or pamphlets about AIDS, 41 percent said they had received the pamphlets or brochures in the mail without asking, which may reflect some carry-over of awareness of mailed brochures from the Centers' for Disease Control June 1988 mailing of the brochure "Understanding AIDS" to all household in the United States.

Self-assessed knowledge—As of September 1988, 22 percent of adults stated that they knew a lot about AIDS, 43 percent said they knew some, 26 percent felt they knew a little, and 8 percent claimed they knew nothing about AIDS.

General knowledge—General knowledge about AIDS and the AIDS virus showed little change betwen August and September 1988. The great majority of adults thought it was definitely true that AIDS leads to death (86 percent), and that there is no cure for AIDS at present (86 percent), and that the AIDS virus can be transmitted by means of sexual intercourse (83 percent) and from mother to infant (80 percent). Three-fourths of the adults thought it was definitely false that an AIDS vaccine is available to the public.

As shown in table 1, there were large differences by education in the proportions of adults responding correctly to these general knowledge questions, with the more highly educated individuals the more likely to provide correct answers. Adults 30–49 years of age responded more accurately, on the average, than individuals who were either younger or older, and white adults more often answered correctly than did black adults. There was no consistent difference by gender in general AIDS information level.

Transmission of the AIDS virus—Although the 1987 AIDS survey revealed widespread misinformation about the risk of AIDS virus transmission through casual contact, accurate knowledge in this area increased continuously between August and December 1987. This aspect of AIDS knowledge also improved between May and August 1988, but did not show any change between August and September 1988.

Blood donation and testing—Based on September 1988 data, 42 percent of all adults in the United States have donated blood at some time in their lives, and 14 percent have donated blood since 1985 when automatic testing of blood donations for the AIDS virus began. Seven percent of adults reported having donated blood in the 12 months before the interview. Younger adults were most likely to have donated blood recently. The proportion of adults who had donated blood since 1985 increased with education, from 5 percent of persons with less than 12 years of school to 20 percent of those with more than 12 years.

Seventy-seven percent of adults have heard of the blood test for the AIDS virus infection. Eighty-three percent of individuals 18–49 years of age had heard of the test, compared to 64 percent of those 50 years and over. Awareness of the AIDS blood test was greater among white than black adults (79 compared to 69 percent) and increased with education, from 57 percent of those with less than 12 years of school to 78 and 88 percent, respectively, of those with 12 years and more than 12 years of school. Two-thirds (68 percent) of adults correctly believe that blood donations are now routinely tested for the AIDS virus.

Only 4 percent of all U.S. adults reported having received counseling about the AIDS virus test. Altogether, 17 percent of adults have had their blood tested for the AIDS virus infection. This figure includes 8 percent who reported having had the test, about the same as August 1988, and 9 percent who denied or were unaware of having had the test but reported having donated blood since 1985, which had been subjected to routine testing for the AIDS virus. Persons age 18–29 years and 30–49 years were more than twice as likely as those age 50 years and over to have had the AIDS blood test (26 and 21 percent, respectively, compared to 7 percent), and men were more likely than women to have done so (21 percent versus 14 percent). The proportion of adults whose blood had been tested increased with education, from 8 percent of those with less than 12

years of school to 24 percent of those with more than 12 years.

Seventy-four percent of all persons who reported having had their blood tested for the AIDS virus infection one or more times stated that at least one of the tests was done as routine part of blood donation, 14 percent (3 percent of the total adult population) reported having taken a test voluntarily, and 13 percent took a test as part of some other activity that included routine blood testing (e.g., military induction, immigration).

Just over half (55 percent) of the individuals who reported having had their blood tested for the AIDS virus infection reported having received the results of the test. This proportion was greater for persons with less than 12 years of school than for those with 12 or more years (75 compared to 52 percent).

Seven percent of all adults reported plans to have their blood tested for the AIDS virus infection in the next 12 months. This proportion decreased with age, from 11 percent of persons 18–29 years to 3 percent of those age 50 years and over.

Six percent of all adults in the United States received blood transfusions between 1977 when the AIDS virus is believed to have entered the United States and 1985 when routine testing of blood donations for the AIDS virus infection was initiated. As of September 1988, 43 percent of adults stated that the blood supply is now safe for transfusions; 30 percent did not believe the blood supply is safe; and 27 percent were uncertain. The proportion of adults trusting the safety of the blood supply increased with education, was higher for men than women, was higher for white than black individuals, and was higher for persons 18–49 years of age than for those 50 years and over.

Preventive measures—Thirty percent of adults thought that condoms were very effective in preventing transmission of the AIDS virus, and 53 percent thought that this method is somewhat effective. Eighty-three percent realized that having a monogamous relationship with a person who does not have AIDS is a very effective way to prevent getting the virus. Over half of all adults (56 percent) realized that the diaphram, spermicidal jellies and creams, and vasectomy are not effective in preventing AIDS virus transmission, with most of the remainder uncertain about the effectiveness of these methods.

Risk of getting the AIDS virus—Two percent of all adults stated that they belonged to one or more of the behavior groups associated with increased risk of AIDS virus transmission, i.e., hemopheliacs, intravenous drug users, homosexuals, etc. This proportion decreased with age, from 4 percent of adults 18–29 to 1 percent of adults age 50 years or over.

As of September 1988, 82 percent of U.S. adults believed there is no chance that they have the AIDS virus. Thirteen percent reported a low chance, 2 percent a medium chance, and less than 1 percent a high chance. Americans assess their chances of getting the AIDS virus as minimal also. Seventy-five percent reported no chance of getting the virus; 18 percent preceived themselves at low risk, 2 percent at medium risk, and less than 1 percent at high risk. Adults age 50 years and over were least likely to perceive some risk of getting the AIDS virus, and women were slightly less likely than men to feel at risk.

About two-thirds (63 percent) of adults have talked to friends or relatives about AIDS, a proportion that varied with eductation, from 43 percent of those persons with less than 12 years of school to 76 percent of those with more than 12 years.

One-tenth (11 percent) of the adults in the United States reported knowing or having known someone with AIDS or the AIDS virus. This proportion was higher for adults 18–49 years than for those age 50 years and over and more than twice as high for persons with more than 12 years of school as for those with less education. Most of the individuals who had known someone with AIDS or the AIDS virus stated that more than 6 months had passed since they had seen that person.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, September 1988

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
Total	100	100	100	100	100	100	100	100	100	100	100
1. In the past month, have you—											
1a. Seen any public service announcements about AIDS on television?											
Yes	83	84	85	80	81	84	83	84	74	87	84
No	16	15	14	17	17	14	15	14	23	12	15
Don't know	2	1	1	3	2	2	2	2	3	1	2
1b. Heard any public service announcements about AIDS on the radio?											
Yes	43	51	48	33	48	39	43	50	36	44	47
No	52	46	47	63	48	56	53	46	59	52	48
Don't know	4	3	5	5	4	5	5	4	5	4	5
2. Were any of those public service announcements called "America Responds to AIDS"?											
Yes	20	27	22	13	19	21	19	28	19	22	19
No	11	14	10	10	11	11	11	14	11	10	12
Don't know	54	48	55	59	54	55	56	45	47	57	56
Neither heard nor saw any public service announcements	14	12	13	18	16	13	14	13	23	11	13
3. In the past month, have you read any brochures or pamphlets about AIDS?											
Yes	34	36	38	30	32	36	34	37	23	34	41
No	65	64	62	69	67	63	65	62	77	65	58
Don't know	1	0	1	1	1	1	1	1	0	1	1
4. Have you ever read any brochures or pamphlets about AIDS?											
Yes	66	69	73	57	62	70	67	62	46	66	78
No	33	31	27	43	37	30	33	36	53	34	22
Don't know	1	1	0	1	0	1	0	1	1	1	0
5. Where did you get the pamphlets or brochures?[1,2]											
Clinic, other than work clinic	2	4	2	1	2	3	2	6	4	2	2
Doctor's office (HMO)	11	16	10	10	10	13	11	13	14	13	10
Drug store	1	1	1	0	1	1	1	3	1	1	1
Public health department	2	2	2	1	1	2	1	6	3	1	2
Received in mail without asking	41	33	41	47	38	43	42	32	44	42	39
Red Cross/Red Cross blood donation	2	2	1	1	2	2	2	1	1	2	2
Other blood donation	1	0	1	0	1	0	1	–	1	1	1
School	8	15	7	2	7	8	8	7	4	7	10
Sent/phoned for/requested it	1	1	1	1	0	1	1	2	0	1	1
Federal/State/local government	28	21	29	33	30	27	29	20	24	26	31
Work, other than clinic or nurse	11	10	15	8	14	9	11	16	4	11	14
Work, nurse or clinic	4	5	4	3	2	5	4	5	3	4	4
Other	12	14	12	9	14	10	11	17	10	11	13
Don't know	1	0	1	3	1	1	1	1	2	1	1
15. Have you ever discussed AIDS with any of your children aged 10-17?[3]											
Yes	61	33	64	55	51	70	63	53	45	61	70
No	39	67	36	44	49	30	37	47	55	39	30
Don't know	0	–	–	1	0	–	–	–	0	–	–
16. Have any or all of your children aged 10-17 had instruction at school about AIDS?[3]											
Yes	55	46	55	58	54	56	54	59	51	53	61
No	16	30	16	12	11	20	17	12	16	18	14
Don't know	29	24	29	30	35	24	29	28	32	29	26
21. How much would you say you know about AIDS?											
A lot	22	19	29	17	21	24	23	19	10	18	33
Some	43	51	46	34	42	44	45	37	28	48	47
A little	26	26	22	32	28	25	25	30	37	28	18
None	8	4	4	16	9	8	7	13	24	6	1
Don't know	0	–	–	0	0	0	0	1	0	0	–
22. To the best of your knowledge, is there a difference between having the AIDS virus and having the disease AIDS?											
Yes	65	65	72	57	65	66	67	57	40	65	80
No	15	20	15	11	16	15	14	19	17	17	12
Other	0	0	0	0	0	0	0	0	0	0	0
Don't know	19	14	12	32	19	20	18	24	43	18	8
23a. AIDS can reduce the body's natural protection against disease.											
Definitely true	75	77	83	64	76	74	77	63	51	76	87
Probably true	11	12	8	14	11	11	11	13	15	13	7
Probably false	2	2	2	2	2	2	1	3	3	2	1
Definitely false	3	4	2	4	3	3	3	5	5	3	2
Don't know	9	5	6	17	9	10	8	16	26	6	3

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, September 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
23b. AIDS is especially common in older people.											
Definitely true	1	1	1	1	1	1	0	2	1	1	0
Probably true	1	2	1	1	2	1	1	4	2	1	1
Probably false	19	21	16	20	20	18	19	14	19	19	18
Definitely false	72	71	77	66	70	73	73	67	60	74	77
Don't know	8	6	5	12	8	8	7	13	18	6	4
23c. AIDS can damage the brain.											
Definitely true	27	22	29	29	27	27	26	33	26	27	27
Probably true	29	30	28	31	29	30	30	30	28	28	31
Probably false	9	11	10	6	10	8	9	7	5	8	12
Definitely false	8	10	10	3	7	8	8	5	5	9	8
Don't know	27	27	23	31	26	28	27	25	36	28	21
23d. AIDS usually leads to heart disease.											
Definitely true	8	5	8	9	8	8	7	12	10	8	7
Probably true	21	21	20	22	20	22	21	24	21	21	21
Probably false	18	20	21	14	20	17	19	13	10	16	26
Definitely false	16	20	19	10	17	15	17	10	10	17	20
Don't know	36	32	32	45	34	38	36	41	49	38	27
23e. AIDS is an infectious disease caused by a virus.											
Definitely true	62	66	71	49	63	61	62	61	46	62	71
Probably true	19	20	16	22	19	20	19	19	20	20	18
Probably false	2	3	1	3	2	3	2	2	2	3	2
Definitely false	4	3	4	5	4	4	4	5	5	4	3
Don't know	12	8	7	22	12	13	12	14	27	10	7
23f. Teenagers cannot get AIDS.											
Definitely true	1	1	1	1	1	1	1	1	2	0	1
Probably true	0	0	0	0	0	0	0	1	1	0	0
Probably false	3	2	2	6	4	3	3	5	6	3	2
Definitely false	93	96	96	87	92	93	94	89	83	94	97
Don't know	3	1	1	6	3	3	2	4	8	2	1
23g. AIDS leads to death.											
Definitely true	86	87	88	83	86	87	86	89	84	89	85
Probably true	10	10	8	11	10	9	10	7	9	8	12
Probably false	1	1	1	0	1	1	1	1	0	0	1
Definitely false	1	1	1	0	0	1	1	0	0	1	1
Don't know	2	1	1	5	3	2	2	3	6	2	1
23h. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true	58	59	68	47	57	59	59	52	40	59	68
Probably true	20	21	16	22	20	19	20	18	21	20	19
Probably false	4	5	3	4	4	3	4	4	4	4	3
Definitely false	4	6	4	3	4	4	4	8	5	5	4
Don't know	14	10	9	24	15	14	14	18	31	13	7
23i. Looking at a person is enough to tell if he or she has the AIDS virus.											
Definitely true	2	1	2	2	1	2	1	3	3	2	1
Probably true	4	3	3	4	3	4	4	2	6	4	2
Probably false	16	15	14	19	16	16	16	16	19	17	13
Definitely false	69	76	76	57	69	69	70	67	51	70	79
Don't know	10	5	5	18	10	9	8	13	22	8	5
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true	83	86	85	78	80	85	83	83	77	84	84
Probably true	12	10	11	14	14	10	12	10	13	11	11
Probably false	1	1	1	1	1	1	1	1	0	1	1
Definitely false	1	1	1	0	1	1	1	0	0	1	1
Don't know	4	2	3	7	5	4	4	5	9	3	2
23k. A person who has the AIDS virus can look and feel healthy and well.											
Definitely true	48	54	57	35	49	48	49	46	29	47	61
Probably true	29	29	26	32	29	28	29	25	30	30	27
Probably false	6	5	5	9	5	7	6	5	9	7	4
Definitely false	5	5	5	6	5	6	5	8	6	7	3
Don't know	12	8	8	19	12	12	10	16	26	10	6
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.											
Definitely true	80	84	83	73	77	83	80	81	73	81	82
Probably true	15	13	13	18	17	13	15	13	16	14	14
Probably false	0	0	0	0	0	0	0	0	0	0	0
Definitely false	0	1	–	0	0	0	0	–	0	0	0
Don't know	5	2	4	8	6	4	5	6	11	4	3

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, September 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
23m. There is a vaccine available to the public that protects a person from getting the AIDS virus.											
Definitely true	1	2	1	1	1	1	1	3	3	1	1
Probably true	2	3	1	2	2	2	2	4	4	2	1
Probably false	9	11	8	10	10	8	9	12	9	10	8
Definitely false	75	76	82	66	75	75	78	61	57	77	84
Don't know	12	9	8	20	11	13	11	20	27	10	6
23n. There is no cure for AIDS at present.											
Definitely true	86	87	89	82	86	86	88	81	78	87	90
Probably true	7	6	6	8	7	7	7	5	9	6	5
Probably false	1	2	1	1	1	1	1	1	1	1	0
Definitely false	2	2	2	2	2	2	2	3	2	2	2
Don't know	4	3	3	7	4	4	3	9	10	3	2
24. How likely do you think it is that a person will get AIDS or the AIDS virus infection from—											
24a. Living near a hospital or home for AIDS patients?											
Very likely	2	2	1	1	2	1	1	4	3	2	1
Somewhat likely	4	5	3	3	5	3	4	5	4	5	3
Somewhat unlikely	7	7	5	7	7	6	6	9	7	7	6
Very unlikely	40	42	40	39	43	37	41	38	35	41	42
Definitely not possible	40	39	44	36	36	44	42	32	30	39	46
Don't know	8	4	6	13	8	8	7	12	20	6	3
24b. Working near someone with the AIDS virus?											
Very likely	3	2	3	3	3	3	2	4	6	2	1
Somewhat likely	11	12	11	10	11	11	10	14	12	12	10
Somewhat unlikely	12	14	11	13	12	12	12	13	11	13	12
Very unlikely	39	42	41	36	41	38	40	36	33	38	44
Definitely not possible	27	28	29	25	26	29	28	22	20	28	31
Don't know	7	3	5	13	7	8	7	10	18	6	2
24c. Eating in a restaurant where the cook has the AIDS virus?											
Very likely	7	6	7	9	8	7	7	9	10	8	5
Somewhat likely	20	22	19	18	21	18	19	24	19	20	19
Somewhat unlikely	15	15	15	14	14	15	15	11	12	15	15
Very unlikely	29	31	30	27	30	28	30	23	23	28	33
Definitely not possible	17	19	19	12	14	19	17	16	12	16	20
Don't know	13	8	9	21	12	13	12	16	23	13	7
24d. Kissing—with exchange of saliva—a person who has the AIDS virus?											
Very likely	25	19	25	29	25	26	24	28	30	26	22
Somewhat likely	29	33	26	29	30	28	29	28	26	29	30
Somewhat unlikely	13	15	15	10	13	13	14	11	8	12	17
Very unlikely	15	17	17	11	16	14	16	11	10	14	19
Definitely not possible	7	9	8	5	6	8	7	8	5	9	7
Don't know	11	7	9	16	10	12	10	13	21	10	6
24e. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?											
Very likely	2	2	2	2	2	2	2	4	4	3	1
Somewhat likely	7	7	6	7	8	5	6	11	8	7	5
Somewhat unlikely	13	13	13	13	14	12	13	13	11	15	12
Very unlikely	39	40	38	39	41	37	39	36	36	37	43
Definitely not possible	32	34	37	26	28	36	34	26	24	32	38
Don't know	7	3	5	12	7	7	6	10	18	6	2
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?											
Very likely	10	8	10	11	8	12	9	13	12	12	6
Somewhat likely	20	19	21	21	21	20	20	21	21	22	18
Somewhat unlikely	13	13	13	12	14	12	14	11	9	13	15
Very unlikely	28	31	29	25	30	26	29	26	24	26	34
Definitely not possible	17	21	19	12	15	19	17	17	12	17	20
Don't know	11	8	8	18	11	11	11	12	22	10	7
24g. Using public toilets?											
Very likely	6	5	6	7	5	6	5	8	11	6	2
Somewhat likely	12	12	11	12	11	12	11	15	16	12	9
Somewhat unlikely	12	13	12	11	13	11	12	11	9	13	12
Very unlikely	35	34	37	33	37	33	36	30	25	35	41
Definitely not possible	24	27	26	19	22	25	25	20	15	22	29
Don't know	12	10	8	18	11	13	11	16	24	11	6

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, September 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
24h. Sharing needles for drug use with someone who has the AIDS virus?											
Very likely	94	98	96	90	94	94	95	92	86	96	97
Somewhat likely	2	1	2	3	3	2	2	3	5	2	1
Somewhat unlikely	0	0	0	–	0	0	0	0	0	0	0
Very unlikely	1	1	1	0	0	1	0	0	0	1	0
Definitely not possible	0	–	0	0	0	0	0	–	0	0	0
Don't know	2	1	1	5	2	3	2	4	8	1	0
24i. Being coughed or sneezed on by someone who has the AIDS virus?											
Very likely	8	5	7	11	7	9	8	11	14	9	5
Somewhat likely	21	21	19	22	21	20	20	24	20	23	18
Somewhat unlikely	17	20	16	17	17	17	18	14	14	17	19
Very unlikely	28	30	32	22	30	27	29	24	20	26	35
Definitely not possible	14	16	16	10	12	15	14	12	9	14	16
Don't know	12	8	10	19	12	13	12	14	24	11	7
24j. Attending school with a child who has the AIDS virus?											
Very likely	2	1	2	3	2	2	2	4	4	2	1
Somewhat likely	6	6	6	7	6	6	6	9	7	7	5
Somewhat unlikely	11	12	11	12	12	11	11	12	9	13	11
Very unlikely	41	42	41	40	43	39	41	39	36	40	44
Definitely not possible	31	35	34	25	28	34	32	25	22	31	37
Don't know	9	4	6	15	9	9	8	10	21	7	4
24k. Mosquitoes or other insects?											
Very likely	8	10	8	8	10	7	7	13	14	8	5
Somewhat likely	16	20	15	15	17	16	16	18	18	18	13
Somewhat unlikely	9	10	8	8	8	9	9	9	6	9	9
Very unlikely	24	23	28	22	25	24	26	19	19	24	29
Definitely not possible	19	18	22	18	18	21	20	15	12	19	24
Don't know	23	19	19	30	22	24	22	26	32	21	19
25. Have you ever donated blood?											
Yes	42	34	43	45	53	31	43	34	33	38	50
No	58	65	57	55	47	68	57	66	67	61	50
Don't know	0	1	0	0	0	0	0	0	0	1	0
26a. Have you donated blood since March 1985?											
Yes	14	21	17	6	18	11	15	9	5	13	20
No	85	78	83	94	82	89	85	90	95	86	79
Don't know	1	1	1	0	1	0	1	0	0	1	0
26b. Have you donated blood in the past 12 months?											
Yes	7	9	8	3	8	5	7	2	2	6	10
No	93	90	91	97	91	94	92	98	98	93	90
Don't know	1	1	1	0	1	0	1	0	0	1	0
27. Have you ever heard of a blood test that can detect the AIDS virus infection?											
Yes	77	83	85	64	77	77	79	69	57	78	88
No	19	15	13	29	18	19	17	28	36	18	9
Don't know	4	2	3	8	4	4	4	4	7	4	3
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?											
Yes	68	73	76	53	68	67	70	56	47	68	79
No	3	4	3	3	3	4	3	3	2	3	4
Don't know	6	6	5	8	6	6	6	9	8	6	5
Never heard of test[4]	23	17	15	36	23	23	21	31	43	22	12
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?											
Yes	4	5	5	1	4	4	4	4	2	3	5
No	73	78	80	63	74	73	75	64	55	74	83
Don't know	0	0	0	0	0	0	0	–	0	0	0
Never heard of test[4]	23	17	15	36	23	23	21	31	43	22	12
29b. Was the discussion—[1,5]											
With a private doctor?	49	46	52	43	39	58	51	38	53	38	55
At a family-planning clinic?	8	13	5	9	8	8	7	20	11	10	6
On an AIDS hotline?	4	3	3	9	6	2	3	5	–	1	6
At a prenatal clinic?	4	7	1	9	2	6	2	17	7	2	5
At an STD or sexually transmitted disease clinic?	4	3	3	9	5	2	1	15	1	5	3
At an AIDS/HIV counseling and testing site?	7	1	10	14	9	5	6	17	15	–	10
With some other health professional?	39	40	35	62	46	33	37	50	35	44	37
With some other counselor?	11	11	12	4	12	10	11	11	11	14	8
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus?[5]											
Yes	63	74	55	57	66	59	57	99	66	66	59
No	37	26	45	43	34	41	43	1	34	34	41
Don't know	–	–	–	–	–	–	–	–	–	–	–

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, September 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
31. Have you ever been advised by a health professional not to have the blood test for the AIDS virus infection?											
Yes	1	0	1	0	0	1	1	0	0	0	1
No	76	82	84	64	77	76	78	68	57	77	87
Don't know	0	0	0	0	0	0	0	0	0	0	0
Never heard of test[4]	23	17	15	36	23	23	21	31	43	22	12
32. Have you ever been advised by friends or relatives not to have the blood test for the AIDS virus infection?											
Yes	1	1	1	0	1	0	0	1	0	1	1
No	76	82	84	64	76	76	78	68	57	77	87
Don't know	0	–	0	0	0	0	0	0	–	0	0
Never heard of test[4]	23	17	15	36	23	23	21	31	43	22	12
33. Have you had your blood tested for the AIDS virus infection?											
Yes[6]	17	26	21	7	21	14	18	14	8	16	24
No	59	58	64	56	56	62	60	55	48	62	63
Don't know	1	1	2	2	1	2	1	2	2	1	2
Never heard of test[4]	22	15	14	35	21	22	20	29	42	21	11
35a. How many times have you had your blood tested for the AIDS virus infection?[7]											
Once	5	7	5	2	5	4	5	5	4	5	5
Twice	1	2	2	0	2	1	2	0	1	1	2
3–5 times	1	1	1	1	1	0	1	0	0	1	2
6–12 times	0	0	0	0	0	0	0	0	0	0	0
More than 12 times	0	0	0	–	0	0	0	–	0	0	0
Don't know[8]	10	14	12	4	12	8	10	8	3	9	14
Never heard of or never took test[5]	83	74	80	93	79	86	82	86	92	84	76
35b. How many times in the past 12 months have you had your blood tested for the AIDS virus infection?[7]											
None in the past 12 months	2	3	2	1	3	1	2	1	2	1	3
Once	4	7	5	2	5	4	5	4	3	4	6
More than once	1	2	1	1	1	1	1	0	0	1	2
Don't know[8]	10	14	12	4	12	8	10	8	3	9	14
Never heard of or never took test[5]	83	74	80	93	79	86	82	86	92	84	76
36. Was the test/were any of the tests, including those you had before the past 12 months—[1]											
Part of a blood donation?[6,7]	74	74	76	72	75	73	76	59	52	74	79
Part of a blood transfusion?[9]	1	1	1	4	1	1	2	0	2	2	1
Voluntarily sought?[9]	14	15	15	10	12	17	13	24	23	11	14
Part of some other activity that requires a blood sample?[9]	13	16	11	13	15	11	13	20	22	15	11
38. Did you get the results of your test/any of your tests?[9]											
Yes	55	58	55	47	54	56	54	56	75	51	52
No	44	40	45	51	46	42	44	44	25	47	47
Don't know	1	2	0	2	0	2	1	–	–	2	1
41. Do you expect to have a blood test for the AIDS virus infection in the next 12 months?											
Yes	7	11	8	3	8	6	7	8	5	7	8
No	66	67	73	58	65	67	68	54	48	67	76
Don't know	4	5	4	3	5	4	4	6	4	3	5
Never heard of test[4]	23	17	15	36	23	23	21	31	43	22	12
42. Will the test be—[1,10]											
Part of a blood donation?	43	41	45	44	45	41	48	18	29	38	53
Voluntarily sought?	51	58	48	39	44	58	46	73	60	56	41
Part of some other activity that requires a blood sample?	16	19	11	25	20	12	16	19	16	19	14
44a. Did you have a blood tranfusion at any time between 1977 and 1985?											
Yes	6	4	5	8	5	7	6	7	8	5	6
No	93	95	94	90	93	92	93	92	91	93	93
Don't know	1	1	1	2	1	1	1	2	1	2	1
44b. Do you think the present supply of blood is safe for tranfusions?											
Yes	43	49	45	37	46	41	45	34	30	44	50
No	30	31	30	29	28	32	29	36	35	31	26
Other	0	–	0	–	0	–	0	–	–	–	0
Don't know	27	20	25	34	26	27	26	31	35	25	24
45. Here are some methods people use to prevent getting the AIDS virus through sexual activity. How effective is—											
45a. Using a diaphragm?											
Very effective	3	3	2	3	3	2	2	5	3	3	2
Somewhat effective	11	13	9	11	12	10	11	11	9	12	11
Not at all effective	58	61	67	46	56	60	60	49	40	57	69
Don't know how effective	21	17	16	29	20	21	20	25	32	21	15
Don't know method	8	6	6	11	9	6	6	11	16	7	4

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, September 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
45b. Using a condom?											
Very effective	30	35	33	22	31	29	30	29	25	28	35
Somewhat effective	53	53	55	52	53	53	55	46	41	57	56
Not at all effective	5	5	5	5	4	6	4	9	8	5	4
Don't know how effective	9	5	5	16	9	9	8	13	19	8	4
Don't know method	3	1	2	5	3	2	2	3	6	2	1
45c. Using a spermicidal jelly, foam, or cream?											
Very effective	1	2	2	1	1	1	1	2	1	2	1
Somewhat effective	14	15	15	11	15	12	14	13	8	13	17
Not at all effective	56	60	63	44	52	59	57	51	43	55	64
Don't know how effective	22	18	17	32	23	22	22	24	31	24	15
Don't know method	7	5	4	12	8	6	6	10	16	5	3
45d. Having a vasectomy?											
Very effective	1	2	2	1	2	1	1	2	1	2	1
Somewhat effective	2	4	2	2	3	2	2	4	2	3	2
Not at all effective	71	71	80	61	70	72	74	59	50	71	83
Don't know how effective	17	17	11	24	17	17	17	22	27	18	10
Don't know method	8	7	5	12	9	7	7	14	19	6	4
45e. Two people who do not have the AIDS virus having sex only with each other?											
Very effective	83	83	87	79	83	83	85	72	70	84	91
Somewhat effective	8	9	7	8	7	8	7	11	11	8	6
Not at all effective	2	4	2	1	2	2	2	4	4	3	1
Don't know how effective	5	3	3	8	5	4	4	8	11	4	2
Don't know method	2	1	1	3	2	2	1	4	5	1	1
46. What are your chances of having the AIDS virus?											
High	1	1	1	0	1	0	0	1	1	1	1
Medium	2	2	2	1	2	1	2	2	2	1	2
Low	13	17	15	8	15	11	13	14	7	13	17
None	82	78	80	87	79	84	83	76	85	83	79
Don't know	3	2	2	4	3	3	2	7	7	3	1
47. What are your chances of getting the AIDS virus?											
High	0	1	0	0	1	0	0	2	0	1	0
Medium	2	3	2	2	3	2	2	2	3	2	2
Low	18	24	22	10	20	16	18	17	10	17	24
None	75	69	72	83	72	77	76	70	79	76	71
Don't know	4	3	3	5	4	4	3	7	8	3	2
High chance of already having AIDS virus	1	1	1	0	1	0	0	1	1	1	1
49. Do you say your chance of getting AIDS is high or medium because you—[11]											
Have had a blood transfusion?	8	7	4	15	10	5	9	6	8	9	6
Have had sexual contact with someone who might have the virus?	18	29	19	2	22	13	21	8	23	19	14
Some other reason?	70	69	67	78	68	73	69	66	76	66	72
52. Have you ever discussed AIDS with a friend or relative?											
Yes	63	68	72	49	58	67	64	60	43	61	76
No	37	32	28	51	41	33	36	40	56	39	24
Don't know	0	0	0	1	0	0	0	0	1	0	0
53. When was the last time you discussed AIDS with a friend or relative?											
0–3 days ago	7	7	9	5	7	8	7	10	5	8	9
4–7 days ago	8	9	9	6	7	9	8	8	6	7	10
8–14 days ago	6	7	7	5	6	6	6	7	5	6	7
15–31 days ago	14	16	17	10	13	16	15	14	10	15	16
More than 31 days ago	22	25	25	15	20	24	22	16	13	20	28
Don't know	5	4	5	6	5	5	6	4	4	5	6
Never discussed[12]	37	32	28	51	42	33	37	40	57	39	24
54. Have you ever personally known anyone with AIDS or the AIDS virus?											
Yes	11	12	14	8	11	12	11	16	6	10	16
No	87	87	84	91	88	87	88	81	92	89	82
Don't know	1	1	2	1	1	2	1	3	2	1	1
55. How long has it been since you saw this person?											
Within past 2 weeks	1	1	2	0	1	1	1	2	0	1	2
2 weeks–less than 1 month	1	1	1	0	0	1	1	1	0	1	1
1 month–less than 3 months	1	1	1	1	1	1	1	2	1	1	1
3 months–less than 6 months	1	2	1	1	1	1	1	2	1	1	1
6 months or more	8	8	9	6	7	8	7	9	4	6	11
Don't know	0	0	0	0	0	0	0	0	–	0	0
Never knew anyone with AIDS[13]	89	88	86	92	89	88	89	84	94	90	84

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, September 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
56. How well do you know this person?											
Very well	2	2	2	1	2	2	1	3	1	1	2
Fairly well	3	2	4	2	3	3	3	4	2	3	4
Not very well	4	5	5	3	4	5	4	5	1	4	6
Don't really know personally	2	2	2	2	2	2	2	3	1	1	3
Other	1	1	1	1	1	1	1	1	0	0	2
Don't know how well	–	–	–	–	–	–	–	–	–	–	–
Never knew anyone with AIDS[13]	89	88	86	92	89	88	89	84	94	90	84
57. Is any of these statements true for you?											
a. You have hemophilia and have received clotting factor concentrates since 1977.											
b. You are a native of Haiti or Central or East Africa who has entered the United States since 1977.											
c. You are a man who has had sex with another man at some time since 1977, even 1 time.											
d. You have taken illegal drugs by needle at any time since 1977.											
e. Since 1977, you are or have been the sex partner of any person who would answer yes to any of the items above (57 a-d).											
f. You have had sex for money or drugs at any time since 1977.											
Yes to at least 1 statement	2	4	3	1	3	2	2	4	2	2	3
No to all statements	97	96	97	99	96	98	98	96	98	98	97
Refused	0	–	–	0	–	0	–	0	0	–	–
Don't know	0	0	0	0	0	0	0	–	1	0	0
58. The U.S. Public Health Service has said that AIDS is one of the major health problems in the country but exactly how many people it affects is not known. The Surgeon General has proposed that a study be conducted and blood samples be taken to help find out how widespread the problem is. If you were selected in this national sample of people to have their blood tested with assurances of privacy of test results, would you have the test?											
Yes	71	76	73	66	74	69	72	68	64	72	75
No	21	19	20	25	21	22	21	24	27	21	19
Other	2	1	1	2	1	2	2	2	2	2	1
Don't know	6	4	6	6	5	6	5	7	7	6	5
59. Why wouldn't you take part in the test?[14]											
Don't want to know if I have AIDS	6	8	8	4	6	6	5	12	6	7	6
Don't want any counseling about AIDS	1	1	3	0	1	1	1	0	2	1	2
Fear I'll get AIDS	7	7	8	6	9	6	6	11	9	7	6
Don't like to give blood	16	20	19	11	15	16	15	24	12	18	15
Don't trust Government programs	6	5	8	5	9	5	6	7	4	6	9
It is a waste of money	3	3	3	3	3	3	4	1	5	3	2
Don't believe AIDS can really be cured anyway	1	1	2	1	1	2	1	3	2	2	1
Other	52	49	44	60	51	52	54	41	49	48	58
Don't know	9	9	9	9	8	10	8	10	14	8	5
61. When Federal public health officials give information about AIDS, do you believe what they say or are you doubtful about the information they give?											
Believe	63	69	66	56	62	64	64	60	53	62	70
Doubtful	30	27	30	34	32	29	30	30	33	33	26
Don't know	6	4	5	10	6	7	6	10	14	5	4
62. When they [public health officials] give advice about how to help keep from getting AIDS, do you believe their advice or are you doubtful about what they say?											
Believe	77	80	80	72	78	77	78	76	66	77	84
Doubtful	18	17	16	19	17	18	18	17	22	19	13
Don't know	5	3	3	9	5	5	5	7	12	4	3

[1] Multiple responses may sum to more than 100.
[2] Based on persons answering yes to question 4 (includes yes to question 3).
[3] Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
[4] Persons answering no or don't know to question 27.
[5] Based on persons answering yes to question 29a.
[6] Includes persons answering yes to question 26a and no or don't know to questions 27 and 33.
[7] Based on yes answers to question 33. See footnote 8.
[8] Persons answering no or don't know to questions 26a, 27, and 33.
[9] Based on persons answering yes to question 33; excludes persons answering yes to question 26a.
[10] Based on persons answering yes to question 41.
[11] Based on persons answering high or medium to question 46.
[12] Based on persons answering no or don't know to question 52.
[13] Based on persons answering no or don't know to question 54.
[14] Based on persons not answering yes to question 58.

Technical notes

The National Health Interview Survey (NHIS) is a continuous, cross-sectional household interview survey. Each week, a probability sample of the civilian noninstitutionalized population is interviewed by personnel of the U.S. Bureau of the Census to obtain information on the health and other characteristics of each member of the household. Supplemental information is collected for all or a sample of household members. The 1988 National Health Interview Survey of AIDS Knowledge and Attitudes was asked of a single randomly chosen adult 18 years of age or over in each family. The estimates in this report are based on completed interviews with 4,121 persons, or about 89 percent of eligible respondents.

Table I contains the estimated population size of each of the demographic subgroups included in table 1 to allow readers to derive provisional estimates of the number of people in the United States with a given characteristic, for example, the number of men who have had their blood tested for the AIDS virus. The population figures in table I are based on first-quarter 1987 data from the NHIS; they are not official population estimates. Table II shows approximate standard errors of estimates presented in table 1. Both the estimates in table 1 and the standard errors in table II are provisional. They may differ slightly from estimates made using the final data file because they were calculated using a simplified weighting procedure that does not adjust for all the factors used in weighting the final data file. A final data file covering the entire data collection period for 1988 will be available in 1989.

Table I. Sample sizes for the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes and estimated adult population 18 years of age and over, by selected characteristics: United States, September 1988

Characteristics	Sample size	Estimated population in thousands
All adults	4,121	174,528
Age		
18-29 years	974	47,725
30-49 years	1,626	66,109
50 years and over	1,521	60,695
Sex		
Male	1,726	82,703
Female	2,395	91,825
Race		
White	3,292	151,003
Black	666	19,107
Education		
Less than 12 years	930	41,503
12 years	1,559	66,475
More than 12 years	1,596	62,363

Table II. Standard errors, expressed in percentage points, of estimated percents from the National Health Interview Survey of AIDS Knowledge and Attitudes, by selected characteristics: United States, September 1988

		Age			Sex		Race		Education		
Estimated percent	Total	18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
5 or 95	0.4	0.9	0.7	0.7	0.7	0.6	0.5	1.1	0.9	0.7	0.7
10 or 90	0.6	1.2	1.0	1.0	0.9	0.8	0.7	1.5	1.3	1.0	1.0
15 or 85	0.7	1.5	1.1	1.2	1.1	0.9	0 8	1.8	1.5	1.2	1 2
20 or 80	0.8	1.6	1.3	1.3	1.2	1.1	0.9	2.0	1.7	1.3	1.3
25 or 75	0.9	1.8	1.4	1.4	1.3	1.1	1.0	2.2	1.8	1.4	1.4
30 or 70	0.9	1.9	1.5	1.5	1.4	1.2	1.0	2.3	1.9	1.5	1.5
35 or 65	1.0	2.0	1.5	1.6	1.5	1.3	1.1	2.4	2.0	1.6	1.5
40 or 60	1.0	2.0	1.6	1.6	1.5	1 3	1.1	2.4	2.1	1.6	1.6
45 or 55	1.0	2.1	1.6	1.6	1.5	1.3	1.1	2.5	2.1	1.6	1.6
50	1.0	2.1	1.6	1.6	1.5	1.3	1.1	2.5	2.1	1.6	1.6

Recent Issues of *Advance Data From Vital and Health Statistics*

No. 163. AIDS Knowledge and Attitudes for August 1988 (In preparation)

No. 162. Practice Patterns of the Office-Based Ophthalmologist: NAMCS, 1985 (In preparation)

No. 161. AIDS Knowlege and Attitudes for July 1988 (Issued October 11, 1988)

No. 160. AIDS Knowlege and Attitudes for May-June 1988 (Issued September 16, 1988)

No. 159. 1987 Summary: National Hospital Discharge Survey (Issued September 28, 1988)

No. 158. Office Visits to Neurologists: 1985 (Issued July 12, 1988)

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AIDS Knowledge and Attitudes of Black Americans

Provisional Data From the 1988 National Health Interview Survey

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Introduction

This report is one of two special reports examining knowledge and attitudes about acquired immunodeficiency syndrome (AIDS) and the human immunodeficiency virus (HIV) among minority subgroups of the U.S. population. Based on data collected in the National Health Interview Survey (NHIS), the report describes various aspects of AIDS-related knowledge, attitudes, and behavior for black adults 18 years of age and over. It presents differentials by age, sex, and education for the black population and compares selected measures for black and white individuals. The second of these special reports (*Advance Data From Vital and Health Statistics*, No. 166) presents data for Hispanic adults and compares them with data for their non-Hispanic counterparts.

Both reports are based on provisional data for the 6-month period May-October 1988. These 6 months of data have been combined to provide a sufficient number of respondents to examine differences in knowledge among various subgroups of the black and white populations. Although some increases in knowledge occurred over this period, the changes were of similar magnitude for black and white adults and should not affect any comparisons made in this report.

Since 1987, the National Center for Health Statistics has included a special set of supplemental questions on the adult population's knowledge and attitudes about AIDS and HIV in the NHIS. The first AIDS Knowledge and Attitudes Survey was in the field from August through December 1987. Provisional results of that survey were published on a monthly basis in *Advance Data From Vital and Health Statistics* (Nos. 146, 148, 150, 151, and 153). During the first 4 months of 1988, the NHIS AIDS questionnaire was revised to meet current program needs for information about AIDS awareness.

The revised AIDS Knowledge and Attitudes Survey entered the field in May 1988. Provisional findings for the total population for the period May-October 1988 have been published in *Advance Data From Vital and Health Statistics*, Nos. 160, 161, 163, and 164. All reports to date have included separate estimates for the total white population and total black population, but they have not examined differences by age, sex, and education within these populations.

The AIDS questionnaires were designed to estimate public knowledge and attitudes about AIDS transmission and prevention of AIDS virus infection. The data were needed as input for the planning and development of AIDS educational campaigns and for monitoring major educational efforts, such as the series of radio and television public service announcements entitled "America Responds to AIDS" and the brochure "Understanding AIDS," both developed by the Centers for Disease Control.

The 1987 and 1988 AIDS questionnaires were developed by the National Center for Health Statistics and interagency working groups established by the Information, Education and Risk Factor Reduction Subcommittee of the Public Health Service Executive Task Force on AIDS. The working groups included representatives from the Centers for Disease Control; the National Institutes of Health; the Alcohol, Drug Abuse and Mental Health Administration; and the Health Resources and Services Administration.

The current AIDS questionnaire includes items on sources of AIDS information; self-assessed level of AIDS knowledge; basic facts about the AIDS virus and how it is transmitted; blood donation experience; awareness of and experience with the blood test for the AIDS virus; perceived effectiveness of selected preventive measures; self-assessed chances of getting the AIDS virus; personal acquaintance with persons with AIDS or the AIDS virus; and willingness to take part in a proposed national seropre-

valence survey. A general risk behavior question, similar to that asked by the Red Cross of potential blood donors, is included in the 1988 AIDS questionnaire.

This report presents provisional data for May-October 1988 for most items included in the AIDS questionnaire. Tables 1 and 2, for black and white adults respectively, display percent distributions of persons 18 years of age and over by response categories according to age, sex, and education. In most cases, the actual questions asked of the respondents are reproduced verbatim in tables 1 and 2, along with the coded response categories. In a few cases, questions or response categories have been rephrased or combined for clearer or more concise presentation of results. Refusals and other nonresponse categories are excluded from the denominator in the calculation of estimates, but responses of "don't know" are included.

Questions in the NHIS AIDS survey used the term "the AIDS virus" rather than HIV, because it was felt that the general population might not be familiar with the more scientific terminology when the survey began. In this report, "the AIDS virus" will be used in place of HIV when it reflects the way an individual question was worded.

For this report, characterization of race is based on respondents' descriptions of their racial backgrounds. For each member of a household, the household respondent for the main NHIS interview was asked "What is the number of the group that represents _____'s race?" The choices on the response card were Aleut, Eskimo, or American Indian; Asian or Pacific Islander; black; white; and another group not listed. In order to simplify interpretation of racial differentials, only persons classified as black or white were included in this analysis.

Selected findings

Patterns of knowledge and attitudes about AIDS and HIV are essentially the same within the black population as for the U.S. population as a whole, with the greatest levels of knowledge in both groups occurring among the young and the well educated. Within categories of age, sex, and education, knowledge and attitudes about HIV/AIDS generally are similar for black and white adults. There are exceptions, though, especially in the area of perceived risk of HIV transmission through casual contact with infected individuals. The following highlights describe various aspects of AIDS knowledge and attitudes as observed in the NHIS data for the period May-October 1988, focussing on differentials within the black population and differences between black and white individuals. All differences cited in the text are statistically significant unless otherwise noted (see tables II and III for approximate standard errors of estimates).

Sources of information about AIDS and HIV—During the period May-October 1988, 86 percent of black adults reported having seen public service announcements about AIDS on television in the month preceding the NHIS interview, and 51 percent heard such announcements on the radio in the preceding month. Sixty-three percent of black adults reported ever having read brochures or pamphlets about AIDS, 43 percent in the month preceding the NHIS interview. Black adults 18–49 years of age more frequently reported all of these forms of exposure to AIDS information than did individuals 50 years of age and over. As has been shown for the general population, there was a strong differential by education in the proportion of black adults who reported each of the above sources of information (figure 1). For example, the proportion of individuals who had ever read brochures or pamphlets about AIDS increased from 44 percent of black adults with less than 12 years of school to 79 percent of those with more than 12 years of school.

Black and white adults were equally likely to have seen AIDS public service announcements on television, but black adults more frequently reported having heard announcements on the radio (51 compared to 46 percent). This difference was most pronounced for persons with 12 or more years of school. Black individuals were slightly more likely than their white counterparts to have read brochures or pamphlets about AIDS in the month preceding interview—especially among persons with 12 or more years of school.

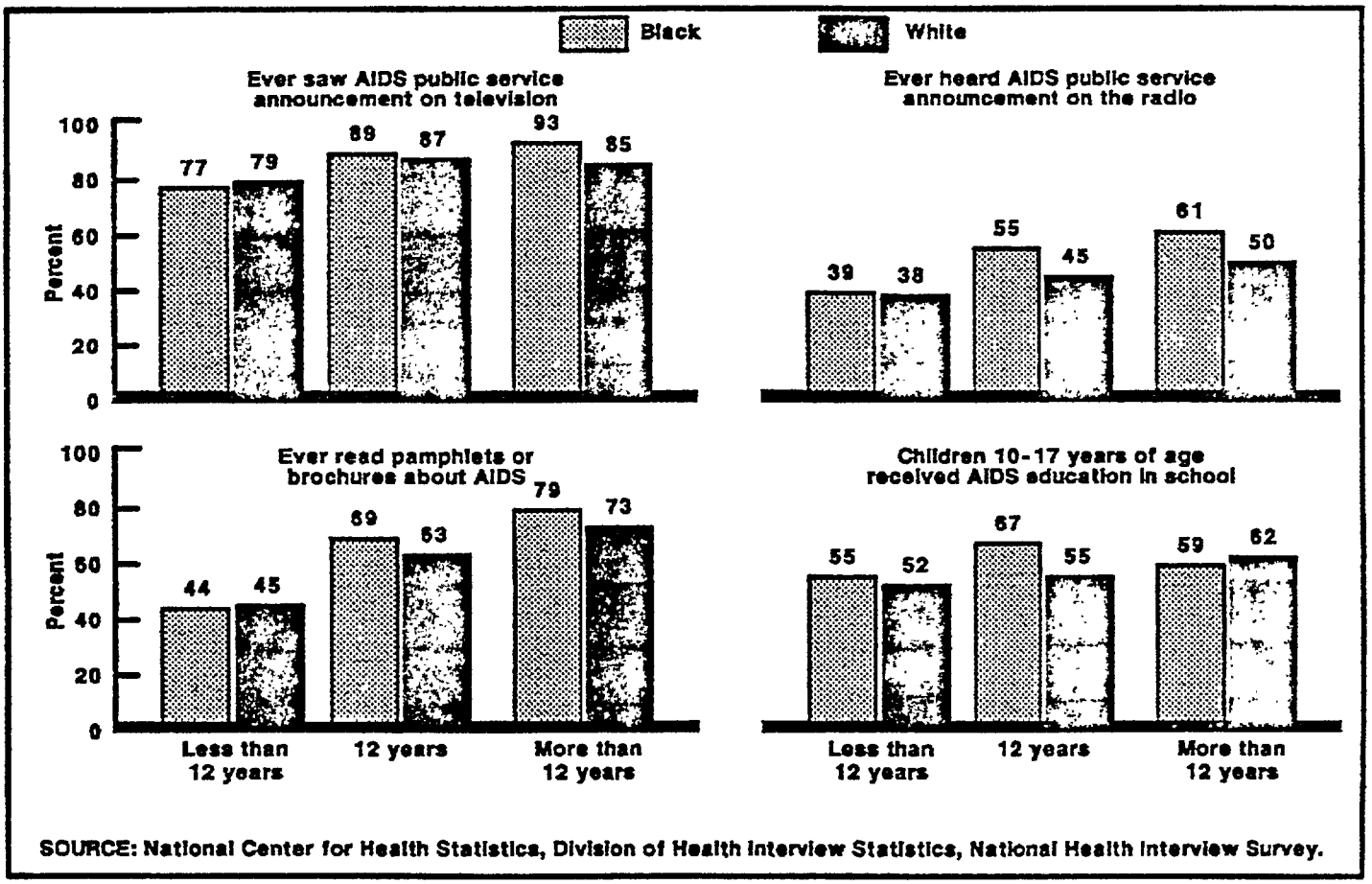
Black adults were less likely than white adults to report having received unsolicited AIDS brochures/pamphlets in the mail (33 versus 38 percent) and from the Federal Government (18 versus 29 percent) and were more likely than white adults to have obtained these materials at work (16 versus 11 percent) or at clinics (5 versus 2 percent). There was no difference by race in the proportion of persons who reported getting AIDS pamphlets or brochures from private doctors.

Sixty-two percent of all black adults with children between the ages of 10 and 17 years stated that their children had received AIDS education in school. This proportion is higher than the comparable proportion of white adults, 57 percent.

General knowledge about AIDS and HIV—In terms of self-assessed knowledge about HIV and AIDS, 18 percent of black adults felt they knew a lot, 38 percent some, 30 percent a little, and 13 percent nothing. The proportion of black adults claiming to know a lot about AIDS increased with education, from 8 percent of those with less than 12 years of school to 29 percent of those with more than 12 years. Black persons 50 years of age and over were less likely than younger adults to feel that they knew a lot about AIDS, 10 compared to 21 percent.

In comparison to black adults, white adults were more likely to feel that they knew a lot or some about HIV/AIDS (23 and 44 percent, respectively) and less likely to feel that they knew little or nothing (25 and 7 percent). Among persons under age 30, though, there was no difference in self-assessed knowledge between black and white adults.

Objective measures of general knowledge about HIV and AIDS varied by age as well for both black and white adults, with individuals 50 years of age and over consistently less likely than younger adults to identify correctly selected statements about AIDS as definitely true or false. As illustrated in figure 2, persons with less than 12 years of school were less knowledgeable about the general facts of



SOURCE: National Center for Health Statistics, Division of Health Interview Statistics, National Health Interview Survey.

