
Vital and Health Statistics

Advance Data From Vital and Health Statistics: Numbers 151–160

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

Data in this report from health and demographic surveys present statistics by age and other variables; AIDS knowledge and attitudes; changes in cigarette smoking practices; and the health of the foreign-born population. Estimates are based on the civilian noninstitutionalized population of the United States. These reports were originally published in 1988.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control and Prevention
National Center for Health Statistics

Hyattsville, Maryland
May 1995
DHHS Publication No. (PHS) 95-1875

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Suggested citation

National Center for Health Statistics. Advance data from vital and health statistics: numbers 151-160. National Center for Health Statistics. Vital Health Stat 16(16). 1995.

National Center for Health Statistics

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AIDS Knowledge and Attitudes for November 1987

Provisional Data From the National Health Interview Survey

Deborah A. Dawson, Ph.D. and Owen T. Thornberry, Ph.D., Division of Health Interview Statistics

Introduction

The National Center for Health Statistics has introduced 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). This report presents provisional findings for November, the fourth month of data collection with the AIDS questionnaire. Data for August, September, and October 1987 have been published in *Advance Data From Vital and Health Statistics* Nos. 146, 148, and 150.

The *Advance Data* reports describing the NHIS AIDS data have been restricted to simple descriptive statistics in order to permit 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 AIDS data base will permit more complex analyses than those presented in this series of *Advance Data* reports, and such analyses currently are being undertaken by various groups in the Public Health Service.

The AIDS questionnaire was designed to provide base-line estimates of public knowledge and attitudes about AIDS transmission and prevention of AIDS virus infection and to measure changes in knowledge and attitudes over time. The data also were needed as input for the planning and development of AIDS educational campaigns and for evaluation of major educational efforts.

The AIDS questionnaire was 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 questionnaire includes items on self-assessment of knowledge about AIDS; sources of information about AIDS; knowledge about AIDS and AIDS-related risk factors, modes of transmission, and blood tests for the AIDS virus; plans to take such a test; recent experience with blood donation; self-assessment of chances of getting AIDS; personal knowledge of people with AIDS or the AIDS virus; and finally, willingness of respondents to take part in a proposed national seroprevalence study.

December 1987 was the last month in which AIDS data were collected using the questionnaire described in this report. In spring 1988, a new AIDS questionnaire will be included in the National Health Interview Survey. This revised questionnaire will modify some of the questions on sources of AIDS information, blood donation history, and blood testing. In summer 1988, the AIDS questionnaire will be modified again to include items designed to measure the impact of educational campaigns. Questions on risk behaviors may be included at that time.

This report presents provisional data for November 1987 for all AIDS questionnaire items. 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 response categories. In a few cases, questions or response categories have been rephrased or combined. Refusals and other nonresponses are excluded from the denominator in the calculation of estimates, but responses of "don't know" are included.

Selected findings

The most notable changes between October and November 1987 were in the proportions of adults who reported having discussed AIDS with their children and who stated that their children had received AIDS education at school. Although the level of misinformation about the risk of AIDS virus transmission through casual contact remained high, the percents of adults who thought it very unlikely or definitely not possible to get AIDS or the AIDS virus through selected modes of casual contact continued to increase. The following highlights describe various aspects of AIDS knowledge and attitudes as observed in the November data from the NHIS AIDS survey. Unless otherwise noted, all differences cited in the text are statistically significant.

Awareness of AIDS—More than 99 percent of the adult population has heard of AIDS, and three-quarters of all adults last saw, heard, or read something about AIDS in the 3 days preceding the NHIS interview. These figures did not change between August and November 1987.

Self-perceived knowledge—There was virtually no change in the overall level of self-perceived knowledge about AIDS between August and November. In November, 21 percent of all adults stated that they know a lot about AIDS, 40 percent stated that they know some, 27 percent felt they know a little, and 11 percent claimed to know nothing about AIDS. The racial difference in self-perceived AIDS knowledge has increased over time. In August, 20 percent of white adults stated that they know a

lot about AIDS, compared to 18 percent of black adults. In November, the respective proportions were 22 percent and 14 percent. The proportions of adults who reported knowing nothing about AIDS were 9 percent for white adults and 17 percent for black adults in August; in November, the comparable proportions were 9 and 26 percent, respectively.

General knowledge—Following a number of statistically significant changes in the level of general knowledge about AIDS and the AIDS virus between August and September 1987, there were few changes between September and November. In November, more than 90 percent of all adults 18 years of age and over thought that it is definitely or probably true that AIDS leads to death, that there is no cure for AIDS at present, and that the AIDS virus can be transmitted via sexual intercourse and shared needles and from a pregnant woman to her baby. Almost as many adults, 89 percent, realized that AIDS cripples the body's natural protection against disease. Approximately three-fourths of all adults thought that it is definitely or probably true that AIDS is caused by a virus and that a person can be infected with the virus without having the disease AIDS. The proportion of adults thinking it definitely false that an AIDS vaccine is available to the public has increased steadily over time, from 65 percent in August to 69 percent in September, 71 percent in October, and 73 percent in November.

Transmission of the AIDS virus—As shown in figure 1, the proportions of adults who thought it very unlikely or definitely not possible to get AIDS or the AIDS virus

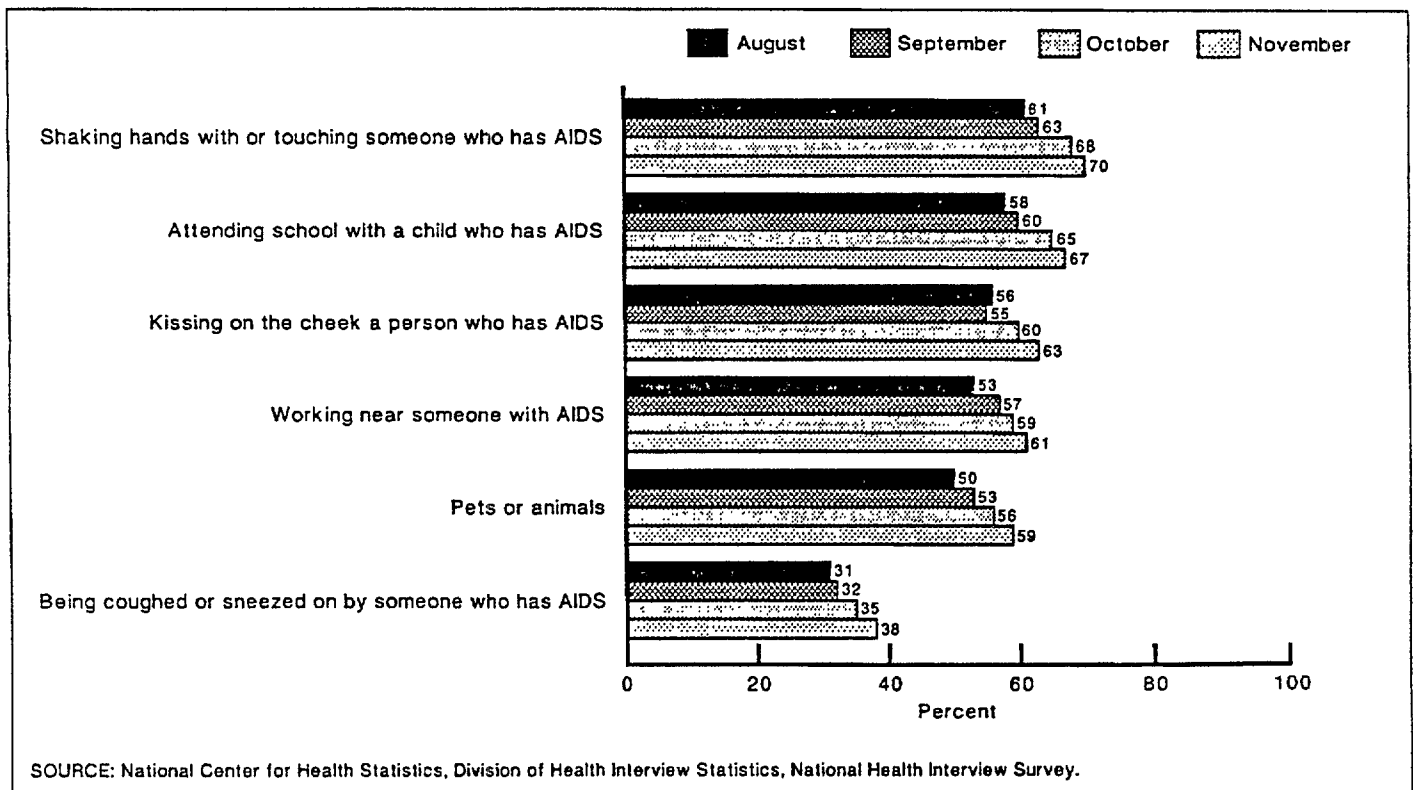


Figure 1. Provisional estimates of percent of adults who think it is very unlikely or definitely not possible to get AIDS or the AIDS virus infection from various conjectured modes of transmission: United States, August-November, 1987

through selected modes of casual contact continued to increase between October and November 1987. For the data shown in figure 1, all changes between October and November and between September and October are statistically significant; because of the relatively small sample size in August, not all of the changes between August and September are statistically significant.