Figure 1. Provisional estimates of percent of black and white adults exposed to selected sources of AIDS information, by education: United States, May-October 1988

HIV and AIDS than were those with 12 or more years of school, regardless of race. For the less well-known facts, there was also a difference in knowledge between persons with 12 years and with more than 12 years of school. For example, the proportion of black adults who thought a person could be infected with HIV and not have AIDS varied from 32 percent of individuals with less than 12 years of school to 47 and 60 percent, respectively, of those with 12 years and those with more than 12 years of school.

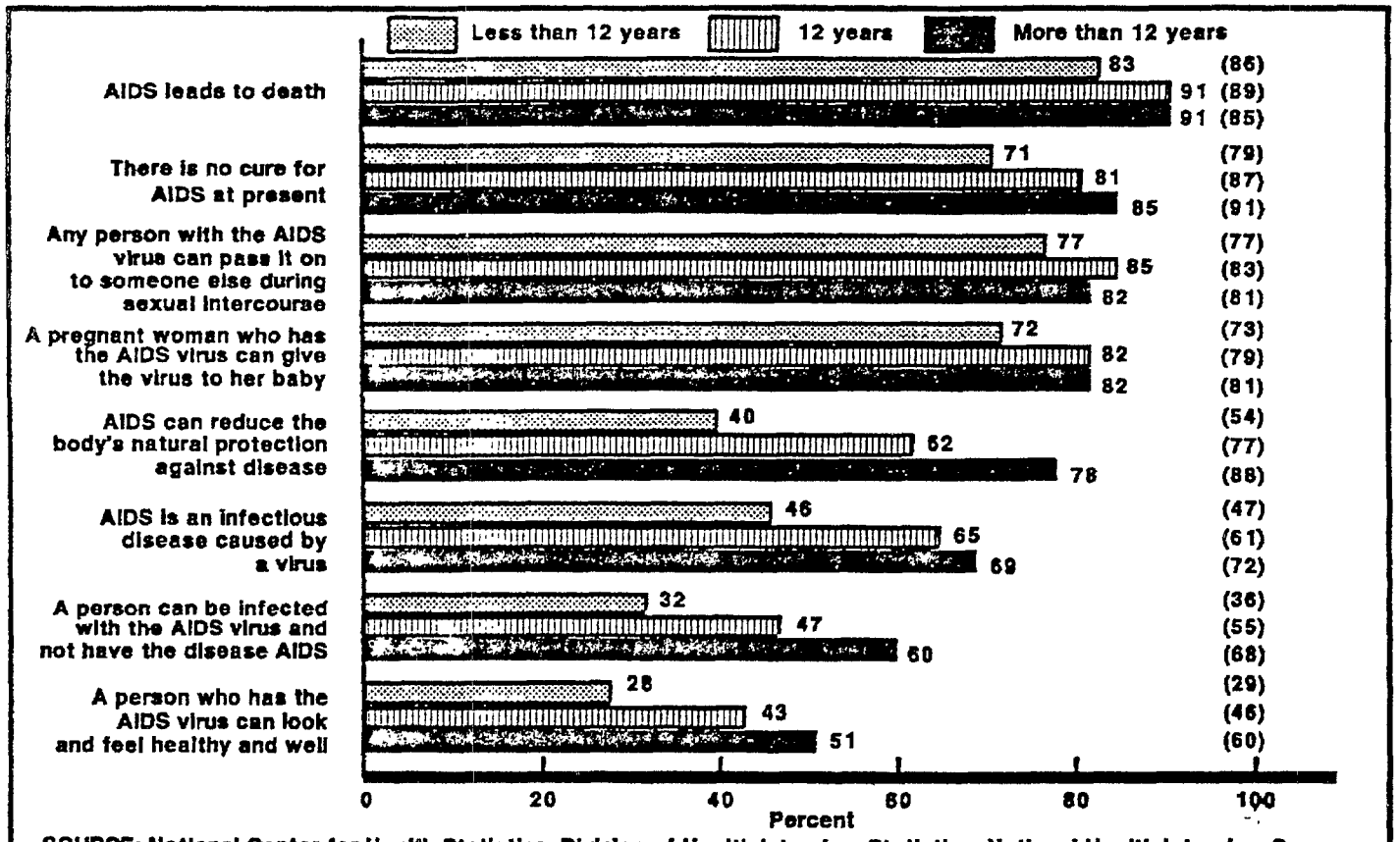
Within categories of education, there were few differences between black and white adults in general knowledge about HIV/AIDS. Both populations were equally aware of the risks of HIV transmission through sexual intercourse, perinatal contact, and shared needles for illegal drug use. In a few areas, however, black adults were less knowledgeable than white adults, for example, less likely to know that AIDS reduces the body's natural protection against disease (60 versus 76 percent for all levels of education combined) and that a person can be infected with HIV without having the disease AIDS (46 compared to 56 percent).

Misperceptions about HIV transmission—Since the first data on AIDS knowledge and attitudes were collected in the 1987 NHIS, some of the most striking differences in knowledge between black and white adults have been in the area of HIV transmission. Although as likely as white adults to identify correctly activities with high risks of HIV transmission, black adults were less likely to identify correctly the low or nonexistent risks associated with casual contact with infected individuals.

Figure 3 shows the proportions of black and white adults who thought it very unlikely or definitely not possible to become infected with HIV in various ways. These proportions increased with education for both black and white adults, but within all categories of education were generally 5–10 percentage points lower than for white adults. With respect to "working near someone with the AIDS virus," for example, the percentage of black adults who thought it very unlikely or definitely not possible to become infected with HIV in this manner increased from 46 percent of persons with less than 12 years of school to 68 percent of those with 12 or more years; for white adults, the comparable proportions varied from 56 to 78 percent.

In general, the forms of contact perceived as least threatening by both black and white adults were those that involve mere proximity to or casually touching a person infected with HIV. Those contacts seen as most threatening by members of both races involve potential exchange of saliva or blood.

Blood donation and testing—One-third (34 percent) of all black adults in the United States reported ever having donated blood, including 8 percent who had done so since March 1985 (when routine screening for HIV antibodies



SOURCE: National Center for Health Statistics, Division of Health Interview Statistics, National Health Interview Survey.
NOTE: Figures in parentheses are comparable estimates for white adults

Figure 2. Provisional estimates of percent of black adults who thought selected statements about AIDS definitely true, by education: United States, May-October 1988

began) and 3 percent who had done so in the year preceding interview. In comparison, 42 percent of white adults had ever donated blood, including 14 percent since March 1985 and 7 percent in the preceding year.

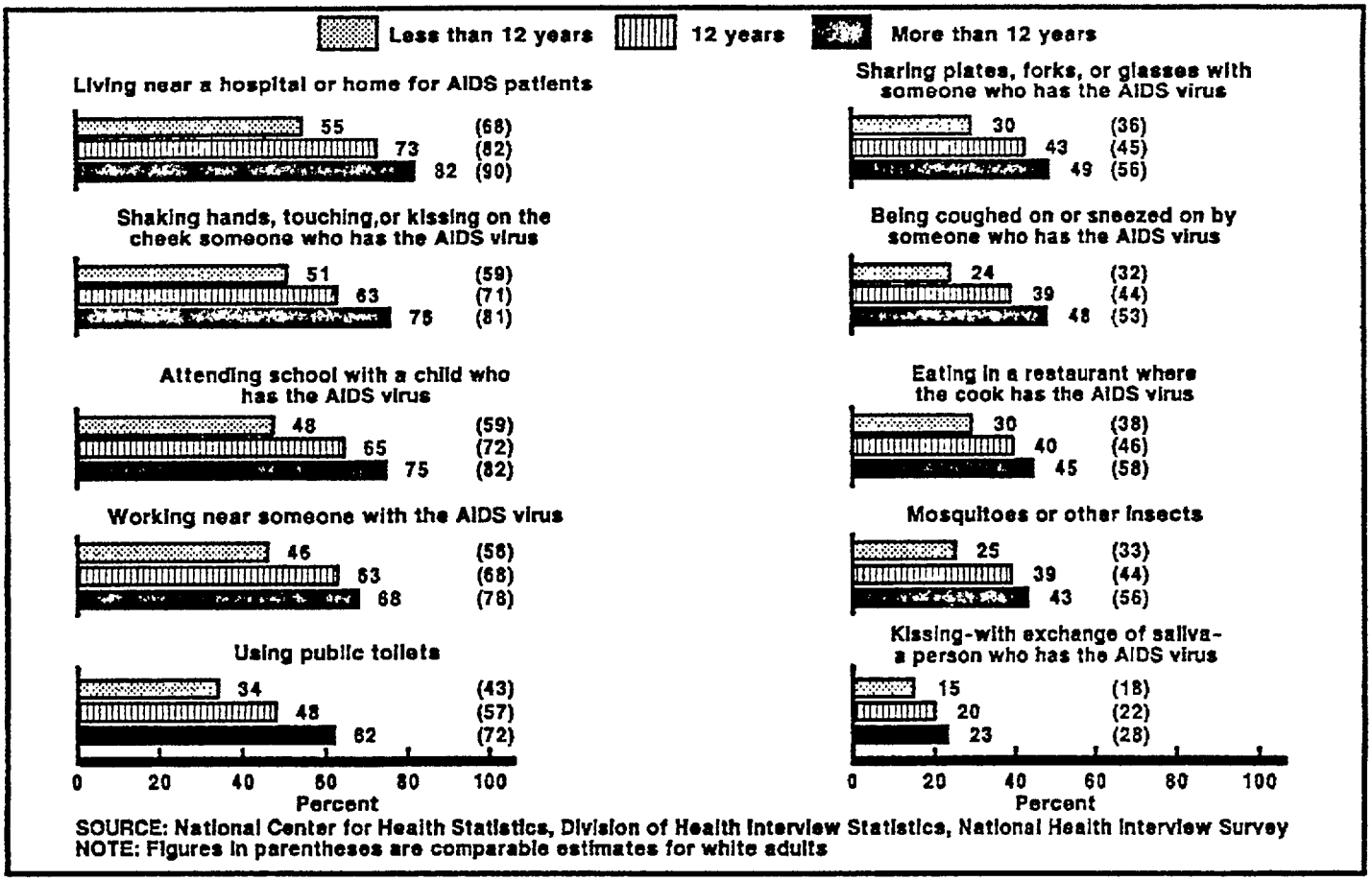
Just over half (55 percent) of black adults believed that blood donations are now routinely tested, as compared to 69 percent of white adults. Most of this difference can be explained by the lower proportion of black adults who had ever heard of the blood test to detect HIV antibodies—66 percent compared to 78 percent for white adults.

The proportion of black adults who had ever heard of the blood test for HIV infection varied from 48 percent of those with less than 12 years of school to 70 and 83 percent, respectively, of those with 12 and more than 12 years. Persons 50 years of age and over were much less likely than those age 18–49 years to have heard of the test (50 versus 73 percent).

In all, 14 percent of black adults had taken the blood test for HIV antibodies. This figure includes 7 percent who reported having had the test and another 7 percent who claimed they had not had their blood tested but who had donated blood since March 1985, when routine screening for HIV antibodies began. The proportion of black persons who ever had their blood tested for HIV infection decreased with age (from 19 percent of those age 18–29 years to 7 percent of those 50 years and over), increased with education (from 7 to 22 percent, respectively, of those with less than 12 and more than 12 years of school), and was higher for men (17 percent) than for women (12 percent).

White adults were slightly more likely than their black counterparts to have had their blood tested for HIV (17 compared to 14 percent), with all of the excess falling into the category of individuals who did not report having had their blood tested but who had donated blood since automatic screening began. Among persons who had been tested for HIV, the proportion who had done so voluntarily (as opposed to in connection with blood donation/transfusion or some other activity entailing routine screening of blood for HIV antibodies) was almost twice as high for black as for white adults (27 versus 14 percent).

Ten percent of black adults reported plans to have their blood tested for HIV antibodies in the next 12 months, a figure that declined with age from 15 percent of persons aged 18–29 years to 4 percent of those 50 years of age and over. Of the black individuals who reported plans to be tested, 72 percent stated that the test would be performed on a voluntary basis; 19 percent said the test would be carried out in connection with blood donation/transfusion, and 21 percent said it would be performed as part of some



SOURCE: National Center for Health Statistics, Division of Health Interview Statistics, National Health Interview Survey
NOTE: Figures in parentheses are comparable estimates for white adults

Figure 3. Provisional estimates of percent of black adults who thought it very unlikely or definitely not possible to become infected with HIV in selected ways, by education: United States, May-October 1988

other activity requiring a blood sample (e.g., military induction).

Plans for future HIV testing differed sharply for black and white adults. Black individuals were almost twice as likely to report plans for testing (10 versus 6 percent), and of those with plans to be tested a greater proportion planned to do so on a voluntary basis (72 versus 49 percent). In contrast, white adults more frequently stated that the test would be performed as part of blood donation/transfusion, 46 percent compared to 19 percent for black persons.

Seven percent of all black adults and 6 percent of white adults received blood transfusions between 1977, when HIV is thought to have entered the United States, and 1985, when routine screening of blood donations for HIV began. As of May-October 1988, one-third (34 percent) of black adults believed that the blood supply was safe for transfusions. This proportion increased with education, but at all levels of education it was about 10 percentage points lower than the figure for white adults.

Prevention of HIV transmission—Twenty-nine percent of black Americans evaluated use of condoms as very effective in preventing HIV transmission, and 47 percent considered this method somewhat effective. Only 8 percent thought condoms not at all effective; 17 percent either did not know of the method or did not know how effective it is. Perceived effectiveness of condoms increased with education. The proportion of black adults who considered this method to be very or somewhat effective in preventing HIV transmission increased from 58 percent of those with less than 12 years of school to 89 percent of those with more than 12 years; for white adults, the comparable proportions varied from 69 to 93 percent.

The proportion of black adults who considered maintaining a monogamous relationship with a seronegative individual to be a very effective means of protection against HIV infection was 71 percent, considerably lower than the estimate of 84 percent for white adults. This proportion increased with education, from 59 percent of black persons with less than 12 years of school (compared to 73 percent of white individuals with this level of education) to 81 percent of those with 12 or more years (90 percent for white adults).

Perceived risk of HIV infection—Seventy-one percent of black adults felt there was no chance of their becoming infected with HIV, and 19 percent asssessed their chance of infection as low. Three percent felt their risk was medium, and less than 1 percent reported a high risk. Another 1 percent thought their was a high chance that they were already infected with HIV. Six percent did not know their risk of HIV infection. In the white population, a slightly higher proportion (74 percent) of adults felt that they were

at no risk of becoming infected with HIV, whereas slightly fewer (3 percent) did not know their degree of risk.

Perceived risk of infection increased with education but decreased with age for both black and white adults. Women were slightly more likely than men to assign themselves into the "no risk" category, 74 compared to 66 percent in the black population and 78 compared to 71 percent in the white population.

Four percent of black adults reported themselves as belonging to one or more groups associated with excess risk of HIV infection: homosexual men, intravenous drug users, hemophiliacs, etc. For white adults, the proportion was 2 percent. Black men were more likely than black women to report belonging to these groups, 6 compared to 2 percent. Among white adults, the proportion reporting themselves as belonging to one or more of these groups did not differ by sex: 3 percent for men and 2 percent for women.

Fourteen percent of black adults reported knowing someone with AIDS or HIV, compared to 10 percent of white adults. This proportion increased with education for members of both races, reaching 21 percent of black adults with 12 or more years of school.

Reaction to government AIDS efforts—Seventy percent of black Americans stated that they would be willing to participate in a national seroprevalence survey, about the same proportion as for white individuals. Likewise, the percent of persons who stated that they believed information about AIDS supplied by the Federal Government was similar for black and white adults (64 and 65 percent), and the proportion that believed government advice about how to keep from getting AIDS was only slightly lower for black than white individuals (76 versus 79 percent). Among persons with 12 or more years of school, though, the differences were larger. In this most highly educated category, black adults were less likely than white adults to trust government information (64 versus 71 percent) and advice (79 versus 85 percent) and to indicate willingness to participate in the national seroprevalence survey (66 versus 74 percent).

Table 1. Provisional estimates of the percent of black adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May-October 1988

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
Total	100	100	100	100	100	100	100	100	100
1. In the past month, have you—									
1a. Seen any public service announcements about AIDS on television?									
Yes	86	88	90	80	85	87	77	89	93
No	12	11	9	16	13	11	20	9	6
Don't know	2	1	1	4	2	2	3	1	1
1b. Heard any public service announcements about AIDS on the radio?									
Yes	51	58	55	39	55	49	39	55	61
No	45	39	41	56	42	47	56	42	35
Don't know	4	3	4	5	3	4	5	3	4
2. Were any of those public service announcements called "America Responds to AIDS"?									
Yes	31	38	33	20	31	31	26	36	31
No	12	14	13	10	13	12	11	12	14
Don't know	45	39	45	52	43	47	44	43	49
Neither heard nor saw any public service announcements	12	8	9	18	12	11	19	9	6
3. In the past month, have you read any brochures or pamphlets about AIDS?									
Yes	43	45	50	32	38	47	30	46	55
No	56	54	49	66	61	52	68	54	44
Don't know	1	1	1	2	1	1	1	1	1
4. Have you ever read any brochures or pamphlets about AIDS?									
Yes	63	68	70	49	59	67	44	69	79
No	36	31	30	49	40	32	54	31	21
Don't know	1	0	0	2	1	1	2	0	1
5. Where did you get the pamphlets or brochures?[1,2]									
Clinic, other than work clinic	5	8	5	2	4	7	8	6	4
Doctor's office (HMO)	12	13	13	11	9	15	9	13	14
Drug store	3	3	3	3	3	3	5	3	3
Public health department	4	5	4	3	4	4	3	4	5
Received in mail without asking	33	29	34	40	32	34	38	33	31
Red Cross/Red Cross blood donation	0	0	0	1	0	1	0	1	0
Other blood donation	0	0	0	–	0	0	–	0	–
School	8	15	5	3	9	7	10	6	10
Sent/phoned for/requested it	1	0	1	0	–	1	0	1	1
Federal/State/local government	18	15	16	24	18	18	21	17	16
Work, other than clinic or nurse	16	15	20	12	18	15	7	15	23
Work, nurse or clinic	4	3	6	3	2	6	2	4	6
Other	16	15	18	16	19	15	11	20	16
Don't know	0	0	0	2	0	1	1	0	0
15. Have you ever discussed AIDS with any of your children aged 10-17?[3]									
Yes	60	44	64	42	41	73	47	63	69
No	40	56	36	58	59	27	53	37	31
Don't know	–	–	–	–	–	–	–	–	–
16. Have any or all of your children aged 10-17 had instruction at school about AIDS?[3]									
Yes	62	47	62	69	56	65	55	67	59
No	11	21	11	2	10	11	6	12	14
Don't know	28	32	27	30	33	24	39	21	26
21. How much would you say you know about AIDS?									
A lot	18	20	22	10	17	19	8	18	29
Some	38	50	42	21	36	40	25	42	49
A little	30	26	30	35	31	30	37	32	20
None	13	4	6	33	15	12	30	7	2
Don't know	0	–	–	0	0	–	0	0	–
22. To the best of your knowledge, is there a difference between having the AIDS virus and having the disease AIDS?									
Yes	55	59	62	40	55	55	35	55	77
No	19	25	19	12	18	20	19	23	13
Other	0	1	0	0	0	0	0	1	0
Don't know	26	15	18	47	26	25	45	21	9
23a. AIDS can reduce the body's natural protection against disease.									
Definitely true	60	66	67	43	63	57	40	62	78
Probably true	13	13	11	17	13	14	16	14	10
Probably false	4	4	4	3	3	4	4	5	2
Definitely false	6	7	5	7	6	7	7	7	5
Don't know	17	10	13	31	16	18	34	12	6

See footnotes at end of table.

Table 1. Provisional estimates of the percent of black adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
23b. AIDS is especially common in older people.									
Definitely true	2	2	2	2	3	1	3	1	1
Probably true	3	4	2	3	3	2	5	3	0
Probably false	16	19	14	16	17	15	17	15	15
Definitely false	67	68	75	56	64	70	52	73	78
Don't know	12	7	8	24	12	12	23	8	5
23c. AIDS can damage the brain.									
Definitely true	30	27	32	30	31	28	28	29	33
Probably true	31	30	31	32	31	31	30	30	33
Probably false	7	10	6	4	5	7	5	7	8
Definitely false	6	8	6	2	5	6	3	7	7
Don't know	27	25	25	33	27	27	34	28	19
23d. AIDS usually leads to heart disease.									
Definitely true	12	10	12	14	11	13	16	9	12
Probably true	24	24	25	24	25	24	22	26	24
Probably false	12	14	14	8	12	13	9	11	18
Definitely false	11	15	13	6	14	10	7	14	13
Don't know	40	36	37	48	38	41	47	39	33
23e. AIDS is an infectious disease caused by a virus.									
Definitely true	60	66	66	46	61	59	46	65	69
Probably true	18	20	15	21	18	19	19	19	17
Probably false	2	2	1	2	2	2	2	2	1
Definitely false	3	3	4	3	3	3	3	3	4
Don't know	16	9	13	28	15	17	29	12	8
23f. Teenagers cannot get AIDS.									
Definitely true	1	1	1	2	1	1	2	1	1
Probably true	1	1	1	1	1	1	2	1	0
Probably false	5	5	3	8	6	4	8	4	3
Definitely false	87	93	92	75	87	88	75	92	95
Don't know	5	1	3	13	5	6	13	2	1
23g. AIDS leads to death.									
Definitely true	88	90	92	81	88	89	83	91	91
Probably true	6	6	5	8	6	7	7	6	7
Probably false	0	0	0	0	0	0	0	0	0
Definitely false	1	1	1	1	1	1	1	1	1
Don't know	4	1	2	9	4	4	8	2	1
23h. A person can be infected with the AIDS virus and not have the disease AIDS.									
Definitely true	46	50	53	32	47	45	32	47	60
Probably true	22	26	19	21	19	23	19	23	23
Probably false	4	4	5	3	5	4	4	6	2
Definitely false	8	11	7	5	9	7	8	9	6
Don't know	21	9	17	38	20	21	37	15	9
23i. Looking at a person is enough to tell if he or she has the AIDS virus.									
Definitely true	3	3	3	3	3	3	4	3	2
Probably true	5	7	3	6	6	5	6	6	3
Probably false	17	16	16	18	18	16	19	18	13
Definitely false	62	70	69	46	61	63	47	65	77
Don't know	13	4	10	27	11	14	24	9	5
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.									
Definitely true	81	83	86	73	81	82	77	85	82
Probably true	12	13	9	13	12	11	10	12	13
Probably false	1	1	1	1	0	1	1	0	2
Definitely false	1	1	1	1	1	1	1	1	1
Don't know	5	2	3	12	5	5	11	3	2
23k. A person who has the AIDS virus can look and feel healthy and well.									
Definitely true	40	45	48	25	43	38	28	43	51
Probably true	29	33	27	27	26	31	25	29	33
Probably false	7	8	6	9	8	7	8	7	5
Definitely false	8	7	7	9	8	8	9	10	4
Don't know	16	7	12	30	15	16	29	11	7
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.									
Definitely true	79	83	84	67	76	81	72	82	82
Probably true	14	12	12	18	14	13	15	13	13
Probably false	0	1	0	0	1	0	0	1	0
Definitely false	1	1	0	1	1	1	1	1	1
Don't know	7	3	4	14	8	6	12	4	4

See footnotes at end of table.

Table 1. Provisional estimates of the percent of black adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
23m. There is a vaccine available to the public that protects a person from getting the AIDS virus.									
Definitely true	2	1	3	3	3	2	4	2	1
Probably true	4	5	4	4	5	4	5	5	3
Probably false	11	13	9	11	11	11	11	11	10
Definitely false	62	68	69	46	63	62	46	66	76
Don't know	20	12	15	36	18	22	34	16	10
23n. There is no cure for AIDS at present.									
Definitely true	79	82	84	70	80	79	71	81	85
Probably true	7	6	6	11	6	8	10	6	7
Probably false	1	1	1	2	1	1	2	2	1
Definitely false	4	6	3	2	5	3	3	5	3
Don't know	8	5	6	14	8	8	14	6	4
24. How likely do you think it is that a person will get AIDS or the AIDS virus infection from—									
24a. Living near a hospital or home for AIDS patients?									
Very likely	4	4	4	3	4	4	5	4	2
Somewhat likely	5	6	3	6	5	5	6	6	3
Somewhat unlikely	10	10	8	12	10	9	10	10	9
Very unlikely	37	39	38	33	39	35	33	37	41
Definitely not possible	33	34	39	23	30	35	22	36	41
Don't know	12	6	7	24	12	12	24	7	4
24b. Working near someone with the AIDS virus?									
Very likely	4	4	5	4	5	4	7	4	2
Somewhat likely	11	12	10	13	12	11	12	12	10
Somewhat unlikely	15	16	13	15	15	14	14	14	15
Very unlikely	34	35	38	28	34	34	28	35	40
Definitely not possible	25	28	28	17	24	25	18	27	28
Don't know	11	5	7	22	10	11	21	7	5
24c. Eating in a restaurant where the cook has the AIDS virus?									
Very likely	10	11	9	11	11	10	12	11	7
Somewhat likely	22	24	18	24	25	19	23	22	21
Somewhat unlikely	13	13	15	10	12	15	10	13	18
Very unlikely	24	25	26	19	22	25	19	24	29
Definitely not possible	14	17	17	9	13	15	11	16	16
Don't know	16	9	14	28	17	16	26	13	10
24d. Kissing—with exchange of saliva—a person who has the AIDS virus?									
Very likely	27	25	27	30	28	27	29	31	21
Somewhat likely	27	29	26	28	26	28	24	26	33
Somewhat unlikely	11	13	12	9	12	11	8	12	14
Very unlikely	13	15	15	7	15	11	10	12	17
Definitely not possible	7	7	8	4	5	8	6	8	7
Don't know	14	10	12	22	14	15	23	11	8
24e. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?									
Very likely	4	3	4	6	4	4	7	4	2
Somewhat likely	9	9	7	12	10	8	10	10	6
Somewhat unlikely	14	17	12	14	15	13	13	16	13
Very unlikely	35	37	37	31	36	34	31	33	43
Definitely not possible	27	31	32	18	24	30	20	30	33
Don't know	11	4	8	21	10	11	20	8	4
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?									
Very likely	13	11	13	15	13	13	17	12	10
Somewhat likely	20	19	18	25	20	20	22	21	17
Somewhat unlikely	13	15	13	11	14	12	10	14	15
Very unlikely	24	28	25	17	25	23	18	23	31
Definitely not possible	16	18	20	9	15	17	11	19	18
Don't know	14	8	12	23	13	14	21	11	9
24g. Using public toilets?									
Very likely	9	9	7	10	9	8	12	9	5
Somewhat likely	16	15	13	20	16	16	20	17	10
Somewhat unlikely	13	17	12	11	14	12	10	14	16
Very unlikely	28	29	32	20	29	27	21	26	38
Definitely not possible	20	22	23	13	19	20	13	22	24
Don't know	15	9	12	25	13	16	24	12	7

See footnotes at end of table.

Table 1. Provisional estimates of the percent of black adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
		Percent distribution[1]							
24h. Sharing needles for drug use with someone who has the AIDS virus?									
Very likely	91	94	93	84	90	91	84	93	95
Somewhat likely	4	3	3	5	4	3	5	3	3
Somewhat unlikely	0	0	0	0	0	0	0	0	0
Very unlikely	1	1	1	1	1	1	1	1	1
Definitely not possible	1	1	1	0	1	1	1	1	1
Don't know	4	1	2	10	4	4	9	2	1
24i. Being coughed or sneezed on by someone who has the AIDS virus?									
Very likely	10	8	8	14	10	10	15	9	6
Somewhat likely	22	20	19	29	25	20	26	22	19
Somewhat unlikely	15	20	15	11	15	16	11	17	19
Very unlikely	23	27	27	15	23	23	16	23	32
Definitely not possible	14	16	18	6	13	14	8	16	17
Don't know	16	9	13	26	14	17	24	13	8
24j. Attending school with a child who has the AIDS virus?									
Very likely	3	2	3	5	3	3	5	3	1
Somewhat likely	9	9	7	11	10	7	11	9	5
Somewhat unlikely	13	14	13	13	14	13	12	14	13
Very unlikely	35	37	37	29	35	34	30	33	42
Definitely not possible	27	31	31	18	25	30	18	32	33
Don't know	13	7	8	24	12	13	22	9	6
24k. Mosquitoes or other insects?									
Very likely	12	12	12	11	13	10	15	11	9
Somewhat likely	19	21	16	21	21	18	21	19	18
Somewhat unlikely	9	10	9	8	9	9	8	10	10
Very unlikely	20	23	21	15	20	20	16	20	25
Definitely not possible	16	17	18	11	14	17	9	20	18
Don't know	25	17	23	35	23	26	32	21	20
25. Have you ever donated blood?									
Yes	34	25	38	39	45	25	30	30	43
No	66	75	62	61	55	75	70	70	57
Don't know	0	0	0	1	1	0	1	0	0
26a. Have you donated blood since March 1985?									
Yes	8	12	9	4	10	7	3	9	14
No	91	88	91	96	90	92	96	91	85
Don't know	0	0	1	1	1	0	1	0	1
26b. Have you donated blood in the past 12 months?									
Yes	3	5	3	1	3	3	1	4	4
No	97	95	96	98	96	97	98	96	95
Don't know	0	0	1	1	1	0	1	0	1
27. Have you ever heard of a blood test that can detect the AIDS virus infection?									
Yes	66	75	72	50	64	68	48	70	83
No	28	21	24	43	30	27	45	25	14
Don't know	5	4	5	8	6	5	7	5	4
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?									
Yes	55	64	62	36	55	55	36	59	72
No	3	4	3	2	3	4	3	3	4
Don't know	8	6	7	10	6	9	9	7	7
Never heard of test[4]	34	26	28	51	36	32	52	31	17
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?									
Yes	5	7	5	2	7	3	3	4	8
No	61	68	66	47	57	64	45	65	74
Don't know	0	0	–	0	0	0	0	0	0
Never heard of test[4]	34	25	28	50	36	32	52	30	17
29b. Was the discussion—[1,5]									
With a private doctor?	47	40	51	58	46	48	51	26	60
At a family-planning clinic?	13	20	7	9	14	13	13	27	4
On an AIDS hotline?	2	1	–	9	2	1	–	–	3
At a prenatal clinic?	9	15	3	9	6	14	10	10	8
At an STD or sexually transmitted disease clinic?	6	7	4	9	9	1	2	12	2
At an AIDS/HIV counseling and testing site?	9	7	10	17	11	8	16	5	10
With some other health professional?	39	33	44	44	38	40	39	36	41
With some other counselor?	13	11	15	16	11	17	6	10	18
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus?[5]									
Yes	79	83	75	84	78	81	69	88	77
No	19	15	24	16	21	17	22	12	23
Don't know	1	2	1	–	1	2	8	–	–

See footnotes at end of table.

Table 1. Provisional estimates of the percent of black adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

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AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
31. Have you ever been advised by a health professional not to have the blood test for the AIDS virus infection?									
Yes	0	0	0	–	0	0	–	0	0
No	66	74	71	49	64	67	48	69	82
Don't know	0	–	0	0	–	0	0	–	0
Never heard of test[4]	34	25	28	51	36	32	52	31	17
32. Have you ever been advised by friends or relatives not to have the blood test for the AIDS virus infection?									
Yes[5]	0	0	1	0	1	0	1	1	0
No	66	74	71	49	63	68	48	69	82
Don't know	0	–	–	0	–	0	–	–	0
Never heard of test[4]	34	25	28	50	36	32	52	31	17
33. Have you had your blood tested for the AIDS virus infection?									
Yes	14	19	15	7	17	12	7	14	22
No	52	55	57	42	47	56	41	55	61
Don't know	2	2	1	2	1	2	1	2	2
Never heard of test[4]	32	23	27	49	35	30	51	29	16
35a. How many times have you had your blood tested for the AIDS virus infection?[7]									
Once	5	6	5	3	6	4	2	5	7
Twice	1	1	1	0	2	1	1	1	2
3–5 times	1	2	1	1	2	0	0	1	2
6–12 times	0	0	0	0	0	0	0	0	0
More than 12 times	0	0	0	–	0	0	–	0	0
Don't know	7	9	7	3	7	7	3	7	11
Never heard of or never took test[6]	86	81	86	93	83	89	93	86	79
35b. How many times in the past 12 months have you had your blood tested for the AIDS virus infection?[7]									
None in the past 12 months	1	1	1	1	2	1	1	1	2
Once	5	7	5	2	7	4	3	5	7
More than once	1	1	2	1	2	1	1	1	2
Don't know	6	9	7	3	6	6	3	7	10
Never heard of or never took test[8]	86	81	85	93	83	89	93	86	78
36. Was the test/were any of the tests, including those you had before the past 12 months—[1,7]									
Part of a blood donation?[8]	54	58	55	42	49	61	41	59	54
Part of a blood transfusion?	1	1	1	0	1	1	2	1	1
Voluntarily sought?	27	26	27	29	29	24	30	23	30
Part of some other activity that requires a blood sample?	23	22	22	26	30	14	27	25	19
38. Did you get the results of your test/any of your tests?[9]									
Yes	72	70	77	68	71	75	82	69	70
No	27	30	22	32	29	25	18	31	29
Don't know	0	–	0	–	–	0	–	–	0
41. Do you expect to have a blood test for the AIDS virus infection in the next 12 months?									
Yes	10	15	11	4	12	9	9	11	12
No	49	51	53	40	45	52	34	51	62
Don't know	7	8	7	6	7	7	5	7	9
Never heard of test[4]	34	25	28	50	36	32	52	30	17
42. Will the test be—[1,10]									
Part of a blood donation?	19	23	18	8	21	18	21	24	12
Voluntarily sought?	72	70	76	66	69	76	66	73	77
Part of some other activity that requires a blood sample?	21	21	20	26	28	13	26	16	24
44a. Did you have a blood tranfusion at any time between 1977 and 1985?									
Yes	7	6	8	6	6	7	6	7	6
No	92	94	91	92	93	92	92	92	92
Don't know	1	1	2	1	1	1	1	1	1
44b. Do you think the present supply of blood is safe for tranfusions?									
Yes	34	35	34	31	36	32	25	36	41
No	34	38	36	27	32	36	36	36	29
Other	–	–	–	–	–	–	–	–	–
Don't know	32	27	30	42	32	33	38	29	30
45. Here are some methods people use to prevent getting the AIDS virus through sexual activity. How effective is—									
45a. Using a diaphragm?									
Very effective	5	7	5	4	8	3	6	6	4
Somewhat effective	12	13	12	11	11	13	10	13	13
Not at all effective	47	50	55	33	40	53	31	48	63
Don't know how effective	24	21	20	34	26	24	33	23	16
Don't know method	11	9	8	18	15	8	20	9	5

See footnotes at end of table.

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AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
45b. Using a condom?									
Very effective	29	34	31	20	32	26	25	30	31
Somewhat effective	47	49	51	39	45	48	34	49	58
Not at all effective	8	7	9	9	7	9	12	8	5
Don't know how effective	13	8	8	25	13	13	23	10	5
Don't know method	4	2	1	9	3	4	7	2	1
45c. Using a spermicidal jelly, foam, or cream?									
Very effective	3	3	3	1	4	2	3	2	3
Somewhat effective	12	15	13	9	13	12	10	13	15
Not at all effective	48	50	56	35	40	54	36	51	58
Don't know how effective	27	23	21	39	30	24	35	25	19
Don't know method	10	8	7	16	13	8	15	9	6
45d. Having a vasectomy?									
Very effective	2	3	2	2	3	2	3	3	1
Somewhat effective	4	6	3	3	4	3	5	3	3
Not at all effective	57	60	66	42	54	60	41	58	76
Don't know how effective	24	22	19	33	26	23	32	24	14
Don't know method	13	9	10	21	13	12	20	12	6
45e. Two people who do not have the AIDS virus having sex only with each other?									
Very effective	71	73	76	61	71	70	59	72	81
Somewhat effective	13	14	13	13	12	14	13	14	12
Not at all effective	5	6	5	4	5	5	7	5	2
Don't know how effective	9	5	6	16	9	8	16	6	4
Don't know method	3	2	1	5	3	3	5	3	1
46. What are your chances of having the AIDS virus?									
High	1	1	2	0	2	1	1	2	0
Medium	2	3	2	1	2	2	2	2	2
Low	15	19	16	9	17	13	9	14	24
None	76	74	74	82	73	79	80	76	71
Don't know	6	4	5	8	6	5	8	6	3
47. What are your chances of getting the AIDS virus?									
High	1	1	1	0	1	0	1	1	1
Medium	3	3	3	1	3	2	2	2	4
Low	19	24	22	11	21	17	10	21	27
None	71	67	67	79	66	74	77	69	65
Don't know	6	4	4	9	6	5	9	4	4
High chance of already having AIDS virus	1	1	2	0	2	1	1	2	0
49. Do you say your chance of getting AIDS is high or medium because you—[11]									
Have had a blood transfusion?	9	2	13	9	10	7	15	4	10
Have had sexual contact with someone who might have the virus?	23	31	19	16	27	18	44	11	21
Some other reason?	57	61	54	57	57	57	35	58	74
52. Have you ever discussed AIDS with a friend or relative?									
Yes	62	67	71	45	62	63	45	66	78
No	37	32	28	55	38	37	55	34	21
Don't know	0	0	0	0	0	0	0	0	1
53. When was the last time you discussed AIDS with a friend or relative?									
0–3 days ago	10	9	14	6	10	10	8	11	12
4–7 days ago	13	12	17	10	14	13	11	13	17
8–14 days ago	7	8	8	5	7	7	4	8	9
15–31 days ago	12	16	12	8	12	12	7	14	16
More than 31 days ago	14	18	15	9	14	15	10	14	19
Don't know	5	4	4	6	4	5	4	5	5
Never discussed[12]	38	33	29	55	38	38	55	34	22
54. Have you ever personally known anyone with AIDS or the AIDS virus?									
Yes	14	14	19	9	14	15	9	14	21
No	83	83	78	88	83	82	87	83	76
Don't know	3	3	3	3	3	3	4	3	3
55. How long has it been since you saw this person?									
Within past 2 weeks	1	1	1	1	1	1	1	1	1
2 weeks–less than 1 month	1	1	1	1	1	1	1	1	1
1 month–less than 3 months	1	1	2	1	1	1	0	1	3
3 months–less than 6 months	2	1	3	1	2	1	1	2	2
6 months or more	9	10	11	5	9	10	7	8	13
Don't know	0	0	1	–	0	0	–	0	1
Never knew anyone with AIDS[13]	86	86	81	91	86	85	91	86	79

See footnotes at end of table.

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AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
					Percent distribution[1]				
56. How well do you know this person?									
Very well	3	3	4	2	3	2	3	2	4
Fairly well	4	5	6	2	5	4	2	5	7
Not very well	4	3	6	3	3	5	3	4	6
Don't really know personally	2	2	2	1	2	2	1	2	2
Other	1	1	2	0	1	1	0	1	2
Don't know how well	–	–	–	–	–	–	–	–	–
Never knew anyone with AIDS[13]	86	86	81	91	86	85	91	86	79
57. Is any of these statements true for you?									
a. You have hemophilia and have received clotting factor concentrates since 1977.									
b. You are a native of Haiti or Central or East Africa who has entered the United States since 1977.									
c. You are a man who has had sex with another man at some time since 1977, even 1 time.									
d. You have taken illegal drugs by needle at any time since 1977.									
e. Since 1977, you are or have been the sex partner of any person who would answer yes to any of the items above (57 a-d).									
f. You have had sex for money or drugs at any time since 1977.									
Yes to at least 1 statement	4	4	6	1	6	2	4	3	5
No to all statements	96	96	94	99	94	98	96	97	95
Refused	0	–	–	0	–	0	0	–	–
Don't know	0	0	–	–	–	0	0	0	–
58. The U.S. Public Health Service has said that AIDS is one of the major health problems in the country but exactly how many people it affects is not known. The Surgeon General has proposed that a study be conducted and blood samples be taken to help find out how widespread the problem is. If you were selected in this national sample of people to have their blood tested with assurances of privacy of test results, would you have the test?									
Yes	70	76	71	61	71	69	68	75	66
No	22	18	20	28	20	23	22	19	24
Other	2	1	3	2	2	2	2	2	2
Don't know	7	5	6	9	6	7	8	4	7
59. Why wouldn't you take part in the test?[14]									
Don't want to know if I have AIDS	10	14	12	5	11	9	10	11	9
Don't want any counseling about AIDS	2	2	2	2	3	1	4	2	0
Fear I'll get AIDS	10	11	8	11	10	10	12	13	5
Don't like to give blood	18	23	17	14	15	20	18	20	15
Don't trust Government programs	8	9	10	4	10	6	6	7	10
It is a waste of money	2	4	1	3	4	1	3	2	1
Don't believe AIDS can really be cured anyway	3	4	3	3	4	2	4	3	2
Other	42	35	42	48	44	41	43	39	45
Don't know	13	10	14	14	12	13	17	8	12
61. When Federal public health officials give information about AIDS, do you believe what they say or are you doubtful about the information they give?									
Believe	64	71	64	57	66	63	63	66	64
Doubtful	26	23	29	26	25	27	23	27	29
Don't know	10	6	7	17	8	11	15	7	7
62. When they [public health officials] give advice about how to help keep from getting AIDS, do you believe their advice or are you doubtful about what they say?									
Believe	76	81	76	70	79	73	72	77	79
Doubtful	16	14	18	16	14	18	16	17	15
Don't know	8	6	6	14	7	9	12	6	6

[1] Multiple responses may sum to more than 100.
[2] Based on persons answering yes to question 4 (includes yes to question 3).
[3] Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
[4] Persons answering no or don't know to question 27.
[5] Based on persons answering yes to question 29a.
[6] Includes persons answering yes to question 26a and no or don't know to questions 27 and 33.
[7] Based on yes answers to question 33. See footnote 6.
[8] Persons answering no or don't know to questions 26a, 27, and 33.
[9] Based on persons answering yes to question 33; excludes persons answering yes to question 26a and no or don't know to question 27 or 33.
[10] Based on persons answering yes to question 41.
[11] Based on persons answering high or medium to question 46.
[12] Based on persons answering no or don't know to question 52.
[13] Based on persons answering no or don't know to question 54.
[14] Based on persons not answering yes to question 58.

Table 2. Provisional estimates of the percent of white adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May-October 1988

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
Total	100	100	100	100	100	100	100	100	100
1. In the past month, have you—									
1a. Seen any public service announcements about AIDS on television?									
Yes	85	86	86	83	84	85	79	87	85
No	13	13	12	14	14	13	18	12	13
Don't know	2	1	2	3	2	2	3	1	2
1b. Heard any public service announcements about AIDS on the radio?									
Yes	46	54	49	36	50	41	38	45	50
No	50	42	46	59	45	54	58	51	45
Don't know	4	4	5	5	4	4	4	4	5
2. Were any of those public service announcements called "America Responds to AIDS"?									
Yes	21	29	22	14	19	22	21	22	19
No	11	12	11	11	12	10	11	11	11
Don't know	55	48	56	60	55	55	50	56	57
Neither heard nor saw any public service announcements.	13	11	12	15	13	13	18	11	12
3. In the past month, have you read any brochures or pamphlets about AIDS?									
Yes	39	41	43	35	36	42	29	39	46
No	60	59	56	64	63	57	71	60	53
Don't know	1	1	1	1	1	1	1	1	1
4. Have you ever read any brochures or pamphlets about AIDS?									
Yes	63	67	70	54	59	67	45	63	73
No	36	33	30	45	40	33	54	36	27
Don't know	1	0	1	1	1	1	1	1	1
5. Where did you get the pamphlets or brochures?[1,2]									
Clinic, other than work clinic	2	3	2	1	2	2	3	2	2
Doctor's office (HMO)	11	13	11	8	8	13	12	11	10
Drug store	1	1	1	1	1	1	1	1	1
Public health department	2	2	2	1	2	2	2	1	2
Received in mail without asking	38	32	37	44	37	39	41	40	35
Red Cross/Red Cross blood donation	2	3	2	1	2	2	2	2	2
Other blood donation	1	1	1	0	1	0	0	1	1
School	7	13	6	2	7	7	4	5	9
Sent/phoned for/requested it	1	0	1	0	0	1	0	0	1
Federal/State/local government	29	23	29	33	29	28	28	28	29
Work, other than clinic or nurse	11	9	15	7	13	9	5	11	13
Work, nurse or clinic	3	3	4	2	2	4	2	3	4
Other	13	15	13	12	15	12	12	12	14
Don't know	1	0	0	1	1	1	1	1	1
15. Have you ever discussed AIDS with any of your children aged 10-17?[3]									
Yes	62	37	64	56	49	74	46	62	69
No	38	63	36	44	51	26	54	38	31
Don't know	0	–	0	–	0	0	–	0	0
16. Have any or all of your children aged 10-17 had instruction at school about AIDS?[3]									
Yes	57	41	58	58	53	61	52	55	62
No	14	22	14	11	11	17	14	14	14
Don't know	29	38	28	31	35	23	34	31	24
21. How much would you say you know about AIDS?									
A lot	23	22	30	18	22	24	11	19	35
Some	44	51	48	37	43	46	32	48	48
A little	25	24	20	31	26	23	35	28	16
None	7	3	3	15	8	7	22	5	2
Don't know	0	–	0	0	0	0	0	0	0
22. To the best of your knowledge, is there a difference between having the AIDS virus and having the disease AIDS?									
Yes	67	67	73	59	66	67	41	66	81
No	15	21	15	10	15	14	17	17	11
Other	0	0	0	0	0	0	0	0	0
Don't know	18	12	11	30	18	18	41	17	7
23a. AIDS can reduce the body's natural protection against disease.									
Definitely true	76	80	84	66	77	76	54	77	88
Probably true	11	11	9	14	12	11	16	12	8
Probably false	1	2	1	2	1	2	3	1	1
Definitely false	2	2	2	3	2	2	4	3	1
Don't know	8	5	4	15	8	9	23	7	2

See footnotes at end of table.

Table 2. Provisional estimates of the percent of white adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
					Percent distribution[1]				
23b. AIDS is especially common in older people.									
Definitely true	1	1	1	0	1	0	1	1	0
Probably true	1	1	1	1	1	1	2	1	1
Probably false	20	22	18	20	20	19	20	20	19
Definitely false	72	70	77	68	71	73	62	73	76
Don't know	7	6	4	11	7	7	15	6	4
23c. AIDS can damage the brain.									
Definitely true	26	22	26	29	26	26	25	26	27
Probably true	31	32	30	32	31	31	30	31	32
Probably false	10	11	11	6	10	9	5	9	12
Definitely false	7	8	8	4	8	6	5	7	8
Don't know	27	27	24	29	25	28	35	28	21
23d. AIDS usually leads to heart disease.									
Definitely true	8	6	7	10	8	8	11	8	7
Probably true	22	22	21	22	21	22	21	22	21
Probably false	19	21	22	14	21	17	11	18	25
Definitely false	15	17	18	10	17	13	9	14	19
Don't know	36	34	31	43	33	39	48	38	28
23e. AIDS is an infectious disease caused by a virus.									
Definitely true	63	66	70	53	64	61	47	61	72
Probably true	19	20	18	21	20	19	21	21	17
Probably false	2	3	2	3	2	3	3	3	2
Definitely false	4	4	3	4	3	4	4	4	3
Don't know	12	8	7	19	10	13	25	11	6
23f. Teenagers cannot get AIDS.									
Definitely true	1	1	1	1	1	1	2	1	1
Probably true	0	0	0	1	0	0	1	0	0
Probably false	3	2	2	5	3	3	6	3	2
Definitely false	93	96	96	88	93	93	84	94	97
Don't know	3	1	1	5	2	3	7	2	1
23g. AIDS leads to death.									
Definitely true	87	87	88	86	86	88	86	89	85
Probably true	9	10	9	9	10	8	7	8	12
Probably false	1	1	1	0	1	0	0	0	1
Definitely false	1	1	1	1	1	1	1	1	1
Don't know	2	1	1	4	2	2	5	1	1
23h. A person can be infected with the AIDS virus and not have the disease AIDS.									
Definitely true	56	58	63	47	55	57	36	55	68
Probably true	22	22	21	24	22	22	23	24	20
Probably false	4	4	3	4	4	3	5	4	3
Definitely false	4	6	5	3	5	4	5	5	3
Don't know	14	10	8	22	13	14	31	12	6
23i. Looking at a person is enough to tell if he or she has the AIDS virus.									
Definitely true	1	1	1	2	2	1	3	1	1
Probably true	3	3	3	4	3	4	6	4	2
Probably false	16	16	14	19	17	16	20	18	13
Definitely false	70	75	77	58	69	70	50	70	80
Don't know	9	5	4	17	9	9	22	8	3
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.									
Definitely true	81	84	83	77	80	83	78	83	81
Probably true	13	12	12	14	14	12	12	12	14
Probably false	1	1	1	1	2	1	1	1	2
Definitely false	1	1	1	1	1	1	1	1	1
Don't know	4	2	2	7	4	4	8	3	2
23k. A person who has the AIDS virus can look and feel healthy and well.									
Definitely true	48	52	55	36	49	46	29	46	60
Probably true	30	30	28	32	30	31	29	32	29
Probably false	7	6	6	8	6	7	11	7	4
Definitely false	4	3	4	5	4	4	6	4	2
Don't know	11	8	7	18	11	12	25	11	5
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.									
Definitely true	79	81	82	74	76	81	73	79	81
Probably true	15	15	14	17	17	14	16	15	15
Probably false	0	0	0	0	0	0	0	0	0
Definitely false	1	1	0	0	0	1	1	0	0
Don't know	5	3	3	8	6	5	10	4	3

See footnotes at end of table.

Table 2. Provisional estimates of the percent of white adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
		Percent distribution[1]							
23m. There is a vaccine available to the public that protects a person from getting the AIDS virus.									
Definitely true	1	2	1	1	1	1	2	1	1
Probably true	2	3	1	2	2	2	4	2	1
Probably false	10	10	8	11	10	9	11	11	8
Definitely false	76	77	83	68	76	75	59	76	85
Don't know	11	8	7	19	10	13	25	11	5
23n. There is no cure for AIDS at present.									
Definitely true	87	87	89	84	86	87	79	87	91
Probably true	6	6	5	7	6	6	8	7	5
Probably false	1	1	1	1	1	1	1	1	1
Definitely false	2	3	2	2	2	2	3	3	2
Don't know	4	3	2	6	4	4	9	3	2
24. How likely do you think it is that a person will get AIDS or the AIDS virus infection from—									
24a. Living near a hospital or home for AIDS patients?									
Very likely	1	1	1	1	1	1	3	1	1
Somewhat likely	3	3	2	3	3	3	4	3	2
Somewhat unlikely	7	8	7	7	8	7	8	9	5
Very unlikely	38	39	38	37	40	36	34	39	39
Definitely not possible	44	45	48	40	42	47	33	43	52
Don't know	6	4	4	11	6	7	17	5	2
24b. Working near someone with the AIDS virus?									
Very likely	2	2	2	3	2	2	4	2	1
Somewhat likely	9	9	9	10	9	9	12	10	7
Somewhat unlikely	13	14	12	12	13	12	11	14	12
Very unlikely	39	40	41	37	41	38	33	38	43
Definitely not possible	30	32	32	27	29	31	23	29	34
Don't know	7	4	4	12	7	7	17	6	3
24c. Eating in a restaurant where the cook has the AIDS virus?									
Very likely	6	5	5	7	6	6	10	6	4
Somewhat likely	18	18	17	17	18	17	18	19	15
Somewhat unlikely	16	17	17	13	16	16	11	17	17
Very unlikely	32	33	34	29	33	31	25	30	38
Definitely not possible	17	19	18	14	16	17	13	16	20
Don't know	12	7	9	19	11	13	23	12	6
24d. Kissing—with exchange of saliva—a person who has the AIDS virus?									
Very likely	22	17	22	26	21	23	26	24	18
Somewhat likely	29	29	29	29	29	29	26	30	30
Somewhat unlikely	14	17	15	11	14	14	9	13	18
Very unlikely	17	19	18	13	18	16	12	15	21
Definitely not possible	7	10	7	5	7	7	6	7	7
Don't know	11	8	9	16	11	12	20	11	6
24e. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?									
Very likely	2	1	2	2	2	2	4	2	1
Somewhat likely	6	5	6	6	6	5	8	6	4
Somewhat unlikely	13	13	13	13	14	13	12	16	11
Very unlikely	38	39	39	36	39	37	33	38	41
Definitely not possible	34	38	36	30	32	37	26	33	40
Don't know	7	3	4	12	7	7	17	6	2
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?									
Very likely	8	7	8	9	7	9	11	9	6
Somewhat likely	19	18	19	20	20	19	21	21	17
Somewhat unlikely	14	15	15	13	15	14	11	14	16
Very unlikely	29	31	31	26	30	28	22	28	35
Definitely not possible	18	22	19	15	18	19	14	17	21
Don't know	11	7	8	17	10	12	21	10	6
24g. Using public toilets?									
Very likely	5	4	4	6	4	6	9	5	2
Somewhat likely	11	11	10	13	11	12	17	13	8
Somewhat unlikely	13	14	14	12	13	13	10	15	13
Very unlikely	35	35	37	32	36	33	25	33	41
Definitely not possible	25	28	28	20	26	25	17	23	32
Don't know	11	8	7	17	10	12	21	11	5

See footnotes at end of table.

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[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
24h. Sharing needles for drug use with someone who has the AIDS virus?									
Very likely	94	96	96	91	94	94	88	95	96
Somewhat likely	3	2	2	3	3	2	4	2	2
Somewhat unlikely	0	0	0	0	0	0	0	0	0
Very unlikely	1	1	0	1	1	1	1	1	0
Definitely not possible	0	0	0	1	0	1	1	0	0
Don't know	2	1	1	4	2	2	6	1	1
24i. Being coughed or sneezed on by someone who has the AIDS virus?									
Very likely	7	4	6	9	6	7	10	7	4
Somewhat likely	20	17	19	22	19	20	21	21	17
Somewhat unlikely	17	19	18	15	18	17	14	17	19
Very unlikely	29	32	32	24	31	28	21	28	35
Definitely not possible	15	19	16	12	15	16	11	15	18
Don't know	12	8	9	18	11	13	23	12	6
24j. Attending school with a child who has the AIDS virus?									
Very likely	2	1	1	2	1	2	3	2	1
Somewhat likely	6	4	6	7	6	6	7	6	4
Somewhat unlikely	11	12	12	10	11	11	10	13	10
Very unlikely	41	42	42	39	43	38	34	41	44
Definitely not possible	33	37	34	28	31	34	26	32	38
Don't know	8	4	5	14	7	9	19	7	3
24k. Mosquitoes or other insects?									
Very likely	7	8	6	7	8	6	12	7	4
Somewhat likely	15	18	15	14	16	14	18	17	13
Somewhat unlikely	9	10	9	8	9	9	7	10	10
Very unlikely	25	24	27	22	25	24	17	24	29
Definitely not possible	22	22	24	20	21	23	15	20	27
Don't know	22	18	19	28	20	24	31	22	18
25. Have you ever donated blood?									
Yes	42	34	45	45	54	32	33	39	51
No	57	66	54	55	45	68	67	61	49
Don't know	0	0	0	0	0	0	0	0	0
26a. Have you donated blood since March 1985?									
Yes	14	20	17	6	17	11	6	13	19
No	85	80	82	93	82	88	94	87	80
Don't know	1	1	1	1	1	0	0	1	1
26b. Have you donated blood in the past 12 months?									
Yes	7	9	9	3	8	6	3	6	10
No	93	90	91	96	91	94	97	93	89
Don't know	1	1	1	1	1	0	0	1	1
27. Have you ever heard of a blood test that can detect the AIDS virus infection?									
Yes	78	84	86	64	77	78	58	78	88
No	18	13	11	28	18	18	35	18	9
Don't know	4	2	3	8	4	5	7	4	3
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?									
Yes	69	76	78	55	69	69	49	69	80
No	3	3	3	3	3	3	2	3	3
Don't know	5	6	5	6	5	5	7	5	4
Never heard of test[4]	22	16	14	36	23	22	42	22	12
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?									
Yes	3	5	4	1	3	3	2	3	5
No	74	79	82	63	74	74	56	75	83
Don't know	0	0	0	0	0	0	0	0	0
Never heard of test[4]	22	16	14	36	23	22	42	22	12
29b. Was the discussion—[1,5]									
With a private doctor?	45	46	44	51	40	51	45	42	47
At a family-planning clinic?	4	7	2	–	3	5	12	3	3
On an AIDS hotline?	3	3	2	3	2	3	2	1	4
At a prenatal clinic?	3	8	1	–	2	5	4	2	4
At an STD or sexually transmitted disease clinic?	3	3	4	–	4	2	–	3	4
At an AIDS/HIV counseling and testing site?	8	7	9	3	8	7	3	7	9
With some other health professional?	44	40	47	51	47	41	46	42	45
With some other counselor?	12	14	11	8	16	8	22	10	11
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus?[6]									
Yes	63	71	57	52	65	60	71	68	58
No	37	28	42	48	34	39	29	31	41
Don't know	1	1	0	–	1	0	–	1	0

See footnotes at end of table.

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[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
		Percent distribution[1]							
31. Have you ever been advised by a health professional not to have the blood test for the AIDS virus infection?									
Yes	0	1	1	0	0	0	0	0	1
No	77	84	85	63	77	77	58	77	87
Don't know	0	0	0	0	0	0	0	0	0
Never heard of test[4]	23	16	14	37	23	22	42	22	12
32. Have you ever been advised by friends or relatives not to have the blood test for the AIDS virus infection?									
Yes[8]	0	1	1	0	0	0	0	0	1
No	77	84	85	63	77	77	58	77	87
Don't know	0	0	0	0	0	0	0	0	0
Never heard of test[4]	23	16	14	37	23	22	42	22	12
33. Have you had your blood tested for the AIDS virus infection?									
Yes	17	25	21	8	21	14	9	16	23
No	60	60	65	55	57	63	49	62	64
Don't know	2	2	1	2	2	1	2	1	2
Never heard of test[4]	21	14	13	35	21	22	41	21	11
35a. How many times have you had your blood tested for the AIDS virus infection?[7]									
Once	5	7	6	1	5	4	3	4	6
Twice	1	2	1	0	1	1	1	1	2
3–5 times	1	1	1	0	1	1	0	1	2
6–12 times	0	0	1	0	0	0	0	0	1
More than 12 times	0	0	0	0	0	0	0	0	0
Don't know	10	14	12	5	12	8	4	9	14
Never heard of or never took test[8]	83	75	79	93	79	86	92	84	77
35b. How many times in the past 12 months have you had your blood tested for the AIDS virus infection?[7]									
None in the past 12 months	2	3	2	1	2	1	1	2	2
Once	4	6	5	1	5	4	3	4	5
More than once	2	2	2	1	2	1	1	1	2
Don't know	10	14	12	5	12	8	4	9	13
Never heard of or never took test[8]	83	75	79	93	79	86	92	84	77
36. Was the test/were any of the tests, including those you had before the past 12 months—[1,7]									
Part of a blood donation?	75	73	76	79	75	75	64	75	78
Part of a blood transfusion?	2	1	2	2	1	2	2	2	1
Voluntarily sought?	14	14	15	11	13	16	20	13	14
Part of some other activity that requires a blood sample?	13	17	11	9	15	10	16	13	12
38. Did you get the results of your test/any of your tests?[9]									
Yes	51	53	51	43	51	51	64	48	50
No	48	46	48	55	48	48	34	50	50
Don't know	1	1	1	2	1	1	2	2	1
41. Do you expect to have a blood test for the AIDS virus infection in the next 12 months?									
Yes	6	10	7	2	7	5	4	6	7
No	68	69	75	59	66	69	50	68	77
Don't know	4	6	4	3	4	4	4	4	4
Never heard of test[4]	22	16	14	36	23	22	42	22	12
42. Will the test be—[1,10]									
Part of a blood donation?	46	40	52	44	47	45	25	44	53
Voluntarily sought?	49	59	41	42	47	51	62	52	43
Part of some other activity that requires a blood sample?	16	15	16	20	18	13	16	16	16
44a. Did you have a blood tranfusion at any time between 1977 and 1985?									
Yes	6	3	5	8	5	6	7	5	5
No	93	96	94	90	93	93	92	93	93
Don't know	1	1	1	2	1	1	1	1	1
44b. Do you think the present supply of blood is safe for tranfusions?									
Yes	46	49	50	40	50	43	34	45	54
No	26	28	26	25	24	28	30	28	23
Other	0	–	0	–	0	0	–	0	0
Don't know	27	23	24	34	26	29	36	27	23
45. Here are some methods people use to prevent getting the AIDS virus through sexual activity. How effective is—									
45a. Using a diaphragm?									
Very effective	2	2	2	3	2	2	3	3	2
Somewhat effective	13	15	10	14	13	13	11	13	13
Not at all effective	58	62	67	45	57	59	40	58	68
Don't know how effective	21	17	16	30	22	20	33	21	14
Don't know method	6	4	4	8	6	6	13	5	3

See footnotes at end of table.

Table 2. Provisional estimates of the percent of white adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
45b. Using a condom?									
Very effective	30	35	34	24	33	29	23	29	36
Somewhat effective	55	55	57	52	54	55	46	57	57
Not at all effective	5	4	4	5	4	5	7	5	3
Don't know how effective	8	5	4	15	7	9	19	7	4
Don't know method	2	1	1	4	2	2	5	1	1
45c. Using a spermicidal jelly, foam, or cream?									
Very effective	2	2	2	1	2	1	2	1	1
Somewhat effective	15	18	15	14	16	15	10	15	19
Not at all effective	54	59	62	43	52	56	41	55	61
Don't know how effective	23	17	17	33	24	22	34	23	16
Don't know method	6	4	4	10	7	6	14	5	3
45d. Having a vasectomy?									
Very effective	1	2	1	1	2	1	2	1	1
Somewhat effective	2	4	2	2	3	2	3	3	2
Not at all effective	73	72	83	63	73	73	54	73	84
Don't know how effective	17	17	10	24	17	17	28	18	10
Don't know method	6	5	4	9	6	6	14	5	3
45e. Two people who do not have the AIDS virus having sex only with each other?									
Very effective	84	85	89	79	86	83	73	85	90
Somewhat effective	7	8	6	8	7	8	9	8	6
Not at all effective	2	3	2	2	2	2	3	3	1
Don't know how effective	5	3	2	8	4	5	11	4	2
Don't know method	1	1	1	3	1	2	4	1	1
46. What are your chances of having the AIDS virus?									
High	0	0	0	0	0	0	0	0	0
Medium	1	2	2	1	2	1	1	2	2
Low	14	20	17	8	16	13	8	14	19
None	82	76	80	88	79	84	86	83	78
Don't know	2	2	1	3	2	2	4	2	1
47. What are your chances of getting the AIDS virus?									
High	0	1	0	0	0	0	0	0	0
Medium	2	3	2	1	2	1	2	2	2
Low	20	28	24	11	24	18	11	19	27
None	74	65	72	84	71	78	82	76	69
Don't know	3	3	2	3	3	3	5	3	1
High chance of already having AIDS virus	0	0	0	0	0	0	0	0	0
49. Do you say your chance of getting AIDS is high or medium because you—[11]									
Have had a blood transfusion?	8	6	7	16	7	9	9	11	4
Have had sexual contact with someone who might have the virus?	15	21	15	4	18	12	20	14	15
Some other reason?	67	67	66	65	61	74	53	70	69
52. Have you ever discussed AIDS with a friend or relative?									
Yes	66	72	75	52	62	70	45	65	78
No	34	27	25	48	38	30	54	35	22
Don't know	0	0	0	1	0	0	0	1	0
53. When was the last time you discussed AIDS with a friend or relative?									
0–3 days ago	8	9	9	6	8	8	6	7	9
4–7 days ago	10	11	12	8	10	11	8	10	12
8–14 days ago	8	8	8	6	7	8	5	8	9
15–31 days ago	16	17	18	12	14	17	10	15	18
More than 31 days ago	19	24	22	13	18	21	12	19	23
Don't know	5	4	5	6	5	5	4	5	6
Never discussed[12]	34	28	25	48	39	30	55	35	23
54. Have you ever personally known anyone with AIDS or the AIDS virus?									
Yes	10	10	12	7	9	10	5	7	15
No	89	88	86	92	89	88	94	91	83
Don't know	2	2	2	2	2	2	1	2	2
55. How long has it been since you saw this person?									
Within past 2 weeks	1	1	1	0	1	1	0	1	2
2 weeks–less than 1 month	0	1	0	0	0	0	0	0	1
1 month–less than 3 months	1	1	1	1	1	1	0	1	1
3 months–less than 6 months	1	1	1	1	1	1	0	1	1
6 months or more	6	6	8	5	6	7	3	5	10
Don't know	0	0	0	0	0	0	0	0	0
Never knew anyone with AIDS[13]	90	90	88	94	91	90	95	93	85

See footnotes at end of table.

Table 2. Provisional estimates of the percent of white adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
56. How well do you know this person?									
Very well	1	1	1	1	1	1	1	1	2
Fairly well	2	2	3	1	2	2	1	2	3
Not very well	4	4	5	2	4	4	1	3	6
Don't really know personally	2	2	2	1	1	2	1	1	2
Other	1	1	1	1	1	1	0	1	2
Don't know how well	–	–	–	–	–	–	–	–	–
Never knew anyone with AIDS[13]	90	90	88	94	91	90	95	93	85
57. Is any of these statements true for you?									
a. You have hemophilia and have received clotting factor concentrates since 1977.									
b. You are a native of Haiti or Central or East Africa who has entered the United States since 1977.									
c. You are a man who has had sex with another man at some time since 1977, even 1 time.									
d. You have taken illegal drugs by needle at any time since 1977.									
e. Since 1977, you are or have been the sex partner of any person who would answer yes to any of the items above (57 a-d).									
f. You have had sex for money or drugs at any time since 1977.									
Yes to at least 1 statement	2	4	3	0	3	2	2	2	2
No to all statements	98	96	97	99	97	98	98	98	97
Refused	0	0	0	0	0	0	0	0	0
Don't know	0	0	0	0	0	0	0	0	0
58. The U.S. Public Health Service has said that AIDS is one of the major health problems in the country but exactly how many people it affects is not known. The Surgeon General has proposed that a study be conducted and blood samples be taken to help find out how widespread the problem is. If you were selected in this national sample of people to have their blood tested with assurances of privacy of test results, would you have the test?									
Yes	71	76	74	64	72	70	65	72	74
No	21	18	18	27	21	22	27	21	19
Other	2	1	2	3	2	2	2	2	2
Don't know	5	4	6	6	4	6	6	6	5
59. Why wouldn't you take part in the test?[14]									
Don't want to know if I have AIDS	4	7	5	2	4	4	3	5	4
Don't want any counseling about AIDS	1	1	1	1	1	1	2	1	1
Fear I'll get AIDS	6	5	6	6	5	6	7	6	4
Don't like to give blood	13	18	13	9	11	14	10	15	12
Don't trust Government programs	6	6	9	5	9	5	3	6	9
It is a waste of money	4	3	3	4	4	3	5	4	3
Don't believe AIDS can really be cured anyway	2	1	1	2	2	2	3	2	1
Other	54	47	51	61	54	55	55	51	58
Don't know	12	15	12	12	11	14	15	13	11
61. When Federal public health officials give information about AIDS, do you believe what they say or are you doubtful about the information they give?									
Believe	65	71	66	58	64	65	55	64	71
Doubtful	29	24	29	32	30	28	32	31	25
Don't know	6	4	5	10	6	7	13	6	4
62. When they [public health officials] give advice about how to help keep from getting AIDS, do you believe their advice or are you doubtful about what they say?									
Believe	79	82	82	73	79	79	68	78	85
Doubtful	16	14	15	19	17	16	21	17	13
Don't know	5	3	3	8	5	5	11	4	3

[1] Multiple responses may sum to more than 100.
[2] Based on persons answering yes to question 4 (includes yes to question 3).
[3] Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
[4] Persons answering no or don't know to question 27.
[5] Based on persons answering yes to question 29a.
[6] Includes persons answering yes to question 26a and no or don't know to questions 27 and 33.
[7] Based on yes answers to question 33. See footnote 6.
[8] Persons answering no or don't know to questions 26a, 27, and 33.
[9] Based on persons answering yes to question 33; excludes persons answering yes to question 26a and no or don't know to question 27 or 33.
[10] Based on persons answering yes to question 41.
[11] Based on persons answering high or medium to question 46.
[12] Based on persons answering no or don't know to question 52.
[13] Based on persons answering no or don't know to question 54.
[14] Based on persons not answering yes to question 58.

Symbols	
-	Quantity zero
0	Quantity more than zero but less than 0.05

Technical notes

The National Health Interview Survey (NHIS) is a continuous, cross-sectional household interview survey. Each week, a probability sample of the civilian noninstitutionalized population is interviewed by personnel of the U.S. Bureau of the Census to obtain information on the health and other characteristics of each member of the household. Supplemental information is collected for all or a sample of household members. The 1988 National Health Interview Survey of AIDS Knowledge and Attitudes was asked of a single randomly chosen adult 18 years of age or over in each family. The estimates in this report are based on completed interviews with 3,066 black and 17,355 white individuals, about 89 percent of eligible respondents.

Table I contains the estimated population size of each of the demographic subgroups included in tables 1 and 2 to allow readers to derive provisional estimates of the number of people in the United States with a given characteristic, for example, the number of black men age 18–29 years who have had their blood tested for the AIDS virus. The population figures in table I are based on 1987 data from the NHIS; they are not official population estimates. Tables II and III show approximate standard errors of the estimates presented in tables 1 and 2. Both the estimates in tables 1 and 2 and the standard errors in tables II and III are provisional. They may differ slightly from estimates made using the final data file because they were calculated using a simplified weighting procedure that does not adjust for all the factors used in weighting the final data file. A final data file covering the entire data collection period for 1988 will be available later in 1989.

Table I. Black and white sample sizes for the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes and estimated black and white adult populations 18 years of age and over, by selected characteristics: United States, May-October 1988

Characteristic	Sample size		Estimated population in thousands	
	Black	White	Black	White
All adults	3,066	17,355	19,168	148,154
Age				
18–29 years	799	3,921	6,257	38,498
30–49 years	1,170	6,590	7,318	56,256
50 years and over	1,097	6,844	5,593	53,400
Sex				
Male	1,086	7,508	8,535	70,769
Female	1,980	9,847	10,633	77,385
Education				
Less than 12 years	1,083	3,632	6,594	31,461
12 years	1,108	6,659	7,336	58,666
More than 12 years	833	6,889	4,984	57,068

Table II. Standard errors, expressed in percentage points, of estimated percents for black adults from the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes, by selected characteristics: United States, May-October 1988

Estimated percent	Total	Age			Sex		Education		
		18-29 years	30-49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
5 or 95	0.5	1.0	0.8	0.8	0.9	0.6	0.9	0.8	1.0
10 or 90	0.7	1.4	1.1	1.2	1.2	0.9	1.2	1.2	1.3
15 or 85	0.8	1.6	1.3	1.4	1.4	1.0	1.4	1.4	1.6
20 or 80	0.9	1.8	1.5	1.6	1.6	1.2	1.6	1.5	1.8
25 or 75	1.0	2.0	1.6	1.7	1.7	1.3	1.7	1.7	1.9
30 or 70	1.1	2.1	1.7	1.8	1.8	1.3	1.8	1.8	2.0
35 or 65	1.1	2.2	1.8	1.9	1.9	1.4	1.9	1.8	2.1
40 or 60	1.1	2.2	1.8	1.9	1.9	1.4	1.9	1.9	2.2
45 or 55	1.2	2.3	1.9	1.9	1.9	1.4	1.9	1.9	2.2
50	1.2	2.3	1.9	1.9	2.0	1.4	2.0	1.9	2.2

Table III. Standard errors, expressed in percentage points, of estimated percents for white adults from the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes, by selected characteristics: United States, May-October 1988

Estimated percent	Total	Age			Sex		Education		
		18-29 years	30-49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
5 or 95	0.2	0.4	0.3	0.3	0.3	0.3	0.5	0.3	0.3
10 or 90	0.3	0.6	0.5	0.4	0.4	0.4	0.6	0.5	0.5
15 or 85	0.3	0.7	0.6	0.6	0.5	0.5	0.8	0.6	0.6
20 or 80	0.4	0.8	0.6	0.6	0.6	0.5	0.9	0.6	0.6
25 or 75	0.4	0.9	0.7	0.7	0.6	0.6	0.9	0.7	0.7
30 or 70	0.4	0.9	0.7	0.7	0.7	0.6	1.0	0.7	0.7
35 or 65	0.5	1.0	0.8	0.7	0.7	0.6	1.0	0.8	0.7
40 or 60	0.5	1.0	0.8	0.8	0.7	0.6	1.0	0.8	0.8
45 or 55	0.5	1.0	0.8	0.8	0.7	0.6	1.1	0.8	0.8
50	0.5	1.0	0.8	0.8	0.7	0.6	1.1	0.8	0.8

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AIDS Knowledge and Attitudes of Hispanic Americans

Provisional Data From the 1988 National Health Interview Survey

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Introduction

This report is one of two special reports examining knowledge and attitudes about acquired immunodeficiency syndrome (AIDS) and the human immunodeficiency virus (HIV) among selected minority subgroups of the U.S. population. Based on data collected in the National Health Interview Survey (NHIS), this report describes various aspects of AIDS-related knowledge, attitudes and behavior for Hispanic adults 18 years of age and over. It presents differentials by age, sex, education, and specific Hispanic ancestry and compares selected measures for Hispanic and non-Hispanic individuals. The other special report (*Advance Data From Vital and Health Statistics*, No. 165) presents data for black adults and compares them with data for their white counterparts.

Both reports are based on provisional data for the period May–October 1988. These 6 months of data have been combined to provide a sufficient number of respondents to examine differences in knowledge among various subgroups of the Hispanic and non-Hispanic populations. Even with this aggregation, the sample of Hispanic adults is fairly small, and sampling errors are large. Thus, only large differences are statistically significant. Some changes in knowledge occurred over this 6-month period; however, the changes were of similar magnitude for Hispanic and non-Hispanic adults and should not affect the comparisons made in this report.

Since 1987, the National Center for Health Statistics has included a special set of supplemental questions on the adult population's knowledge and attitudes about AIDS and HIV in the NHIS. The first AIDS Knowledge and Attitudes Survey was in the field from August through December 1987. Provisional results of that survey were published on a monthly basis in *Advance Data From Vital and Health Statistics* (Nos. 146, 148, 150, 151, and 153). During the first 4 months of 1988, the NHIS AIDS questionnaire was revised to meet current program needs for information about AIDS awareness. The revised AIDS Knowledge and Attitudes Survey entered the field in May 1988. Provisional findings for the total population for the period May–October 1988 have been published in *Advance Data From Vital and Health Statistics*, Nos. 160, 161, 163, and 164.

The AIDS questionnaires were designed to estimate public knowledge and attitudes about AIDS transmission and prevention of AIDS virus infection. The data were needed as input for the planning and development of AIDS educational campaigns and for monitoring major educational efforts, for example, the series of radio and television public service announcements entitled "America Responds to AIDS" and the brochure "Understanding AIDS," both developed by the Centers for Disease Control.

The 1987 and 1988 AIDS questionnaires were developed by the National Center for Health Statistics and interagency working groups established by the Information, Education and Risk Factor Reduction Subcommittee of the Public Health Service Executive Task Force on AIDS. The working groups included representatives from the Centers for Disease Control; the National Institutes of Health; the Alcohol, Drug Abuse and Mental Health Administration; and the Health Resources and Services Administration.

The current AIDS questionnaire includes items on sources of AIDS information; self-assessed levels of AIDS knowledge; basic facts about the AIDS virus and how it is transmitted; blood donation experience; awareness of and experience with the blood test for the AIDS virus; perceived effectiveness of selected preventive measures; self-

assessed chances of getting the AIDS virus; personal acquaintance with persons with AIDS or the AIDS virus; and willingness to take part in a proposed national seroprevalence survey. A general risk behavior question, similar to that asked by the Red Cross of potential blood donors, is included in the 1988 AIDS questionnaire.

This report presents provisional data for May–October 1988 for most items included in the AIDS questionnaire. Tables 1 and 2, for Hispanic and non-Hispanic adults, respectively, display percent distributions of persons 18 years of age and over by response categories according to age, sex, education, and specific Hispanic ancestry. In most cases, the actual questions asked of the respondents are reproduced verbatim in tables 1 and 2, along with the coded response categories. In a few cases, questions or response categories have been rephrased or combined for clearer or more concise presentation of results. Refusals and other nonresponse categories are excluded from the denominator in the calculation of estimates, but responses of "don't know" are included.

Questions in the NHIS AIDS survey used the term "the AIDS virus" rather than HIV, because it was felt that the general population might not be familiar with the more scientific terminology when the survey began. In this report, "the AIDS virus" will be used in place of HIV when it reflects the was an individual question was worded.

For this report, characterization of Hispanic origin is based on respondents' descriptions of their ancestry or origin. For each member of a household, the household respondent for the main NHIS interview was shown a list of Hispanic groups and asked "Are any of these groups _____'s national origin or ancestry?" If this question was not understood, the interviewer probed "Where did _____'s ancestors come from?" The choices on the list were Puerto Rican, Cuban, Mexican/Mexicano, Mexican American, Chicano, other Latin American, and other Spanish.

The "Mexican" category in table 1 includes persons classified as Mexican/Mexicano, Mexican American, or Chicano. The "other Hispanic" category includes all the other diverse Hispanic groups listed above, none of which was sufficiently large to analyze individually. Persons of unknown Hispanic origin were not included in either of these categories but were included in the Hispanic total and breakdowns by age, sex, and education. Persons for whom it was not known whether they were of Hispanic origin were excluded from the analysis altogether and do not appear in either table 1 or table 2.

Ethnicity does not indicate race. Both persons classified as Hispanic and those classified as non-Hispanic may be white, black, or other race.

Selected findings

Patterns of knowledge and attitudes about AIDS and HIV were essentially the same within the Hispanic population as for the U.S. population as a whole, with the highest levels of knowledge occurring among the young and the well educated. Among Hispanic individuals, those of Mexican ancestry generally were less knowledgeable about AIDS and HIV than were those of all other Hispanic origins combined; it is important to realize, however, that estimates for the latter residual group are averages based on figures for many diverse national origins. Compared to non-Hispanic adults, those of Hispanic origin were less knowledgeable about many aspects of AIDS and HIV.

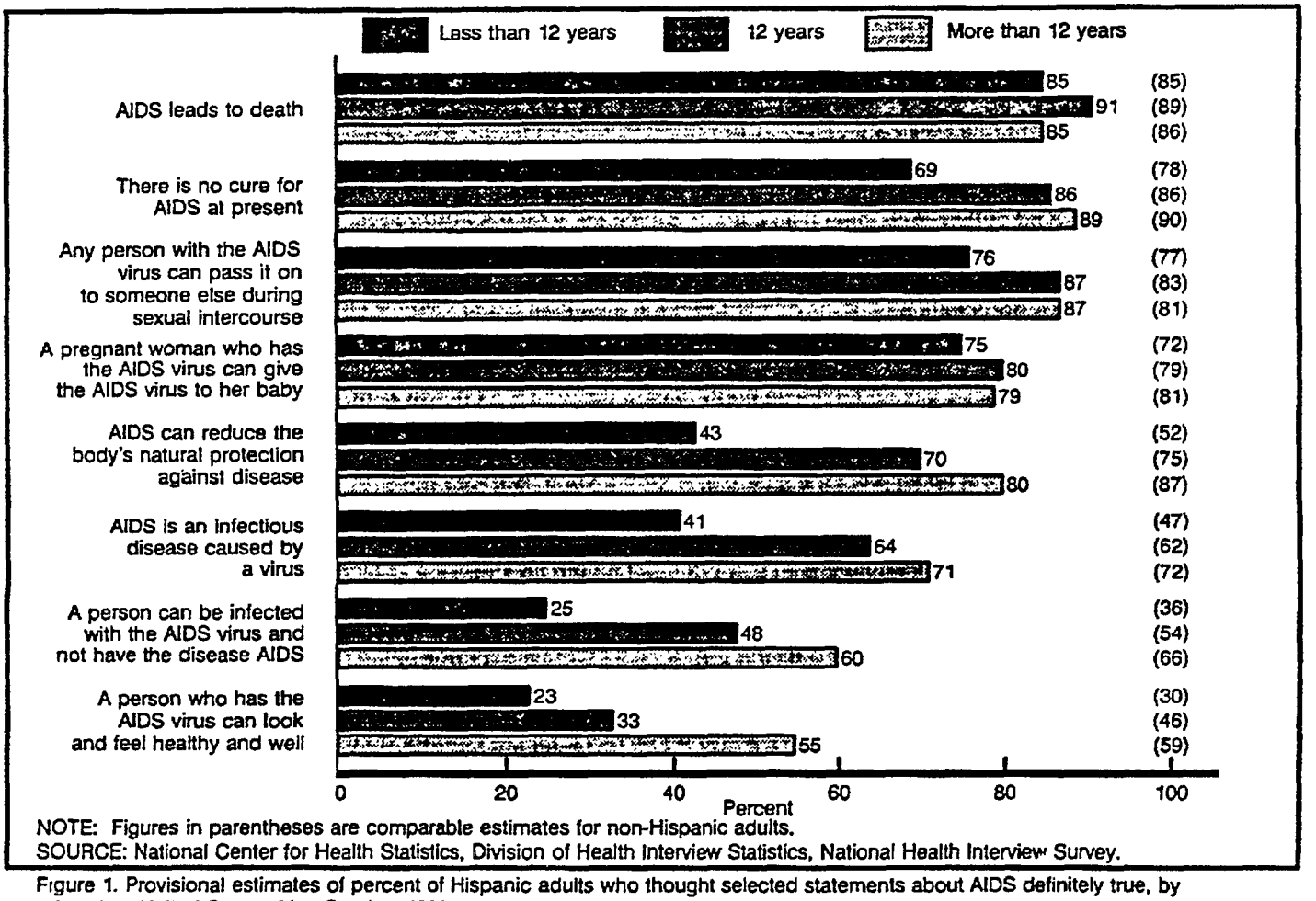
The following highlights describe various aspects of AIDS knowledge and attitudes observed in the NHIS data for the period May–October 1988, focussing on differentials within the Hispanic population and differences between Hispanic and non-Hispanic individuals. All differences cited in the text are statistically significant unless otherwise noted (see tables II and III for approximate standard errors of estimates).

Sources of information about AIDS and HIV—According to data collected in May–October 1988, 84 percent of Hispanic adults saw public service announcements about AIDS on television in the month preceding the NHIS interview, and 56 percent heard such announcements of the radio. Of those who saw or heard public service announcements about AIDS, one-fourth reported that the announcements were part of the series called "America Responds to AIDS."

The proportion of Hispanic individuals who saw public service announcements on television decreased with age (from 87 percent of those 18–29 years of age to 78 percent of those 50 years and over) and was lower for persons with less than 12 years of school than for those with more education (78 versus 87 percent). The proportion who heard radio announcments was greater for Hispanic men than women (61 versus 51 percent) and for persons with more than 12 years of school than for those with less education (64 versus 53 percent). Hispanic adults of Mexican ancestry were less likely than other Hispanic persons to have heard radio announcements, 51 compared to 62 percent.

Persons of Hispanic origin were as likely as non-Hispanic adults to have seen announcements about AIDS on television and more likely to have heard radio announcements, 56 compared to 46 percent. Below age 30, though, there was no difference in the proportion of Hispanic and non-Hispanic adults who had heard radio announcements; the greatest difference was among individuals 50 years of age and over.

Thirty-six percent of Hispanic adults read brochures or pamphlets about AIDS in the month preceding the NHIS interview. This figure probably reflects the national mailing of the brochure "Understanding AIDS" during June and July 1988. Half (51 percent) of Hispanic adults reported ever having read brochures or pamphlets about AIDS. The proportion who had ever read such materials decreased sharply with age, (from 59 percent of those age 18–29 years to 32 percent of those 50 years of age and over) and increased with education (from 34 percent of those with less than 12 years of school to 63 percent of those with 12 or more years). Forty-five percent of persons of Mexican ancestry had ever read brochures or pamphlets about AIDS, compared to 57 percent of other Hispanic



NOTE: Figures in parentheses are comparable estimates for non-Hispanic adults.
SOURCE: National Center for Health Statistics, Division of Health Interview Statistics, National Health Interview Survey.

Figure 1. Provisional estimates of percent of Hispanic adults who thought selected statements about AIDS definitely true, by education: United States, May-October 1988

individuals. On the whole, Hispanic adults were less likely than non-Hispanic adults to have read brochures or pamphlets about AIDS, 51 compared to 64 percent.

Almost half of all Hispanic adults reported having discussed AIDS with their children age 10–17 years, and a slightly larger proportion (60 percent) stated that their children in that age range had received instruction about AIDS in school. Hispanic men were less likely than Hispanic women to have discussed AIDS with their children (39 versus 56 percent), and persons of Mexican ancestry were less likely than other Hispanic individuals to have done so (42 versus 57 percent). Hispanic and non-Hispanic adults were equally likely to report that their children had received instruction about AIDS in school, but Hispanic persons were less likely to have discussed AIDS with their children—48 percent compared to 62 percent for non-Hispanic adults.

General knowledge about AIDS and HIV—In terms of self-assessed knowledge about HIV and AIDS, 21 percent of Hispanic adults felt they knew a lot, 36 percent some, 31 percent a little, and 13 percent nothing. The proportion of Hispanic adults claiming to know a lot about AIDS increased with education, from 12 percent of those with less than 12 years of school to 37 percent of those with more than 12 years. Hispanic persons 50 years of age and over were less likely than younger adults to feel that they knew a lot about AIDS, 14 compared to 22 percent. Persons of Mexican ancestry were more likely than other Hispanic adults to feel that they knew nothing about AIDS (16 versus 9 percent) and less likely to feel that they knew a lot (16 versus 25 percent). In comparison to non-Hispanic adults, Hispanic adults were less likely to feel that they knew some about HIV/AIDS (36 versus 44 percent) and more likely to feel that they knew little or nothing (44 versus 33 percent).

Objective measures of knowledge about HIV and AIDS varied by education for both Hispanic and non-Hispanic individuals, as illustated in figure 1. For most of the well known facts, e.g., that there is no cure for AIDS at present and that HIV can be transmitted perinatally and through sexual intercourse, persons with 12 or more years of school were more likely than those with less than 12 years to correctly identify these statements as definitely true. For the less well-known facts, knowledge differed between individuals with 12 years and more than 12 years of school, as well. For example, 23 percent of Hispanic adults with less than 12 years of school thought it definitely true that "a person who has the AIDS virus can look well and healthy." For Hispanic persons with 12 years and more than 12 years of school, the respective proportions were 33 and 55 percent. For the less well-known facts about AIDS and HIV, there was a consistent difference in knowledge

between persons of Mexican ancestry and other Hispanic adults, with the latter the more knowledgeable.

There was no consistent difference in general knowledge about HIV and AIDS between Hispanic and non-Hispanic individuals. Within all levels of education, non-Hispanic adults were the more likely to know that a person with HIV can look healthy, that a person can be infected with HIV and not have AIDS, and that AIDS impairs the body's immune function. For some of the other items shown in figure 1, though, Hispanic/non-Hispanic differences either did not exist or were observed only among persons with less than 12 years of school.

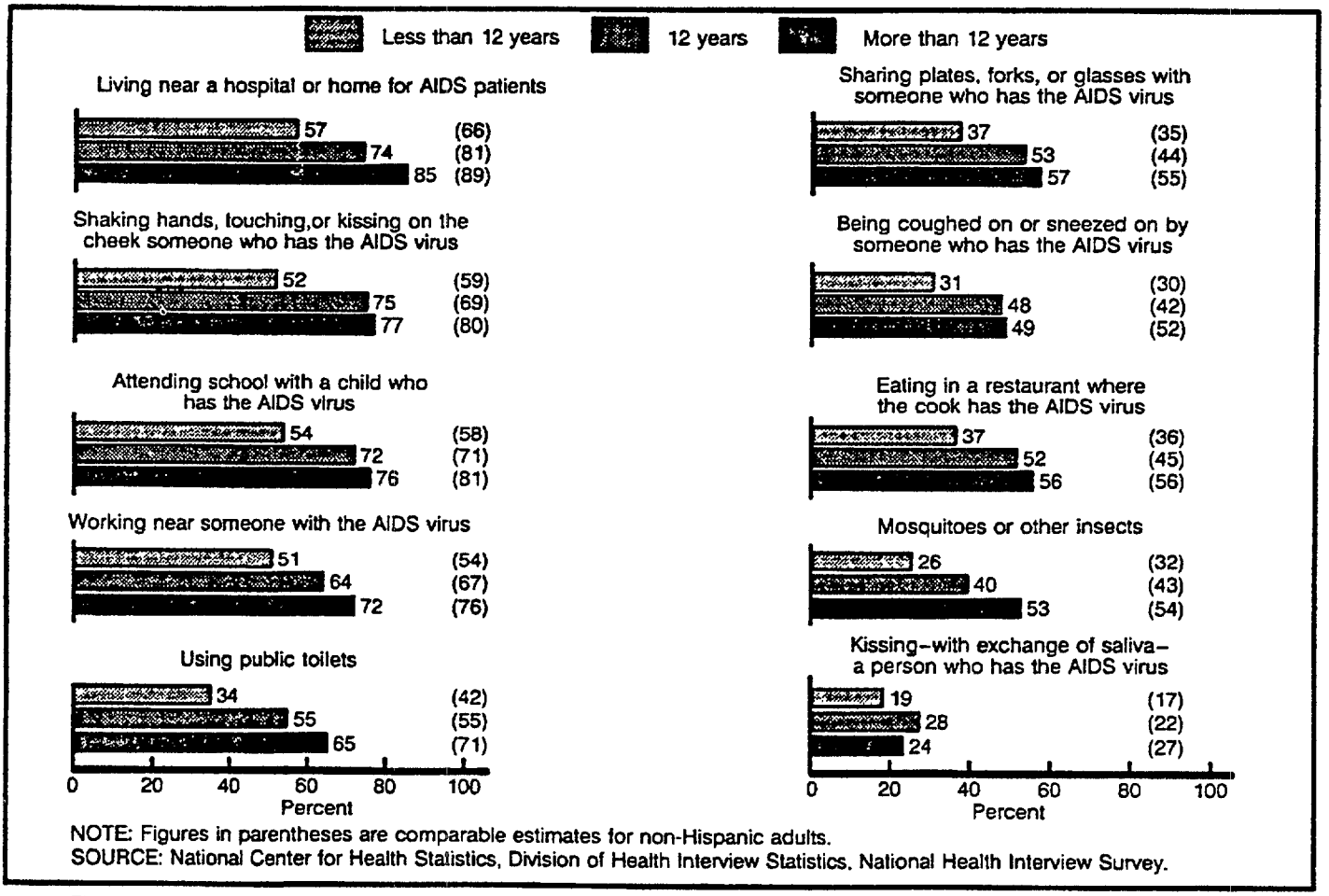
Misperceptions about HIV transmission—Figure 2 shows the proportions of Hispanic and non-Hispanic adults who thought it very unlikely or definitely not possible to become infected with HIV through various forms of nonintimate contact with persons infected with HIV. These proportions increased with education for both Hispanic and non-Hispanic individuals. For example, the proportion of Hispanic adults who thought it very unlikely or definitely not possible to become infected with HIV by using public toilets increased from 35 percent of persons with less than 12 years of school to 55 and 65 percent, respectively, of those with 12 years or more than 12 years.

Individuals of Mexican ancestry were less likely than those of other Hispanic origins to consider it very unlikely or impossible to transmit HIV through most of the activities shown in figure 2, for example, living near a hospital or home for AIDS patients (66 versus 73 percent), attending school with a child who has the AIDS virus (62 versus 68 percent), using public toilets (44 versus 53 percent), and so forth.

Blood donation and testing—Approximately one-quarter (26 percent) of all Hispanic adults in the United States reported ever having donated blood, including 10 percent who had donated since March 1985 (when routine screening for HIV antibodies began) and 4 percent who had donated in the 12 months preceding interview. In comparison, 42 percent of non-Hispanic adults reported ever donating blood.

About half (51 percent) of Hispanic adults believed that blood donations are now routinely tested, compared to 68 percent of non-Hispanic adults. Much of this difference is from the lower proportion of Hispanic adults who had ever heard of the blood test to detect HIV antibodies, 65 percent compared to 77 percent of non-Hispanic adults.

Among Hispanics, the proportion who had ever heard of the blood test for HIV infection varied by age and education. Sixty-nine percent of those under 50 years of age had heard of the test compared with 49 percent of those age 50 years and over. The proportion who had heard



NOTE: Figures in parentheses are comparable estimates for non-Hispanic adults.
SOURCE: National Center for Health Statistics, Division of Health Interview Statistics, National Health Interview Survey.

Figure 2. Provisional estimates of percent of Hispanic adults who thought it very unlikely or definitely not possible to transmit HIV in selected ways, by education: United States, May-October 1988

of the test increased with educational level from 47 percent of those with less than 12 years of school to 86 percent of those with more than 12 years. Persons of Mexican ancestry were less likely to have heard of the test than other Hispanic persons (61 versus 69 percent).

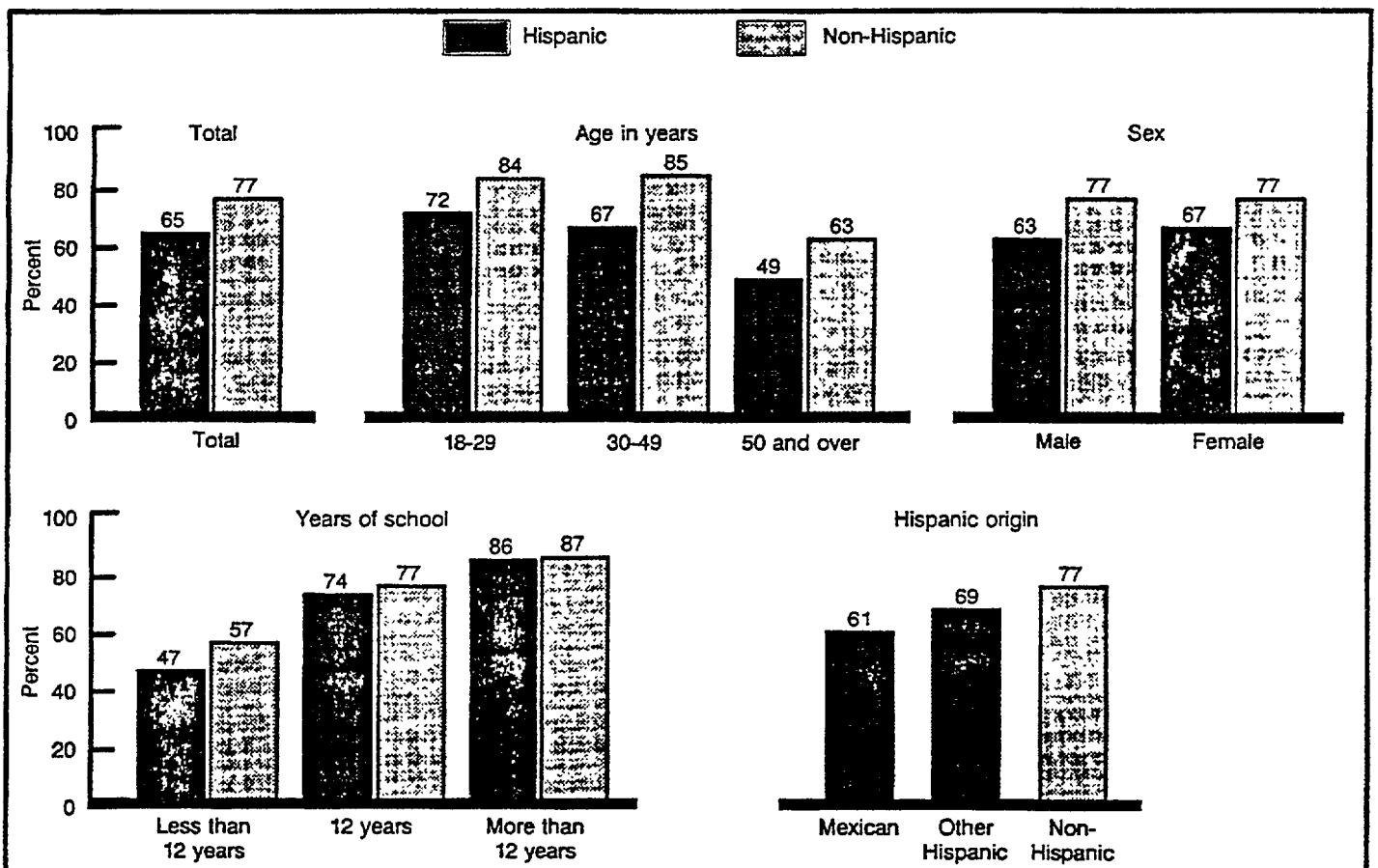
Among persons with less than 12 years of school, Hispanic individuals were less likely than non-Hispanic individuals to have heard of the blood test for HIV antibodies. Among persons with 12 or more years of school, though, Hispanic and non-Hispanic adults were equally likely to have heard of this test (figure 3).

Overall, 14 percent of Hispanic adults had taken the blood test for HIV antibodies, including 8 percent who reported having had the test and another 6 percent who claimed they had not been tested but who reported donating blood since March 1985, when routine screening of donated blood for HIV antibodies began. The proportion of Hispanic persons who had ever had their blood tested for HIV infection decreased with age (from 19 percent of those 18–29 years to 6 percent of those 50 years and over), and increased with education (from 9 percent for those with less than 12 years of school to 20 percent for those with more than 12 years).

A slightly lower proportion of Hispanic than of non-Hispanic adults had had their blood tested for HIV (14 versus 17 percent). This difference primarily resulted from a larger number of non-Hispanic individuals who did not report having their blood tested but who had donated blood since routine screening began. Eight percent of Hispanic adults reported plans to have their blood tested in the next 12 months, similar to the 6 percent of non-Hispanic adults who reported such plans.

Four percent of all Hispanic adults and 6 percent of non-Hispanic adults reported receiving blood transfusions between 1977, when HIV is thought to have entered the United States, and 1985, when routine screening of donated blood for HIV began. At the time of interview (May–October 1988), one-third (32 percent) of Hispanic adults thought the blood supply was safe for tranfusions. This proportion increased with education but was lower than for non-Hispanic individuals in all educational categories except those with more than 12 years of school.

Prevention of HIV transmission—Twenty-eight percent of Hispanic adults thought condoms were very effective in preventing HIV transmission, and 45 percent thought that they were somewhat effective. The porportion of Hispanic



SOURCE: National Center for Health Statistics, Division of Health Interview Statistics, National Health Interview Survey.

Figure 3. Provisional estimates of percent of Hispanic adults who reported knowing about the blood test for the AIDS virus by selected characteristics: United States, May-October 1988

persons who considered this method to be very or somewhat effective increased with education from 58 percent of those with less than 12 years of school to 87 percent of those with more than 12 years. A lower proportion of persons of Mexican ancestry than of other Hispanic individuals thought that condoms were somewhat or very effective (69 versus 77 percent). Ten percent of Hispanic adults thought condoms were not at all effective, twice the proportion of non-Hispanics (5 percent).

The proportion of Hispanic adults who considered maintaining a monogamous relationship with a person not infected with HIV a very effective means of protection against infection was 77 percent, somewhat lower than the estimate of 83 percent for non-Hispanic adults. Again, this proportion increased with educational level, from 69 percent of Hispanic adults with less than 12 years of school to 87 percent of those with more than 12 years. A smaller proportion of persons of Mexican descent than of other Hispanic persons felt this method was very effective (73 percent compared with 82 percent).

Perceived risk of HIV infection—Seventy-six percent of Hispanic adults felt that there was no chance of their becoming infected with HIV, 13 percent assessed their chance of infection as low, 3 percent believed their risk was medium, and 1 percent reported their risk as high. Another 1 percent thought that there was a high chance that they were already infected with HIV, and 6 percent could not assess their risk of HIV infection. Perceived risk of infection decreased with age but did not vary according to sex or education. In the non-Hispanic population, the overall perception of risk was similar except that slightly more (21 percent) felt that their chance of becoming infected was low, and perceived risk did vary for men and women and within categories of education.

Two percent of Hispanic adults reported belonging to one or more groups associated with an increased risk of HIV infection, homosexual men, intravenous drug users, hemophiliacs, etc. Within the Hispanic population, the proportion reportedly belonging to one or more of these groups did not differ by age, sex, or education. For all subgroups, the proportions were similar to those in the non-Hispanic population.

Nine percent of Hispanic adults reported knowing someone with AIDS or HIV. This proportion increased with education, from 4 percent of Hispanic adults with less than 12 years of school to 17 percent of those with more than 12 years. Among Hispanic persons, those not of Mexican ancestry were slightly more likely to report knowing someone with AIDS than were those of Mexican ancestry (11 percent compared with 6 percent). Hispanic and non-Hispanic adults were equally likely to know or have known someone with HIV or AIDS.

Reaction to government AIDS efforts—Two-thirds (67 percent) of Hispanic adults stated that they would be willing to participate in a national seroprevalence survey. This proportion declined with age (from 74 percent of those 18–29 years of age to 59 percent of those 50 years and over) and increased with education (from 63 to 75 percent, respectively, of those with less than 12 and more than 12 years of school). Hispanic ancestry (Mexican as opposed to all others) did not affect stated willingness to participate. Within categories of education, Hispanic adults were as likely as non-Hispanic adults to indicate willingness on this issue.

Sixty-nine percent of Hispanic individuals stated that they believed information about AIDS provided by federal public health officials, and 77 percent said that they believed advice on how to avoid HIV infection. Trust in government information and advice was more often expressed by persons younger than age 50 than by those 50 years of age and over, and by persons with more than 12 years of school than by those with less education. Persons of Mexican ancestry were more skeptical, on average, than those of other Hispanic origins. Hispanic adults were slightly more likely than non- Hispanic adults to believe government information about AIDS (69 versus 64 percent) and equally likely to trust government advice on how to avoid HIV infection.

Table 1. Provisional estimates of the percent of Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, education, and ethnicity: United States, May-October 1988

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education			Hispanic origin	
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years	Mexican	Other Hispanic
	Percent distribution[1]										
Total	100	100	100	100	100	100	100	100	100	100	100
1. In the past month, have you—											
1a. Seen any public service announcements about AIDS on television?											
Yes	84	87	83	78	85	83	78	86	89	83	84
No	15	11	15	20	14	16	20	12	10	14	15
Don't know	1	1	1	2	1	2	2	1	1	2	1
1b. Heard any public service announcements about AIDS on the radio?											
Yes	56	57	57	51	61	51	52	55	64	51	62
No	41	41	39	46	36	46	45	44	32	47	35
Don't know	3	2	4	3	3	3	3	2	5	2	3
2. Were any of those public service announcements called "America Responds to AIDS"?											
Yes	25	31	25	16	24	27	27	26	20	26	25
No	14	14	14	13	15	14	14	14	13	15	14
Don't know	47	45	47	51	50	45	42	48	58	46	49
Neither heard nor saw any public service announcements.	13	10	13	19	12	14	17	11	9	13	13
3. In the past month, have you read any brochures or pamphlets about AIDS?											
Yes	36	41	38	24	34	38	24	43	46	31	41
No	64	59	62	75	65	62	75	56	53	69	58
Don't know	0	–	0	1	1	0	0	0	1	0	1
4. Have you ever read any brochures or pamphlets about AIDS?											
Yes	51	59	52	32	48	53	34	62	65	45	57
No	48	39	47	67	50	46	65	37	34	54	43
Don't know	1	2	1	1	2	1	1	1	1	1	1
5. Where did you get the pamphlets or brochures?[1,2]											
Clinic, other than work clinic	6	8	6	1	5	7	7	6	7	6	7
Doctor's office (HMO)	12	11	13	13	9	15	15	10	13	16	9
Drug store	3	3	4	–	3	3	1	4	2	1	4
Public health department	2	1	2	2	2	1	0	2	2	2	1
Received in mail without asking	34	33	35	33	30	37	27	40	34	34	34
Red Cross/Red Cross blood donation	1	2	1	–	1	1	1	0	3	1	1
Other blood donation	0	0	–	–	0	0	–	0	0	0	0
School	7	13	3	1	6	8	5	7	8	8	6
Sent/phoned for/requested it	1	–	2	2	1	1	2	–	3	1	2
Federal/State/local government	22	21	22	24	26	18	17	24	23	23	21
Work, other than clinic or nurse	13	8	16	20	17	10	11	12	18	15	12
Work, nurse or clinic	4	3	4	4	3	4	3	5	2	4	4
Other	21	20	24	17	27	17	24	20	19	20	22
Don't know	–	–	–	–	–	–	–	–	–	–	–
15. Have you ever discussed AIDS with any of your children aged 10-17?[3]											
Yes	48	40	50	37	39	56	32	66	63	42	57
No	51	60	50	61	61	44	68	34	37	58	43
Don't know	0	–	–	2	0	–	0	–	–	–	0
16. Have any or all of your children aged 10-17 had instruction at school about AIDS?[3]											
Yes	60	58	61	59	54	65	59	63	58	57	65
No	12	10	13	4	10	14	10	11	17	11	14
Don't know	28	32	26	37	36	21	31	26	25	32	21
21. How much would you say you know about AIDS?											
A lot	21	23	22	14	21	20	12	20	37	16	25
Some	36	43	35	26	36	35	25	45	43	36	35
A little	31	28	33	33	31	32	39	30	18	32	30
None	13	6	11	27	12	13	24	5	2	16	9
Don't know	–	–	–	–	–	–	–	–	–	–	–
22. To the best of your knowledge, is there a difference between having the AIDS virus and having the disease AIDS?											
Yes	48	53	50	35	49	47	28	53	76	41	55
No	23	23	25	17	23	22	23	28	14	25	21
Other	0	0	0	1	0	0	0	1	–	1	–
Don't know	29	24	25	47	28	30	49	18	10	34	25
23a. AIDS can reduce the body's natural protection against disease.											
Definitely true	61	66	63	47	65	57	43	70	80	56	66
Probably true	14	14	15	11	14	13	15	14	12	15	12
Probably false	3	4	2	3	4	3	3	4	2	4	2
Definitely false	2	3	2	0	2	2	2	2	1	2	2
Don't know	20	14	17	38	15	25	37	10	5	24	17

See footnotes at end of table.

Table 1. Provisional estimates of the percent of Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, education, and ethnicity: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age: 18–29 years	Age: 30–49 years	Age: 50 years and over	Sex: Male	Sex: Female	Education: Less than 12 years	Education: 12 years	Education: More than 12 years	Hispanic origin: Mexican	Hispanic origin: Other Hispanic
	Percent distribution[1]										
23b. AIDS is especially common in older people.											
Definitely true	2	2	3	2	3	2	4	2	0	2	2
Probably true	2	2	2	3	2	3	4	1	2	3	1
Probably false	18	17	18	18	18	18	18	20	15	18	18
Definitely false	65	68	67	57	65	66	52	72	79	64	67
Don't know	12	10	11	20	13	12	22	6	4	13	11
23c. AIDS can damage the brain.											
Definitely true	25	23	27	26	27	24	23	32	19	23	28
Probably true	26	26	28	23	25	28	23	25	34	26	27
Probably false	8	10	8	4	8	8	4	11	10	8	8
Definitely false	7	9	6	4	8	6	5	6	10	8	6
Don't know	33	32	30	43	32	34	45	25	26	36	30
23d. AIDS usually leads to heart disease.											
Definitely true	12	10	12	15	13	12	14	13	6	12	12
Probably true	24	29	22	22	26	23	20	26	30	26	23
Probably false	13	13	16	5	12	13	8	15	18	13	12
Definitely false	11	13	12	7	12	11	8	13	14	11	12
Don't know	39	34	38	51	36	42	49	33	32	37	41
23e. AIDS is an infectious disease caused by a virus.											
Definitely true	56	57	63	39	61	52	41	64	71	50	62
Probably true	19	21	17	21	16	22	17	21	19	20	19
Probably false	3	3	2	4	3	3	3	3	2	4	2
Definitely false	3	3	3	1	3	2	3	3	2	3	2
Don't know	19	16	14	35	18	20	36	9	6	23	15
23f. Teenagers cannot get AIDS.											
Definitely true	3	2	3	2	2	3	4	2	1	2	3
Probably true	1	1	1	2	1	2	3	0	–	2	1
Probably false	5	4	5	9	3	7	7	4	4	6	5
Definitely false	84	90	85	73	88	81	74	90	92	84	84
Don't know	6	3	5	14	5	7	11	3	3	6	7
23g. AIDS leads to death.											
Definitely true	87	88	87	85	88	86	85	91	85	86	89
Probably true	8	9	8	7	8	8	7	7	12	9	7
Probably false	0	0	0	0	–	0	0	–	0	0	0
Definitely false	1	1	1	1	1	1	1	1	2	2	1
Don't know	3	2	3	7	3	4	6	2	2	3	4
23h. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true	41	45	46	24	45	38	25	48	60	34	49
Probably true	23	23	22	25	21	25	19	28	21	25	21
Probably false	3	3	2	4	3	3	3	3	2	4	2
Definitely false	7	8	9	4	8	7	9	6	8	8	7
Don't know	25	21	21	43	24	27	43	15	9	29	21
23i. Looking at a person is enough to tell if he or she has the AIDS virus.											
Definitely true	3	1	5	2	3	3	3	4	2	3	4
Probably true	7	5	7	8	7	6	8	8	4	7	7
Probably false	16	19	14	13	15	16	16	16	14	19	12
Definitely false	57	63	60	41	58	57	44	63	73	54	61
Don't know	17	11	14	36	16	18	29	10	7	19	16
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true	83	87	82	76	83	83	76	87	87	80	86
Probably true	10	9	10	13	11	10	13	8	9	13	8
Probably false	0	0	1	0	0	1	0	1	0	1	0
Definitely false	1	1	1	–	1	1	0	1	1	0	1
Don't know	6	3	6	10	5	6	10	3	2	7	5
23k. A person who has the AIDS virus can look and feel healthy and well.											
Definitely true	34	40	36	19	38	30	23	33	55	30	38
Probably true	26	32	23	25	24	29	24	28	29	27	26
Probably false	7	6	7	6	5	8	9	7	2	8	5
Definitely false	13	10	16	13	13	13	13	19	6	12	15
Don't know	20	12	18	37	20	20	32	14	8	23	16
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.											
Definitely true	78	82	78	71	77	79	75	80	79	75	81
Probably true	14	13	15	16	14	14	13	15	15	16	13
Probably false	0	–	1	1	1	0	1	–	1	1	0
Definitely false	1	1	1	–	0	1	1	0	1	1	1
Don't know	7	4	6	13	7	6	10	4	5	8	5

See footnotes at end of table.

Table 1. Provisional estimates of the percent of Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, education, and ethnicity: United States, May-October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age: 18–29 years	Age: 30–49 years	Age: 50 years and over	Sex: Male	Sex: Female	Education: Less than 12 years	Education: 12 years	Education: More than 12 years	Hispanic origin: Mexican	Hispanic origin: Other Hispanic
					Percent distribution[1]						
23m.There is a vaccine available to the public that protects a person from getting the AIDS virus.											
Definitely true	2	3	2	1	2	2	2	3	–	3	1
Probably true	4	5	3	6	4	4	6	3	3	5	4
Probably false	10	11	10	9	9	11	10	11	9	12	9
Definitely false	63	66	65	53	66	61	50	69	79	59	67
Don't know	20	15	20	31	19	21	31	15	9	21	19
23n.There is no cure for AIDS at present.											
Definitely true	80	83	80	72	81	79	69	86	89	77	82
Probably true	7	6	8	8	6	9	9	6	5	10	5
Probably false	2	1	1	4	2	2	3	1	2	2	2
Definitely false	3	4	2	4	4	2	4	3	1	3	3
Don't know	8	6	8	13	8	9	15	4	3	8	8
24. How likely do you think it is that a person will get AIDS or the AIDS virus infection from—											
24a. Living near a hospital or home for AIDS patients?											
Very likely	4	2	5	6	4	4	8	2	2	5	4
Somewhat likely	6	5	5	9	5	6	7	6	4	8	4
Somewhat unlikely	7	7	6	7	6	7	5	8	6	8	5
Very unlikely	32	38	30	27	31	33	26	32	42	32	32
Definitely not possible	38	39	40	30	40	35	31	42	43	34	42
Don't know	13	10	13	20	13	14	23	9	3	14	13
24b.Working near someone with the AIDS virus?											
Very likely	5	4	6	6	5	5	7	5	2	6	5
Somewhat likely	11	9	11	16	10	12	12	11	10	14	9
Somewhat unlikely	11	12	9	14	9	13	9	12	13	11	11
Very unlikely	32	37	33	20	31	32	27	31	40	29	34
Definitely not possible	29	32	29	22	33	26	25	32	32	27	31
Don't know	12	6	12	22	12	12	21	9	2	13	11
24c. Eating in a restaurant where the cook has the AIDS virus?											
Very likely	10	7	9	19	9	12	15	8	7	13	8
Somewhat likely	14	13	15	17	14	15	15	14	14	17	11
Somewhat unlikely	12	14	11	12	11	13	10	13	16	11	13
Very unlikely	25	27	27	16	26	24	18	26	34	20	30
Definitely not possible	22	26	22	12	24	19	19	26	21	20	23
Don't know	16	13	16	24	15	17	23	13	8	18	14
24d.Kissing—with exchange of saliva—a person who has the AIDS virus?											
Very likely	25	19	24	36	24	25	29	23	19	27	22
Somewhat likely	25	24	25	27	26	25	22	24	33	25	26
Somewhat unlikely	12	14	13	8	12	12	8	15	16	11	13
Very unlikely	13	16	14	5	13	13	10	15	17	10	16
Definitely not possible	10	13	11	3	11	9	9	13	7	11	9
Don't know	15	13	14	21	14	15	23	10	8	17	13
24e.Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?											
Very likely	5	3	5	6	5	5	9	2	0	5	4
Somewhat likely	8	5	8	13	8	8	9	4	10	10	6
Somewhat unlikely	10	12	9	12	10	11	9	12	11	11	10
Very unlikely	30	28	33	26	31	29	24	31	40	29	31
Definitely not possible	36	44	34	25	36	35	29	45	37	32	39
Don't know	11	8	11	17	9	13	20	7	2	12	10
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?											
Very likely	11	10	10	14	10	11	14	7	9	12	10
Somewhat likely	17	14	16	22	16	17	17	16	17	18	16
Somewhat unlikely	10	10	11	9	9	11	8	12	12	10	10
Very unlikely	25	26	26	19	24	25	19	26	34	22	27
Definitely not possible	23	27	24	12	26	19	19	28	22	21	24
Don't know	15	13	13	24	14	16	23	12	6	17	13
24g.Using public toilets?											
Very likely	8	5	9	11	8	9	13	6	4	10	7
Somewhat likely	17	12	17	26	15	19	21	15	12	19	15
Somewhat unlikely	9	10	9	7	11	8	7	9	11	11	8
Very unlikely	25	30	26	16	25	26	19	27	36	24	27
Definitely not possible	23	28	24	13	26	21	17	28	29	20	26
Don't know	16	14	14	26	14	18	23	14	7	16	17

See footnotes at end of table.

Table 1. Provisional estimates of the percent of Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, education, and ethnicity: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age: 18–29 years	Age: 30–49 years	Age: 50 years and over	Sex: Male	Sex: Female	Education: Less than 12 years	Education: 12 years	Education: More than 12 years	Hispanic origin: Mexican	Hispanic origin: Other Hispanic
	Percent distribution[1]										
24h. Sharing needles for drug use with someone who has the AIDS virus?											
Very likely	89	91	89	87	90	89	84	93	94	88	90
Somewhat likely	3	4	3	3	4	3	4	2	3	4	3
Somewhat unlikely	0	–	1	–	0	0	0	0	–	0	0
Very unlikely	2	2	2	0	2	2	2	2	1	2	2
Definitely not possible	1	0	1	0	1	1	1	1	1	1	1
Don't know	4	3	4	9	4	5	9	2	1	5	4
24i. Being coughed or sneezed on by someone who has the AIDS virus?											
Very likely	10	8	9	14	8	11	13	7	8	11	8
Somewhat likely	19	14	21	20	19	18	18	17	19	19	18
Somewhat unlikely	15	18	14	10	14	15	11	15	19	16	14
Very unlikely	23	26	23	17	23	23	18	24	32	21	25
Definitely not possible	17	20	18	11	18	17	13	24	17	14	21
Don't know	17	14	14	27	17	16	27	13	6	19	15
24j. Attending school with a child who has the AIDS virus?											
Very likely	4	2	4	5	3	4	6	3	1	5	2
Somewhat likely	7	4	7	14	7	8	8	5	8	8	6
Somewhat unlikely	10	9	10	11	9	11	9	11	11	9	12
Very unlikely	30	35	30	24	32	29	26	30	41	32	29
Definitely not possible	35	41	35	24	34	35	28	42	35	31	38
Don't know	14	10	14	22	14	14	24	8	5	16	12
24k. Mosquitoes or other insects?											
Very likely	13	12	11	17	12	13	18	10	7	13	13
Somewhat likely	19	17	20	21	20	18	18	21	16	18	20
Somewhat unlikely	7	6	8	5	6	7	6	8	6	8	6
Very unlikely	18	21	18	11	19	16	12	19	26	17	18
Definitely not possible	19	22	20	12	19	19	14	21	27	18	20
Don't know	25	22	23	33	23	26	31	21	18	27	23
25. Have you ever donated blood?											
Yes	26	22	27	30	33	20	17	26	41	27	25
No	73	77	72	69	67	79	83	73	59	73	74
Don't know	1	0	1	0	0	1	0	1	–	–	1
26a. Have you donated blood since March 1985?											
Yes	10	12	11	4	12	8	4	12	16	10	10
No	90	88	88	96	88	91	95	87	84	90	89
Don't know	1	0	1	0	0	1	1	1	0	–	1
26b. Have you donated blood in the past 12 months?											
Yes	4	5	4	2	5	3	1	4	8	3	4
No	95	95	95	98	94	96	98	94	92	97	94
Don't know	1	0	1	0	1	1	1	2	0	–	2
27. Have you ever heard of a blood test that can detect the AIDS virus infection?											
Yes	65	72	67	49	63	67	47	74	86	61	69
No	30	25	29	44	32	29	45	24	11	35	26
Don't know	5	4	5	7	5	5	8	2	3	5	5
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?											
Yes	51	57	53	34	52	49	34	56	74	46	55
No	5	6	5	5	3	7	3	8	6	5	5
Don't know	9	9	9	10	8	10	10	10	6	9	9
Never heard of test[4]	35	28	33	51	37	34	53	26	14	39	31
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?											
Yes	4	6	4	2	4	5	3	6	4	3	5
No	61	65	63	47	59	62	44	67	82	57	64
Don't know	0	–	0	–	–	0	–	0	–	–	0
Never heard of test[4]	35	28	33	51	37	34	53	26	14	39	31
29b. Was the discussion—[1,5]											
With a private doctor?	40	46	26	67	37	43	49	36	39	45	37
At a family-planning clinic?	6	10	3	–	3	9	–	11	5	5	7
On an AIDS hotline?	4	5	3	–	6	2	–	–	17	3	4
At a prenatal clinic?	2	4	–	–	–	3	–	4	–	–	3
At an STD or sexually transmitted disease clinic?	5	3	9	–	6	4	–	4	12	9	2
At an AIDS/HIV counseling and testing site?	12	5	26	–	9	15	–	8	36	16	9
With some other health professional?	30	34	25	33	28	32	54	16	30	26	34
With some other counselor?	2	–	6	–	3	2	4	3	–	3	2
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus?[5]											
Yes	55	49	61	63	47	62	53	44	82	58	54
No	45	51	39	37	53	38	47	56	18	42	46
Don't know	–	–	–	–	–	–	–	–	–	–	–

See footnotes at end of table.

Table 1. Provisional estimates of the percent of Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, education, and ethnicity: United States, May-October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age: 18–29 years	Age: 30–49 years	Age: 50 years and over	Sex: Male	Sex: Female	Education: Less than 12 years	Education: 12 years	Education: More than 12 years	Hispanic origin: Mexican	Hispanic origin: Other Hispanic
	Percent distribution[1]										
31. Have you ever been advised by a health professional not to have the blood test for the AIDS virus infection?											
Yes	0	0	0	–	–	0	0	0	–	0	0
No	65	71	67	49	63	66	47	73	86	60	69
Don't know	–	–	–	–	–	–	–	–	–	–	–
Never heard of test[4]	35	28	33	51	37	33	53	26	14	39	31
32. Have you ever been advised by friends or relatives not to have the blood test for the AIDS virus infection?											
Yes[5]	0	1	0	–	0	0	0	1	0	0	0
No	65	71	66	49	63	66	47	73	86	60	69
Don't know	0	–	0	–	–	0	0	–	–	–	0
Never heard of test[4]	35	28	33	51	37	33	53	26	14	39	31
33. Have you had your blood tested for the AIDS virus infection?											
Yes	14	19	14	6	16	12	9	18	20	14	14
No	51	55	52	41	48	54	39	56	67	47	55
Don't know	1	1	1	2	1	1	1	2	1	1	1
Never heard of test[4]	34	26	32	50	35	33	52	25	12	37	30
35a. How many times have you had your blood tested for the AIDS virus infection?[7]											
Once	6	10	5	3	6	6	5	9	5	6	7
Twice	1	1	0	1	1	0	0	0	2	1	1
3–5 times	0	0	0	–	0	–	–	0	0	0	0
6–12 times	0	–	1	–	0	–	–	0	0	0	–
More than 12 times	–	–	–	–	–	–	–	–	–	–	–
Don't know	7	8	8	3	8	6	3	8	12	7	6
Never heard of or never took test[8]	86	81	86	94	84	88	91	82	81	86	86
35b. How many times in the past 12 months have you had your blood tested for the AIDS virus infection?[7]											
None in the past 12 months	1	2	1	1	1	1	1	1	3	1	1
Once	6	9	5	2	6	5	4	9	5	5	6
More than once	0	0	1	0	1	0	0	0	1	1	0
Don't know	7	8	8	3	8	5	3	8	12	7	6
Never heard of or never took test[8]	86	81	86	94	84	88	91	82	80	86	86
36. Was the test/were any of the tests, including those you had before the past 12 months—[1,7]											
Part of a blood donation?[8]	58	48	68	58	63	52	44	56	71	60	56
Part of a blood transfusion?	2	3	–	–	3	–	3	2	–	2	2
Voluntarily sought?	22	23	18	30	14	30	24	21	21	17	27
Part of some other activity that requires a blood sample?	23	31	16	18	26	20	34	26	11	22	24
38. Did you get the results of your test/any of your tests?[9]											
Yes	70	68	76	53	58	83	81	70	58	76	64
No	28	32	23	26	37	17	19	26	39	20	35
Don't know	3	–	2	20	5	–	–	4	2	4	1
41. Do you expect to have a blood test for the AIDS virus infection in the next 12 months?											
Yes	8	12	7	4	8	9	6	9	12	7	10
No	49	51	53	39	49	50	34	56	68	47	52
Don't know	7	9	6	6	6	8	6	9	6	7	7
Never heard of test[4]	35	28	33	51	37	33	53	26	14	39	31
42. Will the test be—[1,10]											
Part of a blood donation?	23	18	33	17	23	24	9	39	20	26	22
Voluntarily sought?	68	67	63	90	62	72	74	62	69	65	71
Part of some other activity that requires a blood sample?	15	27	3	–	18	13	16	9	19	15	15
44a. Did you have a blood tranfusion at any time between 1977 and 1985?											
Yes	4	4	5	3	3	5	5	4	4	5	4
No	95	95	95	95	96	94	94	95	95	94	95
Don't know	1	1	1	2	1	1	1	0	1	1	0
44b. Do you think the present supply of blood is safe for tranfusions?											
Yes	32	35	34	24	36	29	23	35	46	30	35
No	36	39	35	33	31	40	37	38	30	37	34
Other	–	–	–	–	–	–	–	–	–	–	–
Don't know	32	25	32	43	32	31	40	27	23	33	31
45. Here are some methods people use to prevent getting the AIDS virus through sexual activity. How effective is—											
45a. Using a diaphragm?											
Very effective	3	2	3	3	3	2	3	3	1	3	2
Somewhat effective	10	12	10	6	9	11	8	11	11	9	11
Not at all effective	46	51	49	29	43	48	28	54	65	41	51
Don't know how effective	22	21	19	33	24	20	29	21	13	25	19
Don't know method	19	14	19	29	20	18	32	10	10	22	16

See footnotes at end of table.

Table 1. Provisional estimates of the percent of Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, education, and ethnicity: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age: 18–29 years	Age: 30–49 years	Age: 50 years and over	Sex: Male	Sex: Female	Education: Less than 12 years	Education: 12 years	Education: More than 12 years	Hispanic origin: Mexican	Hispanic origin: Other Hispanic
	Percent distribution[1]										
45b. Using a condom?											
Very effective	28	28	30	22	29	27	21	36	29	26	30
Somewhat effective	45	49	47	34	46	45	37	45	58	43	47
Not at all effective	10	11	8	11	8	11	13	9	5	10	9
Don't know how effective	12	9	8	23	12	11	17	7	7	13	10
Don't know method	6	3	6	10	5	6	11	3	1	7	4
45c. Using a spermicidal jelly, foam, or cream?											
Very effective	2	2	3	2	3	1	2	3	1	3	1
Somewhat effective	10	13	10	7	10	11	7	13	13	11	10
Not at all effective	48	53	50	33	43	52	38	51	61	42	53
Don't know how effective	25	22	24	34	28	22	29	26	17	28	22
Don't know method	15	10	14	23	15	14	24	7	9	16	14
45d. Having a vasectomy?											
Very effective	2	2	3	0	2	2	1	3	1	2	2
Somewhat effective	3	6	2	1	4	2	3	3	2	4	3
Not at all effective	58	58	63	47	57	59	43	62	78	56	60
Don't know how effective	19	18	17	28	21	18	23	19	13	20	19
Don't know method	17	16	16	23	16	18	29	12	5	18	17
45e. Two people who do not have the AIDS virus having sex only with each other?											
Very effective	77	77	79	74	79	76	69	80	87	73	82
Somewhat effective	8	7	9	7	6	10	9	8	7	10	7
Not at all effective	4	7	3	2	5	4	5	5	1	5	3
Don't know how effective	7	7	5	12	7	7	10	6	4	9	6
Don't know method	3	2	3	5	3	3	6	1	1	3	3
46. What are your chances of having the AIDS virus?											
High	1	1	1	–	0	1	0	0	1	1	1
Medium	3	3	3	2	4	1	3	4	1	3	2
Low	9	16	7	1	10	8	7	9	13	7	11
None	82	75	84	88	80	84	81	83	83	82	82
Don't know	6	5	5	9	6	6	10	4	2	8	4
47. What are your chances of getting the AIDS virus?											
High	1	0	1	1	1	1	1	1	–	1	0
Medium	3	4	3	2	4	2	3	5	1	4	2
Low	13	21	11	4	16	11	10	12	21	13	14
None	76	70	78	81	74	78	76	78	74	74	78
Don't know	6	4	5	12	5	7	10	4	2	7	5
High chance of already having AIDS virus	1	1	1	–	0	1	0	0	1	1	1
49. Do you say your chance of getting AIDS is high or medium because you—[11]											
Have had a blood transfusion?	4	4	–	15	6	–	6	–	17	6	–
Have had sexual contact with someone who might have the virus?	10	12	8	15	15	3	9	10	14	9	13
Some other reason?	75	63	81	85	69	86	52	93	69	66	95
52. Have you ever discussed AIDS with a friend or relative?											
Yes	57	65	60	36	53	60	40	66	75	52	62
No	43	35	39	64	46	39	59	34	25	48	37
Don't know	1	1	1	0	1	1	1	–	–	0	1
53. When was the last time you discussed AIDS with a friend or relative?											
0–3 days ago	8	7	10	6	7	9	5	10	12	6	10
4–7 days ago	12	13	13	7	11	12	8	13	16	9	14
8–14 days ago	6	5	9	3	8	5	4	8	9	5	7
15–31 days ago	13	16	10	12	12	13	9	17	14	13	12
More than 31 days ago	15	20	16	5	12	18	12	17	20	15	15
Don't know	3	3	2	3	3	2	2	2	5	2	3
Never discussed[12]	43	36	40	64	47	40	60	34	26	49	38
54. Have you ever personally known anyone with AIDS or the AIDS virus?											
Yes	9	11	8	6	6	11	4	9	17	6	11
No	89	86	91	92	91	87	94	89	81	92	86
Don't know	2	3	2	2	2	2	3	2	1	2	2
55. How long has it been since you saw this person?											
Within past 2 weeks	1	1	1	1	2	1	1	1	3	1	1
2 weeks–less than 1 month	1	1	1	1	0	1	1	1	0		
1 month–less than 3 months	1	1	0	2	1	1	1	1	1	1	1
3 months–less than 6 months	2	2	2	0	1	2	0	2	3	1	2
6 months or more	4	6	4	3	3	5	2	4	9	3	6
Don't know	0	–	0	–	0	–	–	–	0	–	0
Never knew anyone with AIDS[13]	91	89	92	94	94	89	96	91	83	94	89

See footnotes at end of table.

Table 1. Provisional estimates of the percent of Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, education, and ethnicity: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education			Hispanic origin	
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years	Mexican	Other Hispanic
	Percent distribution[1]										
56. How well do you know this person?											
Very well	1	2	1	1	1	2	1	2	2	1	2
Fairly well	2	3	2	1	1	3	0	2	6	2	3
Not very well	3	4	3	1	2	3	1	3	6	1	4
Don't really know personally	1	2	1	2	1	1	1	0	3	1	1
Other	1	1	1	2	1	2	1	2	1	1	1
Don't know how well	–	–	–	–	–	–	–	–	–	–	–
Never knew anyone with AIDS[13]	91	89	92	94	94	89	96	91	83	94	89
57. Is any of these statements true for you?											
a. You have hemophilia and have received clotting factor concentrates since 1977.											
b. You are a native of Haiti or Central or East Africa who has entered the United States since 1977.											
c. You are a man who has had sex with another man at some time since 1977, even 1 time.											
d. You have taken illegal drugs by needle at any time since 1977.											
e. Since 1977, you are or have been the sex partner of any person who would answer yes to any of the items above (57 a-d).											
f. You have had sex for money or drugs at any time since 1977.											
Yes to at least 1 statement	2	2	4	–	3	2	1	3	3	2	2
No to all statements	97	98	96	100	97	98	98	97	96	97	98
Refused	–	–	–	–	–	–	–	–	–	–	–
Don't know	0	0	1	–	0	1	1	–	0	1	–
58. The U.S. Public Health Service has said that AIDS is one of the major health problems in the country but exactly how many people it affects is not known. The Surgeon General has proposed that a study be conducted and blood samples be taken to help find out how widespread the problem is. If you were selected in this national sample of people to have their blood tested with assurances of privacy of test results, would you have the test?											
Yes	67	74	67	59	70	65	63	68	75	66	69
No	25	20	25	31	23	26	27	26	19	25	25
Other	1	1	1	2	1	1	2	1	2	1	1
Don't know	7	5	7	9	6	7	9	5	5	8	5
59. Why wouldn't you take part in the test?[14]											
Don't want to know if I have AIDS	7	6	8	7	8	6	9	5	5	8	6
Don't want any counseling about AIDS	4	8	3	2	4	4	6	3	3	5	4
Fear I'll get AIDS	9	9	10	9	11	8	8	13	5	9	10
Don't like to give blood	16	20	15	13	7	23	14	18	18	13	19
Don't trust Government programs	4	4	5	4	2	6	5	3	5	3	6
It is a waste of money	4	5	4	3	3	4	5	4	1	4	4
Don't believe AIDS can really be cured anyway	5	2	6	5	5	4	6	5	0	5	5
Other	39	32	39	45	45	34	31	43	52	40	37
Don't know	16	17	15	17	16	16	20	9	13	16	15
61. When Federal public health officials give information about AIDS, do you believe what they say or are you doubtful about the information they give?											
Believe	69	71	69	64	69	70	66	69	74	67	71
Doubtful	22	25	22	19	22	22	19	27	22	24	21
Don't know	9	4	9	16	9	8	15	4	4	9	8
62. When they [public health officials] give advice about how to help keep from getting AIDS, do you believe their advice or are you doubtful about what they say?											
Believe	77	78	78	74	76	78	71	76	88	74	80
Doubtful	15	17	15	12	15	15	16	18	9	17	13
Don't know	8	5	7	14	8	7	13	6	3	9	7

[1] Multiple responses may sum to more than 100.
[2] Based on persons answering yes to question 4 (includes yes to question 3).
[3] Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
[4] Persons answering no or don't know to question 27.
[5] Based on persons answering yes to question 29a.
[6] Includes persons answering yes to question 26a and no or don't know to questions 27 and 33.
[7] Based on yes answers to question 33. See footnote 6.
[8] Persons answering no or don't know to questions 26a, 27, and 33.
[9] Based on persons answering yes to question 33; excludes persons answering yes to question 26a and no or don't know to question 27 or 33.
[10] Based on persons answering yes to question 41.
[11] Based on persons answering high or medium to question 46.
[12] Based on persons answering no or don't know to question 52.
[13] Based on persons answering no or don't know to question 54.
[14] Based on persons not answering yes to question 58.

Table 2. Provisional estimates of the percent of non-Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May-October 1988

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
Total	100	100	100	100	100	100	100	100	100
1. In the past month, have you—									
1a. Seen any public service announcements about AIDS on television?									
Yes	85	85	86	82	84	85	78	87	86
No	13	14	12	15	14	13	19	11	12
Don't know	2	1	2	3	2	2	3	1	2
1b. Heard any public service announcements about AIDS on the radio?									
Yes	46	54	49	36	50	42	36	46	51
No	50	42	46	59	45	54	59	50	45
Don't know	4	4	5	5	4	5	5	4	5
2. Were any of those public service announcements called "America Responds to AIDS"?									
Yes	22	30	23	15	21	23	21	24	21
No	11	12	11	11	12	10	11	11	12
Don't know	54	46	54	59	54	54	49	54	56
Neither heard nor saw any public service announcements.	13	11	11	16	13	13	19	11	12
3. In the past month, have you read any brochures or pamphlets about AIDS?									
Yes	40	42	44	35	37	43	29	40	47
No	59	58	55	64	62	56	70	60	52
Don't know	1	1	1	1	1	1	1	1	1
4. Have you ever read any brochures or pamphlets about AIDS?									
Yes	64	68	70	54	60	67	45	64	74
No	36	32	29	45	39	32	54	36	26
Don't know	1	0	1	1	1	1	1	1	1
5. Where did you get the pamphlets or brochures?[1,2]									
Clinic, other than work clinic	2	3	2	1	2	2	4	2	2
Doctor's office (HMO)	11	13	11	8	8	13	11	11	10
Drug store	1	2	1	1	1	1	2	1	1
Public health department	2	3	2	1	2	2	3	1	2
Received in mail without asking	37	31	36	44	36	38	41	39	34
Red Cross/Red Cross blood donation	2	2	2	1	2	2	1	2	2
Other blood donation	1	1	1	0	1	0	0	1	1
School	7	14	6	2	7	7	5	5	10
Sent/phoned for/requested it	0	0	1	0	0	1	0	1	1
Federal/State/local government	27	21	28	32	28	27	28	27	28
Work, other than clinic or nurse	12	10	16	7	13	10	5	11	14
Work, nurse or clinic	4	3	4	2	2	5	2	3	5
Other	13	15	13	12	15	12	12	13	14
Don't know	1	0	0	1	1	1	1	1	1
15. Have you ever discussed AIDS with any of your children aged 10-17?[3]									
Yes	62	39	64	54	49	74	49	61	69
No	38	61	36	46	51	26	51	39	31
Don't know	0	–	0	–	0	0	–	0	0
16. Have any or all of your children aged 10-17 had instruction at school about AIDS?[3]									
Yes	58	41	58	59	54	61	52	56	62
No	14	23	14	10	11	16	12	14	14
Don't know	29	36	28	31	35	23	35	30	24
21. How much would you say you know about AIDS?									
A lot	23	21	29	17	22	24	11	19	34
Some	44	51	47	35	43	45	31	47	48
A little	25	25	21	31	27	24	35	29	17
None	8	3	3	16	9	7	24	6	2
Don't know	0	–	0	0	0	0	0	0	0
22. To the best of your knowledge, is there a difference between having the AIDS virus and having the disease AIDS?									
Yes	66	66	72	58	65	66	41	64	80
No	15	21	15	10	16	15	17	17	12
Other	0	0	0	0	0	0	0	0	0
Don't know	19	12	12	31	19	19	41	18	8
23a. AIDS can reduce the body's natural protection against disease.									
Definitely true	75	78	82	65	76	74	52	75	87
Probably true	12	11	9	14	12	11	16	13	8
Probably false	2	2	1	2	1	2	3	2	1
Definitely false	3	3	2	4	3	3	5	3	1
Don't know	9	6	5	16	8	9	24	7	3

See footnotes at end of table.

Table 2. Provisional estimates of the percent of non-Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
		Percent distribution[1]							
23b. AIDS is especially common in older people.									
Definitely true	1	1	1	1	1	0	1	1	0
Probably true	1	1	1	1	1	1	2	1	1
Probably false	19	22	17	20	20	19	19	20	19
Definitely false	71	70	77	67	70	72	60	72	76
Don't know	8	6	5	12	8	7	17	6	4
23c. AIDS can damage the brain.									
Definitely true	27	23	27	29	27	26	26	26	28
Probably true	31	32	30	32	31	31	30	31	32
Probably false	9	11	11	6	10	9	5	9	12
Definitely false	7	8	8	4	7	6	4	7	8
Don't know	26	26	24	29	25	27	34	28	21
23d. AIDS usually leads to heart disease.									
Definitely true	8	6	8	11	8	9	11	8	7
Probably true	22	22	21	22	21	22	21	23	21
Probably false	19	20	22	14	20	17	11	17	25
Definitely false	15	17	18	9	17	13	9	14	19
Don't know	37	35	32	43	34	39	48	38	29
23e. AIDS is an infectious disease caused by a virus.									
Definitely true	63	67	70	52	64	62	47	62	72
Probably true	19	20	17	21	20	19	22	20	17
Probably false	2	3	2	3	2	2	3	3	2
Definitely false	4	4	3	4	3	4	4	4	3
Don't know	12	8	8	20	11	13	24	11	6
23f. Teenagers cannot get AIDS.									
Definitely true	1	1	1	1	1	1	2	1	1
Probably true	0	0	0	1	0	0	1	0	0
Probably false	3	2	2	5	3	3	6	3	2
Definitely false	92	96	95	87	92	92	83	93	96
Don't know	3	1	2	6	3	3	9	2	1
23g. AIDS leads to death.									
Definitely true	87	87	89	85	86	88	85	89	86
Probably true	9	10	8	9	10	8	7	8	11
Probably false	1	1	1	0	1	0	0	0	1
Definitely false	1	2	1	1	1	1	1	1	1
Don't know	2	1	1	4	2	2	6	2	1
23h. A person can be infected with the AIDS virus and not have the disease AIDS.									
Definitely true	55	57	62	46	54	56	36	54	66
Probably true	22	22	20	24	22	22	23	24	20
Probably false	4	5	4	3	4	3	4	4	3
Definitely false	5	6	5	4	5	4	6	5	4
Don't know	14	9	9	23	14	15	31	13	7
23i. Looking at a person is enough to tell if he or she has the AIDS virus.									
Definitely true	2	2	1	2	2	2	3	1	1
Probably true	4	4	3	4	4	4	6	4	2
Probably false	16	15	14	19	17	16	20	17	13
Definitely false	69	75	76	57	69	70	50	69	79
Don't know	9	4	5	17	9	9	22	8	4
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.									
Definitely true	81	83	83	77	79	82	77	83	81
Probably true	13	12	12	14	14	12	12	12	14
Probably false	1	1	1	1	2	1	1	1	2
Definitely false	1	1	1	1	1	1	1	1	1
Don't know	4	2	2	7	4	4	9	3	2
23k. A person who has the AIDS virus can look and feel healthy and well.									
Definitely true	47	52	55	36	49	46	30	46	59
Probably true	30	31	28	32	29	31	28	32	29
Probably false	7	6	5	8	6	7	10	7	4
Definitely false	4	4	4	5	4	4	6	5	3
Don't know	12	8	8	19	11	12	25	11	6
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.									
Definitely true	78	81	82	73	76	81	72	79	81
Probably true	15	15	14	17	17	14	16	15	15
Probably false	0	1	0	0	0	0	0	0	0
Definitely false	1	1	0	0	1	1	1	0	1
Don't know	5	3	4	9	6	5	11	4	3

See footnotes at end of table.

Table 2. Provisional estimates of the percent of non-Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
					Percent distribution[1]				
23m. There is a vaccine available to the public that protects a person from getting the AIDS virus.									
Definitely true	1	2	1	1	1	1	2	1	1
Probably true	2	3	2	3	2	2	4	2	1
Probably false	10	11	8	11	11	9	11	11	8
Definitely false	74	76	81	66	75	74	57	74	83
Don't know	12	9	8	20	11	14	26	12	6
23n. There is no cure for AIDS at present.									
Definitely true	86	86	89	82	85	86	78	86	90
Probably true	6	6	6	8	7	6	8	7	5
Probably false	1	1	1	1	1	1	1	1	1
Definitely false	3	4	2	2	3	3	3	3	2
Don't know	4	3	3	7	4	4	10	4	2
24. How likely do you think it is that a person will get AIDS or the AIDS virus infection from—									
24a. Living near a hospital or home for AIDS patients?									
Very likely	1	2	1	1	1	1	3	1	1
Somewhat likely	3	4	3	3	4	3	4	4	2
Somewhat unlikely	8	8	7	8	8	7	9	9	6
Very unlikely	38	39	39	37	40	36	34	39	39
Definitely not possible	43	43	46	39	40	45	32	42	50
Don't know	7	4	4	12	7	7	18	6	3
24b. Working near someone with the AIDS virus?									
Very likely	2	2	2	3	2	2	5	2	1
Somewhat likely	10	10	9	10	9	10	12	10	8
Somewhat unlikely	13	14	13	12	13	12	12	14	12
Very unlikely	39	39	41	37	40	37	32	38	43
Definitely not possible	29	31	31	26	28	30	22	29	33
Don't know	7	4	4	13	7	8	17	6	3
24c. Eating in a restaurant where the cook has the AIDS virus?									
Very likely	6	6	6	7	6	6	10	7	4
Somewhat likely	18	20	18	18	19	18	20	20	16
Somewhat unlikely	15	17	17	13	16	15	11	16	17
Very unlikely	31	32	33	28	32	30	25	29	37
Definitely not possible	16	18	18	14	15	17	12	16	19
Don't know	12	8	9	20	11	13	24	12	7
24d. Kissing—with exchange of saliva—a person who has the AIDS virus?									
Very likely	23	19	23	26	22	24	27	25	20
Somewhat likely	29	29	28	29	29	29	26	29	29
Somewhat unlikely	14	16	15	10	14	13	9	13	17
Very unlikely	16	19	18	13	18	15	11	15	20
Definitely not possible	7	9	7	5	7	7	6	7	7
Don't know	11	8	9	17	11	12	21	11	7
24e. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?									
Very likely	2	1	2	3	2	2	4	2	1
Somewhat likely	6	6	6	7	7	6	8	7	5
Somewhat unlikely	14	14	13	13	14	13	12	16	12
Very unlikely	38	39	39	36	39	37	34	37	41
Definitely not possible	33	36	36	29	31	36	25	32	39
Don't know	7	3	5	13	7	7	17	6	3
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?									
Very likely	8	7	8	9	8	9	11	9	6
Somewhat likely	20	19	19	21	20	19	21	21	17
Somewhat unlikely	14	16	15	13	15	14	11	14	16
Very unlikely	29	31	30	26	30	28	22	27	34
Definitely not possible	18	21	19	14	17	18	13	17	21
Don't know	11	7	9	17	10	12	21	11	6
24g. Using public toilets?									
Very likely	5	5	4	7	4	6	9	5	2
Somewhat likely	12	12	10	13	11	12	16	13	8
Somewhat unlikely	13	15	13	12	14	13	10	15	13
Very unlikely	34	34	37	31	36	33	25	32	40
Definitely not possible	25	27	27	20	25	24	17	23	30
Don't know	11	8	8	17	10	12	22	11	6

See footnotes at end of table.

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[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
		Percent distribution[1]							
24h. Sharing needles for drug use with someone who has the AIDS virus?									
Very likely	94	96	96	90	94	94	88	95	96
Somewhat likely	3	2	2	3	3	2	4	2	2
Somewhat unlikely	0	0	0	0	0	0	0	0	0
Very unlikely	1	1	0	1	1	1	1	1	0
Definitely not possible	0	0	0	0	0	0	1	0	0
Don't know	2	1	1	5	2	2	7	2	1
24i. Being coughed or sneezed on by someone who has the AIDS virus?									
Very likely	7	5	6	9	6	7	11	7	4
Somewhat likely	20	19	19	23	20	20	22	22	18
Somewhat unlikely	17	20	18	15	18	17	14	17	19
Very unlikely	29	31	32	23	30	27	20	28	34
Definitely not possible	15	18	16	11	14	15	10	14	18
Don't know	12	8	9	19	11	13	23	12	7
24j. Attending school with a child who has the AIDS virus?									
Very likely	2	1	1	2	2	2	4	2	1
Somewhat likely	6	5	6	7	6	6	8	7	4
Somewhat unlikely	12	13	12	10	12	11	11	13	10
Very unlikely	40	41	42	38	42	38	34	40	44
Definitely not possible	32	35	33	28	30	33	24	31	37
Don't know	8	4	5	15	8	9	20	7	4
24k. Mosquitoes or other insects?									
Very likely	7	9	7	7	9	6	12	8	5
Somewhat likely	16	19	15	15	17	15	18	17	14
Somewhat unlikely	9	11	9	8	9	9	7	10	10
Very unlikely	24	24	27	22	25	23	17	23	28
Definitely not possible	21	20	23	19	20	22	14	20	25
Don't know	22	18	19	29	20	24	31	22	18
25. Have you ever donated blood?									
Yes	42	33	45	45	54	31	33	38	50
No	58	66	55	55	46	69	66	62	50
Don't know	0	0	0	0	0	0	0	0	0
26a. Have you donated blood since March 1985?									
Yes	13	19	16	6	16	11	5	12	19
No	86	80	83	93	83	89	94	87	81
Don't know	1	1	1	1	1	0	0	1	1
26b. Have you donated blood in the past 12 months?									
Yes	6	9	8	3	8	5	2	6	9
No	93	90	91	96	91	94	97	93	90
Don't know	1	1	1	1	1	0	1	1	1
27. Have you ever heard of a blood test that can detect the AIDS virus infection?									
Yes	77	84	85	63	77	77	57	77	87
No	19	14	13	29	19	19	36	19	10
Don't know	5	3	3	8	4	5	7	5	3
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?									
Yes	68	75	77	53	68	68	47	68	79
No	3	3	3	3	3	3	2	3	3
Don't know	5	5	5	6	5	5	7	5	5
Never heard of test[4]	24	16	15	38	24	24	43	23	13
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?									
Yes	3	6	4	1	4	3	2	3	5
No	73	78	80	61	72	73	55	74	82
Don't know	0	0	0	0	0	0	0	0	0
Never heard of test[4]	24	16	15	37	24	24	43	23	13
29b. Was the discussion—[1,5]									
With a private doctor?	46	45	46	53	41	52	46	39	50
At a family-planning clinic?	6	10	3	2	5	6	14	8	3
On an AIDS hotline?	2	2	2	4	2	3	2	1	4
At a prenatal clinic?	5	9	1	2	3	6	6	4	5
At an STD or sexually transmitted disease clinic?	3	4	4	2	5	2	1	5	3
At an AIDS/HIV counseling and testing site?	8	7	8	6	9	6	7	7	8
With some other health professional?	44	39	47	49	46	41	42	44	44
With some other counselor?	13	14	11	10	16	9	20	11	12
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus?[5]									
Yes	66	75	60	56	69	63	71	75	60
No	33	23	40	44	30	37	27	24	40
Don't know	1	1	0	–	1	1	2	1	0

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AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
31. Have you ever been advised by a health professional not to have the blood test for the AIDS virus infection?									
Yes	0	1	1	0	0	0	0	0	1
No	76	83	84	62	76	76	56	76	86
Don't know	0	0	0	0	0	0	0	0	0
Never heard of test[4]	24	16	15	38	24	24	43	24	13
32. Have you ever been advised by friends or relatives not to have the blood test for the AIDS virus infection?									
Yes[6]	0	1	1	0	0	0	0	0	1
No	76	83	84	62	76	76	56	76	86
Don't know	0	0	0	0	0	0	0	0	0
Never heard of test[4]	24	16	15	38	24	24	43	24	13
33. Have you had your blood tested for the AIDS virus infection?									
Yes	17	25	21	7	21	14	8	16	23
No	59	59	64	54	56	62	48	61	63
Don't know	2	2	1	2	2	1	2	1	2
Never heard of test[4]	22	15	14	36	22	23	42	22	12
35a. How many times have you had your blood tested for the AIDS virus infection?[7]									
Once	5	7	6	2	5	4	3	4	6
Twice	1	2	1	0	2	1	1	1	2
3–5 times	1	1	1	0	2	0	0	1	2
6–12 times	0	0	1	0	0	0	0	0	0
More than 12 times	0	0	0	0	0	0	0	0	0
Don't know	10	13	11	5	12	8	4	9	13
Never heard of or never took test[8]	83	76	80	93	80	87	92	85	77
35b. How many times in the past 12 months have you had your blood tested for the AIDS virus infection?[7]									
None in the past 12 months	2	3	2	1	2	1	1	2	2
Once	4	6	5	1	5	3	2	4	5
More than once	2	2	2	1	2	1	1	1	2
Don't know	9	13	11	5	11	8	4	9	13
Never heard of or never took test[8]	83	76	80	93	79	86	92	85	77
36. Was the test/were any of the tests, including those you had before the past 12 months—[1,7]									
Part of a blood donation?[6]	74	72	74	76	73	75	63	74	75
Part of a blood transfusion?	1	1	2	2	1	2	1	2	1
Voluntarily sought?	15	16	16	12	15	16	21	14	15
Part of some other activity that requires a blood sample?	13	16	12	10	16	10	15	13	13
38. Did you get the results of your test/any of your tests?[9]									
Yes	53	55	53	46	54	52	65	49	53
No	46	44	46	53	45	47	34	50	47
Don't know	1	1	1	1	1	1	2	1	0
41. Do you expect to have a blood test for the AIDS virus infection in the next 12 months?									
Yes	6	11	7	2	8	5	4	6	7
No	66	67	73	58	64	67	48	66	75
Don't know	4	6	5	3	5	4	4	4	4
Never heard of test[4]	24	16	15	37	24	23	43	23	13
42. Will the test be—[1,10]									
Part of a blood donation?	42	39	46	39	44	40	26	41	48
Voluntarily sought?	53	60	48	44	51	56	63	54	48
Part of some other activity that requires a blood sample?	17	15	17	23	20	13	19	17	16
44a. Did you have a blood tranfusion at any time between 1977 and 1985?									
Yes	6	3	5	8	5	6	7	6	5
No	93	96	93	90	93	93	92	93	93
Don't know	1	1	1	2	1	1	1	1	1
44b. Do you think the present supply of blood is safe for tranfusions?									
Yes	45	48	48	40	49	42	33	44	53
No	27	29	27	25	24	29	31	28	24
Other	0	–	0	–	0	0	–	0	0
Don't know	28	23	25	35	26	29	36	27	24
45. Here are some methods people use to prevent getting the AIDS virus through sexual activity. How effective is—									
45a. Using a diaphragm?									
Very effective	3	3	2	3	3	2	4	3	2
Somewhat effective	13	15	11	14	13	13	11	13	13
Not at all effective	57	60	66	44	55	58	39	56	67
Don't know how effective	21	17	17	30	22	21	33	22	15
Don't know method	6	5	5	9	7	5	13	6	3

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AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]								
45b. Using a condom?									
Very effective	30	36	33	23	33	28	23	29	36
Somewhat effective	54	54	56	51	53	54	44	56	56
Not at all effective	5	4	5	5	4	6	7	5	3
Don't know how effective	9	5	5	16	8	10	20	8	4
Don't know method	2	1	1	4	2	2	5	2	1
45c. Using a spermicidal jelly, foam, or cream?									
Very effective	2	2	2	1	2	1	2	1	2
Somewhat effective	15	18	15	13	16	15	10	15	18
Not at all effective	54	58	61	42	51	56	40	54	60
Don't know how effective	23	18	17	33	24	22	35	24	17
Don't know method	7	4	5	10	7	6	13	6	4
45d. Having a vasectomy?									
Very effective	2	2	1	1	2	1	2	2	1
Somewhat effective	3	4	2	2	3	2	3	3	2
Not at all effective	71	71	81	62	71	72	52	71	82
Don't know how effective	18	18	12	25	18	18	30	19	11
Don't know method	7	5	5	10	7	6	14	6	3
45e. Two people who do not have the AIDS virus having sex only with each other?									
Very effective	83	83	87	77	84	82	70	83	89
Somewhat effective	8	10	7	8	7	9	10	8	7
Not at all effective	2	3	2	2	2	2	4	3	1
Don't know how effective	5	3	3	9	5	5	12	4	2
Don't know method	2	1	1	3	1	2	4	1	1
46. What are your chances of having the AIDS virus?									
High	0	0	1	0	1	0	0	0	0
Medium	2	2	2	1	2	1	1	2	2
Low	15	20	17	8	17	13	9	14	19
None	81	75	78	88	78	83	85	82	77
Don't know	2	2	2	3	2	2	5	2	1
47. What are your chances of getting the AIDS virus?									
High	0	1	0	0	0	0	0	0	0
Medium	2	3	2	1	2	2	2	2	2
Low	21	28	24	12	24	18	11	19	27
None	74	65	70	83	70	77	81	75	68
Don't know	3	3	2	4	3	3	6	3	2
High chance of already having AIDS virus	0	0	1	0	1	0	0	0	0
49. Do you say your chance of getting AIDS is high or medium because you—[11]									
Have had a blood transfusion?	8	5	9	14	7	9	10	11	5
Have had sexual contact with someone who might have the virus?	17	22	16	5	19	13	28	13	15
Some other reason?	65	66	63	66	60	71	51	65	70
52. Have you ever discussed AIDS with a friend or relative?									
Yes	66	72	74	51	62	69	46	65	77
No	34	28	25	48	38	30	54	35	22
Don't know	0	0	0	1	0	0	0	0	0
53. When was the last time you discussed AIDS with a friend or relative?									
0–3 days ago	8	9	9	6	8	8	7	8	10
4–7 days ago	11	10	13	8	10	11	8	10	12
8–14 days ago	8	8	8	6	7	8	5	8	9
15–31 days ago	15	17	17	11	14	16	10	15	18
More than 31 days ago	19	24	22	13	18	20	12	19	23
Don't know	5	4	5	6	5	5	4	5	5
Never discussed[12]	35	28	26	49	38	31	55	36	23
54. Have you ever personally known anyone with AIDS or the AIDS virus?									
Yes	10	11	13	7	10	11	6	8	15
No	88	88	85	91	88	87	93	90	83
Don't know	2	2	2	2	2	2	2	2	2
55. How long has it been since you saw this person?									
Within past 2 weeks	1	1	1	0	1	1	0	1	1
2 weeks–less than 1 month	0	1	1	0	0	0	0	0	1
1 month–less than 3 months	1	1	1	1	1	1	0	1	1
3 months–less than 6 months	1	1	1	1	1	1	0	1	1
6 months or more	7	7	9	5	6	7	4	5	10
Don't know	0	0	0	0	0	0	0	0	0
Never knew anyone with AIDS[13]	90	90	87	93	90	89	94	92	85

See footnotes at end of table.

Table 2. Provisional estimates of the percent of non-Hispanic adults 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by age, sex, and education: United States, May–October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
		Percent distribution[1]							
56. How well do you know this person?									
Very well	1	2	2	1	1	1	1	1	2
Fairly well	2	2	3	1	2	2	1	2	3
Not very well	4	4	5	3	4	4	2	3	6
Don't really know personally	2	2	2	1	1	2	1	1	2
Other	1	1	1	1	1	1	0	1	2
Don't know how well	–	–	–	–	–	–	–	–	–
Never knew anyone with AIDS[13]	90	90	87	93	90	89	94	92	85
57. Is any of these statements true for you?									
a. You have hemophilia and have received clotting factor concentrates since 1977.									
b. You are a native of Haiti or Central or East Africa who has entered the United States since 1977.									
c. You are a man who has had sex with another man at some time since 1977, even 1 time.									
d. You have taken illegal drugs by needle at any time since 1977.									
e. Since 1977, you are or have been the sex partner of any person who would answer yes to any of the items above (57 a-d).									
f. You have had sex for money or drugs at any time since 1977.									
Yes to at least 1 statement	2	4	3	0	3	2	2	2	3
No to all statements	97	96	97	99	97	98	98	98	97
Refused	0	0	0	0	0	0	0	0	0
Don't know	0	0	0	0	0	0	0	0	0
58. The U.S. Public Health Service has said that AIDS is one of the major health problems in the country but exactly how many people it affects is not known. The Surgeon General has proposed that a study be conducted and blood samples be taken to help find out how widespread the problem is. If you were selected in this national sample of people to have their blood tested with assurances of privacy of test results, would you have the test?									
Yes	71	76	74	64	72	70	65	72	73
No	22	19	18	27	21	22	26	20	20
Other	2	1	2	3	2	2	2	2	2
Don't know	5	4	6	6	5	6	6	5	5
59. Why wouldn't you take part in the test?[14]									
Don't want to know if I have AIDS	5	8	6	2	5	5	4	5	5
Don't want any counseling about AIDS	1	1	1	1	1	1	1	1	1
Fear I'll get AIDS	6	6	6	6	6	7	8	7	5
Don't like to give blood	13	18	14	10	12	14	11	15	12
Don't trust Government programs	7	7	9	5	9	5	3	6	9
It is a waste of money	3	2	3	4	4	3	4	4	2
Don't believe AIDS can really be cured anyway	2	2	1	2	2	1	2	2	1
Other	53	46	50	60	53	53	54	50	56
Don't know	13	15	12	12	11	14	15	12	11
61. When Federal public health officials give information about AIDS, do you believe what they say or are you doubtful about the information they give?									
Believe	64	71	66	58	64	65	55	63	70
Doubtful	29	24	29	32	30	28	31	30	26
Don't know	7	5	5	10	6	7	13	6	4
62. When they [public health officials] give advice about how to help keep from getting AIDS, do you believe their advice or are you doubtful about what they say?									
Believe	78	82	81	73	79	78	68	78	84
Doubtful	16	14	15	19	16	16	20	17	13
Don't know	5	4	4	8	5	6	11	5	3

[1] Multiple responses may sum to more than 100.
[2] Based on persons answering yes to question 4 (includes yes to question 3).
[3] Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
[4] Persons answering no or don't know to question 27.
[5] Based on persons answering yes to question 29a.
[6] Includes persons answering yes to question 26a and no or don't know to questions 27 and 33.
[7] Based on yes answers to question 33. See footnote 6.
[8] Persons answering no or don't know to questions 26a, 27, and 33.
[9] Based on persons answering yes to question 33; excludes persons answering yes to question 26a and no or don't know to question 27 or 33.
[10] Based on persons answering yes to question 41.
[11] Based on persons answering high or medium to question 46.
[12] Based on persons answering no or don't know to question 52.
[13] Based on persons answering no or don't know to question 54.
[14] Based on persons not answering yes to question 58.

Symbols	
- - -	Data not available
. . .	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision
#	Figure suppressed to comply with confidentiality requirements

Technical notes

The National Health Interview Survey (NHIS) is a continuous, cross-sectional household interview survey. Each week, a probability sample of the civilian noninstitutionalized population is interviewed by personnel of the U.S. Bureau of the Census to obtain information on the health and other characteristics of each member of the household. Supplemental information is collected for all or a sample of household members. The 1988 National Health Interview Survey of AIDS Knowledge and Attitudes was asked of a single randomly chosen adult 18 years of age or over in each family. The estimates in this report are based on completed interviews with 1,022 Hispanic and 19,963 non-Hispanic white individuals—about 89 percent of eligible respondents.

Table I contains the estimated population size of each of the demographic subgroups included in tables 1 and 2 to allow readers to derive provisional estimates of the number of people in the United States with a given characteristic, for example, the number of Hispanic men age 18–29 years who have had their blood tested for the AIDS virus. The population figures in table I are based on data from the NHIS for the period May–October 1988; they are not official population estimates. Tables II and III show approximate standard errors of the estimates presented in tables 1 and 2. Both the estimates in tables 1 and 2 and the standard errors in tables II and III are provisional. They may differ slightly from estimates made using the final data file because they were calculated using a simplified weighting procedure that does not adjust for all the factors used in weighting the final data file. A final data file covering the entire data collection period for 1988 will be available in 1989.

Table I. Hispanic and non-Hispanic sample sizes for the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes and estimated Hispanic and non-Hispanic adult populations 18 years of age and over, by selected characteristics: United States, May–October 1988

Characteristic	Sample size		Estimated population in thousands	
	Hispanic	Non-Hispanic	Hispanic	Non-Hispanic
All adults	1,102	19,963	10,594	164,571
Age				
18-29 years	369	4,544	3,706	42,123
30-49 years	501	7,575	4,718	63,836
50 years and over	232	7,844	2,170	58,612
Sex				
Male	462	8,411	5,017	77,975
Female	640	11,552	5,577	86,595
Education				
Less than 12 years	473	4,405	4,376	33,433
12 years	335	7,627	3,590	65,672
More than 12 years	277	7,721	2,462	63,826
Hispanic origin				
Mexican	533	NA	5,338	NA
Other Hispanic	569	NA	5,073	NA

Table II. Standard errors, expressed in percentage points, of estimated percents for Hispanic adults from the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes, by selected characteristics: United States, May–October 1988

Estimated percent	Total	Age			Sex		Education			Hispanic origin	
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years	Mexican	Other Hispanic
5 or 95	0.8	1.5	1.3	1.8	1.3	1.1	1.3	1.5	1.7	1.2	1.2
10 or 90	1.2	2.0	1.7	2.5	1.8	1.5	1.8	2.1	2.3	1.7	1.6
15 or 85	1.4	2.4	2.1	3.0	2.1	1.8	2.1	2.5	2.8	2.0	1.9
20 or 80	1.6	2.7	2.3	3.4	2.4	2.0	2.4	2.8	3.1	2.2	2.2
25 or 75	1.7	2.9	2.5	3.7	2.6	2.2	2.6	3.0	3.3	2.4	2.3
30 or 70	1.8	3.1	2.6	3.9	2.7	2.3	2.7	3.2	3.5	2.6	2.5
35 or 65	1.8	3.2	2.7	4.0	2.9	2.4	2.8	3.4	3.7	2.7	2.6
40 or 60	1.9	3.3	2.8	4.1	2.9	2.5	2.9	3.4	3.8	2.7	2.6
45 or 55	1.9	3.3	2.9	4.2	3.0	2.5	2.9	3.5	3.8	2.8	2.7
50	1.9	3.3	2.9	4.2	3.0	2.5	3.0	3.5	3.9	2.8	2.7

Table III. Standard errors, expressed in percentage points, of estimated percents for non-Hispanic adults from the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes, by selected characteristics: United States, May–October 1988

Estimated percent	Total	Age			Sex		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	Less than 12 years	12 years	More than 12 years
5 or 95	0.2	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3
10 or 90	0.3	0.6	0.4	0.4	0.4	0.4	0.6	0.4	0.4
15 or 85	0.3	0.7	0.5	0.5	0.5	0.4	0.7	0.5	0.5
20 or 80	0.4	0.8	0.6	0.6	0.6	0.5	0.8	0.6	0.6
25 or 75	0.4	0.8	0.6	0.6	0.6	0.5	0.8	0.6	0.6
30 or 70	0.4	0.9	0.7	0.7	0.6	0.5	0.9	0.7	0.7
35 or 65	0.4	0.9	0.7	0.7	0.7	0.6	0.9	0.7	0.7
40 or 60	0.4	0.9	0.7	0.7	0.7	0.6	0.9	0.7	0.7
45 or 55	0.5	0.9	0.7	0.7	0.7	0.6	1.0	0.7	0.7
50	0.5	1.0	0.7	0.7	0.7	0.6	1.0	0.7	0.7

Recent Issues of *Advance Data From Vital and Health Statistics*

No. 165. AIDS Knowledge and Attitudes of Black Americans (Issued March 30, 1989)

No. 164. AIDS Knowledge and Attitudes for September 1988 (Issued January 3, 1989)

No. 163. AIDS Knowledge and Attitudes for August 1988 (Issued December 15, 1988)

No. 162. Practice Patterns of the Office-Based Ophthalmologist: NAMCS, 1985 (Issued January 31, 1989)

No. 161. AIDS Knowlege and Attitudes for July 1988 (Issued October 11, 1988)

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AIDS Knowledge and Attitudes for October and November 1988

Provisional Data From the National Health Interview Survey

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Introduction

The National Center for Health Statistics (NCHS) has included a special set of supplemental questions on the adult population's knowledge and attitudes about acquired immunodeficiency syndrome (AIDS) in the National Health Interview Survey (NHIS). The first AIDS Knowledge and Attitudes Survey was in the field from August through December 1987. Provisional results of that survey were published on a monthly basis in *Advance Data for Vital and Health Statistics* (Nos. 146, 148, 150, 151, and 153). A public use data tape containing the information collected in 1987 is currently available from NCHS. During the first 4 months of 1988, the NHIS AIDS questionnaire was revised to meet current program needs for information about AIDS awareness. The revised AIDS Knowledge and Attitudes Survey entered the field in May 1988. Provisional findings for May and June, the first 2 months of data collection with the new questionnaire, and for July, August, and September were published in *Advance Data for Vital and Health Statistics*, Nos. 160, 161, 163, and 164, respectively. This report presents provisional results for October and November 1988.

The *Advance Data* reports describing the NHIS AIDS data have been restricted to simple descriptive statistics to facilitate their timely release. Thus, these reports do not attempt to explain or interpret differences among population subgroups in AIDS knowledge or to examine relationships among various measures of knowledge, attitudes, and perceived risk. The 1987 and 1988 NHIS AIDS data bases permit more complex analyses than those presented in this series of *Advance Data* reports, and such analyses are being undertaken by various groups in the Public Health Service.

The AIDS questionnaires were designed to estimate public knowledge and attitudes about AIDS transmission and prevention of AIDS virus infection. The data were needed as input for the planning and development of AIDS educational campaigns and for monitoring major educational efforts, for example, the series of radio and television public service announcements entitled "America Responds to AIDS" and the brochure "Understanding AIDS," both developed by the Centers for Disease Control.

The 1987 and 1988 AIDS questionnaires were developed by the National Center for Health Statistics and interagency working groups established by the Information, Education and Risk Factor Reduction Subcommittee of the Public Health Service Executive Task Force on AIDS. The working groups included representatives from the Centers for Disease Control; the National Institutes of Health; the Alcohol, Drug Abuse and Mental Health Administration; and the Health Resources and Services Administration.

The current AIDS questionnaire includes items on sources of AIDS information; self-assessed levels of AIDS knowledge; basic facts about the AIDS virus and how it is transmitted; blood donation experience; awareness of and experience with the blood test for the AIDS virus; perceived effectiveness of selected preventive measures; self-assessed chances of getting the AIDS virus; personal acquaintance with persons with AIDS or the AIDS virus; and willingness to take part in a proposed national seroprevalence survey. A general risk behavior question, similar to that asked by the Red Cross of potential blood donors, is included in the 1988 AIDS questionnaire.

This report presents provisional data for October and November 1988 for most items included in the AIDS questionnaire. Tables 1 and 2, for October and November,

respectively, display percent distributions of persons 18 years of age and over by response categories according to age, sex, race, and education. In most cases, the actual questions asked of the respondents are reproduced verbatim in tables 1 and 2, along with the coded response categories. In a few cases, questions or response categories have been rephrased or combined for clearer or more concise presentation of results. Refusals and other nonresponse categories are excluded from the denominator in the calculation of estimates, but responses of "don't know" are included.

Selected findings

The following highlights describe various aspects of AIDS knowledge and attitudes as observed in the October and November 1988 data from the NHIS AIDS survey. For a given response, when the estimated proportion from the October data differed from that obtained in November, both proportions are listed with the one from October always listed first. When a single percentage is presented, it applies to both October and November. Based on the measures included in this survey, AIDS knowledge in October and November was maintained at about the same level as in the previous month. Any differences cited in the text are statistically significant at the 0.05 level (see table II for approximate standard errors of estimates).

Sources of AIDS information

In the month preceding interview, 84 and 83 percent of adults in October and November, respectively, reported having seen AIDS public service announcements on television; 44 and 43 percent reported hearing announcements on the radio. For both television and radio, the proportion of adults who had seen or heard announcements was higher for those with 12 or more years of school than for those with less than 12 years; this difference was larger for radio than for television. Black adults were more likely than white adults and men were more likely than women to have heard announcements on the radio. One-fifth of those who saw or heard announcements recalled that they were part of the "America Responds to AIDS" campaign; about half could not remember if the announcements were part of this series.

About one-third of adults (31 and 30 percent) had read brochures or pamphlets about AIDS in the month before interview; two-thirds (67 percent) reported ever having read these. For both time periods, the proportion having read brochures or pamphlets increased with education.

Self-assessed knowledge

In October and November 1988, 22 and 23 percent of adults reported that they knew a lot about AIDS, 44 and 43 percent reported some knowledge, 26 and 25 percent claimed to know a little, and 9 percent stated that they knew nothing.

General knowledge

Most adults thought it definitely false that teenagers cannot get AIDS (93 and 92 percent) and thought it definitely true that AIDS leads to death (85 and 86 percent), that there is presently no cure for AIDS (86 and 85 percent), that an HIV-infected person can pass the virus during sexual intercourse (83 and 82 percent), and that a pregnant woman with the AIDS virus can pass it to her baby (78 and 79 percent). The two statements that had the lowest proportions giving the correct definitive response were those that dealt with the pathophysiology of AIDS: 15 and 17 percent definitely knew that AIDS does not lead to heart disease, and 26 and 25 percent definitely knew that the AIDS virus can damage the brain.

For most of the questions on general AIDS knowledge, the proportion responding correctly increased with education. The proportion correct also varied by age and race, with those 30–49 years of age responding more accurately than younger or older individuals and with white adults answering correctly more often than black adults.

Transmission of the AIDS virus

In general, there was no change from September 1988 in the proportion responding correctly to questions about possible ways in which AIDS and HIV can be transmitted. Ninety-four percent of adults thought it very likely that AIDS could be transmitted by sharing needles for intravenous drug use. More than two-thirds responded that it was very unlikely or definitely not possible to acquire AIDS by living near a hospital for AIDS patients; by working with someone with AIDS; by attending school with a child with AIDS; or by shaking hands, touching, or kissing an AIDS patient on the cheek. More than one-fifth of adults (23 and 22 percent) responded "don't know" to the question about possible transmission by mosquitoes or other insects, at least 9 percentage points higher than the proportion responding "don't know" to any other transmission question. For all questions about transmission, the proportion responding correctly increased with education.

Blood donation and testing

Forty percent of adults stated that they had ever donated blood, 13 percent had donated since March 1985 when routine screening of donated blood for antibodies to HIV began, and 7 and 6 percent had donated in the year preceding interview. For all time periods, the percent donating increased with education; men were more likely to have donated than women.

Approximately three-quarters of all adults had heard of the AIDS blood test. Slightly fewer (67 and 65 percent) knew that blood donations are now routinely screened for

AIDS virus infection, and less than half (48 and 47 percent) thought that the present blood supply was safe for transfusion.

Four and 3 percent of adults reported receiving counseling about the AIDS blood test. A larger proportion of those 18–29 years received counseling than of those over 30 years (7 versus 2 percent).

Seventeen percent of adults have had their blood tested for antibodies to the AIDS virus. This proportion decreased with age and increased with education. Of those tested, most (69 and 71 percent) had their testing done as part of a blood donation, 18 and 19 percent were tested voluntarily, and 16 percent took the test as part of another activity requiring routine testing (such as a physical examination for military induction). Six percent of adults reported plans to be tested in the 12 months following the NHIS interview; about half of these plan to be tested voluntarily.

Preventive measures

Eighty-four percent of adults stated that condoms were very or somewhat effective in preventing transmission of the AIDS virus. The proportion who believed condoms were at least somewhat effective increased with education. Overall, 83 and 84 percent of adults thought that having a monogamous relationship with an individual who is not infected with the AIDS virus is a very effective way to prevent getting the virus. This proportion also increased with education and was higher for whites than for blacks.

Two-thirds of adults stated that they believe the information on AIDS provided by Federal public health officials, and 80 and 79 percent believe the advice provided on how to keep from getting AIDS. The proportion trusting the information and advice was higher in those younger than 50 years and increased by education.

Risk of getting the AIDS virus

Less than 1 percent of adults felt that they had a high chance of having or getting the AIDS virus; 2 and 1 percent felt that their chance of getting the AIDS virus was medium, 19 and 20 percent felt that they had a low chance, 75 percent felt that they had no chance of getting AIDS, and 3 percent could not assess their chances of getting AIDS. Adults 50 years and older were more likely to perceive themselves at no risk of getting AIDS, and women felt their chances were lower than men. Two percent of all adults stated that they belonged to one or more of the groups with behaviors associated with increased risk for aquiring AIDS (such as intravenous drug users and homosexually active men).

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, October 1988

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
Total	100	100	100	100	100	100	100	100	100	100	100
1. In the past month, have you—											
1a. Seen any public service announcements about AIDS on television?											
Yes	84	83	84	84	85	82	83	86	79	86	85
No	14	15	14	13	13	14	14	12	18	12	13
Don't know	2	2	2	3	2	3	2	2	3	2	2
1b Heard any public service announcements about AIDS on the radio?											
Yes	44	51	47	34	49	39	43	50	36	44	49
No	52	45	48	61	47	56	53	47	59	53	46
Don't know	4	4	4	5	4	5	5	3	5	4	5
2. Were any of those public service announcements called "America Responds to AIDS"?											
Yes	22	30	23	15	22	22	20	30	21	24	21
No	13	15	12	12	14	13	13	14	14	13	12
Don't know	51	41	52	58	52	50	53	44	46	52	54
Neither heard nor saw any public service announcements.	13	14	13	14	12	15	14	12	19	11	13
3. In the past month, have you read any brochures or pamphlets about AIDS?											
Yes	31	34	35	25	29	33	29	39	22	33	35
No	68	66	64	73	70	66	70	60	77	66	64
Don't know	1	1	1	1	1	1	1	1	1	1	1
4. Have you ever read any brochures or pamphlets about AIDS?											
Yes	67	70	73	57	64	69	66	69	47	70	74
No	32	30	26	42	35	30	32	31	52	28	25
Don't know	1	0	1	2	1	1	1	1	1	1	1
5. Where did you get the pamphlets or brochures?[1,2]											
Clinic, other than work clinic	2	4	2	1	2	2	2	4	2	2	2
Doctor's office (HMO)	12	14	13	9	8	15	12	14	12	13	10
Drug store	2	3	1	2	2	2	1	5	3	2	1
Public health department	2	3	3	1	2	2	2	3	4	1	3
Received in mail without asking	37	29	36	47	38	37	38	38	42	38	35
Red Cross/Red Cross blood donation	2	2	3	2	2	2	3	0	2	2	3
Other blood donation	1	1	1	1	1	1	1	1	0	0	1
School	8	17	8	1	9	8	8	8	4	6	13
Sent/phoned for/requested it	0	0	1	0	0	1	0	1	0	0	0
Federal/State/local government	29	20	30	35	29	29	30	19	26	28	30
Work, other than clinic or nurse	13	11	18	6	16	10	12	15	5	11	17
Work, nurse or clinic	3	3	5	2	2	4	3	4	1	3	4
Other	13	14	14	10	14	12	12	12	14	14	11
Don't know	2	1	1	3	2	2	2	1	3	1	2
15. Have you ever discussed AIDS with any of your children aged 10-17?[3]											
Yes	62	41	62	62	43	78	61	71	47	64	67
No	38	59	38	38	57	21	39	29	53	36	33
Don't know	0	–	0	–	–	0	0	–	–	0	–
16. Have any or all of your children aged 10-17 had instruction at school about AIDS?[3]											
Yes	56	36	58	47	49	62	55	53	46	55	61
No	13	12	13	15	12	15	14	13	13	14	13
Don't know	31	51	29	38	39	23	31	34	41	31	26
21. How much would you say you know about AIDS?											
A lot	22	22	28	15	22	22	22	20	11	19	31
Some	44	50	47	36	42	46	45	38	31	47	48
A little	26	25	21	31	27	24	25	29	34	28	18
None	9	4	4	18	9	9	8	13	24	6	2
Don't know	0	–	–	0	–	0	0	–	0	0	0
22. To the best of your knowledge, is there a difference between having the AIDS virus and having the disease AIDS?											
Yes	64	63	70	57	64	64	66	53	39	63	79
No	17	25	18	11	18	17	16	23	19	20	13
Other	0	–	0	0	0	0	0	–	0	0	–
Don't know	19	12	12	31	18	19	18	24	41	16	8
23a. AIDS can reduce the body's natural protection against disease.											
Definitely true	75	79	81	65	77	73	77	62	52	77	86
Probably true	12	13	11	13	12	12	11	16	16	12	10
Probably false	2	2	2	2	2	2	2	3	3	2	1
Definitely false	2	2	2	4	2	2	2	5	4	3	1
Don't know	9	4	5	17	7	11	8	14	24	7	2

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
23b. AIDS is especially common in older people.											
Definitely true	1	1	1	1	1	0	0	1	1	0	1
Probably true	1	2	1	1	2	1	1	4	3	1	1
Probably false	18	20	17	17	18	18	18	15	18	19	17
Definitely false	72	70	76	70	73	72	73	72	62	74	77
Don't know	7	8	4	11	6	8	7	9	15	6	4
23c. AIDS can damage the brain.											
Definitely true	26	20	27	29	29	24	25	31	27	26	25
Probably true	32	35	30	33	31	33	32	34	32	31	34
Probably false	10	12	11	6	9	10	10	6	5	10	12
Definitely false	7	9	8	5	8	6	7	6	5	7	8
Don't know	25	24	24	28	23	27	26	22	31	26	21
23d. AIDS usually leads to heart disease.											
Definitely true	8	6	7	10	8	8	7	14	12	8	6
Probably true	23	25	22	22	22	23	21	29	20	22	24
Probably false	18	17	22	14	20	16	19	12	11	19	22
Definitely false	15	18	18	10	18	13	15	12	9	14	20
Don't know	36	34	31	44	32	40	38	33	48	37	29
23e. AIDS is an infectious disease caused by a virus.											
Definitely true	63	66	69	55	67	60	63	63	50	63	71
Probably true	19	19	18	19	18	20	19	19	19	19	18
Probably false	3	4	2	3	3	2	3	2	3	3	2
Definitely false	3	3	4	3	3	3	3	4	4	4	2
Don't know	12	9	8	19	10	14	12	13	23	10	7
23f. Teenagers cannot get AIDS.											
Definitely true	1	0	1	1	1	1	1	1	1	1	0
Probably true	0	0	–	1	0	0	0	1	1	0	0
Probably false	3	3	2	4	3	3	3	3	6	3	2
Definitely false	93	96	96	88	94	92	94	91	84	95	96
Don't know	3	1	1	6	2	3	2	4	8	2	1
23g. AIDS leads to death.											
Definitely true	85	85	87	84	85	86	85	91	87	87	82
Probably true	11	12	10	10	11	10	12	4	7	10	14
Probably false	0	1	0	0	1	0	0	0	0	0	1
Definitely false	1	2	1	1	1	1	1	1	0	1	1
Don't know	2	1	2	4	2	3	2	3	5	1	2
23h. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true	56	55	62	49	57	54	57	46	39	55	66
Probably true	21	20	19	24	20	22	21	20	21	22	19
Probably false	3	5	3	2	3	3	3	4	3	4	3
Definitely false	5	8	5	3	5	5	4	9	5	6	4
Don't know	15	12	11	22	14	16	14	20	32	13	7
23i. Looking at a person is enough to tell if he or she has the AIDS virus.											
Definitely true	2	1	2	2	2	2	2	3	4	1	2
Probably true	4	6	4	4	5	4	4	7	7	5	3
Probably false	16	16	14	19	15	17	16	18	18	17	14
Definitely false	67	72	75	56	68	67	68	62	49	69	76
Don't know	10	5	6	19	10	11	10	10	23	8	5
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true	83	83	85	80	82	83	82	85	79	85	82
Probably true	12	12	11	13	13	11	12	10	12	11	13
Probably false	1	1	1	1	1	1	1	1	1	1	1
Definitely false	1	1	1	0	1	1	1	–	0	1	1
Don't know	4	3	2	6	3	4	4	4	8	3	3
23k. A person who has the AIDS virus can look and feel healthy and well.											
Definitely true	47	50	55	35	49	45	48	40	31	47	56
Probably true	30	32	27	31	29	30	30	31	26	31	30
Probably false	6	6	6	7	5	7	6	8	9	7	5
Definitely false	5	3	4	6	5	4	3	8	7	5	3
Don't know	13	9	8	21	12	13	13	14	27	11	7
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.											
Definitely true	78	78	82	74	77	79	78	79	74	79	79
Probably true	15	16	13	17	17	14	15	13	15	15	16
Probably false	0	1	0	0	1	0	0	1	0	1	0
Definitely false	0	1	0	0	0	1	0	1	1	0	0
Don't know	6	4	4	9	5	6	6	6	10	5	4

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
23m. There is a vaccine available to the public that protects a person from getting the AIDS virus.											
Definitely true	1	1	1	1	1	1	1	2	2	1	1
Probably true	2	2	1	3	2	2	2	3	4	2	2
Probably false	10	12	8	10	11	9	10	11	11	11	9
Definitely false	74	74	81	66	75	73	76	65	59	75	82
Don't know	13	11	9	19	11	14	11	19	24	12	7
23n. There is no cure for AIDS at present.											
Definitely true	86	87	88	85	86	86	87	83	81	86	91
Probably true	6	6	6	6	6	6	6	7	6	7	5
Probably false	1	1	1	1	1	1	1	1	1	1	0
Definitely false	2	2	2	2	2	2	2	1	2	2	2
Don't know	5	4	4	7	5	5	4	7	10	4	3
24. How likely do you think it is that a person will get AIDS or the AIDS virus infection from—											
24a. Living near a hospital or home for AIDS patients?											
Very likely	1	1	2	2	2	1	1	3	3	1	1
Somewhat likely	3	4	3	4	3	3	3	6	5	4	2
Somewhat unlikely	8	10	7	7	9	7	7	11	8	9	6
Very unlikely	39	39	41	38	40	39	40	40	34	40	41
Definitely not possible	41	40	43	39	40	42	43	28	32	41	46
Don't know	7	6	5	11	6	8	7	12	18	5	3
24b. Working near someone with the AIDS virus?											
Very likely	2	1	2	2	2	2	2	2	4	2	1
Somewhat likely	10	10	10	10	10	10	9	13	12	11	8
Somewhat unlikely	14	17	14	13	16	13	14	16	12	16	14
Very unlikely	39	38	41	37	40	38	40	36	33	38	44
Definitely not possible	27	28	28	26	26	28	29	21	22	28	29
Don't know	7	6	4	12	7	8	7	10	18	5	4
24c. Eating in a restaurant where the cook has the AIDS virus?											
Very likely	7	6	6	8	7	7	7	7	11	6	4
Somewhat likely	19	21	19	18	20	18	18	25	19	20	18
Somewhat unlikely	16	18	17	14	16	16	16	16	11	16	19
Very unlikely	28	30	30	25	28	29	30	23	23	27	33
Definitely not possible	17	17	18	14	17	16	17	12	12	17	18
Don't know	13	9	10	20	13	13	13	16	23	12	8
24d. Kissing—with exchange of saliva—a person who has the AIDS virus?											
Very likely	26	22	25	29	26	25	25	26	29	26	23
Somewhat likely	29	28	29	29	28	29	29	31	25	28	32
Somewhat unlikely	12	15	13	9	14	11	12	11	7	14	14
Very unlikely	14	17	16	9	14	14	14	13	9	15	17
Definitely not possible	7	9	7	6	7	7	7	4	8	6	8
Don't know	12	8	10	17	10	14	12	16	22	11	7
24e. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?											
Very likely	2	1	1	3	2	2	1	3	5	1	0
Somewhat likely	6	4	7	5	6	5	5	8	6	6	5
Somewhat unlikely	15	16	15	15	17	14	15	15	12	18	15
Very unlikely	38	40	36	37	38	37	38	40	34	37	41
Definitely not possible	33	36	37	26	30	35	34	24	26	33	36
Don't know	7	4	5	13	7	8	7	9	18	5	4
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?											
Very likely	8	5	9	9	7	8	7	9	11	8	6
Somewhat likely	22	22	21	22	23	21	21	24	22	22	21
Somewhat unlikely	13	15	14	11	15	12	14	12	10	14	15
Very unlikely	28	30	28	27	28	28	29	26	22	29	32
Definitely not possible	17	21	19	13	17	18	17	14	14	18	19
Don't know	11	7	9	17	9	13	11	15	21	10	7
24g. Using public toilets?											
Very likely	5	4	4	6	4	6	4	8	9	5	3
Somewhat likely	12	11	10	15	13	11	11	17	17	13	8
Somewhat unlikely	14	16	14	13	14	14	14	14	12	15	15
Very unlikely	33	35	35	29	33	32	34	31	23	32	40
Definitely not possible	24	24	29	19	26	23	25	15	18	24	28
Don't know	12	10	8	18	11	13	12	15	21	12	7

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
24h. Sharing needles for drug use with someone who has the AIDS virus?											
Very likely	94	95	96	92	94	95	94	94	89	96	96
Somewhat likely	2	3	1	3	3	2	3	2	4	2	2
Somewhat unlikely	0	–	0	0	0	–	0	–	0	0	–
Very unlikely	0	0	0	0	0	0	0	0	0	0	0
Definitely not possible	0	1	0	0	0	0	0	0	1	0	0
Don't know	2	1	2	4	2	3	2	3	6	1	1
24i. Being coughed or sneezed on by someone who has the AIDS virus?											
Very likely	6	4	6	8	5	7	6	7	9	6	4
Somewhat likely	20	18	19	24	21	20	19	24	21	20	20
Somewhat unlikely	19	21	20	15	20	18	19	18	15	19	21
Very unlikely	28	32	30	24	29	27	29	25	20	29	32
Definitely not possible	14	15	16	10	14	13	13	11	11	14	15
Don't know	13	9	10	19	11	14	13	15	24	12	7
24j. Attending school with a child who has the AIDS virus?											
Very likely	1	0	1	2	1	1	1	2	3	1	0
Somewhat likely	6	5	6	7	7	6	5	11	8	7	4
Somewhat unlikely	12	13	14	9	11	12	11	15	11	13	11
Very unlikely	40	42	40	38	41	39	41	35	33	38	45
Definitely not possible	32	36	34	28	32	32	33	26	26	33	35
Don't know	9	4	5	16	7	10	8	11	19	7	4
24k. Mosquitoes or other insects?											
Very likely	7	9	7	7	9	6	7	11	12	8	4
Somewhat likely	18	22	18	15	20	16	17	20	19	19	16
Somewhat unlikely	10	10	10	9	9	10	10	9	8	9	11
Very unlikely	23	22	23	23	22	23	23	22	16	22	27
Definitely not possible	19	17	22	17	19	20	21	13	13	20	23
Don't know	23	20	20	29	21	25	23	24	32	22	19
25. Have you ever donated blood?											
Yes	40	34	43	41	52	29	40	35	32	34	51
No	60	66	57	58	48	71	59	65	67	65	49
Don't know	0	0	0	0	0	0	0	0	0	0	0
26a. Have you donated blood since March 1985?											
Yes	13	20	16	6	17	10	14	6	5	13	18
No	86	80	83	94	83	89	86	94	94	86	81
Don't know	0	0	1	0	1	0	0	0	0	0	1
26b. Have you donated blood in the past 12 months?											
Yes	7	11	8	2	9	5	7	5	3	7	9
No	93	89	91	97	91	94	92	95	97	93	90
Don't know	1	0	1	1	1	0	1	0	0	0	1
27. Have you ever heard of a blood test that can detect the AIDS virus infection?											
Yes	75	83	83	61	76	75	77	63	55	76	87
No	20	15	14	31	20	20	18	30	39	19	10
Don't know	5	2	3	8	4	5	4	7	6	5	3
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?											
Yes	67	74	76	53	68	66	69	54	47	67	80
No	3	3	3	3	3	3	3	2	2	3	4
Don't know	5	5	4	6	4	5	5	7	7	5	4
Never heard of test[4]	25	17	17	39	24	25	23	37	45	24	13
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?											
Yes	4	7	4	1	4	3	4	4	3	3	5
No	71	75	79	60	71	71	73	59	52	73	82
Don't know	0	0	–	0	0	0	0	–	–	0	–
Never heard of test[4]	25	17	17	39	24	25	23	37	45	24	13
29b. Was the discussion—[1,5]											
With a private doctor?	45	39	51	43	43	47	43	63	45	47	43
At a family-planning clinic?	6	10	1	–	7	4	4	18	25	4	1
On an AIDS hotline?	2	2	–	10	1	3	2	5	6	–	2
At a prenatal clinic?	9	15	3	–	10	7	8	18	8	10	8
At an STD or sexually transmitted disease clinic?	5	5	6	–	5	5	4	14	2	4	6
At an AIDS/HIV counseling and testing site?	10	6	17	5	7	14	10	11	5	14	10
With some other health professional?	42	38	42	57	36	49	41	44	42	30	49
With some other counselor?	9	10	9	–	11	7	10	–	22	5	8
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus?[5]											
Yes	61	73	54	30	61	61	57	87	62	64	60
No	38	25	46	70	37	39	41	13	38	33	40
Don't know	1	2	–	–	2	–	1	–	–	3	–

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
31. Have you ever been advised by a health professional not to have the blood test for the AIDS virus infection?											
Yes	0	1	0	0	0	0	0	–	0	0	1
No	75	82	82	61	75	74	77	63	54	76	86
Don't know	0	0	–	–	–	0	0	–	–	–	0
Never heard of test[4]	25	17	17	39	24	25	23	37	45	24	13
32. Have you ever been advised by friends or relatives not to have the blood test for the AIDS virus infection?											
Yes	0	1	0	0	1	0	0	0	0	1	1
No	75	81	82	61	75	74	77	63	55	75	86
Don't know	0	0	–	–	–	0	0	–	–	–	0
Never heard of test[4]	25	17	17	39	24	25	23	37	45	24	13
33. Have you had your blood tested for the AIDS virus infection?											
Yes[8]	17	26	21	7	22	14	18	11	8	17	24
No	57	56	61	54	54	60	59	51	46	59	63
Don't know	2	2	2	1	2	1	2	2	2	2	2
Never heard of test[4]	24	16	16	38	23	25	22	36	45	23	12
35a. How many times have you had your blood tested for the AIDS virus infection?[7]											
Once	5	8	7	2	6	5	5	5	3	5	7
Twice	2	4	2	0	3	1	2	1	1	2	3
3–5 times	1	2	1	0	1	1	1	0	1	1	1
6–12 times	0	0	1	0	0	0	0	–	0	0	0
More than 12 times	0	–	–	0	0	–	0	–	–	0	–
Don't know[6]	9	11	11	5	11	7	9	5	4	9	12
Never heard of or never took test[5]	83	74	79	93	78	86	82	89	92	83	76
35b. How many times in the past 12 months have you had your blood tested for the AIDS virus infection?[7]											
None in the past 12 months	2	4	2	1	3	1	2	0	1	2	3
Once	5	7	7	2	6	4	5	5	2	5	7
More than once	2	3	2	1	3	1	2	1	1	2	2
Don't know[6]	9	11	10	4	10	7	9	5	4	8	12
Never heard of or never took test[5]	83	74	79	93	78	86	82	89	92	83	76
36. Was the test/were any of the tests, including those you had before the past 12 months—[1]											
Part of a blood donation?[6,7]	69	66	71	71	68	70	72	52	60	74	67
Part of a blood transfusion?[9]	1	1	1	3	2	0	1	–	2	1	1
Voluntarily sought?[9]	18	22	17	12	17	20	16	32	23	18	18
Part of some other activity that requires a blood sample?[9]	16	22	14	7	18	12	16	18	21	11	19
38. Did you get the results of your test/any of your tests?[9]											
Yes	56	55	60	43	56	55	53	72	59	50	59
No	44	45	40	57	44	45	47	27	41	50	41
Don't know	0	–	0	–	–	0	–	1	–	–	0
41. Do you expect to have a blood test for the AIDS virus infection in the next 12 months?											
Yes	6	12	7	2	8	5	6	8	4	7	7
No	65	66	70	57	63	66	68	49	45	65	76
Don't know	4	4	5	2	4	4	3	6	5	4	3
Never heard of test[4]	25	17	17	39	24	25	23	37	45	24	13
42. Will the test be—[1,10]											
Part of a blood donation?	44	48	43	32	48	39	46	29	19	56	41
Voluntarily sought?	53	56	48	55	51	55	49	82	69	50	50
Part of some other activity that requires a blood sample?	19	15	21	35	22	15	20	16	21	12	25
44a. Did you have a blood tranfusion at any time between 1977 and 1985?											
Yes	6	3	6	9	6	6	6	7	6	7	5
No	93	96	93	89	93	93	92	92	92	92	93
Don't know	1	1	1	2	1	1	1	1	1	1	1
44b. Do you think the present supply of blood is safe for tranfusions?											
Yes	48	48	52	44	53	44	50	31	33	47	58
No	26	29	25	25	22	29	25	34	31	27	21
Other	0	–	0	–	–	0	0	–	–	0	–
Don't know	26	23	23	32	25	27	25	35	35	26	21
45 Here are some methods people use to prevent getting the AIDS virus through sexual activity. How effective is—											
45a. Using a diaphragm?											
Very effective	2	1	2	4	3	2	2	5	3	3	1
Somewhat effective	13	15	11	13	13	13	12	10	10	14	14
Not at all effective	56	59	65	45	54	59	59	48	41	56	66
Don't know how effective	22	18	17	30	23	21	22	23	34	21	15
Don't know method	6	6	5	8	7	6	5	13	12	6	3

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
45b. Using a condom?											
Very effective	32	40	35	23	36	29	32	31	23	31	39
Somewhat effective	52	48	55	52	51	53	53	45	43	56	54
Not at all effective	5	4	5	5	4	5	4	8	8	5	2
Don't know how effective	9	6	4	17	8	10	9	12	20	7	4
Don't know method	2	1	1	4	2	2	2	3	6	1	1
45c. Using a spermicidal jelly, foam, or cream?											
Very effective	1	2	2	1	2	1	1	2	1	1	1
Somewhat effective	14	15	14	13	15	13	14	8	9	14	17
Not at all effective	53	58	62	40	49	57	54	52	40	55	59
Don't know how effective	25	21	17	37	27	23	24	29	38	24	19
Don't know method	6	4	6	9	7	6	6	9	11	6	4
45d. Having a vasectomy?											
Very effective	2	3	2	1	2	2	2	2	2	2	2
Somewhat effective	2	3	2	3	2	2	2	4	3	3	1
Not at all effective	70	69	79	62	70	71	73	59	51	69	83
Don't know how effective	19	20	13	26	20	19	19	22	32	19	12
Don't know method	6	5	5	8	6	6	4	13	11	6	3
45e. Two people who do not have the AIDS virus having sex only with each other?											
Very effective	83	85	87	78	86	81	85	73	70	85	89
Somewhat effective	9	9	8	9	7	10	8	14	11	8	7
Not at all effective	2	2	1	2	2	2	1	3	3	2	0
Don't know how effective	5	3	2	9	4	6	5	7	12	4	2
Don't know method	2	1	2	2	1	2	1	2	4	1	1
46. What are your chances of having the AIDS virus?											
High	0	0	0	0	0	0	0	1	0	0	0
Medium	2	2	2	1	2	1	1	3	1	2	2
Low	14	21	16	6	16	13	14	11	8	13	18
None	82	75	79	90	79	84	82	81	85	82	79
Don't know	3	2	2	3	3	2	2	3	6	2	1
47. What are your chances of getting the AIDS virus?											
High	0	0	1	–	0	0	0	1	1	0	0
Medium	2	3	2	1	2	1	2	2	1	2	2
Low	19	28	21	10	22	17	19	16	11	17	26
None	75	66	73	85	72	79	76	76	81	78	69
Don't know	3	2	3	3	3	3	2	3	6	2	2
High chance of already having AIDS virus	0	0	0	0	0	0	0	1	0	0	0
49. Do you say your chance of getting AIDS is high or medium because you—[11]											
Have had a blood transfusion?	6	8	3	11	6	6	5	8	–	5	9
Have had sexual contact with someone who might have /nthe virus?	12	12	13	11	13	12	12	15	13	12	13
Some other reason?	55	38	64	66	43	72	54	63	50	52	61
52. Have you ever discussed AIDS with a friend or relative?											
Yes	63	72	70	48	60	66	64	60	45	64	72
No	37	28	29	52	40	34	36	40	55	35	28
Don't know	0	0	0	0	0	0	0	–	0	0	0
53. When was the last time you discussed AIDS with a friend or relative?											
0–3 days ago	7	7	8	5	6	7	7	8	6	6	8
4–7 days ago	8	9	10	6	7	9	8	11	5	8	11
8–14 days ago	7	6	7	6	7	7	6	7	4	7	7
15–31 days ago	14	17	15	11	13	15	15	10	9	14	16
More than 31 days ago	23	29	27	15	22	24	23	20	17	24	25
Don't know	5	4	4	6	5	4	5	4	4	4	5
Never discussed[12]	37	28	30	52	40	34	36	40	55	36	28
54. Have you ever personally known anyone with AIDS or the AIDS virus?											
Yes	10	11	13	6	10	11	9	15	4	10	14
No	88	87	85	93	89	88	89	83	95	88	84
Don't know	2	2	2	1	2	1	2	2	1	2	2
55. How long has it been since you saw this person?											
Within past 2 weeks	1	1	1	1	1	1	1	1	1	0	1
2 weeks–less than 1 month	0	0	0	0	–	0	0	1	0	0	0
1 month–less than 3 months	1	1	1	0	1	1	1	1	0	1	1
3 months–less than 6 months	1	1	1	0	1	1	1	1	–	1	1
6 months or more	7	8	9	4	7	7	7	11	3	7	10
Don't know	0	0	0	0	0	0	0	–	–	0	0
Never knew anyone with AIDS[13]	90	89	87	94	90	89	91	85	96	90	86

See footnotes at end of table.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, October 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age: 18–29 years	Age: 30–49 years	Age: 50 years and over	Sex: Male	Sex: Female	Race: White	Race: Black	Education: Less than 12 years	Education: 12 years	Education: More than 12 years
					Percent distribution[1]						
56. How well do you know this person?											
Very well	1	2	1	1	1	2	1	3	1	1	2
Fairly well	2	2	2	1	2	2	2	3	1	1	3
Not very well	4	4	6	2	3	5	4	7	1	4	5
Don't really know personally	2	2	3	1	2	2	2	1	1	1	3
Other	1	2	1	0	2	1	1	1	0	1	1
Don't know how well	–	–	–	–	–	–	–	–	–	–	–
Never knew anyone with AIDS[13]	90	89	87	94	90	89	91	85	96	90	86
57. Is any of these statements true for you?											
a. You have hemophilia and have received clotting factor concentrates since 1977.											
b. You are a native of Haiti or Central or East Africa who has entered the United States since 1977.											
c. You are a man who has had sex with another man at some time since 1977, even 1 time.											
d. You have taken illegal drugs by needle at any time since 1977.											
e. Since 1977, you are or have been the sex partner of any person who would answer yes to any of the items above (57 a-d).											
f. You have had sex for money or drugs at any time since 1977.											
Yes to at least 1 statement	2	3	2	0	2	2	2	3	2	2	2
No to all statements	98	97	98	100	98	98	98	97	98	98	98
Refused	–	–	–	–	–	–	–	–	–	–	–
Don't know	0	0	–	0	–	0	0	–	0	–	0
58. The U.S. Public Health Service has said that AIDS is one of the major health problems in the country but exactly how many people it affects is not known. The Surgeon General has proposed that a study be conducted and blood samples be taken to help find out how widespread the problem is. If you were selected in this national sample of people to have their blood tested with assurances of privacy of test results, would you have the test?											
Yes	73	76	78	65	75	71	73	74	67	75	74
No	20	18	16	27	19	21	20	19	25	19	19
Other	1	1	1	1	1	1	1	0	1	1	1
Don't know	6	6	6	6	5	7	6	7	7	5	6
59. Why wouldn't you take part in the test?[14]											
Don't want to know if I have AIDS	6	10	5	4	7	5	5	12	5	5	7
Don't want any counseling about AIDS	1	1	1	1	2	0	1	1	2	1	1
Fear I'll get AIDS	5	4	6	6	6	5	5	7	7	6	4
Don't like to give blood	16	25	15	13	15	17	15	25	13	22	13
Don't trust Government programs	6	5	9	5	8	5	6	5	3	5	9
It is a waste of money	5	2	4	6	6	3	5	0	6	5	3
Don't believe AIDS can really be cured anyway	2	2	2	1	3	1	1	3	2	2	1
Other	49	37	49	56	46	52	51	39	51	42	54
Don't know	5	8	5	4	4	6	5	4	5	5	5
61. When Federal public health officials give information about AIDS, do you believe what they say or are you doubtful about the information they give?											
Believe	66	70	69	61	66	66	67	68	58	65	73
Doubtful	27	24	28	30	27	28	27	25	29	30	24
Don't know	6	6	4	9	7	6	6	7	13	6	3
62. When they [public health officials] give advice about how to help keep from getting AIDS, do you believe their advice or are you doubtful about what they say?											
Believe	80	84	83	73	80	79	80	81	70	79	86
Doubtful	16	13	14	19	15	17	16	15	19	17	12
Don't know	4	3	3	8	5	4	5	4	11	4	2

[1] Multiple responses may sum to more than 100.
[2] Based on persons answering yes to question 4 (includes yes to question 3).
[3] Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
[4] Persons answering no or don't know to question 27.
[5] Based on persons answering yes to question 29a.
[6] Includes persons answering yes to question 26a and no or don't know to questions 27 and 33.
[7] Based on yes answers to question 33. See footnote 6.
[8] Persons answering no or don't know to questions 26a, 27, and 33.
[9] Based on persons answering yes to question 33; excludes persons answering yes to question 26a.
[10] Based on persons answering yes to question 41.
[11] Based on persons answering high or medium to question 46.
[12] Based on persons answering no or don't know to question 52.
[13] Based on persons answering no or don't know to question 54.
[14] Based on persons not answering yes to question 58.

Table 2. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, November 1988

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
Total	100	100	100	100	100	100	100	100	100	100	100
1. In the past month, have you—											
1a. Seen any public service announcements about AIDS on television?											
Yes	83	84	85	80	83	83	83	81	79	83	85
No	15	15	14	18	15	15	15	15	19	15	13
Don't know	2	1	1	3	2	2	2	4	2	2	2
1b. Heard any public service announcements about AIDS on the radio?											
Yes	43	53	47	32	49	38	42	50	36	41	50
No	52	43	48	64	47	57	53	46	59	55	45
Don't know	5	4	5	5	4	5	5	4	5	4	5
2. Were any of those public service announcements called "America Responds to AIDS"?											
Yes	22	28	23	16	21	22	20	32	22	21	22
No	13	16	12	13	15	12	14	11	13	13	14
Don't know	51	46	52	54	51	51	53	43	49	52	52
Neither heard nor saw any public service announcements	14	11	13	17	13	14	14	13	16	14	12
3. In the past month, have you read any brochures or pamphlets about AIDS?											
Yes	30	33	34	23	29	31	29	34	21	28	37
No	69	66	66	76	70	68	70	65	78	71	63
Don't know	1	1	1	1	1	1	1	0	1	1	1
4. Have you ever read any brochures or pamphlets about AIDS?											
Yes	67	71	73	56	63	70	67	63	46	68	77
No	32	28	25	42	35	29	32	34	52	31	22
Don't know	1	1	1	2	2	1	1	2	1	1	1
5. Where did you get the pamphlets or brochures?[1,2]											
Clinic, other than work clinic	3	5	2	2	2	4	2	7	3	3	3
Doctor's office (HMO)	13	16	12	9	11	14	13	13	12	13	12
Drug store	1	2	1	0	1	1	1	1	1	1	1
Public health department	2	2	2	1	1	3	2	6	2	2	2
Received in mail without asking	39	32	36	49	38	39	39	35	43	41	35
Red Cross/Red Cross blood donation	3	2	3	2	4	2	3	2	1	3	3
Other blood donation	0	–	1	–	0	0	0	0	–	0	0
School	10	17	9	3	8	11	9	10	7	9	11
Sent/phoned for/requested it	0	0	0	1	0	0	0	1	–	1	0
Federal/State/local government	22	16	25	25	23	22	24	14	20	19	26
Work, other than clinic or nurse	13	10	17	9	14	12	13	13	7	12	15
Work, nurse or clinic	5	5	7	2	3	6	5	4	3	3	7
Other	14	17	13	11	16	12	13	20	15	13	14
Don't know	3	3	2	4	3	2	3	4	3	4	2
15. Have you ever discussed AIDS with any of your children aged 10-17?[3]											
Yes	62	45	64	59	49	73	63	58	49	59	70
No	38	55	36	41	51	27	37	42	51	41	30
Don't know	0	–	0	–	–	0	0	–	–	0	–
16. Have any or all of your children aged 10-17 had instruction at school about AIDS?[3]											
Yes	56	40	57	59	55	57	54	68	55	57	56
No	13	21	13	13	15	12	14	10	10	11	17
Don't know	31	39	30	28	31	31	32	22	36	32	27
21. How much would you say you know about AIDS?											
A lot	23	22	29	16	22	23	23	20	9	18	34
Some	43	52	47	33	44	43	44	35	30	47	47
A little	25	23	20	33	25	25	25	28	37	28	17
None	9	3	4	18	8	9	8	17	24	7	2
Don't know	0	–	0	0	0	0	0	–	–	0	0
22. To the best of your knowledge, is there a difference between having the AIDS virus and having the disease AIDS?											
Yes	64	65	73	53	65	63	66	54	41	62	78
No	15	21	15	12	15	16	15	19	14	19	12
Other	0	–	0	0	0	0	0	0	0	0	0
Don't know	21	14	12	35	20	22	19	27	45	18	10
23a. AIDS can reduce the body's natural protection against disease.											
Definitely true	75	79	82	64	76	74	77	60	52	76	86
Probably true	12	14	9	14	12	12	12	12	18	12	8
Probably false	1	1	1	1	1	1	1	3	2	1	1
Definitely false	2	3	2	2	1	3	2	6	3	3	1
Don't know	10	4	6	18	10	9	8	19	24	8	4

See footnotes at end of table.

Table 2. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, November 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
23b. AIDS is especially common in older people.											
Definitely true	0	0	0	0	1	0	0	2	1	0	0
Probably true	1	2	1	2	2	1	1	2	2	2	1
Probably false	17	18	15	17	16	17	17	15	15	18	16
Definitely false	74	75	79	69	74	75	75	68	63	76	79
Don't know	7	5	4	12	8	7	6	13	19	4	3
23c. AIDS can damage the brain.											
Definitely true	25	18	27	28	25	25	25	30	20	26	28
Probably true	32	35	30	32	32	31	32	30	36	31	31
Probably false	10	13	10	7	10	10	10	8	7	11	11
Definitely false	8	10	11	4	9	7	8	6	5	9	9
Don't know	25	24	22	28	23	26	24	27	33	23	21
23d. AIDS usually leads to heart disease.											
Definitely true	7	6	7	8	7	7	6	14	7	9	6
Probably true	23	21	22	24	22	23	23	25	25	23	21
Probably false	18	22	20	14	19	17	19	13	11	18	22
Definitely false	17	21	21	10	18	16	18	13	10	15	22
Don't know	35	31	30	44	33	37	35	35	47	35	29
23e. AIDS is an infectious disease caused by a virus.											
Definitely true	63	69	69	50	64	62	63	59	48	62	71
Probably true	18	20	17	19	20	17	19	17	20	20	17
Probably false	2	2	2	3	2	3	2	4	4	2	2
Definitely false	5	3	5	5	3	6	4	6	4	5	4
Don't know	12	6	8	22	11	13	12	14	25	11	6
23f. Teenagers cannot get AIDS.											
Definitely true	1	0	1	2	1	1	1	1	1	1	0
Probably true	1	0	0	1	1	0	0	1	2	0	0
Probably false	3	2	2	5	3	2	3	4	5	3	2
Definitely false	92	96	96	86	92	93	93	90	83	94	96
Don't know	3	1	1	6	3	3	3	4	8	2	1
23g. AIDS leads to death.											
Definitely true	86	83	87	86	84	87	86	88	83	89	84
Probably true	11	13	11	9	12	10	11	7	10	9	13
Probably false	1	1	0	0	1	1	1	0	0	0	1
Definitely false	1	2	1	1	1	1	1	2	1	1	1
Don't know	2	1	1	4	2	2	2	3	6	1	0
23h. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true	55	57	61	46	55	54	56	43	37	53	65
Probably true	22	24	21	22	22	22	23	21	21	25	21
Probably false	3	5	2	3	3	3	3	7	4	4	3
Definitely false	4	4	4	4	4	4	3	6	4	4	3
Don't know	16	11	11	25	15	17	14	24	34	13	8
23i. Looking at a person is enough to tell if he or she has the AIDS virus.											
Definitely true	2	2	2	2	2	2	2	6	3	2	2
Probably true	4	6	3	4	4	4	4	6	6	5	3
Probably false	14	14	12	17	13	15	14	16	14	16	13
Definitely false	69	72	77	58	71	67	71	58	51	70	78
Don't know	10	6	6	18	10	10	10	15	26	8	5
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true	82	84	84	80	80	85	82	83	79	84	83
Probably true	12	13	12	12	15	10	12	11	11	12	13
Probably false	1	1	1	1	1	1	1	1	1	1	1
Definitely false	1	1	1	1	2	1	1	0	1	1	1
Don't know	4	1	2	7	3	4	3	5	9	2	2
23k. A person who has the AIDS virus can look and feel healthy and well.											
Definitely true	47	50	53	36	47	46	48	37	28	46	57
Probably true	28	29	27	29	28	28	28	29	27	30	27
Probably false	8	7	7	9	8	7	8	8	11	8	6
Definitely false	5	5	4	7	5	5	4	10	10	5	3
Don't know	12	9	9	20	12	13	12	16	24	12	7
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.											
Definitely true	79	81	83	74	77	81	79	81	71	80	83
Probably true	15	15	13	17	16	14	15	13	18	15	14
Probably false	0	0	0	0	1	0	0	1	0	0	0
Definitely false	1	1	1	1	1	1	1	1	0	1	0
Don't know	5	3	3	9	6	4	5	5	10	4	3

See footnotes at end of table.

Table 2. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, November 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
23m. There is a vaccine available to the public that protects a person from getting the AIDS virus.											
Definitely true	1	2	1	1	1	1	1	3	2	1	1
Probably true	2	4	1	3	3	2	2	4	4	3	1
Probably false	10	10	7	12	10	10	10	11	13	11	6
Definitely false	75	76	83	65	76	75	77	64	55	75	86
Don't know	12	7	7	20	10	12	11	18	26	10	5
23n. There is no cure for AIDS at present.											
Definitely true	85	85	90	80	85	86	86	78	77	84	91
Probably true	7	7	6	8	7	6	6	9	6	8	6
Probably false	1	2	1	1	1	1	1	1	1	2	1
Definitely false	3	3	2	3	3	3	2	5	4	3	1
Don't know	4	2	2	8	4	4	4	7	11	3	2
24. How likely do you think it is that a person will get AIDS or the AIDS virus infection from—											
24a. Living near a hospital or home for AIDS patients?											
Very likely	2	2	1	2	2	2	1	4	3	2	1
Somewhat likely	3	4	3	3	4	3	3	5	5	3	2
Somewhat unlikely	7	8	6	7	7	6	6	9	7	8	5
Very unlikely	36	36	36	35	37	34	36	36	33	37	36
Definitely not possible	45	45	51	39	43	47	47	31	34	44	53
Don't know	7	5	4	13	7	8	6	16	19	6	3
24b. Working near someone with the AIDS virus?											
Very likely	2	3	2	3	3	2	2	4	3	3	2
Somewhat likely	10	10	8	11	10	9	9	10	13	10	7
Somewhat unlikely	12	12	12	12	13	11	12	13	12	13	10
Very unlikely	38	36	40	36	37	38	39	34	31	38	41
Definitely not possible	31	34	33	25	29	32	31	24	23	29	36
Don't know	8	5	5	14	8	8	7	15	19	7	3
24c. Eating in a restaurant where the cook has the AIDS virus?											
Very likely	7	7	5	8	8	6	6	11	8	8	4
Somewhat likely	18	19	18	18	18	18	18	18	20	20	15
Somewhat unlikely	15	15	16	15	15	15	16	13	13	16	16
Very unlikely	28	27	33	23	28	28	29	25	21	26	34
Definitely not possible	19	22	20	16	19	20	20	15	14	18	23
Don't know	13	10	8	20	12	14	12	18	24	12	7
24d. Kissing—with exchange of saliva—a person who has the AIDS virus?											
Very likely	24	21	23	29	24	25	24	27	29	27	20
Somewhat likely	28	28	29	29	27	30	29	29	26	29	29
Somewhat unlikely	12	15	13	9	14	11	13	8	8	11	16
Very unlikely	16	16	17	13	17	15	16	13	11	15	19
Definitely not possible	8	10	10	3	8	8	8	6	5	8	9
Don't know	11	9	8	17	10	12	11	17	21	10	8
24e. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?											
Very likely	2	1	1	2	2	1	1	3	3	1	1
Somewhat likely	6	6	5	8	6	6	6	9	7	8	4
Somewhat unlikely	14	15	14	14	16	13	14	14	15	15	13
Very unlikely	37	35	39	37	38	37	38	34	36	35	40
Definitely not possible	34	38	37	26	32	35	34	26	22	35	39
Don't know	7	5	3	13	7	7	6	14	17	6	3
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?											
Very likely	9	8	7	11	10	8	8	13	12	11	5
Somewhat likely	21	21	20	22	21	21	21	23	22	22	18
Somewhat unlikely	13	13	16	11	14	13	14	10	9	13	16
Very unlikely	28	26	30	26	29	27	28	24	22	26	32
Definitely not possible	18	23	20	13	17	19	19	15	12	18	22
Don't know	11	9	7	18	10	13	11	15	23	10	7
24g. Using public toilets?											
Very likely	6	5	5	7	6	5	5	8	9	7	2
Somewhat likely	12	11	9	15	11	13	11	17	17	13	8
Somewhat unlikely	12	14	12	11	13	11	13	11	11	13	12
Very unlikely	33	30	37	31	33	33	34	31	27	33	37
Definitely not possible	26	30	31	17	27	25	27	17	14	24	34
Don't know	11	10	7	18	10	12	11	16	22	11	6

See footnotes at end of table.

Table 2. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, November 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
24h. Sharing needles for drug use with someone who has the AIDS virus?											
Very likely	94	96	96	91	93	95	95	92	89	96	96
Somewhat likely	2	2	2	3	3	1	2	2	2	1	3
Somewhat unlikely	0	0	0	0	0	0	0	0	0	0	0
Very unlikely	0	0	0	0	0	0	0	0	0	0	0
Definitely not possible	0	0	1	0	0	0	0	1	0	0	1
Don't know	3	1	1	6	3	2	2	5	8	2	0
24i. Being coughed or sneezed on by someone who has the AIDS virus?											
Very likely	8	7	6	10	8	7	7	10	13	8	4
Somewhat likely	20	17	19	22	18	21	19	22	19	22	18
Somewhat unlikely	17	19	18	16	18	16	18	13	16	17	19
Very unlikely	27	29	30	22	29	26	28	23	20	26	33
Definitely not possible	16	18	20	9	16	16	16	13	9	16	19
Don't know	12	10	8	20	11	13	12	18	23	12	7
24j. Attending school with a child who has the AIDS virus?											
Very likely	1	1	1	2	1	1	1	4	3	1	1
Somewhat likely	6	6	5	7	7	6	6	9	9	8	4
Somewhat unlikely	10	12	9	10	11	9	10	11	10	11	9
Very unlikely	39	37	42	37	40	38	40	37	34	38	42
Definitely not possible	35	40	38	27	33	36	35	26	24	35	40
Don't know	9	5	5	15	8	9	8	14	20	7	4
24k. Mosquitoes or other insects?											
Very likely	9	8	9	8	10	8	8	13	13	9	6
Somewhat likely	16	18	15	14	16	15	15	17	19	17	13
Somewhat unlikely	9	11	9	8	10	9	9	9	8	9	10
Very unlikely	24	23	25	23	24	23	24	23	17	24	27
Definitely not possible	20	21	22	17	20	20	21	12	12	20	25
Don't know	22	19	19	29	20	25	22	26	31	21	19
25. Have you ever donated blood?											
Yes	40	33	45	40	52	30	42	30	29	35	50
No	59	66	55	60	48	70	58	70	70	64	49
Don't know	0	0	0	0	0	0	0	0	0	0	0
26a. Have you donated blood since March 1985?											
Yes	13	19	17	5	16	10	14	9	4	12	19
No	86	80	83	95	83	89	86	90	96	88	81
Don't know	0	1	1	0	1	0	0	0	0	1	0
26b. Have you donated blood in the past 12 months?											
Yes	6	8	8	3	8	4	7	4	2	5	9
No	93	91	91	97	91	95	93	96	98	94	91
Don't know	0	1	1	0	1	0	0	0	0	1	0
27. Have you ever heard of a blood test that can detect the AIDS virus infection?											
Yes	74	80	82	60	76	72	76	65	57	73	84
No	21	18	15	31	20	22	19	31	35	22	13
Don't know	5	2	3	8	4	5	5	5	8	5	3
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?											
Yes	65	71	75	51	67	64	67	53	47	63	78
No	3	5	3	3	4	3	3	4	3	4	3
Don't know	5	5	4	7	6	5	5	8	8	5	4
Never heard of test[4]	26	20	18	40	24	28	24	35	43	27	16
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?											
Yes	3	7	3	1	4	3	3	2	2	3	4
No	71	73	79	60	72	69	72	62	55	70	80
Don't know	0	0	0	–	–	0	–	0	0	0	–
Never heard of test[4]	26	20	18	40	24	28	24	35	43	27	16
29b. Was the discussion—[1,5]											
With a private doctor?	52	48	52	74	49	55	53	60	76	44	52
At a family-planning clinic?	6	5	9	–	5	7	5	13	21	1	6
On an AIDS hotline?	2	–	4	–	–	4	2	–	–	–	3
At a prenatal clinic?	4	5	2	–	1	6	3	9	16	6	–
At an STD or sexually transmitted disease clinic?	3	6	–	–	6	–	3	9	7	3	2
At an AIDS/HIV counseling and testing site?	5	4	8	5	6	5	4	8	2	6	5
With some other health professional?	39	39	41	30	43	35	39	40	10	42	43
With some other counselor?	9	11	7	–	9	9	9	9	7	14	6
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus?[5]											
Yes	64	65	65	51	69	58	63	58	52	67	64
No	36	35	35	49	31	42	37	42	48	33	36
Don't know	–	–	–	–	–	–	–	–	–	–	–

See footnotes at end of table

Table 2. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, November 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
31. Have you ever been advised by a health professional not to have the blood test for the AIDS virus infection?											
Yes	1	1	1	0	0	1	1	–	0	0	1
No	73	79	81	60	75	71	75	65	57	72	83
Don't know	0	–	0	–	0	0	0	–	–	–	0
Never heard of test[4]	26	20	18	40	24	28	24	35	43	27	16
32. Have you ever been advised by friends or relatives not to have the blood test for the AIDS virus infection?											
Yes	0	1	0	–	0	0	0	1	–	0	0
No	74	79	81	60	76	72	75	64	57	72	84
Don't know	0	–	0	–	–	0	0	–	0	–	0
Never heard of test[4]	26	20	18	40	24	28	24	35	43	27	16
33. Have you had your blood tested for the AIDS virus infection?											
Yes[5]	17	26	21	6	21	14	18	15	6	16	24
No	57	54	61	53	55	58	58	48	50	58	60
Don't know	2	1	2	2	2	1	1	4	1	1	2
Never heard of test[4]	25	19	16	39	22	27	23	33	42	25	14
35a. How many times have you had your blood tested for the AIDS virus infection?[7]											
Once	5	9	5	2	5	5	5	5	2	5	6
Twice	1	3	2	0	2	1	1	2	1	1	2
3–5 times	1	2	1	0	2	0	1	0	–	1	1
6–12 times	0	0	1	0	1	0	0	0	0	0	1
More than 12 times	0	0	0	0	0	0	0	–	–	0	0
Don't know[6]	9	12	12	4	11	7	10	7	3	8	14
Never heard of or never took test[8]	83	74	79	94	79	86	82	85	94	84	76
35b. How many times in the past 12 months have you had your blood tested for the AIDS virus infection?[7]											
None in the past 12 months	2	3	2	1	2	2	2	1	1	2	3
Once	4	8	5	1	5	4	4	5	2	5	5
More than once	2	3	3	1	3	1	2	2	1	1	3
Don't know[6]	9	12	12	4	11	7	10	6	3	8	13
Never heard of or never took test[8]	83	74	79	94	79	86	82	85	94	84	76
36. Was the test/were any of the tests, including those you had before the past 12 months—[1,7]											
Part of a blood donation?[6]	71	65	76	72	72	70	72	62	57	69	74
Part of a blood transfusion?	3	3	2	7	3	3	3	2	7	3	2
Voluntarily sought?	19	21	17	19	16	22	18	32	36	19	17
Part of some other activity that requires a blood sample?	16	23	12	9	18	13	15	16	19	18	14
38. Did you get the results of your test/any of your tests?[9]											
Yes	54	62	50	41	51	57	54	50	61	56	50
No	45	37	48	56	47	42	45	50	39	43	48
Don't know	1	1	1	3	2	1	2	1	–	1	2
41. Do you expect to have a blood test for the AIDS virus infection in the next 12 months?											
Yes	6	9	7	2	7	5	5	12	3	6	6
No	64	66	71	56	64	64	67	45	50	62	74
Don't know	4	5	5	3	5	3	3	8	4	5	3
Never heard of test[4]	26	20	18	40	24	28	24	35	43	27	16
42. Will the test be—[1,10]											
Part of a blood donation?	44	39	48	48	45	43	50	26	44	38	50
Voluntarily sought?	51	55	46	60	47	56	48	64	65	61	39
Part of some other activity that requires a blood sample?	17	20	16	11	16	18	16	21	19	18	15
44a. Did you have a blood tranfusion at any time between 1977 and 1985?											
Yes	5	3	4	8	6	5	5	6	8	5	5
No	94	96	95	90	94	93	93	94	91	95	94
Don't know	1	0	1	1	1	1	1	1	1	1	1
44b. Do you think the present supply of blood is safe for tranfusions?											
Yes	47	49	52	40	52	43	49	35	31	47	55
No	27	31	25	27	23	31	26	37	34	29	22
Other	0	0	0	0	0	0	0	–	0	–	0
Don't know	26	20	23	34	25	26	25	28	35	24	22
45. Here are some methods people use to prevent getting the AIDS virus through sexual activity. How effective is—											
45a. Using a diaphragm?											
Very effective	2	3	1	2	2	2	2	4	2	2	2
Somewhat effective	12	14	10	11	12	12	11	13	10	12	12
Not at all effective	59	62	68	45	59	59	62	42	42	59	68
Don't know how effective	20	14	16	30	19	21	20	27	29	21	15
Don't know method	7	7	4	11	8	7	6	13	17	6	4

See footnotes at end of table.

Table 2. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, November 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
45b. Using a condom?											
Very effective	30	37	32	21	33	27	29	34	20	28	37
Somewhat effective	54	52	57	53	55	54	56	42	48	59	54
Not at all effective	5	5	4	6	4	6	5	8	8	6	3
Don't know how effective	9	5	6	15	7	10	8	14	18	7	5
Don't know method	2	1	1	5	2	2	2	2	7	1	1
45c. Using a spermicidal jelly, foam, or cream?											
Very effective	1	2	1	1	1	1	1	5	2	2	1
Somewhat effective	15	15	17	13	15	15	15	13	10	15	17
Not at all effective	55	62	61	43	56	55	57	45	41	57	61
Don't know how effective	22	16	17	32	21	22	21	26	33	21	17
Don't know method	7	5	4	11	7	6	6	11	14	6	4
45d. Having a vasectomy?											
Very effective	2	2	2	1	2	2	2	3	1	2	1
Somewhat effective	2	3	1	3	3	2	2	3	4	2	2
Not at all effective	71	72	80	60	73	69	74	55	50	73	81
Don't know how effective	19	16	13	27	18	20	18	25	30	18	13
Don't know method	6	6	4	9	5	8	5	13	15	5	4
45e. Two people who do not have the AIDS virus having sex only with each other?											
Very effective	84	85	88	80	85	84	86	71	74	84	90
Somewhat effective	7	9	7	6	7	8	7	13	7	9	6
Not at all effective	2	3	2	2	2	2	2	5	3	2	1
Don't know how effective	5	2	3	10	5	5	5	8	13	4	2
Don't know method	1	1	0	2	1	1	1	3	4	1	0
46. What are your chances of having the AIDS virus?											
High	0	1	0	0	1	0	0	1	1	0	0
Medium	2	3	2	0	2	1	2	2	2	2	2
Low	15	22	17	8	16	15	15	18	11	13	20
None	81	73	79	88	79	82	81	75	81	84	77
Don't know	2	2	1	3	2	2	2	4	5	1	1
47. What are your chances of getting the AIDS virus?											
High	0	1	0	0	0	0	0	1	1	0	0
Medium	1	1	2	0	1	1	1	3	1	1	2
Low	20	27	24	10	22	18	20	20	13	17	27
None	75	68	72	84	72	78	76	70	78	79	70
Don't know	3	2	1	5	3	2	2	5	6	2	2
High chance of already having AIDS virus	0	1	0	0	1	0	0	1	1	0	0
49. Do you say your chance of getting AIDS is high or medium because you—[11]											
Have had a blood transfusion?	2	3	2	–	–	4	3	–	–	5	–
Have had sexual contact with someone who might have the virus?	17	19	17	9	24	11	13	26	25	12	18
Some other reason?	66	61	65	87	63	69	67	63	59	74	62
52. Have you ever discussed AIDS with a friend or relative?											
Yes	63	66	74	47	60	65	63	59	43	63	74
No	37	33	26	52	40	34	36	41	56	37	26
Don't know	0	0	0	1	0	1	0	0	1	0	0
53. When was the last time you discussed AIDS with a friend or relative?											
0–3 days ago	7	6	8	7	6	8	7	8	6	7	8
4–7 days ago	8	9	9	6	8	9	8	7	6	7	10
8–14 days ago	6	7	7	5	6	7	6	6	5	6	8
15–31 days ago	13	15	15	9	12	14	13	12	7	13	16
More than 31 days ago	23	25	28	16	22	24	24	21	15	25	26
Don't know	5	4	6	5	6	4	5	4	5	5	5
Never discussed[12]	37	34	26	53	40	35	37	41	57	37	26
54. Have you ever personally known anyone with AIDS or the AIDS virus?											
Yes	12	12	15	8	11	12	12	12	6	9	17
No	86	86	83	90	87	86	86	85	92	89	80
Don't know	2	2	2	2	2	2	2	2	2	2	2
55. How long has it been since you saw this person?											
Within past 2 weeks	1	1	1	0	1	1	1	1	0	0	2
2 weeks–less than 1 month	1	1	1	0	0	1	1	1	1	1	1
1 month–less than 3 months	1	1	1	1	1	1	1	1	1	0	2
3 months–less than 6 months	1	1	1	0	0	1	1	1	0	1	1
6 months or more	8	7	10	7	8	8	8	8	4	7	11
Don't know	0	0	0	0	1	0	0	1	0	0	0
Never knew anyone with AIDS[13]	88	88	85	92	89	88	88	88	94	91	83

See footnotes at end of table.

Table 2. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1988 National Health Interview Survey, by selected characteristics: United States, November 1988—Con.

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in technical notes]

AIDS knowledge or attitude	Total	Age			Sex		Race		Education		
		18–29 years	30–49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
	Percent distribution[1]										
56. How well do you know this person?											
Very well	1	1	2	1	1	1	1	2	1	1	2
Fairly well	3	3	3	2	2	3	2	4	1	2	5
Not very well	5	5	7	3	5	5	5	4	2	4	8
Don't really know personally	2	2	2	2	2	2	2	1	2	2	2
Other	1	1	1	1	1	1	1	1	0	1	1
Don't know how well	–	–	–	–	–	–	–	–	–	–	–
Never knew anyone with AIDS[13]	88	88	85	92	89	88	88	88	94	91	83
57. Is any of these statements true for you?											
a. You have hemophilia and have received clotting factor concentrates since 1977.											
b. You are a native of Haiti or Central or East Africa who has entered the United States since 1977.											
c. You are a man who has had sex with another man at some time since 1977, even 1 time.											
d. You have taken illegal drugs by needle at any time since 1977.											
e. Since 1977, you are or have been the sex partner of any person who would answer yes to any of the items above (57 a-d).											
f. You have had sex for money or drugs at any time since 1977.											
Yes to at least 1 statement	2	3	2	1	2	1	2	3	2	2	2
No to all statements	98	97	97	99	97	98	98	97	98	98	98
Refused	0	0	0	0	0	0	0	0	0	–	0
Don't know	0	1	0	–	1	0	0	–	0	0	0
58. The U.S. Public Health Service has said that AIDS is one of the major health problems in the country but exactly how many people it affects is not known. The Surgeon General has proposed that a study be conducted and blood samples be taken to help find out how widespread the problem is. If you were selected in this national sample of people to have their blood tested with assurances of privacy of test results, would you have the test?											
Yes	71	78	74	62	72	69	72	67	62	71	75
No	21	16	19	29	20	23	21	22	27	21	18
Other	1	1	1	2	1	1	1	1	2	1	1
Don't know	7	5	7	7	7	7	6	11	8	7	5
59. Why wouldn't you take part in the test?[14]											
Don't want to know if I have AIDS	5	9	5	3	3	6	4	10	3	7	5
Don't want any counseling about AIDS	1	2	1	1	1	1	1	0	0	2	1
Fear I'll get AIDS	6	8	5	5	5	6	5	7	5	6	7
Don't like to give blood	16	23	13	15	12	19	16	18	18	15	16
Don't trust Government programs	7	6	8	6	9	5	7	7	6	7	8
It is a waste of money	3	1	3	4	2	3	3	0	3	3	2
Don't believe AIDS can really be cured anyway	2	5	1	1	1	2	2	1	1	1	3
Other	50	44	49	53	49	50	52	32	46	50	53
Don't know	1	1	0	1	1	1	1	0	–	1	1
61. When Federal public health officials give information about AIDS, do you believe what they say or are you doubtful about the information they give?											
Believe	65	76	65	57	67	64	65	64	54	64	73
Doubtful	28	21	30	30	27	28	28	26	31	29	24
Don't know	7	2	5	13	6	8	7	10	14	7	3
62. When they [public health officials] give advice about how to help keep from getting AIDS, do you believe their advice or are you doubtful about what they say?											
Believe	79	87	80	72	80	77	79	77	67	78	86
Doubtful	16	12	16	18	15	16	16	14	20	17	12
Don't know	6	2	4	10	4	6	5	10	13	5	2

[1] Multiple responses may sum to more than 100.
[2] Based on persons answering yes to question 4 (includes yes to question 3).
[3] Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
[4] Persons answering no or don't know to question 27.
[5] Based on persons answering yes to question 29a.
[6] Includes persons answering yes to question 26a and no or don't know to questions 27 and 33.
[7] Based on yes answers to question 33. See footnote 6.
[8] Persons answering no or don't know to questions 26a, 27, and 33.
[9] Based on persons answering yes to question 33; excludes persons answering yes to question 26a and no or don't know to question 27 or 33.
[10] Based on persons answering yes to question 41.
[11] Based on persons answering high or medium to question 46.
[12] Based on persons answering no or don't know to question 52.
[13] Based on persons answering no or don't know to question 54.
[14] Based on persons not answering yes to question 58.

Symbols	
–	Quantity zero
0	Quantity more than zero but less than

Technical Notes

The National Health Interview Survey (NHIS) is a continuous, cross-sectional household interview survey. Each week, a probability sample of the civilian noninstitutionalized population is interviewed by personnel of the U.S. Bureau of the Census to obtain information on the health and other characteristics of each member of the household. Supplemental information is collected for all or a sample of household members. The 1988 National Health Interview Survey of AIDS Knowledge and Attitudes was asked of a single randomly chosen adult 18 years of age or over in each family. The estimates in this report are based on completed interviews with 6,760 persons, or about 89 percent of eligible respondents.

Table I contains the estimated population size of each of the demographic subgroups included in tables 1 and 2 to allow readers to derive provisional estimates of the number of people in the United States with a given characteristic, for example, the number of men who have had their blood tested for the AIDS virus. The population figures in table I are based on 1987 data from the NHIS; they are not official population estimates. Tables II and III show approximate standard errors of estimates presented in tables 1 and 2. Both the estimates in tables 1 and 2 and the standard errors in tables II and III are provisional. They may differ slightly from estimates made using the final data file because they were calculated using a simplified weighting procedure that does not adjust for all the factors used in weighting the final data file. A final data file covering the entire data collection period for 1988 will be available later in 1989.

Table I. Sample sizes for the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes and estimated adult population 18 years of age and over, by selected characteristics: United States, October and November 1988

Characteristics	Sample size		Estimated population in thousands
	October	November	
All adults	3,387	3,373	175,260
Age			
18-29 years	834	809	47,500
30–49 years	1,278	1,302	66,900
50 years and over	1,275	1,262	60,860
Sex			
Male	1,379	1,424	83,073
Female	2,008	1,949	92,187
Race			
White	2,731	2,760	148,154
Black	520	506	19,168
Education			
Less than 12 years	802	738	40,061
12 years	1,324	1,256	68,055
More than 12 years	1,234	1,354	65,333

Table II. Standard errors, expressed in percentage points, of estimated percents from the National Health Interview Survey of AIDS Knowledge and Attitudes, by selected characteristics: United States, October 1988

Estimated percent	Total	Age			Sex		Race		Education		
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
5 or 95	0.5	1.0	0.8	0.8	0.8	0.6	0.5	1.2	1.0	0.8	0.8
10 or 90	0.7	1.3	1.1	1.1	1.0	0.9	0.7	1.7	1.4	1.1	1.1
15 or 85	0.8	1.6	1.3	1.3	1.2	1.0	0.9	2.0	1.6	1.3	1.3
20 or 80	0.9	1.8	1.4	1.4	1.4	1.1	1.0	2.3	1.8	1.4	1.5
25 or 75	1.0	1.9	1.6	1.6	1.5	1.2	1.1	2.4	2.0	1.5	1.6
30 or 70	1.0	2.0	1.6	1.7	1.6	1.3	1.1	2.6	2.1	1.6	1.7
35 or 65	1.1	2.1	1.7	1.7	1.7	1.4	1.2	2.7	2.2	1.7	1.7
40 or 60	1.1	2.2	1.8	1.8	1.7	1.4	1.2	2.8	2.2	1.7	1.8
45 or 55	1.1	2.2	1.8	1.8	1.7	1.4	1.2	2.8	2.3	1.8	1.8
50	1.1	2.2	1.8	1.8	1.7	1.4	1.2	2.8	2.3	1.8	1.8

Table III. Standard errors, expressed in percentage points, of estimated percents from the National Health Interview Survey of AIDS Knowledge and Attitudes, by selected characteristics: United States, November 1988

Estimated percent	Total	Age			Sex		Race		Education		
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
5 or 95	0.5	1.0	0.8	0.8	0.7	0.6	0.5	1.2	1.0	0.8	0.8
10 or 90	0.7	1.4	1.1	1.1	1.0	0.9	0.7	1.7	1.4	1.1	1.0
15 or 85	0.8	1.6	1.3	1.3	1.2	1.0	0.9	2.0	1.7	1.3	1.2
20 or 80	0.9	1.8	1.4	1.4	1.4	1.2	1.0	2.3	1.9	1.5	1.4
25 or 75	1.0	2.0	1.5	1.6	1.5	1.3	1.1	2.5	2.1	1.6	1.5
30 or 70	1.0	2.1	1.6	1.7	1.6	1.3	1.1	2.6	2.2	1.7	1.6
35 or 65	1.1	2.2	1.7	1.7	1.6	1.4	1.2	2.7	2.3	1.7	1.7
40 or 60	1.1	2.2	1.7	1.8	1.7	1.4	1.2	2.8	2.3	1.8	1.7
45 or 55	1.1	2.3	1.8	1.8	1.7	1.5	1.2	2.8	2.4	1.8	1.7
50	1.1	2.3	1.8	1.8	1.7	1.5	1.2	2.9	2.4	1.8	1.7

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Advance Data

From Vital and Health Statistics of the National Center for Health Statistics

Health Characteristics of Workers by Occupation and Sex: United States, 1983–85

by John Gary Collins, M.B.A., and Owen T. Thornberry, Ph.D., Division of Health Interview Statistics

During the past two decades there has been a continuous increase of women in the labor force, in absolute numbers and as a percent of the total. For example, the annual average number of women in the labor force increased from 37.5 million in 1975–76 to 49.2 million in 1983–85. Whereas women accounted for 40.5 percent of the labor force in 1975–76, by 1983–85 44 percent of the labor force was female (NCHS, 1980). Because women have become a significant proportion of the labor force, it is both possible, and timely, to compare the health characteristics of men and women in the labor force by their occupational categories.

To accomplish this, national estimates of health characteristics of persons 18 years of age and over in the civilian noninstitutionalized population of the United States who were in the labor force for the years 1983–85 are presented in this report. These estimates include an occupational profile; percent with fair or poor respondent-assessed health status; percent limited in activity because of chronic conditions; percent with 8 bed days or more in the past 12 months; numbers of restricted-activity, bed disability, and work loss days per person per year; percent with a physician visit in the past year; physician visits per person per year; hospital discharges per 100 persons per year; average length of hospital stay; incidence rate of acute conditions per 100 persons per year; and the prevalence rate of selected chronic conditions per 1,000 persons per year. These estimates are based on data collected by the National Center for Health Statistics (NCHS) by means of the National Health Interview Survey (NHIS). Data are shown for males and females and for 13 occupational groupings.

It should be noted that health characteristics among the occupational groupings may be affected by a number of demographic characteristics. A more detailed analysis of these data by age, sex, race, family income, and education of the individual will appear in a forthcoming NCHS publication, "Health Characteristics by Occupation and Industry of Employment: United States, 1983–85" (NCHS, In press). NHIS data on health characteristics for the total civilian noninstitutionalized population are presented annually in the NCHS publication "Current Estimates From the National Health Interview Survey" (NCHS, 1986a, 1986b, 1986c, 1987, and 1988).

In addition, several NCHS publications have used occupation and industry as an analytic variable in addressing health characteristics such as respondent-assessed health status, disability days, and hospital discharge data (NCHS, 1983a, 1983b, 1985a, and 1986d).

Highlights

- Women account for 94 percent of the labor force in private household occupations and about 80 percent of those in administrative support occupations.
- More than one in every four women in the labor force work in administrative support occupations.
- Women in the labor force reported more restricted-activity, bed disability, and work loss days per person than did their male counterparts. Particularly high rates were reported among females in transportation and material moving occupations and among machine operators, assemblers, and inspectors.
- Almost 86 percent of women in transportation and material moving occupations reported having a doctor visit in the past year. Females in this occupation also averaged a large number of doctor visits, 6.5 per person per year.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control

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- Hospital discharge rates were higher for women in the labor force than for men, but the length of stay was higher among males.
- Females working in transportation and material moving occupations reported a hospital discharge rate 47 percent higher than for all currently employed women.
- The incidence rate of acute conditions among women in protective service occupations and transportation and material moving occupations was double the rate of their male counterparts.
- About one of every four women in transportation and material moving occupations; precision production, craft, and repair occupations; and farming, forestry, and fishing occupations reported having chronic sinusitis.
- The rate of hearing impairments among men in the labor force was almost double that of women. Men working as machine operators, assemblers, and inspectors; in farming, forestry, and fishing occupations; and in precision production, craft, and repair occupations reported the highest prevalence rates of hearing impairments.
- Almost one out of every five women working in private household occupations had health status assessed as fair or poor.

Background

Information from the NHIS conducted by NCHS is based on data collected in a continuing nationwide survey by household interview. Each week a probability sample of the civilian noninstitutionalized population of the United States is interviewed by personnel of the U.S. Bureau of the Census. Information is obtained about the health and other characteristics of each member of the household.

One of the strengths of the NHIS is the ability to combine data over multiple years. This increases the stability of the estimates because augmenting the sample size leads to smaller sampling errors. Combining data over time is possible because of the sampling design of NHIS and its use of standard questions over several years. Combining data is particularly desirable when making estimates for relatively rare events or population subgroups—in this case, occupational groupings.

Data for this report are based on information obtained during 1983, 1984, and 1985, and annual averages for these three years are presented. The questionnaires for 1983, 1984, and 1985 are shown in their entirety in the "Current Estimates From the National Health Interview Survey" reports for those years (NCHS, 1986a, 1986b, and 1986c).

A brief description of methods and procedures used in NHIS is given in the "Technical notes" section of this report.

Occupational profile

The labor force for the years 1983–85 was estimated to be 111.8 million persons, of whom 62.6 million or 56.0 percent were males and 49.2 million or 44.0 percent were females.

Table 1 shows the percent distribution of the labor force occupations by sex. Whereas females made up 44 percent of the labor force, there was a large difference in the percent of women in various occupations. Only 8.5 percent of persons in precision production, craft, and repair occupations and 8.2 percent of those in transportation and material moving occupations were female. Conversely, 94.0 percent of workers in private household occupations and 79.9 percent of those in administrative support occupations were women.

Table 2 shows the percent distribution of males and females in the labor force by occupation. More than half of the female labor force was concentrated in three occupational groups: administrative support occupations, 26.3 percent; service occupations, 13.9 percent; and professional specialty occupations, 13.5 percent. The occupational distribution among males in the labor force was not as concentrated. Precision production, craft, and repair occupations were most prevalent, accounting for 18.9 percent of males in the labor force.

Health characteristics

Respondent-assessed health status

In the NHIS, health status is based on the respondent's assessment, not on clinical evidence. Table 3 shows the percents of males and females in the labor force whose health was assessed to be either fair or poor, by occupational group. For the total labor force, 7.1 percent of females had their health assessed as fair or poor, whereas 6.4 percent of males had. There was a large variation among women in different occupational groups regarding the assessment of

Table 1. Percent distribution of persons 18 years of age and over in the labor force by sex, according to employment status and occupation: United States,1983–85

Employment status and occupation	All persons	Male	Female
	Percent distribution		
Total labor force	100.0	56.0	44.0
Currently employed	100.0	56.2	43.8
Executive, administrative, and managerial occupations	100.0	65.8	34.2
Professional specialty occupations	100.0	50.8	49.2
Technicians and related support occupations	100.0	50.8	49.2
Sales occupations	100.0	52.5	47.5
Administrative support occupations, including clerical	100.0	20.1	79.9
Private household occupations	100.0	6.0	94.0
Protective service occupations	100.0	85.5	14.5
Service occupations, except protective and household	100.0	34.0	66.0
Farming, forestry, and fishing occupations	100.0	84.5	15.5
Precision production, craft, and repair occupations	100.0	91.5	8.5
Machine operators, assemblers, and inspectors	100.0	58.8	41.2
Transportation and material moving occupations	100.0	91.8	8.2
Handlers, equipment cleaners, helpers, and laborers	100.0	82.3	17.7
Unknown occupation and military	100.0	55.1	44.9
Currently unemployed	100.0	53.1	46.9

Table 2. Percent distribution of persons 18 years of age and over in the labor force by employment status and occupation, according to sex: United States, 1983–85

Employment status and occupation	Male	Female
	Percent distribution	
Total labor force	100.0	100.0
Currently employed	93.4	92.6
Executive, administrative, and managerial occupations	13.3	8.8
Professional specialty occupations	11.0	13.5
Technicians and related support occupations	2.6	3.3
Sales occupations	9.7	11.2
Administrative support occupations, including clerical	5.2	26.3
Private household occupations	0.1	1.6
Protective service occupations	2.2	0.5
Service occupations, except protective and household	5.6	13.9
Farming, forestry, and fishing occupations	4.3	1.0
Precision production, craft, and repair occupations	18.9	2.3
Machine operators, assemblers, and inspectors	7.4	6.6
Transportation and material moving occupations	6.6	0.8
Handlers, equipment cleaners, helpers, and laborers	4.8	1.3
Unknown occupation and military	1.6	1.7
Currently unemployed	6.6	7.4

Table 3. Percent of males and females 18 years of age and over in the labor force with respondent-assessed health status of fair or poor, by employment status and occupation: United States, 1983–85

Employment status and occupation	Fair or poor assessed health status	
	Male	Female
	Percent	
Total labor force	6.4	7.1
Currently employed	6.0	6.7
Executive, administrative, and managerial occupations	3.8	4.4
Professional specialty occupations	2.8	3.6
Technicians and related support occupations	2.8	5.6
Sales occupations	5.0	6.3
Administrative support occupations, including clerical	5.2	5.2
Private household occupations	*10.0	19.0
Protective service occupations	7.3	*6.9
Service occupations, except protective and household	7.9	9.7
Farming, forestry, and fishing occupations	10.8	9.4
Precision production, craft, and repair occupations	6.9	8.8
Machine operators, assemblers, and inspectors	7.8	11.9
Transportation and material moving occupations	7.8	7.6
Handlers, equipment cleaners, helpers, and laborers	7.8	10.8
Unknown occupation and military	8.2	8.4
Currently unemployed	11.1	12.0

Table 4. Percent of males and females 18 years of age and over in the labor force who are limited in activity due to chronic conditions, by employment status and occupation: United States, 1983–85

Employment status and occupation	Limitation of activity	
	Male	Female
	Percent	
Total labor force	9.5	8.4
Currently employed	9.2	8.0
Executive, administrative, and managerial occupations	8.9	7.5
Professional specialty occupations	8.6	7.5
Technicians and related support occupations	9.4	7.3
Sales occupations	9.4	8.5
Administrative support occupations, including clerical	9.7	6.9
Private household occupations	*12.0	17.3
Protective service occupations	9.2	8.2
Service occupations, except protective and household	10.9	8.7
Farming, forestry, and fishing occupations	11.4	13.0
Precision production, craft, and repair occupations	8.5	8.6
Machine operators, assemblers, and inspectors	9.2	8.3
Transportation and material moving occupations	8.8	8.9
Handlers, equipment cleaners, helpers, and laborers	8.7	9.4
Unknown occupation and military	9.5	9 8
Currently unemployed	13.8	12.6

their health. Only 3.6 percent of women workers in professional specialty occupations were assessed to be in fair or poor health, compared with 19.0 percent of women working in private household occupations. Private household occupations have a higher percent of older workers than other occupations. This may explain part of this inordinately high rate. More than 1 of every 10 women working as machine operators, assemblers, and inspectors; and handlers, equipment cleaners, helpers, and laborers also were assessed to be in fair or poor health. In contrast, among the men, those in farming, forestry, and fishing occupations were reported to have the highest percent of fair or poor respondent-assessed health—10.8 percent.

Limitation of activity due to chronic conditions

Table 4 shows the percents of males and females in the labor force who are limited in activity because of chronic conditions. Limitation of activity refers to a person's inability to perform his or her major activity, a limitation in the kind or amount of major activity, or a limitation in the kind and amount of other activities. For the purpose of this analysis, if persons were limited in any of the three ways mentioned above, they were considered to be limited in activity. For the total labor force, 8.4 percent of the females were limited in activity as compared with 9.5 percent of the males. This is interesting because a smaller percent of males perceived their health to be fair or poor than did females. Women in private household occupations reported the highest percent with activity limitation, 17.3 percent, and 13.0 percent of women in farming, forestry, and fishing occupations reported activity limitation. In contrast, only 6.9 percent of females in administrative support occupations reported activity limitation. The large number of young women in these administrative support occupations most likely had an effect on the rate. The rate of activity limitation across occupations was more

Table 5. Percent of males and females 18 years of age and over in the labor force who had 8 bed disability days or more in the past 12 months, by employment status and occupation: United States, 1983–85

Employment status and occupation	8 bed days or more in past 12 months	
	Male	Female
	Percent	
Total labor force	7.0	11.2
Currently employed	6.7	10.8
Executive, administrative, and managerial occupations	5.8	10.1
Professional specialty occupations	6.0	11.0
Technicians and related support occupations	6.7	12.1
Sales occupations	6.0	10.8
Administrative support occupations, including clerical	7.0	10.4
Private household occupations	*10.0	10.4
Protective service occupations	7.2	*14.2
Service occupations, except protective and household	7.8	11.1
Farming, forestry, and fishing occupations	7.0	8.2
Precision production, craft, and repair occupations	7.0	12.1
Machine operators, assemblers, and inspectors	7.7	10.6
Transportation and material moving occupations	7.8	13.5
Handlers, equipment cleaners, helpers, and laborers	6.6	9.9
Unknown occupation and military	*5.6	10.3
Currently unemployed	10.9	17.3

stable among males, although men in farming, forestry, and fishing occupations reported a higher than average rate of limitation of activity.

Disability

Bed days in past 12 months—The percents of males and females in the labor force who reported 8 bed days or more in the past year are shown by employment status and occupation in table 5. More than 11 percent of females reported 8 bed days or more in the past 12 months, compared with 7.0 percent of the males. Women in farming, forestry, and fishing occupations had a low percent with 8 bed days or more, 8.2 percent; whereas among women in transportation and material moving occupations, 13.5 percent had 8 bed days or more in the past 12 months. The rates among males were relatively stable among the occupational groups.

Disability days—The number of restricted-activity, bed disability, and work loss days per person per year for those in the labor force are presented by sex, employment status, and occupation in table 6. Females in the labor force reported 11.7 restricted activity days per year compared with 8.6 days for males. Females in transportation and material moving occupations had the highest rate, 16.5 days per person. Women machine operators, assemblers, and inspectors also had a high rate of restricted-activity days, 13.9 per person, whereas those working in farming, forestry, and fishing occupations reported only 7.7 days per person per year. Male machine operators, assemblers, and inspectors also reported a high rate of restricted-activity days, 10.4 per person. In contrast, males in sales occupations reported only 6.9 restricted-activity days per person per year.

Females also reported a higher rate of bed disability days per year than did males, 4.6 days compared with 2.9 days. There was not much variation among the occupational groups for either sex.

Currently employed women reported 5.5 work loss days per person per year compared with 4.3 days for males. Women working in transportation and material moving occupations and as machine operators, assemblers, and inspectors reported high rates of work loss days, 9.3 and 8.7 days per person per year, respectively. Females in private household occupations reported only 4.4 days per person per

Table 6. Number of restricted-activity, bed disability, and work loss days per person per year for males and females 18 years of age and over in the labor force, by employment status and occupation: United States, 1983–85

Employment status and occupation	Restricted-activity days		Bed disability days		Work loss days	
	Male	Female	Male	Female	Male	Female
	Number of days per person per year					
Total labor force	8.6	11.7	2.9	4.6	...	...
Currently employed	8.2	11.2	2.7	4.2	4.3	5.5
Executive, administrative, and managerial occupations	7.2	11.2	2.5	4.4	3.3	5.2
Professional specialty occupations	7.3	10.8	2.6	4.2	3.0	4.6
Technicians and related support occupations	7.7	12.2	2.6	3.9	3.8	5.7
Sales occupations	6.9	10.2	2.3	4.1	3.1	5.1
Administrative support occupations, including clerical	8.7	10.6	2.4	4.1	4.0	5.2
Private household occupations	*6.4	10.7	*0.4	*3.6	*4.5	4.4
Protective service occupations	8.2	*13.3	3.1	*6.6	4.4	*6.1
Service occupations, except protective and household	8.0	11.5	2.6	4.4	4.3	5.6
Farming, forestry, and fishing occupations	8.2	7.7	3.2	*2.2	5.2	*3.3
Precision production, craft, and repair occupations	8.6	12.5	2.8	4.0	4.9	7.5
Machine operators, assemblers, and inspectors	10.4	13.9	2.7	4.6	6.3	8.7
Transportation and material moving occupations	9.6	16.5	2.8	*5.4	5.7	9.3
Handlers, equipment cleaners, helpers, and laborers	8.6	11.7	2.8	*4.7	5.1	7.9
Unknown occupation and military	7.1	13.8	*2.7	6.1	2.7	4.3
Currently unemployed	14.3	17.9	7.0	9.2	...	...

Table 7. Utilization of physician services by males and females 18 years of age and over in the labor force, by employment status and occupation: United States, 1983–85

Employment status and occupation	Physician visits			
	Percent with visit in past year		Visits per person per year	
	Male	Female	Male	Female
	Percent		Number	
Total labor force	61.8	78.5	3.3	5.6
Currently employed	62.2	78.5	3.2	5.5
Executive, administrative, and managerial occupations	66.8	80.4	3.7	6.4
Professional specialty occupations	67.2	83.4	3.8	6.3
Technicians and related support occupations	67.1	82.1	3.6	6.0
Sales occupations	61.3	76.2	3.2	4.9
Administrative support occupations, including clerical	63.0	79.6	3.5	5.6
Private household occupations	66.0	72.0	*3.8	4.3
Protective service occupations	66.4	81.0	3.3	5.7
Service occupations, except protective and household	60.4	76.0	2.8	5.1
Farming, forestry, and fishing occupations	54.9	72.1	2.6	3.8
Precision production, craft, and repair occupations	59.2	75.1	2.9	5.1
Machine operators, assemblers, and inspectors	61.9	74.8	3.2	4.9
Transportation and material moving occupations	61.6	85.7	3.0	6.5
Handlers, equipment cleaners, helpers, and laborers	58.4	74.2	3.1	4.7
Unknown occupation and military	53.6	71.4	2.5	6.4
Currently unemployed	57.3	78.7	4.2	6.2

year. Work loss days among men were also high for machine operators, inspectors, and assemblers and those in transportation and material moving occupations.

Utilization of physician services

The percents of males and females in the labor force who had doctor visits in the past year and the number of doctor visits per year for each sex are shown by employment status and occupation in table 7.

Percent with physician visit in past year—Women were more likely than men to have visited a doctor in the past year. Almost four out of five women had seen a doctor in the past year whereas little more than three of five men reported a doctor visit. Females working in transportation and material moving occupations reported that 85.7 percent had a doctor visit in the past year, and 83.4 percent of women working in professional specialty occupations had a visit. In contrast, only 72.0 percent of women in private household occupations and 72.1 percent of those in farming, forestry, and fishing occupations had a doctor visit in the last 12 months. Among males, those in white collar occupations: professional specialty occupations; technician and related support occupations; and executive, administrative, and managerial occupations reported higher than average percents of workers with a doctor visit in the past year, approximately 67.0 percent. Only 54.9 percent of men in farming, forestry, and fishing occupations had a doctor visit in the previous 12 months.

Physician visits per person per year—Females averaged 5.6 doctor visits per year compared with 3.3 visits by males. The visit rate among women ranged from 3.8 visits for those in farming, forestry, and fishing occupations to 6.5 visits for women working in the transportation and material moving occupations. Women working in executive, administrative, and managerial occupations and professional specialty occupations also reported higher than average physician visit rates. There was little variation in the physician visit rate among males. At the lower end of the spectrum were men working in farming, forestry, and fishing occupations who had 2.6 visits per person per year, whereas at the upper end of the spectrum were men working in professional specialty occupations, who had 3.8 visits per person.

Utilization of hospital service

The short-stay hospital discharge rates and the average lengths of stay of males and females in the labor force are shown by employment status and occupation in table 8.

Short-stay hospital discharges—The rate of hospital discharges among women was about 28 percent higher than for men, 10.1 compared with 7.9 per 100 hundred persons per year, respectively. Females in transportation and material moving occupations reported a high of 13.8 discharges per 100 persons, whereas women in professional specialty occupations; admin-

Table 8. Utilization of hospital services by males and females 18 years of age and over in the labor force, by employment status and occupation: United States, 1983–85

Employment status and occupation	Discharges from short-stay hospitals[1]			
	Discharges per 100 persons per year		Average length of stay	
	Male	Female	Male	Female
	Rate		Number of days	
Total labor force	7.9	10.1	6.3	5.5
Currently employed	7.5	9.4	6.1	5.4
Executive, administrative, and managerial occupations	8.5	9.1	5.7	5.2
Professional specialty occupations	6.6	8.6	5.6	5.1
Technicians and related support occupations	7.5	11.5	6.5	5.4
Sales occupations	6.7	9.2	5.7	5.9
Administrative support occupations, including clerical	6.8	8.7	7.0	5.4
Private household occupations	*6.0	10.7	*10.0	*5.2
Protective service occupations	7.6	*10.3	9.5	*5.9
Service occupations, except protective and household	7.7	9.8	7.1	5.5
Farming, forestry, and fishing occupations	7.1	8.8	6.7	*5.0
Precision production, craft, and repair occupations	7.7	12.2	5.8	5.2
Machine operators, assemblers, and inspectors	9.6	10.9	5.6	5.6
Transportation and material moving occupations	7.6	13.8	6.2	*4.5
Handlers, equipment cleaners, helpers, and laborers	6.0	10.7	6.8	*5.5
Unknown occupation and military	7.8	10.2	6.5	*7.1
Currently unemployed	12.7	18.3	7.8	6.2

[1] Excludes deliveries.

Table 9. Incidence rates per 100 persons of all acute conditions among males and females 18 years of age and over in the labor force, by employment status and occupation: United States, 1983–85

Employment status and occupation	Incidence of all acute conditions	
	Male	Female
	Rate per 100 persons	
Total labor force	124.7	172.6
Currently employed	126.1	173.6
Executive, administrative, and managerial occupations	117.0	196.0
Professional specialty occupations	150.9	191.1
Technicians and related support occupations	142.6	176.1
Sales occupations	114.9	158.7
Administrative support occupations, including clerical	145.9	175.7
Private household occupations	*74.0	111.5
Protective service occupations	132.3	261.2
Service occupations, except protective and household	125.0	175.2
Farming, forestry, and fishing occupations	97.4	145.7
Precision production, craft, and repair occupations	124.6	174.0
Machine operators, assemblers, and inspectors	135.0	151.7
Transportation and material moving occupations	103.9	208.1
Handlers, equipment cleaners, helpers, and laborers	141.6	131.2
Unknown occupation and military	103.3	117.6
Currently unemployed	105.4	160.5

istrative support occupations; and farming, forestry, and fishing occupations reported only 8.6 to 8.8 discharges per 100 persons.

Among males, the highest discharge rate was among those working as machine operators, assemblers, and inspectors, 9.6 per 100 persons. Men working as handlers, equipment cleaners, helpers, and laborers reported only 6.0 hospital discharges per 100 persons.

Length of stay—Whereas the hospital discharge rate among women was higher than that among men, the average length of stay per discharge was lower among women, 5.5 days compared with 6.3 days among males. Although the rate of discharges varied widely among women in different occupations, there was very little difference among women in the average length of stay per discharge in the varying occupational groups.

Among males, those in protective service occupations reported an average length of stay per discharge of 9.5 days, which was 50 percent higher than for all males in the labor force.

Incidence of acute conditions

Table 9 contains the incidence rates per 100 persons from all acute conditions for males and females 18 years of age and over in the labor force by employment status and occupation. Females had a higher incidence rate of acute conditions than males, 172.6 per 100 persons compared with 124.7 per 100 persons. There was a great deal of variation in the incidence rate for women among the occupational groups. Females in private household occupations had an incidence rate of 111.5 per 100 persons whereas women in protective service occupations had a rate of 261.2 per 100 persons. Women in transportation and material moving occupations; executive, administrative, and managerial occupations; and professional specialty occupations also had high incidence rates of 208.1, 196.0, and 191.1 per 100 persons, respectively.

Males in professional specialty occupations had a high incidence rate of 150.9 per 100 persons, whereas men in farming, forestry, and fishing occupations reported only 97.4 acute conditions per 100 persons. Interestingly, the incidence rate among males in transportation and material moving occupations was only 103.9 per 100 persons or about half of the rate of 208.1 reported by females in that occupational group.

Selected chronic conditions

The rates for selected high prevalence chronic conditions for persons 18 years and over in the labor force are presented by sex, employment status, and occupation in table 10. The conditions shown are high blood pressure, hay fever, chronic sinusitis, arthritis, hearing impairment, and deformities or orthopedic impairment of the back.

High blood pressure—The prevalence rate per 1,000 persons in the labor force from high blood pressure was lower among females than males, 102.6 compared with 118.0 per 1,000. Women in private household occupations reported a very high prevalence rate of 220.1, whereas females in professional specialty occupations reported a rate of only 78.0 per 1,000 persons. Interestingly, the prevalence rate of high blood pressure among males was highest among those in executive, administrative, and managerial occupations, 150.7 per 1,000 persons. The rate among men working as handlers, equipment cleaners, helpers, and laborers was a very low 68.7 per 1,000.

Hay fever—Women reported a higher prevalence rate of hay fever than did men, 118.3 per 1,000 persons compared with 98.3. The prevalence rate was particularly high for women working in technician and related support occupations; professional specialty occupations; and executive, administrative, and managerial occupations, 168.4, 151.3, and 142.0 per 1,000 persons, respectively. Female machine operators, assemblers, and inspectors reported a rate of only 59.7 per 1,000. Males working in professional specialty occupations and technician and related support occupations also reported high prevalence rates for hay fever.

Chronic sinusitis—The prevalence rate from chronic sinusitis among women was 181.3 per 1,000 compared with 144.8 among men. Females in transportation and material moving occupations; precision production, craft, and repair occupations; and farming, forestry, and fishing occupations reported high rates of 256.1, 235.6, and 234.5 per 1,000, respectively. Rates among women machine operators, assemblers, and inspectors were a relatively low 136.3 per 1,000 persons. In contrast, the higher prevalence rates

Table 10. Prevalence rates per 1,000 persons of selected chronic conditions among persons 18 years of age and over in the labor force, by sex, employment status, and occupation: United States, 1983–85

Sex, employment status, and occupation	Condition					
	High blood pressure	Hay fever	Chronic sinusitus	Arthritis	Hearing impairment	Deformity or orthopedic impairment of back
	Rate per 1,000 persons					
Males						
Total labor force	118.0	98.3	144.8	88.3	102.2	65.1
Currently employed	117.7	99.8	146.3	89.5	103.5	64.4
Executive, administrative, and managerial occupations	150.7	123.3	159.9	92.8	103.0	65.9
Professional specialty occupations	111.4	151.4	150.2	81.7	91.8	62.4
Technicians and related support occupations	95.4	144.9	167.9	56.8	94.2	51.9
Sales occupations	130.2	111.3	157.9	95.4	78.6	60.4
Administrative support occupations, including clerical	120.8	106.4	163.4	72.7	80.0	60.4
Private household occupations	*	*80.0	*460.0	*360.0	*	*60.0
Protective service occupations	119.6	121.1	137.9	94.6	120.3	85.8
Service occupations, except protective and household	111.4	82.1	126.5	76.7	91.5	68.5
Farming, forestry, and fishing occupations	101.9	84.6	135.7	152.6	124.5	61.4
Precision production, craft, and repair occupations	118.1	77.6	147.9	100.6	124.3	70.1
Machine operators, assemblers, and inspectors	103.8	70.1	145.7	76.8	132.5	58.7
Transportation and material moving occupations	119.2	73.9	149.1	81.6	103.8	69.6
Handlers, equipment cleaners, helpers, and laborers	68.7	70.1	87.7	66.4	86.7	61.4
Unknown occupation and military	109.3	*54.2	*86.3	*70.2	*66.2	*36.1
Currently unemployed	121.9	77.3	124.1	70.9	82.9	74.4
Females						
Total labor force	102.6	118.3	181.3	124.0	55.8	82.2
Currently employed	102.7	117.8	181.1	122.3	55.9	81.3
Executive, administrative, and managerial occupations	101.7	142.0	168.9	128.1	57.0	73.7
Professional specialty occupations	78.0	151.3	197.0	95.1	53.3	92.4
Technicians and related support occupations	118.5	168.4	190.9	121.0	61.1	93.0
Sales occupations	86.8	113.4	180.4	120.3	59.7	85.1
Administrative support occupations, including clerical	93.0	123.1	191.8	98.8	44.5	78.4
Private household occupations	220.1	*82.7	*146.3	260.8	*81.4	109.4
Protective service occupations	*51.7	*43.1	*112.1	*163.8	*73.3	94.8
Service occupations, except protective and household	119.7	102.3	172.2	151.2	61.5	83.3
Farming, forestry, and fishing occupations	*102.2	*36.1	234.5	178.4	*112.2	*86.2
Precision production, craft, and repair occupations	135.4	114.6	235.6	123.6	66.8	*63.2
Machine operators, assemblers, and inspectors	126.2	59.7	136.3	156.7	76.3	69.3
Transportation and material moving occupations	*135.1	*102.7	256.1	*175.7	*24.3	*159.5
Handlers, equipment cleaners, helpers, and laborers	*115.9	*86.6	156.1	145.3	*46.4	*60.3
Unknown occupation and military	137.6	*63.9	119.2	99.5	*27.0	*30.7
Currently unemployed	101.6	124.2	184.1	145.2	55.2	93.3

among males were for those in technician and related support occupations and administrative support occupations.

Arthritis—The prevalence rate from arthritis among females was about 40 percent higher than that for males, 124.0 compared with 88.3 per 1,000 persons. Women in private household occupations reported an inordinately high prevalence rate of 260.8, and those in farming, forestry, and fishing occupations had a high rate of 178.4 per 1,000. These rates may be age-related because these occupations have larger proportions of older persons. Women in administrative support occupations and professional specialty occupations reported prevalence rates that were under 100 per 1,000 population. As among females, the prevalence rate from arthritis was high among males in farming, forestry, and fishing occupations. Men working in technician and related support occupations reported a low prevalence rate from arthritis, 56.8 per 1,000 persons.

Hearing impairments—The prevalence rate of hearing impairments per 1,000 persons in the labor force was almost twice as high for males as for females, 102.2 compared with 55.8 per 1,000. About half of the occupational categories among the women had insufficient data for reliability. However, female machine operators, assemblers, and inspectors had a rate of hearing impairments that was almost 40 percent higher than the average for all females in the labor force. Among males, high rates of hearing impairments were found among machine operators, assemblers, and inspectors; among men in farming, forestry, and fishing occupations; and in precision production, craft, and repair occupations—132.5, 124.5, and 124.3 per 1,000 persons, respectively.

Deformity or orthopedic impairment of back—The prevalence rate of deformity or orthopedic impairment of the back was higher among females than males, 82.2 compared with 65.1 per 1,000 persons. Women in private household occupations had a high rate of 109.4 per 1,000 persons. Among males, the highest prevalence was among workers in protective service occupations, a prevalence of 85.8 back impairments per 1,000 persons.

The population figures used in computing rates in this report are found in table 11.

Table 11. Population distribution of persons 18 years of age and over in the labor force by employment status, occupation, and sex: United States, 1983–85

Employment status and occupation	*All persons*	*Male*	*Female*
	Population in thousands		
Total labor force	111,770	62,581	49,189
Currently employed	104,045	58,479	45,566
Executive, administrative, and managerial occupations	12,616	8,299	4,317
Professional specialty occupations	13,514	6,870	6,644
Technicians and related support occupations	3,259	1,656	1,603
Sales occupations	11,601	6,091	5,510
Administrative support occupations, including clerical	16,215	3,262	12,953
Private household occupations	836	50	786
Protective service occupations	1,595	1,363	232
Service occupations, except protective and household	10,353	3,519	6,834
Farming, forestry, and fishing occupations	3,218	2,719	499
Precision production, craft, and repair occupations	12,966	11,858	1,108
Machine operators, assemblers, and inspectors	7,881	4,633	3,249
Transportation and material moving occupations	4,522	4,152	370
Handlers, equipment cleaners, helpers, and laborers	3,659	3,011	647
Unknown occupation and military	1,811	997	814
Currently unemployed	7,725	4,102	3,623

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Symbols	
- - -	Data not available
. . .	Category not applicable
–	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision (more than 30-percent relative standard error)
#	Figure suppressed to comply with confidentiality requirements

Technical notes

The National Health Interview Survey (NHIS) is a continuous, cross-sectional, nationwide survey conducted by household interview. Each week a probability sample of households in the civilian noninstitutionalized population of the United States is interviewed by personnel of the U.S. Bureau of the Census to obtain information on the health and other characteristics of each member of the household. A description of the survey design, methods used in estimation, and general qualifications of the NHIS data is provided in "Current Estimates From the National Health Interview Survey" for 1983, 1984, and 1985 (NCHS, 1986a, 1986b, and 1986c).

The NHIS sample for the 3 years 1983–85 was composed of about 117,000 eligible households, containing approximately 303,000 persons living at the time of interview. The total noninterview rate for the NHIS was about 3.7 percent.

A description of the survey design, methods used in estimation, and general qualifications of NHIS data was published previously (NCHS, 1985b). Because the estimates shown in this report are based on a sample of the population rather than on the entire population, they are subject to sampling error. Sampling errors for most of the estimates are relatively low. However, where an estimated number, or the numerator or denominator of a rate or percent is small, the sampling error may be large.

An asterisk is placed beside certain figures to indicate more than 30-percent relative standard error. Figures marked with an asterisk are given primarily to allow the reader to combine them with related estimates, thereby possibly producing a more reliable overall estimate for a broader category.

The number of currently employed persons estimated from the NHIS will differ from the estimates prepared from the Current Population Survey (CPS) of the U.S. Bureau of the Census for several reasons. In addition to sampling variability, the estimates include three primary conceptual differences:

1. NHIS estimates are for persons 18 years of age and over; CPS estimates are for persons 16 years of age and over.
2. NHIS uses a 2-week reference period; CPS uses a 1-week reference period.
3. NHIS is a continuing survey with separate samples taken weekly; CPS is a monthly sample taken for the survey week that includes the 12th of the month.

In this report, terms such as "similar" and "the same" mean that no statistically significant difference exists between the statistics being compared. Terms relating to difference (for example, "greater" or "less") indicate that differences are statistically significant. The *t*-test, with a critical value of $\pm$ 1.96 (0.05 level of significance), was used to test all comparisons discussed. Lack of comment regarding the difference between any two statistics does not mean that the difference was tested and found to be not significant.

The estimated standard error parameters and the general rules for determining standard errors for data in this report can be found in the NCHS publication "Health Characteristics by Occupation and Industry: United States, 1983–85" (NCHS, in press).

Recent Issues of ***Advance Data From Vital and Health Statistics***

No. 167. AIDS Knowledge and Attitudes for October and November 1988 (In press)

No. 166. AIDS Knowledge and Attitudes of Hispanic Americans (In press)

No. 165. AIDS Knowledge and Attitudes of Black Americans (Issued March 30, 1989)

No. 164. AIDS Knowledge and Attitudes for September 1988 (Issued January 3, 1989)

No. 163. AIDS Knowledge and Attitudes for August 1988 (Issued December 15, 1988)

No. 162. Practice Patterns of the Office-Based Ophthalmologist: NAMCS, 1985 (Issued January 31, 1989)

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Advance Data

From Vital and Health Statistics of the National Center for Health Statistics

Hospital Inpatient Surgery: United States, 1983–87

by Lola Jean Kozak, Division of Health Care Statistics

Introduction

Concerns with rising health care costs, changes in reimbursement for health care, and advances in surgical technology have led to rapid growth in ambulatory surgery in recent years (American College of Surgeons, 1988; Shannon, 1985a). Ambulatory surgery is expected to reduce costs because many surgical procedures have been shown to be less expensive when the patient is not hospitalized (Olson, 1984). However, if increases in ambulatory surgery are not accompanied by decreases in inpatient surgery, the growth in ambulatory surgery could lead to more total surgery and higher total health care costs (Ermann, 1988).

According to data from the National Hospital Discharge Survey (NHDS), total inpatient surgery has not been decreasing. Several types of procedures that can be done on an ambulatory basis have declined for inpatients, but other procedures have increased in frequency.

This report explores the patterns of inpatient surgery from 1983 to 1987, a period of rapid change in the health care system. The implementation in 1983 of a prospective payment system for Medicare patients based on diagnosis-related groups (DRG's) and the rapid growth in health maintenance organizations, preferred- provider organizations, and prospective utilization review in private health insurance systems have helped stimulate increases in ambulatory surgery (Guterman et al., 1988; Schramm and Gabel, 1988). The discharge rate for all patients in short-stay hospitals decreased by 17 percent from 1983 to 1987, but the change in the rate of inpatient surgical procedures was not statistically significant.

This report presents data on inpatient surgical procedures in 1983 and 1987 by age and sex, source of payment, and hospital bed size. Numbers and rates for categories of surgical procedures and specific procedures are examined, including the main surgical procedures for each of four age groups. These data provide a detailed picture of how inpatient surgery has changed as ambulatory surgery has increased.

The data were collected by means of the NHDS, a continuous, voluntary survey conducted by the National Center for Health Statistics since 1965. It encompasses patients discharged from non-Federal short-stay hospitals. In 1983, 418 sample hospitals participated in the survey by supplying approximately 206,000 abstracts of medical records. In 1987, 400 participating hospitals provided approximately 181,000 abstracts. A brief description of the sample design, data collection procedures, estimation process, and sampling errors (table I), along with definitions of the terms used in this report can be found in the section entitled "Technical notes." Detailed discussions of these topics, and the survey form used to collect the data, have been published (NCHS, 1977, 1988a).

Up to four procedures are coded for each NHDS discharge. The coding is done according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (Public Health Service and Health Care Financing Administration, 1980). Codes for nonsurgical diagnostic and therapeutic procedures, such as computerized axial tomography (CAT scan), diagnostic ultrasound, and diagnostic endoscopy, are included in the classification system. Because this study is concerned with changes in surgical patterns, however, nonsurgical procedures are not included. Table II in "Technical notes" shows the nonsurgical codes that are excluded. It should be noted that all obstetrical procedures are included in this study.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control

National Center for Health Statistics
Manning Feinleib, M.D., Dr. P.H., Director

Other NHDS reports contain data on both surgical and nonsurgical procedures (NCHS, 1986, 1988b).

Highlights

- From 1983 to 1987 the number and rate of inpatient surgical procedures fell by a third for children under 15 years of age but did not change significantly for patients in other age groups.
- From 1983 to 1987 the proportion of inpatient surgeries with private insurance as the expected principal source of payment decreased, and the proportions in the self-pay and other categories increased.
- In 1987 more inpatient surgery was performed in hospitals with 200–299 beds and less inpatient surgery was performed in hospitals with 100–199 beds and 500 beds or more than in 1983.
- From 1983 to 1987 the number of operations on the eye decreased by more than a million; operations on the female genital organs declined by 979,000; operations on the nose, mouth, and pharynx fell by 566,000; and operations on the ear decreased by almost 200,000.
- From 1983 to 1987 the number of obstetrical procedures increased by 1.4 million, and operations on the cardiovascular system rose by 1.1 million.
- For children under 15 years of age (excluding newborn infants), decreasing inpatient procedures included myringotomy; tonsillectomy; adenoidectomy; circumcision; cardiac catheterization; repair of inguinal hernia; and operations on muscles, tendons, fascia, and bursa.
- Decreases were reported for patients 15–44 years of age in inpatient rhinoplasty and repair of nose; dilation and curettage of uterus (D&C); bilateral destruction or occlusion of fallopian tubes; and excision of lesion of skin or tissue, other than tissue debridement.
- Obstetrical procedures that increased from 1983 to 1987 included cesarean section, repair of current obstetric laceration, fetal EKG and other fetal monitoring, artificial rupture of membranes, and manually assisted delivery.
- For patients 45–64 years of age, decreasing inpatient procedures included cataract surgery; repair of inguinal hernia; D&C; biopsy of breast, skin, and subcutaneous tissue; and excision of lesion of skin or tissue, other than tissue debridement.
- Inpatient procedures that increased for patients 45–64 years of age included coronary angioplasty, cardiac catheterization, puncture of vessel, procedures auxiliary to open heart surgery, and excision or destruction of intervertebral disc and spinal fusion.
- The rate of inpatient cataract surgery for patients 65 years of age and over dropped by almost 90 percent from 1983 to 1987.
- Increasing inpatient procedures for patients 65 years of age and over included bypass anastomosis for heart revascularization; cardiac catheterization; puncture of vessel; procedures auxiliary to open heart surgery; biopsy on the digestive system; arthroplasty and replacement of knee; and debridement of wound, infection, and burn.

Inpatient surgery

From 1983 to 1987 discharges in non-Federal short-stay hospitals decreased by 5.4 million, from 38.8 million to 33.4 million (table 1). The discharge rate fell 17 percent, from 1,669.6 to 1,381.6 per 10,000 population. The number of inpatient surgeries did not change significantly. It was 26.2 million in 1983 and 25.7 million in 1987. Likewise, the rate of inpatient surgery per 10,000 population was not significantly different in 1983 (1,128.8) than in 1987 (1,061.6).

The average length of stay for patients with a surgical procedure also did not change significantly. It was 7.0 days in 1983 and 6.6 days in 1987. There was an increase in the proportion of hospitalized patients with one surgical procedure or more, from 45.1 percent in 1983 to 47.4 percent in 1987.

Age and sex

The number and rate of inpatient surgery did not change significantly for males or females from 1983 to 1987 (table 2). For children under 15 years of age, however, the number and rate of inpatient surgery fell by a third, and the decreases were similar for males and females. Many of the surgical procedures commonly performed on children are relatively uncomplicated and thus are good candidates for ambulatory surgery. Several studies have found that children make more use of ambulatory surgery programs than other age groups (Ermann, 1988). Neither males nor females in any other age group had a significant change in the number or rate of inpatient surgical procedures.

In 1983 and 1987 the number and rate of inpatient surgical procedures were higher for females than for males. Females had over 7.5 million more surgeries and a 71-percent higher rate of surgeries than males each year. Females 15–44 years of age accounted for most of the difference by sex. They had 6.8 million more procedures than males 15–44 years of age in 1983, 7.3 million more in 1987. For

Table 1. Number and rate of discharges and inpatient surgeries: United States, 1983–87

[Data are for non-Federal short-stay hospitals and exclude newborn infants]

Year	Discharges	Inpatient surgeries	Discharges	Inpatient surgeries
	Number in thousands		Rate per 10,000 population	
1983	38,783	26,220	1,669.6	1,128.8
1984	37,162	25,590	1,585.1	1,091.5
1985	35,056	24,799	1,478.9	1,046.2
1986	34,256	25,041	1,431.2	1,046.2
1987	33,387	25,655	1,381.6	1,061.6

Table 2. Number and rate of inpatient surgeries by age and sex: United States, 1983 and 1987

[Data are for non-Federal short-stay hospitals and exclude newborn infants]

Age and sex	1983	1987	1983	1987
	Number in thousands		Rate per 10,000 population	
All ages	26,220	25,655	1,128.8	1,061.6
Male	9,268	9,073	826.2	775.7
Female	16,953	16,583	1,411.4	1,329.8
Under 15 years	1,786	1,195	346.1	228.1
Male	1,062	725	402.4	270.1
Female	724	471	287.2	184.0
15–44 years	12,556	12,577	1,154.1	1,101.6
Male	2,866	2,640	534.2	468.3
Female	9,691	9,937	1,757.0	1,719.3
45–64 years	5,686	5,458	1,277.2	1,206.0
Male	2,542	2,612	1,201.8	1,206.9
Female	3,144	2,847	1,345.4	1,205.2
65 years and over	6,192	6,425	2,261.3	2,153.4
Male	2,798	3,097	2,545.4	2,555.3
Female	3,394	3,328	2,070.8	1,878.5

NOTE: Numbers may not add to totals due to rounding.

both years the rate of inpatient surgery for females in this age group was more than three times the rate for males.

This pattern was not repeated for the other age groups. Males under 15 years of age had a greater number and a higher rate of inpatient surgical procedures than did females under 15 years of age in 1983 and 1987. The rate of inpatient surgery was not significantly different for males and females 45–64 years of age, but females had a greater number of surgeries in 1983. Males 65 years of age and over had a higher rate of inpatient surgery than females in that age group in 1983 and 1987, but females had a greater number of surgeries in 1983.

Source of payment

Table 3 shows numbers and percent distributions of inpatient surgical procedures by expected principal source of payment and hospital bed size. The frequency of inpatient surgeries was also examined for geographic regions of the country and by hospital ownership categories, but no significant changes were found from 1983 to 1987 for those characteristics.

The expected principal source of payment for a surgical procedure is usually entered on the patient's medical record at the time of admission to the hospital. It may be somewhat different from the actual source of payment as determined after discharge (NCHS, 1987).

Private insurance consists of health insurance provided by nongovernmental sources, including Blue Cross, other insurance companies, private industry, and philanthropic organizations. The proportion of inpatient surgeries with private insurance as the expected source of payment decreased from 56.9 percent in 1983 to 51.8 percent in 1987. This decline was primarily due to decreases of more than 40 percent in the number of operations on the eye; operations on the ear; and operations on the nose, mouth, and pharynx. In spite of the overall decline, the number of operations on the cardiovascular system covered by private insurance increased from 797,000 in 1983 to 1,171,000 in 1987.

The self-pay category consists of surgical procedures that are expected to be paid for by patients or their families rather than by private insurance or government programs. The proportion of surgeries in this category increased by 21 percent, from 5.3 percent in 1983 to 6.4 percent in 1987. The increase was most marked for operations on the cardiovascular system. The number of cardiovascular operations in the self-pay category almost doubled, from 55,000 in 1983 to 106,000 in 1987.

Changes from 1983 to 1987 in the proportions of inpatient surgical procedures with Medicare or Medicaid as the expected principal source of payment were not statistically significant. Other payment sources increased from 4.8 percent to 6.8 percent of inpatient surgeries. Other sources include Workers' Compensation, other government programs, no charge, and sources that could not be assigned to any other category.

Hospital bed size

A major change in the number of inpatient surgeries by hospital bed size categories from 1983 to 1987 was the increase, by 2.3 million, in the number of surgeries in hospitals with 200–299 beds. This bed size category accounted for 15.5 percent of inpatient surgeries in 1983 but increased to 24.8 percent in 1987. Most types of inpatient surgery increased in hospitals with

Table 3. Number and percent distribution of inpatient surgeries by expected principal source of payment and bed size: United States, 1983 and 1987

[Data are for non-Federal short-stay hospitals and exclude newborn infants]

Source of payment and bed size	1983	1987	1983	1987
	Number in thousands		Percent distribution	
All expected principal sources of payment	26,220	25,655	100.0	100.0
Private insurance	14,931	13,294	56.9	51.8
Medicare	6,636	6,793	25.3	26.5
Medicaid	2,014	2,182	7.7	8.5
Self-pay	1,389	1,653	5.3	6.4
Other	1,250	1,733	4.8	6.8
All bed sizes	26,220	25,655	100.0	100.0
6–99 beds	2,928	2,817	11.2	11.0
100–199 beds	4,853	3,125	18.5	12.2
200–299 beds	4,073	6,374	15.5	24.8
300–499 beds	7,233	6,976	27.6	27.2
500 beds or more	7,133	6,361	27.2	24.8

200–299 beds, and the numbers of operations on the cardiovascular system and obstetrical procedures more than doubled from 1983 to 1987.

The number of inpatient surgeries in hospitals with 100–199 beds decreased by 1.7 million from 1983 to 1987. This bed size category accounted for 18.5 percent of inpatient surgeries in 1983, but only 12.2 percent in 1987. The proportion of inpatient surgeries in hospitals with 500 beds or more also decreased, from 27.2 percent in 1983 to 24.8 percent in 1987. Hospitals in both of these size categories experienced especially large decreases in the numbers of operations on the eye, operations on the ear, and operations on the female genital organs.

Surgical procedures

Decreasing procedures

The number and rate of inpatient surgeries are shown in table 4 for 15 procedure categories. Nonsurgical procedures, listed in table II of "Technical notes," have been excluded from the categories. From 1983 to 1987, there were statistically significant decreases in the numbers and rates of procedures in four categories: operations on the eye; operations on the ear; operations on the nose, mouth, and pharynx; and operations on female genital organs.

The number of operations on the eye decreased by more than a million, and the rate decreased by 69 percent from 1983 to 1987. The decrease was mainly from a decline in cataract surgery, which is now commonly done on an ambulatory basis (Shannon, 1985b).

Operations on the ear decreased by almost 200,000 from 1983 to 1987, and the rate decreased by 54 percent. Myringotomy, which made up half of ear operations in 1983, also has been done with increasing frequency on an ambulatory rather than an inpatient basis (Ermann, 1988).

The number of operations on the nose, mouth, and pharynx dropped by 566,000 from 1983 to 1987, and the rate for the category decreased by 40 percent. Several procedures in this category declined in the 5-year period, such as rhinoplasty and repair of nose, forceps extraction and surgical removal of tooth, tonsillectomy, and adenoidectomy. These are all relatively uncomplicated procedures that could be expected to be done on an ambulatory basis.

Operations on the female genital organs decreased almost as much as eye operations. In 1987 there were 979,000 fewer inpatient surgical procedures on the female genital organs than in 1983, and the rate of these procedures decreased by 28 percent in the 5-year period. Among the procedures in the category that decreased in number were bilateral destruction or occlusion of fallopian tubes, conization of cervix, D&C, aspiration curettage of uterus, and biopsy on the female genital organs. Again, these are procedures that could be expected to be done on an ambulatory basis.

Increasing procedures

Two surgical categories increased significantly from 1983 to 1987: operations on the cardiovascular system and obstetrical procedures. In 1987, 1.1 million more cardiovascular operations were reported than in 1983, and the rate of these operations increased by 56 percent.

Specific cardiovascular procedures are shown in table 5. The first, open heart surgery, includes operations on the valves, septa, and vessels of the heart. It does not include removal of coronary artery obstruction (coronary angioplasty) or bypass anastomosis for heart revascularization. In NHDS reports for the years before 1986, these two procedures were included in the open heart surgery category. When they were excluded, the number and rate of open heart surgeries did not change significantly from 1983 to 1987.

Use of coronary angioplasty grew dramatically from 1983 to 1987. The number of procedures increased by 158,000, and the 1987 rate was almost seven times the 1983 rate.

Table 4. Number and rate of inpatient surgeries by surgical category: United States, 1983 and 1987

[Data are for non-Federal short-stay hospitals and exclude newborn infants]

Surgical category and ICD-9-CM code[1]	*1983*	*1987*	*1983*	*1987*
	Number in thousands		Rate per 10,000 population	
All surgical procedures	26,220	25,655	1,128.8	1,061.6
Operations on the nervous system .01–05	648	563	27.9	23.3
Operations on the endocrine system .06–07	105	109	4.5	4.5
Operations on the eye .08–16	1,558	497	67.1	20.5
Operations on the ear .18–20	372	176	16.0	7.3
Operations on the nose, mouth, and pharynx .21–29	1,496	930	64.4	38.5
Operations on the respiratory system .30–34	624	745	26.9	30.8
Operations on the cardiovascular system .35–39	1,836	2,978	79.0	123.2
Operations on the hemic and lymphatic system .40–41	365	398	15.7	16.5
Operations on the digestive system .42–54	4,202	4,288	180.9	177.4
Operations on the urinary system .55–59	1,073	1,083	46.2	44.8
Operations on male genital organs .60–64	845	747	36.4	30.9
Operations on female genital organs .65–71	3,849	2,870	165.7	118.8
Obstetrical procedures .72–75	3,914	5,358	168.5	221.7
Operations on the musculoskeletal system .76–84	3,502	3,313	150.8	137.1
Operations on the integumentary system .85–86	1,830	1,600	78.8	66.2

[1]Procedure groups and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification*. See table II in "Technical notes" for nonsurgical procedures excluded from each category.

Table 5. Number and rate of cardiovascular operations: United States, 1983 and 1987

[Data are for non-Federal short-stay hospitals and exclude newborn infants]

Cardiovascular operation and ICD-9-CM code[1]	1983	1987	1983	1987
	Number in thousands		Rate per 10,000 population	
All cardiovascular operations[2] .35–39	1,836	2,978	79.0	123.2
Open heart surgery .35.1–35.51, 35.53–35.99, 36.2, 36.9, 37.10–37.11, 37.32–37.33, 37.5	58	72	2.5	3.0
Removal of coronary artery obstruction .36.0	26	184	1.1	7.6
Bypass anastomosis for heart revascularization[3] .36.1	191	332	8.2	13.7
Cardiac catheterization .37.21–37.23	508	866	21.9	35.8
Pacemaker insertion, replacement, removal, and repair .37.7–37.8	189	234	8.2	9.7
Puncture of vessel .38.9	147	331	6.3	13.7
Procedures auxiliary to open heart surgery .39.6	56	239	2.4	9.9

[1] Procedure groups and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification.*
[2] Includes operations not shown in table. Excludes hemodialysis, code 39.95.
[3] The number of discharged patients with bypass anastomosis for heart revascularization was 188,000 in 1983 and 245,000 in 1987.

Bypass surgeries increased from 191,000 in 1983 to 332,000 in 1987. In a growing number of cases, however, more than one bypass has been reported for an individual patient. Bypass procedures using saphenous veins and mammary artery grafts, which are coded separately, are being done during the same operation. In 1983, the 191,000 bypass operations represented 188,000 discharged patients, and in 1987, the 332,000 bypass operations were on 245,000 discharged patients. Thus, the number of discharges with bypass operations increased 30 percent from 1983 to 1987.

The most common cardiovascular procedure, cardiac catheterization, increased by 358,000 from 1983 to 1987. The rate per 10,000 population for this procedure was 63 percent higher in 1987 (35.8) than in 1983 (21.9). In contrast, the frequency of another common procedure category, pacemaker insertion, replacement, removal, and repair, did not change significantly during the 5-year period.

The number and rate of puncture of vessel, which includes arterial and venous catheterization and venous cutdown, more than doubled from 1983 to 1987. Procedures auxiliary to open heart surgery, mainly extracorporeal circulation (use of a heart-lung machine), more than quadrupled. These increases probably reflect increased reporting as well as actual growth in the use of the procedures.

Obstetrical procedures increased by 1.4 million from 1983 to 1987 (table 6). The rate of obstetrical procedures grew from 98.5 per 100 deliveries in 1983 to 137.0 per 100 deliveries in 1987. The majority of these procedures were relatively routine procedures to assist delivery. Episiotomy—with or without forceps or vacuum extraction—accounted for half of all obstetrical procedures in 1983 and a third in 1987. Neither the number or the rate of episiotomies changed significantly from 1983 to 1987. Artificial rupture of membranes, however, more than doubled in frequency reported during the 5-year period, and manually assisted delivery was reported almost five times more frequently in 1987 than in 1983.

The cesarean section rate increased from 20.3 per 100 deliveries in 1983 to 24.4 per 100 deliveries in 1987. This was part of a long-term upward trend in the use of cesarean sections. The rate of cesarean sections was 5.5 per 100 deliveries in 1970, 10.4 per 100 deliveries in 1975, and 16.5 per 100 deliveries in 1980. Detailed studies of the increase in cesarean section rates have been published (Placek and Taffel, 1980; Placek, Taffel, and Moien, 1988; Taffel, Placek, and Liss, 1987).

Repair of current obstetric laceration increased 40 percent, from 12.1 per 100 deliveries in 1983 to 16.9 per 100 deliveries in 1987. This procedure has also been increasing in frequency for some time. In 1970 the rate of obstetric laceration repairs was 5.9 per 100 deliveries; in 1975 it was 7.2 per 100 deliveries; and in 1980 it was 9.4 per 100 deliveries.

Use of fetal EKG and fetal monitoring not otherwise specified increased dramatically from 1983 to 1987. The number grew by 533,000, and the 1987 rate per 100 deliveries

Table 6. Number and rate of obstetrical procedures: United States, 1983 and 1987

[Data are for non-Federal short-stay hospitals]

Obstetrical procedure and ICD-9-CM code[1]	1983	1987	1983	1987
	Number in thousands		Rate per 100 deliveries	
All obstetrical procedures .72–75	3,914	5,358	98.5	137.0
Procedures to assist delivery .72–73	2,405	2,938	60.5	75.1
Episiotomy .72.1, 72.21, 72.31, 72.71, 73.6	1,943	1,833	48.9	46.9
Artificial rupture of membranes .73.0	207	476	5.2	12.2
Manually assisted delivery .73.5	81	404	2.0	10.3
Cesarean section .74.0–74.2, 74.4, 74.99	808	953	20.3	24.4
Repair of current obstetric laceration .75.5–75.6	479	660	12.1	16.9
Fetal EKG and fetal monitoring not otherwise specified .75.32, 75.34	114	647	2.9	16.5
Other obstetric procedures .74.3, 74.91, 75.0–75.31, 75.33, 75.35, 75.4, 75.7–75.9	108	161	2.7	4.1

[1] Procedure groups and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification.*

was 5.7 times the rate in 1983. The rate of other miscellaneous obstetric procedures also increased by more than 50 percent from 1983 to 1987.

Surgical procedures by age

The number and rate of selected surgical categories and procedures are shown by age group in tables 7–10. The specific categories and procedures were chosen because of large numbers of occurrences or because of special interest. Not every category or procedure shown changed in frequency from 1983 to 1987, and not every significant change could be shown.

Under 15 years

Seven surgical categories accounted for 86 percent of the inpatient surgery of children under 15 years of age in 1983, 84 percent in 1987 (table 7). These data exclude surgeries performed on newborn infants. There were statistically significant decreases in the numbers and rates for three of these categories in the 5-year period: operations on the ear; operations on the nose, mouth, and pharynx; and operations on male genital organs.

The number of operations on the ear decreased by 127,000, which was primarily because of the decrease, by 107,000, in the number of myringotomies. The rate of myringotomies declined by 64 percent.

Children under 15 years of age had 213,000 fewer inpatient operations on the nose, mouth, and pharynx in 1987 than in 1983. Tonsillectomies with or without adenoidectomies decreased by 120,000, and there were 37,000 fewer adenoidectomies without tonsillectomies. The rate of adenoidectomies fell the most, 73 percent, while the tonsillectomy rate decreased by 44 percent.

The number and rate of tonsillectomies have been declining for many years (NCHS, 1984). In 1965, 981,000 inpatient tonsillectomies were performed on children under 15 years of age, which was a rate of 165.5 per 10,000 population. The rate decreased 25 percent from 1965 to 1970, 31 percent from 1970 to 1975, and 34 percent from 1975 to 1980.

Operations on the male genital organs declined by 56,000 from 1983 to 1987. The major decrease was in circumcisions. Both the number and rate of circumcisions in 1987 were half what they had been in 1983. However, newborn infants, who were excluded from these data, had a much larger number of circumcisions, approximately 1.2 million in 1983 and 1987. Neither the number nor the rate of circumcisions per 100 male newborn infants changed significantly in the 5-year period.

Certain procedures within other surgical categories also decreased from 1983 to 1987. The number and rate of cardiac catheterizations for children under 15 years of age fell by more than 40 percent, even though the total number of cardiac catheterizations increased during this period. The number and rate of inpatient repairs of inguinal hernias for children were almost cut in half from 1983 to 1987. Operations on muscles, tendons, fascia, and bursa decreased by 39 percent in the 5-year period. None of the leading inpatient surgical procedures done on children increased in frequency from 1983 to 1987.

15–44 years

Six categories made up approximately 90 percent of the inpatient surgical procedures performed on patients 15–44 years of age (table 8). From 1983 to 1987 there was a statistically significant increase in the

Table 7. Number and rate of inpatient surgeries for patients under 15 years of age: United States, 1983 and 1987

[Data are for non-Federal short-stay hospitals and exclude newborn infants]

Surgical category and ICD-9-CM code[1]	*1983*	*1987*	*1983*	*1987*
	Number in thousands		Rate per 10,000 population	
All surgical procedures[2]	1,786	1,195	346.1	228.1
Operations on the ear .18–20	220	93	42.6	17.7
Myringotomy .20.0	169	62	32.7	11.7
Operations on the nose, mouth, and pharynx .21–29	451	238	87.3	45.4
Tonsillectomy with or without adenoidectomy .28.2–28.3	279	159	54.1	30.3
Adenoidectomy without tonsillectomy .28.6	50	13	9.7	2.6
Operations on the cardiovascular system .35–39	115	98	22.2	18.7
Cardiac catheterization .37.21–37.23	32	19	6.2	3.6
Puncture of vessel .38.9	37	35	7.3	6.6
Operations on the digestive system .42–54	255	211	49.5	40.3
Appendectomy .47.0	75	66	14.5	12.7
Repair of inguinal hernia .53.0–53.1	81	42	15.6	8.0
Operations on male genital organs .60–64	126	70	24.5	13.3
Orchiectomy and orchiopexy .62.3–62.5	27	19	5.2	3.7
Circumcision .64.0	53	26	10.2	5.0
Operations on the musculoskeletal system .76–84	242	201	46.8	38.4
Reduction of fracture .76.7, 79.0–79.6	100	86	19.4	16.4
Operations on muscles, tendons, fascia, and bursa .82–83.1, 83.3–83.9	41	25	7.9	4.8
Operations on the integumentary system .85–86	121	95	23.5	18.2
Excision or destruction of lesion or tissue of skin or subcutaneous tissue .86.2–86.4	51	38	9.9	7.2

[1] Procedure groups and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification*. See table II in "Technical notes" for nonsurgical procedures excluded from each category.
[2] Includes operations not shown in table.

Table 8. Number and rate of inpatient surgeries for patients 15–44 years of age: United States, 1983 and 1987

[Data are for non-Federal short-stay hospitals]

Surgical category and ICD-9-CM code[1]	*1983*	*1987*	*1983*	*1987*
	Number in thousands		Rate per 10,000 population	
All surgical procedures[2]	12,556	12,577	1,154.1	1,101.6
Operations on the nose, mouth, and pharynx .21–29	689	431	63.3	37.7
Rhinoplasty and repair of nose .21.8	188	89	17.3	7.8
Operations on the digestive system .42–54	1,432	1,401	131.7	122.7
Appendectomy .47.0	165	186	15.1	16.3
Cholecystectomy .51.2	167	199	15.4	17.4
Division of peritoneal adhesions .54.5	180	194	16.5	17.0
Operations on the female genital organs .65–71	2,915	2,098	267.9	183.7
Oophorectomy and salpingo-oophorectomy .65.3–65.6	314	276	28.9	24.2
Bilateral destruction or occlusion of fallopian tubes .66.2–66.3	564	413	51.9	36.2
Hysterectomy .68.3–68.7	440	406	40.4	35.6
Dilation and curettage of uterus .69.0	731	314	67.2	27.5
Obstetrical procedures .72–75	3,902	5,337	358.6	467.5
Operations on the musculoskeletal system .76–84	1,543	1,376	141.8	120.5
Open reduction of fracture, except jaw .76.79, 79.2–79.3, 79.5–79.6	162	200	14.9	17.5
Excision or destruction of intervertebral disc .80.5, 81.0	143	176	13.1	15.4
Operations on muscles, tendons, fascia, and bursa .82–83.1, 83.3–83.9	190	155	17.4	13.6
Operations on the integumentary system .85–86	740	642	68.0	56.2
Debridement of wound, infection, or burn .86.22	86	137	7.9	12.0
Other excision or destruction of lesion or tissue of skin or subcutaneous tissue .86.21, 86.23–86.4	192	98	17.7	8.6

[1] Procedure groups and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification*. See table II in "Technical notes" for nonsurgical procedures excluded from each category.

[2] Includes operations not shown in table.

number and rate for one category, obstetrical procedures. The specific procedures in this category were shown in table 6. Patients 15–44 years of age accounted for virtually all of the obstetrical procedures.

Two surgical categories decreased significantly from 1983 to 1987: operations on the nose, mouth, and pharynx and operations on the female genital organs. The number of operations on the nose, mouth, and pharynx decreased by 258,000, and the rate decreased by 40 percent. A major part of the decrease was from the decline in rhinoplasty and repair of nose. The 1987 number and rate for this surgery were less than half of what they had been in 1983.

The number of operations on the female genital organs for patients 15–44 years of age fell by 817,000 from 1983 to 1987. The rate decreased by 31 percent. D&C declined 417,000, and the rate of D&C's decreased by 59 percent. Bilateral destruction or occlusion of fallopian tubes also decreased significantly; 151,000 fewer were performed in 1987 than in 1983, and the 1987 rate was 30 percent lower than the 1983 rate.

Within the category of operations on the integumentary system, one type of procedure, debridement of wound, infection, or burn, increased sharply for patients 15–44 years of age. The rate of this procedure rose 52 percent, and the number was 51,000 higher in 1987 than in 1983. At the same time, other excision or destruction of lesion or tissue of skin and subcutaneous tissue decreased sharply for this age group. The rate was down 51 percent, and the number decreased 94,000 from 1983 to 1987. The decreasing procedures could be expected to have become outpatient procedures (Shannon, 1985c). The increase in debridements may reflect a change in reporting practices.

45–64 years

For patients 45–64 years of age, the seven surgical categories shown in table 9 accounted for more than 80 percent of all inpatient surgical procedures. The number and rate of procedures in one category, operations on the eye, decreased significantly from 1983 to 1987. The number was reduced by 179,000, and the rate declined 62 percent. Decreases in cataract surgery—extraction of lens and insertion of prosthetic lens—accounted for almost all of the decline in eye surgery. The rates of these cataract surgeries, which are often done at the same time, dropped 87 and 84 percent, respectively, from 1983 to 1987.

The number of operations on the cardiovascular system increased by 469,000 from 1983 to 1987, and the rate increased by 60 percent. Most striking was the increase in removal of coronary artery obstruction (coronary angioplasty), which grew from 16,000 in 1983 to 104,000 in 1987. The 1987 rate for coronary angioplasty was 6.5 times the 1983 rate for patients 45–64 years of age.

The number and rate of bypass anastomosis for heart revascularization also increased, but much of the growth was because more than one procedure was being reported per patient. The number of discharged patients in this age group who had bypass surgery was 111,000 in 1983 and 121,000 in 1987, which was not a statistically significant increase.

Cardiac catheterization increased by 163,000, and the rate of this procedure was 56 percent higher in 1987 than in 1983. The number and rate of puncture of vessel reported for patients 45–64 years of age more than doubled, and the number and rate of procedures auxiliary to open heart surgery reported in 1987 were four times the number and rate reported in 1983.

Besides cardiovascular procedures, another specific procedure that increased for the group 45–64 years of

Table 9. Number and rate of inpatient surgeries for patients 45–64 years of age: United States, 1983 and 1987

[Data are for non-Federal short-stay hospitals]

Surgical category and ICD-9-CM code[1]	*1983*	*1987*	*1983*	*1987*
	Number in thousands		Rate per 10,000 population	
All surgical procedures[2]	5,686	5,458	1,277.2	1,206.0
Operations on the eye .08–16	295	116	66.4	25.5
Extraction of lens .13.1–13.6	106	14	23.8	3.1
Insertion of prosthetic lens .13.7	82	13	18.3	2.9
Operations on the cardiovascular system .35–39	753	1,222	169.1	270.0
Removal of coronary artery obstruction .36.0	16	104	3.5	22.9
Bypass anastomosis for heart revascularization[3] .36.1	112	170	25.2	37.7
Cardiac catheterization .37.21–37.23	277	440	62.3	97.2
Puncture of vessel .38.9	36	91	8.2	20.1
Procedures auxiliary to open heart surgery .39.6	29	116	6.4	25.7
Operations on the digestive system .42–54	1,170	1,136	262.9	251.0
Resection of intestine .45.6–45.8	57	76	12.9	16.7
Cholecystectomy .51.2	162	163	36.4	36.1
Repair of inguinal hernia .53.0–53.1	155	99	34.8	22.0
Biopsies on the digestive system[4]	142	147	31.9	32.4
Operations on the urinary system .55–59	299	306	67.1	67.5
Operations on the female genital organs .65–71	685	535	153.8	118.3
Oophorectomy and salpingo-oophorectomy .65.3–65.6	153	163	34.3	36.1
Hysterectomy .68.3–68.7	180	188	40.4	41.6
Dilation and curettage of uterus .69.0	166	48	37.4	10.7
Operations on the musculoskeletal system .76–84	906	811	203.6	179.3
Partial excision of bone .76.2–76.3, 77.6–77.8	84	70	18.8	15.4
Open reduction of fracture, except jaw .76.79, 79.2–79.3, 79.5–79.6	68	86	15.3	19.1
Excision or destruction of intervertebral disc and spinal fusion .80.5, 81.0	89	133	19.9	29.3
Operations on muscles, tendons, fascia, and bursa .82–83.1, 83.3–83.9	116	91	26.1	20.0
Operations in the integumentary system .85–86	559	434	125.6	95.8
Biopsies of breast, skin, and subcutaneous tissue .85.11–85.12, 86.11	80	45	17.9	9.9
Debridement of wound, infection, or burn .86.22	46	67	10.3	14.8
Other excision or destruction of lesion or tissue of skin or subcutaneous tissue .86.21, 86.23–86.4	141	58	31.7	12.9

[1] Procedure groups and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification*. See table II in "Technical notes" for nonsurgical procedures excluded from each category.
[2] Includes operations not shown in table.
[3] The number of discharged patients with bypass anastomosis for heart revascularizations was 111,000 in 1983 and 121,000 in 1987.
[4] ICD-9-CM codes 42.24, 44.14–44.15, 45.14–45.15, 45.25–45.27, 48.24–48.26, 49.22–49.23, 50.11–50.12, 51.12–51.13, 52.11–52.12, 54.22–54.23.

age was excision or destruction of intervertebral disc and spinal fusion. The number increased from 89,000 in 1983 to 133,000 in 1987.

Certain other procedures decreased significantly in the 5-year period. The number of repair of inguinal hernia was reduced by 56,000, and the rate for the procedure fell 37 percent. The rate of D&C was down 71 percent, and the number decreased by 118,000. There were 35,000 fewer biopsies of breast, skin, and subcutaneous tissue done on an inpatient basis, and the rate for these biopsies decreased by 45 percent. The number of other excision or destruction of lesion or tissue of skin and subcutaneous tissue declined by 83,000, and the rate decreased 59 percent.

65 years and over

Seven surgical categories that accounted for more than 80 percent of the inpatient surgical procedures performed on patients 65 years of age and over are presented in table 10. As was the case for patients 45–64 years of age, operations on the eye decreased significantly from 1983 to 1987, and operations on the cardiovascular system increased significantly.

The number of operations on the eye performed on inpatients 65 years of age and over decreased by 831,000 in the 5-year period. The decline in eye surgery was almost all from decreases in cataract surgeries. The rate of lens extraction fell 90 percent, and the rate of insertion of prosthetic lens dropped 88 percent from 1983 to 1987.

The number of operations on the cardiovascular system increased by 602,000 in the 5-year period. The number and rate of bypass anastomosis for heart revascularization more than doubled. The number of discharged patients 65 years of age and over who had one or more bypass procedures increased from 66,000 in 1983 to 117,000 in 1987, and the rate rose 63 percent during this period.

The number of cardiac catheterizations increased by 190,000 from 1983 to 1987, and the rate for the procedure more than doubled. As was the case for patients 45–64 years of age, the number and rate of puncture of vessel reported for patients 65 years of age and over more than doubled from 1983 to 1987. The number and rate of procedures auxiliary to open heart surgery reported in 1987 were five times those reported for 1983.

Among other specific surgical procedures that increased from 1983 to 1987 was biopsy of the digestive system, which grew by 76,000. In addition, the rate of arthroplasty and replacement of knee almost doubled, and the number of this procedure increased by 47,000.

Like patients 15–44 years of age, patients 65 years of age and over were reported to have a significant increase in debridement of wound, infection, or burn. The number of these procedures increased by 45,000, and the rate for the elderly was 58 percent higher in

Table 10. Number and rate of inpatient surgeries for patients 65 years of age and over: United States, 1983 and 1987

[Data are for non-Federal short-stay hospitals]

Surgical category and ICD-9-CM code[1]	1983	1987	1983	1987
	Number in thousands		Rate per 10,000 population	
All surgical procedures[2]	6,192	6,425	2,261.3	2,153.4
Operations on the eye .08–16	1,077	246	393.2	82.4
Extraction of lens .13.1–13.6	501	57	182.8	19.0
Insertion of prosthetic lens .13.7	427	54	156.0	18.0
Operations on the cardiovascular system .35–39	759	1,361	277.0	456.2
Bypass anastomosis for heart revascularization[3] .36.1	67	152	24.6	51.1
Cardiac catheterization .37.21–37.23	138	328	50.4	109.8
Pacemaker insertion, replacement, removal, repair .37.7–37.8	150	174	54.8	58.4
Puncture of vessel .38.9	51	140	18.6	46.9
Procedures auxiliary to open heart surgery .39.6	18	107	6.6	35.7
Operations on the digestive system .42–54	1,344	1,540	490.7	516.0
Resection of intestine .45.6–45.8	133	153	48.6	51.3
Cholecystectomy .51.2	156	172	57.0	57.7
Repair of inguinal hernia .53.0–53.1	140	111	51.1	37.3
Biopsies on the digestive system[4]	189	265	69.1	89.0
Operations on the urinary system .55–59	423	448	154.4	150.0
Transurethral excision or destruction of bladder tissue .57.4	89	76	32.6	25.4
Operations on the male genital organs .60–64	410	442	149.6	148.2
Prostatectomy .60.2–60.6	274	318	99.9	106.7
Operations on the musculoskeletal system .76–84	811	924	296.3	309.6
Reduction of fracture .76.7, 79.0–79.6	175	220	63.8	73.8
Arthroplasty and replacement of knee .81.41–81.47	41	88	14.9	29.7
Arthroplasty and replacement of hip .81.5–81.6	118	161	42.9	53.9
Operations on the integumentary system .85–86	410	430	149.9	144.0
Debridement of wound, infection, or burn .86.22	63	108	22.9	36.2
Other excision or destruction of lesion or tissue of skin or subcutaneous tissue .86.21,86.23–86.4	101	61	37.0	20.6

[1] Procedure groups and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification*. See table II in "Technical notes" for nonsurgical procedures excluded from each category.
[2] Includes operations not shown in table.
[3] The number of discharged patients with bypass anastomosis for heart revascularization was 66,000 in 1983 and 117,000 in 1987.
[4] ICD-9-CM codes 42.24, 44.14–44.15, 45.14–45.15, 45.25–45.27, 48.24–48.26, 49.22–49.23, 50.11–50.12, 51.12–51.13, 52.11–52.12, 54.22–54.23.

1987 than in 1983. At the same time, other excision or destruction of lesion or tissue of skin and subcutaneous tissue decreased. The number fell by 40,000, and the rate decreased by 44 percent.

Summary

The procedures that decreased in frequency for inpatients from 1983 to 1987 were ones either that have been reported to be performed in growing numbers in ambulatory settings, or that have the characteristics (such as short duration, minimal bleeding, and low complication rates) of procedures that could be done on an ambulatory basis (Ermann, 1988). Thus, the decreases in the number of these procedures performed on inpatients probably does not indicate a decrease in the total number performed.

The increases in inpatient procedures had several possible explanations. Increases in relatively minor procedures such as manually assisted delivery or debridement of wound, infection, or burn probably were from increased reporting rather than sudden growth in the use of these procedures. The implementation of the prospective payment system based on DRG's was expected to result in more complete reporting of secondary diagnoses and procedures (Cohen, Pokras, Meads, and Krushat, 1987). More detailed reporting could result in more favorable reimbursement rates for Medicare patients, and if doctors and hospitals changed their reporting practices for patients covered by Medicare, they were likely to change it for other patients as well (Schramm and Gabel, 1988).

In addition, NHDS data collection procedures changed in 1985 when part of the data began to be purchased from commercial abstracting services (see "Technical notes"). A greater number of procedures per patient have been reported for hospitals using the commercial abstracting services than for the other hospitals in the survey.

Some procedures (for example, coronary angioplasty and use of fetal monitoring) were probably increasing rapidly from 1983 to 1987 because they were in the process of changing from relatively new procedures done on a limited basis to commonly used procedures. However, reasons for the rapid increases in some procedures (such as, coronary bypass and arthroplasty and replacement of knee for patients 65 years of age and over) are not readily apparent and may be cause for concern for health policymakers.

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Technical notes

Survey methodology

Source of data

The National Hospital Discharge Survey (NHDS) encompasses patients discharged from short-stay hospitals, exclusive of military and Veterans Administration hospitals, located in the 50 States and the District of Columbia. Only hospitals with six beds or more and an average length of stay of less than 30 days for all patients are included in the survey. Discharges and surgical procedures of newborn infants are excluded from this report.

The original universe for the survey consisted of 6,965 hospitals contained in the 1963 National Master Facility Inventory. New hospitals were sampled for inclusion in the survey in 1972, 1975, 1977, 1979, 1981, 1983, and 1985. In all, 553 hospitals were sampled in 1983; 558 were sampled in 1987. Of these, 78 hospitals refused to participate in 1983, and 92 refused in 1987. Another 57 hospitals in 1983 and 66 hospitals in 1987 were out of the scope of the survey either because they had closed or because they did not meet the definition of a short-stay hospital. In 1983, the 418 participating hospitals provided approximately 206,000 abstracts, which contained data on 130,000 surgical procedures. In 1987, 400 participating hospitals supplied 181,000 abstracts that included data on 128,000 surgical procedures.

Sample design and data collection

All hospitals with 1,000 beds or more in the universe of short-stay hospitals were selected with certainty in the sample. All hospitals with fewer than 1,000 beds were stratified, the primary strata being 24 size-by-region classes. Within each of these primary strata, the allocation of the hospitals was made through a controlled selection technique so that hospitals in the sample would be properly distributed with regard to type of ownership and geographic division. Sample hospitals were drawn with probabilities ranging from certainty for the largest hospitals to 1 in 40 for the smallest hospitals. The within-hospital sampling ratio for selecting sample discharges varied inversely with the probability of selection of the hospital.

In 1985, for the first time, two data collection procedures were used for the survey. The first was the traditional manual system of sample discharge selection and data abstraction. The second involved the purchase of data tapes from commercial abstracting services. In 1987 this automated method was used in approximately 17 percent of the sample hospitals.

In the manual procedure hospitals, sample discharges were selected using the daily listing sheet of discharges as the sampling frame. These discharges were selected by a random technique, usually based on the terminal digit or digits of the patient's medical record number. The sample selection and abstraction of data from the face sheets and discharge summaries of the medical records were performed by the hospital staff or by representatives of the National Center for Health Statistics (NCHS). The completed forms were forwarded to NCHS for coding, editing, and weighting procedures.

For the automated procedure hospitals, tapes containing machine-readable medical record data were purchased from commerical abstracting services. These tapes were subject to NCHS sampling, editing, and weighting procedures.

The medical abstract form and the abstract service data tapes contain items relating to the personal characteristics of the patient, including birth data, sex, race, and marital status (but not name and address); administrative information including admission and discharge dates, discharge status, and medical record number; and medical information, including diagnoses and surgical and nonsurgical procedures. Since 1977, patient zip code, expected source of payment, and dates of procedures have been collected. The medical record number and patient zip code are considered confidential information and are not available to the public.

Presentation of estimates

Statistics produced by NHDS are derived by a complex estimating procedure. The basic unit of estimation is the sample inpatient discharge. The estimating procedure used to produce unbiased national estimates in NHDS has three principal components: inflation by reciprocals of the probabilities of sample selection, adjustment for nonresponse, and ratio adjustment to fixed totals. These components of estimation are described in appendix I of two earlier publications (NCHS, 1967a, 1967b).

Based on consideration of the complex sample design of NHDS, the following guidelines are used for presenting NHDS estimates in this report:

- If the sample size is less than 30, the value of the estimate is not reported. Only an asterisk (*) is shown in the tables.
- If the sample size is 30–59, the value of the estimate is reported but should be used with caution. The estimate is preceded by an asterisk (*) in the tables.

Standard errors and rounding of numbers

The standard error is a measure of the sampling variability that occurs by chance because only a sample, rather than an entire universe, is surveyed. The relative standard error of the estimate is obtained by dividing the standard error by the estimate itself and is expressed as a percent of the estimate. Relative standard errors

NOTE: See list of references following the text.

Table I. Approximate relative standard errors for the number of surgical procedures: United States, 1983 and 1987

Size of estimate	1983	1987
5,000	17.1	18.3
10,000	14.0	15.3
25,000	10.9	12.4
50,000	9.2	10.8
100,000	7.8	9.4
250,000	6.5	8.0
500,000	5.7	7.2
1,000,000	5.1	6.5
2,500,000	4.4	5.8
5,000,000	4.0	5.3
10,000,000	3.6	4 9
25,000,000	3.3	4.5

for numbers of surgical procedures are shown in table I for 1983 and 1987.

Estimates have been rounded to the nearest thousand. For this reason, figures within tables do not always add to the totals. Rates were calculated from original, unrounded figures and will not necessarily agree precisely with rates calculated from rounded data.

Tests of significance

In this report, the determination of statistical inference is based on the two-tailed Bonferroni test for multiple comparisons using a 0.05 level of significance. Terms relating to differences, such as "higher" and "less," indicate that the differences are statistically significant. Terms such as "similar" and "no difference" mean that no statistically significant difference exists between the estimates being compared. A lack of comment on the difference between any two estimates does not mean that the difference was tested and found to be not significant.

Definitions of terms

Age—Age refers to the age of the patient on the birthday prior to admission to the hospital inpatient service.

Bed size of hospital—Bed size is measured by the number of beds, cribs, and pediatric bassinets regularly maintained (set up and staffed for use) for patients. Bassinets for newborn infants are not included. Bed size is reported by the hospitals based on the number of beds at or near midyear.

Discharge—A discharge is the formal release of a patient by a hospital; that is, the termination of a period of hospitalization by death or disposition to place of residence, a nursing home, or another hospital. The terms "discharge" and "patients discharged" are used synonymously.

Discharge rate—The ratio of the number of hospital discharges during a year to the number of people in the civilian population on July 1 of that year is the discharge rate.

Expected principal source of payment—The expected principal source of payment is reported by the patient or the patient's representative at the time of admission. In this report, payment sources are grouped as follows:

- *Private insurance*—Private insurance is provided by nongovernmental sources, including Blue Cross and other insurance companies, private industry, and philanthropic organizations.
- *Medicare*—Medicare is a nationwide program providing health insurance protection to people 65 years of age and over, people eligible for Social Security disability payments for more than 2 years, and people with end-stage renal disease.
- *Medicaid*—Medicaid is a joint Federal-State program that provides benefits for people, including the elderly, who meet their State's definition of "low income."
- *Self-pay*—The self-pay category consists of patients who expect the costs of hospitalization to be paid for primarily by themselves, spouses, parents, or next of kin.
- *Other*—Other sources include Workers' Compensation and other government programs, such as CHAMPUS (for dependents of military personnel); other nonprofit sources, such as church welfare; hospitalizations for which there was no charge; and sources that could not be assigned to any other category.

Hospital—Hospital refers to short-stay general and special hospitals that have six beds or more for inpatient use and an average length of stay of less than 30 days. Military and Veterans Administration hospitals are not included.

Patient—A patient is a person who is formally admitted to the inpatient service of a short-stay hospital for observation, care, diagnosis, or treatment. The number of patients refers to the number of discharges during the year including multiple discharges of the same individual from one or more short-stay hospitals. All newborn infants, defined as those admitted by birth to the hospital, are excluded from this report. The terms patient, inpatient, and discharge are used synonymously.

Population—The population estimates used in computing rates are from published and unpublished estimates of the U.S. civilian population on July 1 of the data year. These estimates are provided by the U.S. Bureau of the Census and are consistent with population estimates published in *Current Population Reports,* Series P-25.

Rate of surgical procedures—The ratio of the number of surgical procedures during the year to the number of persons in the civilian population on July 1 of that year determines the rate of surgical procedures.

Surgical procedure—A surgical procedure is a surgical operation listed by the physician on the medical record of a patient discharged from the inpatient service of a short-stay hospital. In the NHDS, all terms listed on the face sheet of the medical record under captions such as operation, operative procedures, operations and/or special treatments are transcribed in the order listed. A maximum of four 4-digit codes are assigned per sample discharge according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (Public Health Service and Health Care Financing Administration, 1980). Although both surgical and nonsurgical procedures are coded, nonsurgical procedures are excluded from this report. Table II shows the nonsurgical codes that are excluded.

NOTE: See list of references following the text.

Table II. Code numbers for procedure categories and nonsurgical procedures excluded from each category

[Based on the *International Classification of Diseases, 9th Revision, Clinical Modification*]

Procedure category	*Category code*	*Nonsurgical codes excluded*
Operations on the nervous system	01–05	03.31
Operations on the endocrine system	06–07	
Operations on the eye	08–16	11.21,12.21,14.11,16.22
Operations on the ear	18–20	20.31
Operations on the nose, mouth, and pharynx	21–29	29.11
Operations on the respiratory system	30–34	31.41–31.42,33.21–33.23,34.21–34.22
Operations on the cardiovascular system	35–39	39.95
Operations on the hemic and lymphatic system	40–41	
Operations on the digestive system	42–54	42.21–42.23,44.11–44.13,45.11–45.13,45.21–45.24,48.21–48.22,51.11,54.21
Operations on the urinary system	55–59	55.21–55.22, 56.31, 57.31–57.32, 58.21–58.22
Operations on the male genital organs	60–64	60.19
Operations on the female genital organs	65–71	68.11–68.12,70.22
Obstetrical procedures	72–75	
Operations on the musculoskeletal system	76–84	80.20–80.29
Operations on the integumentary system	85–86	
Miscellaneous diagnostic and therapeutic procedures	87–99	87.01–99.99

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Advance Data

From Vital and Health Statistics of the National Center for Health Statistics

Aging in the Eighties: The Prevalence of Comorbidity and Its Association With Disability

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Introduction

It is frequently stated that the coexistence of multiple chronic conditions, referred to here as comorbidity, is common in the older population. It is also assumed that comorbidity puts a special burden on older people that affects their overall health status and functional disability. Although these perceptions are supported by the experiences of those providing care to older patients, there has been little work to systematically evaluate the prevalence, specific patterns, and impact of comorbidity in community-dwelling representative older populations.

The prevalence of comorbidity at the time of death has been documented using multiple cause-of-death data from U.S. mortality statistics. In 1979, more than one cause of death was noted on 73 percent of all death certificates, with 33 percent of deaths attributed to two causes, 25 percent to three causes, and 16 percent to four causes or more (1). Multiple cause-of-death data have also been produced for other years and show an increase during this century in the proportion of deaths attributable to more than one cause. More than one cause of death was reported in 35 percent of deaths in 1917, with this percent rising to 60 percent in 1955 and 73 percent in 1979 (1). This increase is likely due to an increase in the average age at death, to fewer deaths resulting from acute, infectious diseases, and to more complete diagnosis and reporting of causes of death.

Using National Health Interview Survey (NHIS) data, Rice and LaPlante (2) evaluated the occurrence of multiple chronic conditions responsible for people's being limited in activity. There were about 1.4 chronic conditions reported in 1969–71 and about 1.6 conditions reported in 1979–81 for each person 65 years of age and older who was limited in activity. The average was higher than for those under age 65, but

[1]Israel RA, Rosenberg HM, Curtin LR. Analytic potential for multiple cause-of-death data. Am J Epidemiol 124:161–79. 1986.

[2]Rice DP, LaPlante MP. Chronic illness, disability, and increasing longevity. In Sullivan S, Lewin ME, eds. The economics and ethics of long-term care and disability. Washington: American Enterprise Institute for Public Policy Research. 1988. pp. 9–55.

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there was no trend with age among those 65 years of age and over.

This report will first present information on the prevalence and coprevalence of nine common chronic conditions in a national sample of persons 60 years of age and older. The impact of comorbidity will then be assessed by estimating the prevalence of disability in activities of daily living according to the number of conditions present.

Materials and methods

The National Health Interview Survey (NHIS) is the National Center for Health Statistics' large continuing survey of the civilian noninstitutionalized population of the United States. Each year, people in about 42,000 households are interviewed by U.S. Bureau of the Census interviewers to obtain information about their health and use of health care. Demographic information that is needed to interpret the data is also obtained. The interviewers have special training for this survey, in addition to their regular training, and response rates are high—about 97 percent. The only item with a relatively low response rate is family income.

In 1984 a special supplement was added to the questionnaire to obtain information about older people who were living in the community (3). This supplement, the Supplement on Aging (SOA), was designed to collect information about chronic conditions, physical limitations, housing, retirement status, interactions with family and organizations, use of community services, and other health-related and social information about people middle-aged and older. All household members 65 years of age and over and a one-half sample of those 55–64 years of age were asked the questions on the supplement themselves when possible. Another household member was interviewed only when the selected person was unable to answer either because of physical or mental problems or because of being away from the household for a longer period than the interviewer would be in the area. Response rates to the SOA were also high; 95 percent of the people selected from the NHIS sample had complete interviews with the SOA. Overall, 91.5 percent of the SOA sample responded for themselves. There were 16,148 persons interviewed in the SOA. The analyses presented here are for the 13,807 individuals 60 years of age and older, representing an estimated 37.3 million noninstitutionalized persons in this age range in the United States in 1984.

All estimates in this report are based on the national estimates. All estimated variances and tests of significance take the complex sample design into account. The authors have taken care not to make statements about differences unless it is likely that the same differences would be found using the same techniques in a complete census.

The list of chronic conditions used in the SOA was designed by selecting those conditions most prevalent among older people from the condition lists on the NHIS. Each participant was asked whether he or she had each condition. For 13 conditions, participants were asked if they had ever had the condition. For 5 conditions (arthritis, diabetes, aneurysm, blood clots, and varicose veins), participants were asked if they had the condition in the past 12 months. For the purpose of this report, the cataract category includes those saying they currently have a cataract, have had surgery for a cataract, or have had a lens implant for a cataract. Heart disease was considered present in those who reported they had ever had coronary heart disease, angina pectoris, a myocardial infarction, or any other heart

[3]Fitti JE, Kovar MG. The supplement on aging to the 1984 National Health Interview Survey. National Center for Health Statistics. Vital Health Stat. 1(21). 1987.

attack. Osteoporosis and hip fracture were combined into one category.

The prevalence of comorbidity is related to the length of the list of possible comorbid conditions. For the purpose of the analyses in this report, only nine common chronic conditions are considered. A longer list of conditions would obviously lead to a higher prevalence of comorbidity. One of the methodologic problems that makes the study of specific patterns of comorbidity difficult is that the number of combinations of conditions can grow very large. Even using this restricted list of 9 common conditions, there are 36 possible pairs of co-occurring conditions. If rarer conditions were included, the number of possible combinations would be much larger and the number of people in each cell would become too small for useful analysis.

If two conditions are independent, their expected coprevalence is the product of their individual prevalence rates. For example, the expected coprevalence of arthritis and hypertension is (.490)(.418)(100) = 20.5 percent. The observed coprevalence of two conditions was compared with the expected coprevalence, which was calculated on the assumption of independence of the conditions. The percent difference was calculated using the formula:

((Observed – Expected)/ Expected) × 100

The SOA included questions on six activities of daily living (ADL): bathing or showering, dressing, eating, getting in and out of bed or a chair, walking, and using the toilet. Participants were first asked if they had difficulty performing each of these activities. Those reporting difficulty were then asked how much difficulty and whether they received help from another person. This report provides information, according to the number of chronic conditions, on the proportion of people who have difficulty with one or more of these activities and the proportion receiving help from another person to perform one or more of the activities. Because the questions on ADL's were asked separately from the questions on chronic conditions, the reader should not infer that these are necessarily the conditions that cause the ADL difficulty.

Prevalence of chronic conditions

The prevalence of the nine common self- or proxy-reported chronic conditions or groups of conditions in those 60 years of age and older that are considered in these analyses are shown in the following list. (Alzheimer's disease was on the list; but because less than 0.5 percent of respondents or their proxies reported this condition, it was not included in these analyses.)

Condition	Percent of population
Arthritis	49.0
Hypertension	41.8
Cataracts	19.9
Heart disease	14.0
Varicose veins	9.9
Diabetes	9.5
Cancer (except nonmelanoma skin cancer)	6.6
Osteoporosis or hip fracture	5.5
Stroke	5.4

Prevalence of comorbidity

The proportion of the population with none of the nine chronic conditions or with four or more was higher than would have been expected by chance (table 1).

The proportion of the population 60 years of age and older with two or more of the nine chronic conditions under consideration was higher at each older age and, for each age group, was higher for women than for men (figure 1).

Table 1. Proportion of population observed and expected to have the specified number of chronic conditions, and ratio of observed to expected: United States, 1984

Number of conditions	Observed percent	Expected percent	Ratio of observed to expected
0	21.2	13.9	1.53
1	30.1	34.7	0.87
2	25.9	32.3	0.80
3	14.6	14.7	0.99
4	6.0	3.7	1.62
5 or more	2.3	0.6	3.83

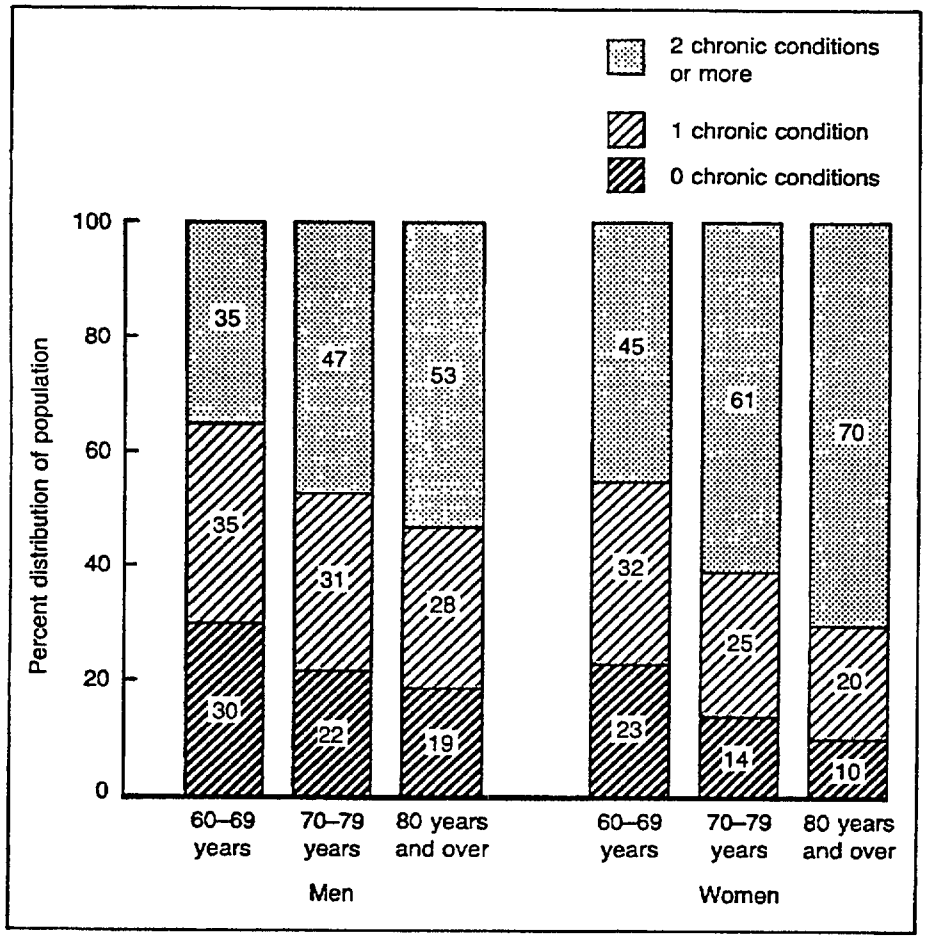

Figure 1. Percent distribution of population 60 years of age and over by number of chronic conditions, according to age group and sex: United States, 1984

For those 80 years of age and older, 70 percent of the women and 53 percent of the men had two or more of the nine conditions. The prevalence of the eight most commonly occurring pairs of comorbid conditions is shown in figure 2. Prevalence of comorbidity for a pair of conditions is very much related to the prevalence of each of the individual conditions. High blood pressure and arthritis, the two conditions with the highest prevalence, co-occurred in 24.1 percent of those 60 years of age and older; cataract and arthritis were both reported by 11.7 percent. The remaining six pairs of common comorbid conditions had coprevalences of 5–10 percent. In each case, for the eight most common pairs of conditions, there was an increase in observed comorbidity over expected comorbidity in people 60 years of age and older (figure 3). All increases, except for cataract with high blood pressure in men, were statistically significant at $p < .001$ in analyses that adjusted for the complex sampling design. Analyses of specific age groups show similar relationships.

Relationship of comorbidity with disability

The percent of men and women having difficulty or receiving help with ADL's, by number of chronic conditions, is shown in figure 4. There is a clear, graded increase in the proportion with disability of those with none of the nine conditions to those with five or more of the conditions. There is no consistent difference between men and women (within each stratum) of number of conditions. Since age and gender are related to the prevalence of comorbidity, data are presented for three separate age groups for men and women (figures 5 and 6; table 2). Again, within each age group there is a systematic increase in the percent with disability in ADL's with increasing numbers of conditions. Looking across age groups for a specific number of conditions, there is also, in general, a graded increase in disability with increasing age.

Discussion

Analysis reveals that, using this list of nine commonly reported chronic conditions, the prevalence of comorbidity is substantial. High rates of comorbidity are seen for women, with prevalence rates rising from 45 percent in the age group 60–69 years to 70 percent in those 80 years of age and older.

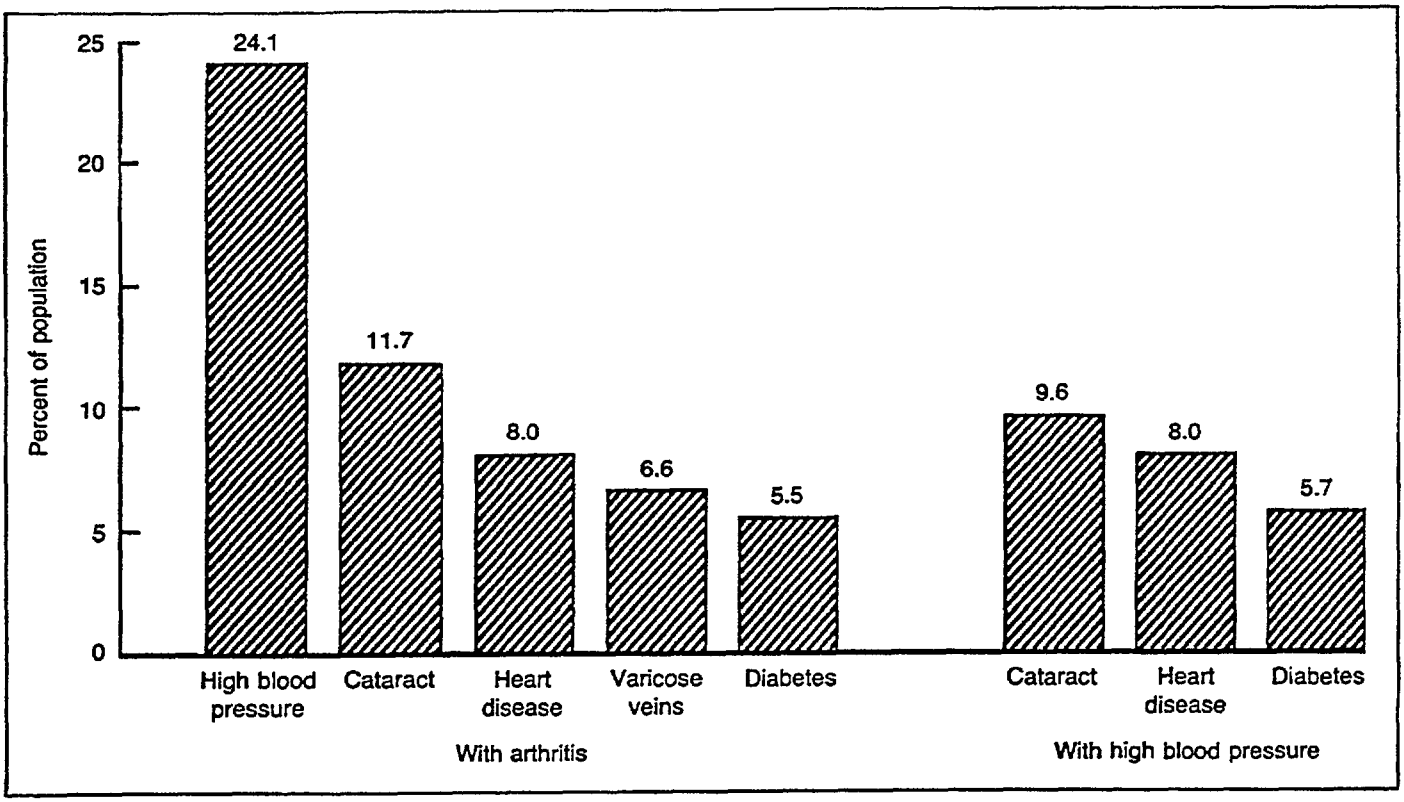

Figure 2. Prevalence of most common comorbid conditions among people 60 years of age and over: United States, 1984

Figure 3. Percent increase in observed over expected frequency of most common comorbid conditions among men and women 60 years of age and over: United States, 1984

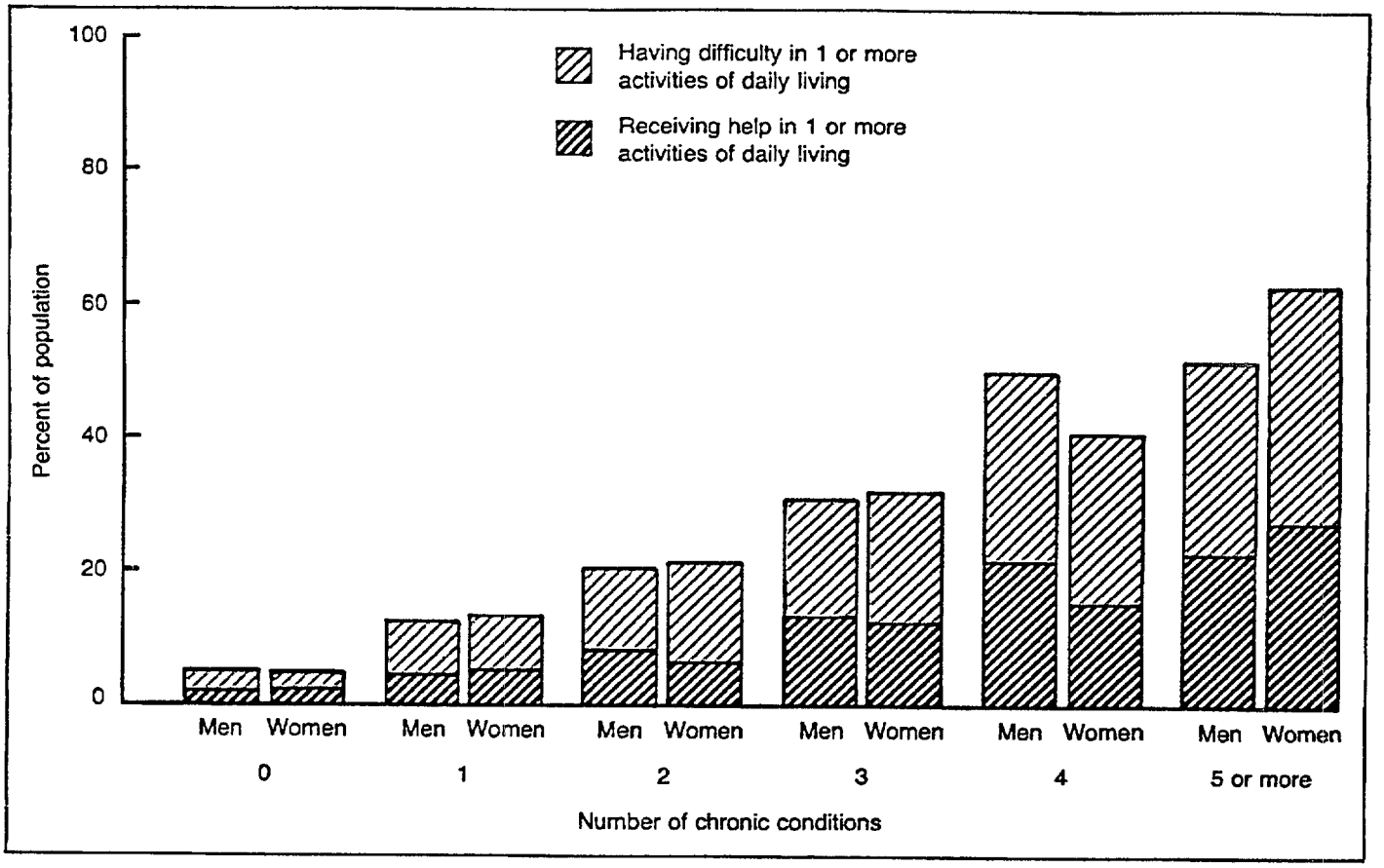

Figure 4. Age-adjusted prevalence of men and women 60 years of age and over having difficulty and receiving help in 1 or more activities of daily living, by number of chronic conditions: United States, 1984

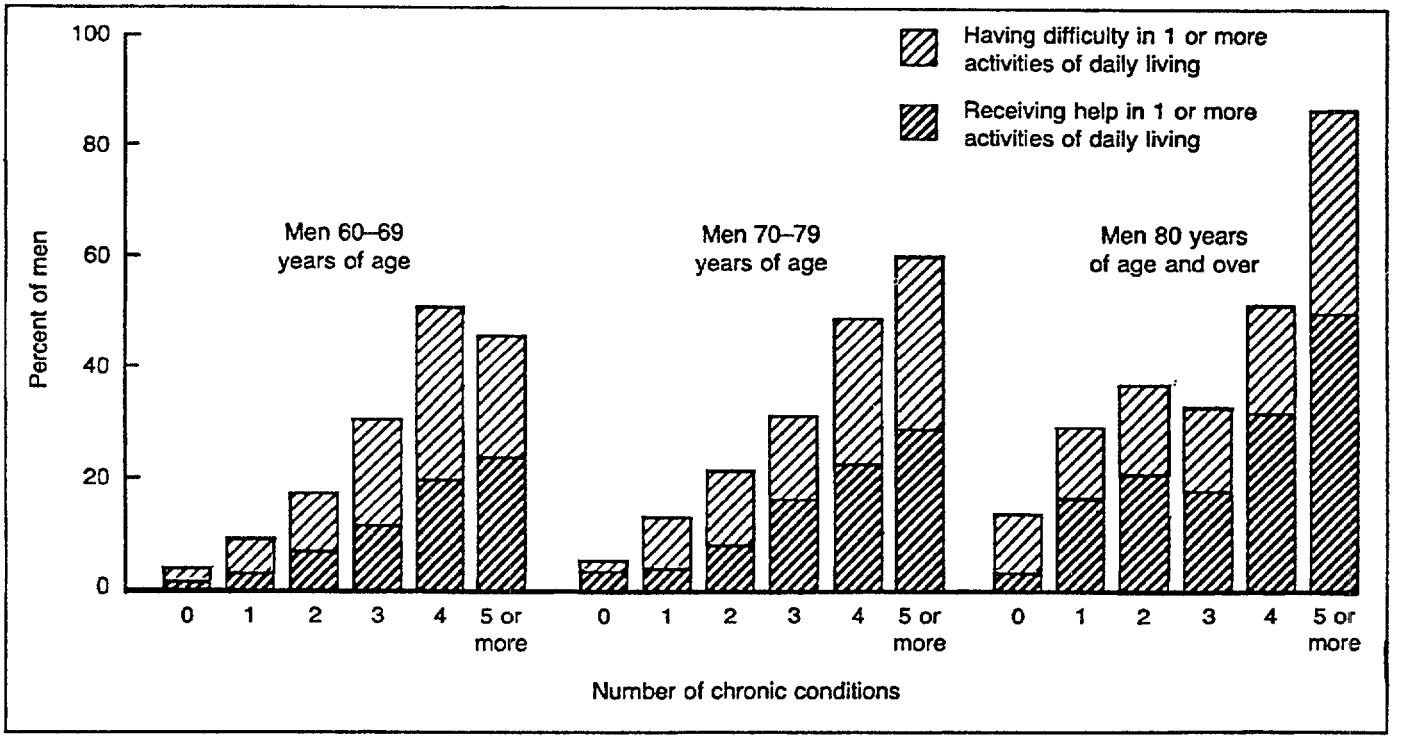

Figure 5. Prevalence of men 60 years of age and over having difficulty and receiving help in 1 or more activities of daily living, by number of chronic conditions and age group: United States, 1984

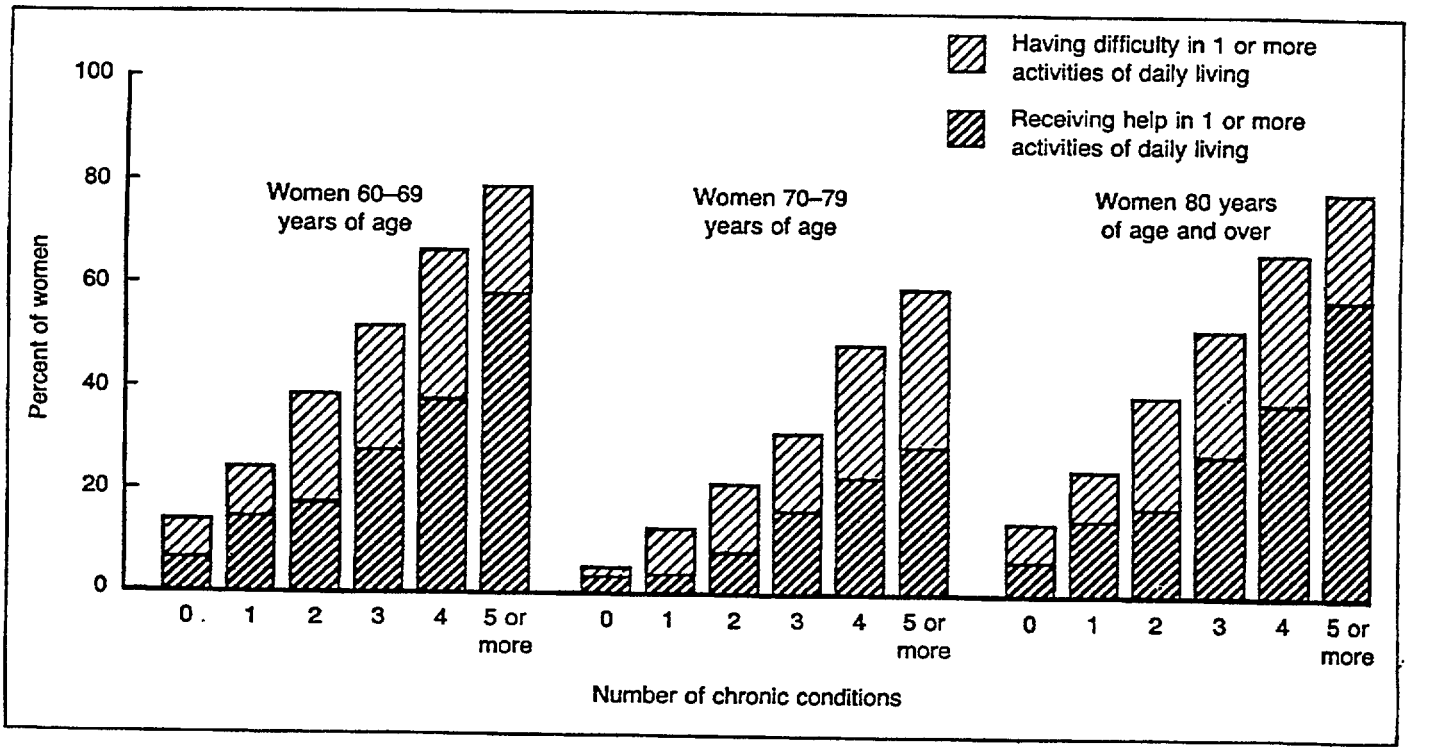

Figure 6. Prevalence of women 60 years of age and over having difficulty and receiving help in 1 or more activities of daily living, by number of chronic conditions and age group: United States, 1984

Table 2. Percent of persons 60 years of age and over receiving help and having difficulty with 1 or more activities of daily living, by number of chronic conditions, sex, and age: United States, 1984

Sex and age	Number of conditions					
	0	1	2	3	4	5 or more
Men	Percent of population receiving help					
Age adjusted	2.1	4.8	8.6	13.4	22.0	23.0
60–69 years of age	1.3	2.9	6.3	10.7	19.1	23.3
70–79 years of age	3.2	3.4	7.7	15.7	22.2	28.5
80 years of age and over	2.9	15.7	20.2	17.0	31.4	49.8
Women						
Age adjusted	2.3	5.7	6.9	12.7	15.7	27.7
60–69 years of age	1.4	3.9	4.2	10.1	12.0	21.0
70–79 years of age	2.2	5.2	7.6	11.1	17.5	28.5
80 years of age and over	6.5	14.4	16.9	27.4	37.5	58.1
Men	Percent of population having difficulty					
Age adjusted	5.4	12.8	20.9	31.3	50.6	52.3
60–69 years of age	3.6	8.9	16.9	30.4	50.4	45.2
70–79 years of age	5.2	12.5	21.1	31.2	48.7	59.9
80 years of age and over	13.3	29.2	36.6	32.7	51.5	87.0
Women						
Age adjusted	5.2	13.7	21.7	32.3	41.4	63.7
60–69 years of age	3.0	10.5	17.0	26.8	33.9	60.6
70–79 years of age	5.2	14.7	22.6	33.3	47.1	58.4
80 years of age and over	14.0	24.4	38.8	52.0	66.9	79.2

For the most commonly reported pairs of comorbid conditions, the observed coprevalence is consistently higher than the expected coprevalence. It was anticipated that high blood pressure and heart disease would co-occur at higher rates than expected from their individual prevalence rates because hypertension is a known risk factor for coronary heart disease. Likewise, high blood pressure and diabetes share an underlying risk factor, overweight, and it was anticipated that they would co-occur at higher rates than expected from their independent distributions. For the other six pairs of conditions, however, their rate of co-occurrence,

ranging from 15 to 30 percent higher than expected, was not anticipated. While this is a modest increase in observed versus expected comorbidity, its impact on the total number of older Americans with specific patterns of comorbidity is substantial. For high blood pressure with arthritis, for example, the independent distributions of these two conditions would predict that 7.6 million persons 60 years of age and older were living in the community with these two conditions. The estimate from the SOA is that there were 9.0 million persons with this pair of conditions, about 1.4 million more than expected.

There are a number of possible explanations for the increase in observed versus expected coprevalence for conditions not generally recognized as being associated. Detection bias would likely have some effect, as those with one condition may have more contacts with the medical care system and therefore greater likelihood of being diagnosed with a second condition. Individuals' response patterns to questionnaires may also play a role. Those who acknowledge having one disease may be more likely to acknowledge having other diseases.

Finally, there could be an underlying biological basis for these findings. In some individuals, genetic and environmental factors may increase general susceptibility to disease, resulting in the occurrence of multiple diseases in the later years of life. Assessment of this hypothesis would require a study that uses standardized medical diagnostic procedures and evaluates risk factors for general susceptibility, as evidenced by multiple chronic conditions.

There was a very clear association found in these data between the number of conditions and the proportion of people with disability as assessed by ADL's. This association was present even though no attempt was made to characterize the severity of the conditions, and despite the use of a list of conditions with potentially very different impacts on serious disability (for example, varicose veins and stroke). While these are important limitations, the number of conditions appears to offer a useful measure of the burden of illness on the older individual, as judged by associated disability.

Suggested citation

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