In November, 70 percent of all adults realized that it is very unlikely or definitely not possible to get AIDS or the AIDS virus by shaking hands with or touching someone who has AIDS, up from 61 percent in August, 63 percent in September, and 68 percent in October. Similar levels of increase were observed for the other types of casual contact shown in figure 1. In preparing this figure, the categories "very unlikely" and "definitely not possible" were grouped for purposes of consistent presentation. Both responses are not necessarily correct for all items. For some forms of casual contact, many AIDS researchers would argue that the only correct response is "definitely not possible." The proportions of adults considering it definitely not possible to get AIDS or the AIDS virus through various forms of casual contact has increased steadily over time as well.

Blood test for the AIDS virus—Seventy-two percent of adults have heard of a blood test for infection with the AIDS virus. Over time, there has been a slight decrease in the proportion of adults who erroneously believe that the blood test results tell whether a person has the disease AIDS—from 41 percent in August to 38 percent in November. In November, only 5 percent of all adults reported having had their blood tested for the AIDS virus. An additional 2 percent stated that their blood had been tested in connection with blood donation or transfusion. Eleven percent of adults stated that they have thought about having the blood test, and 4 percent reported plans to have the test in the next 12 months—about the same proportions that have been observed since August 1987.

Risk of getting AIDS—There has been a slight but statistically significant increase over time in the proportion of adults who think that there is no chance of their getting the AIDS virus, from 60 percent in August and September to 62 percent in October and 63 percent in November. The increase was greatest among the most highly educated individuals. Among adults with more than 12 years of education, the proportion thinking that there is no chance that they will get the AIDS virus increased from 51 percent in August to 62 percent in November; for individuals with less than 12 years of education, the observed change was not statistically significant.

AIDS prevention—There was virtually no change between August and November 1987 in the proportions of adults who consider various methods effective in preventing transmission of the AIDS virus. In November, 90 percent of all adults thought that celibacy is very effective in

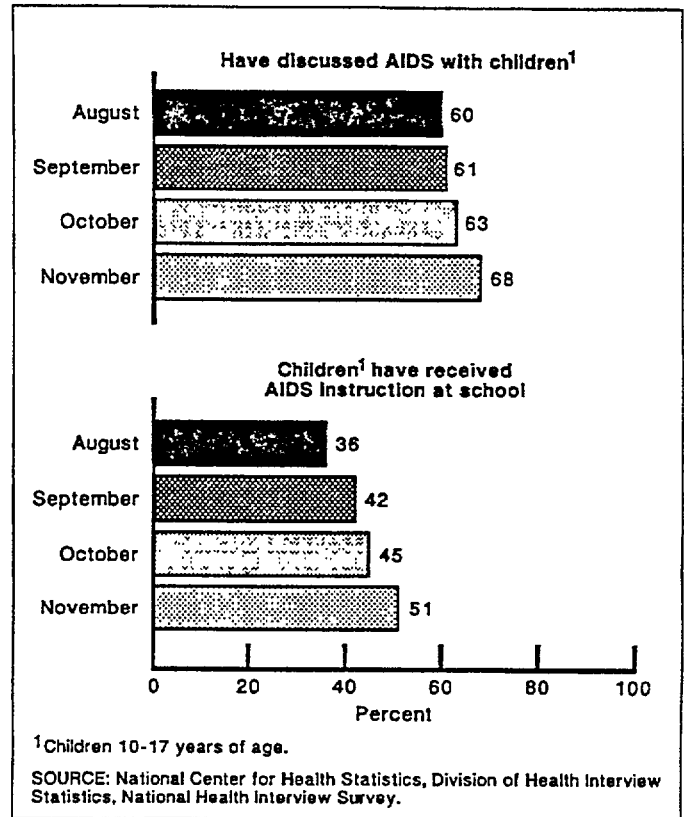


Figure 2. Provisional estimates of percent of adults with children 10-17 years of age who have discussed AIDS with their children and whose children have received AIDS instruction at school: United States, August-November, 1987

preventing AIDS virus transmission, and 85 percent considered it very effective to maintain a monogamous relationship with a person who does not have AIDS. Thirty-three percent of adults felt that using condoms is very effective in preventing transmission of the AIDS virus; 48 percent considered this method to be somewhat effective.

AIDS discussion and education—The proportion of adults who have discussed AIDS with their friends and relatives has remained fairly stable over time, but the percent who have discussed AIDS with their children has increased. In August, 60 percent of adults with children 10-17 years of age had discussed AIDS with those children; by November, the proportion had risen to 68 percent (figure 2). A large portion of the increase took place since October, when the proportion was 63 percent.

In August, 36 percent of adults with children 10-17 years of age reported that their children had received AIDS instruction in school. This proportion increased to 42 percent in September, 45 percent in October, and 51 percent in November. The proportion of adults who do not know if their children have received AIDS education in school has remained fairly stable since August, about one-third of the total.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1987 National Health Interview Survey, by selected characteristics: United States, November 1987

[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	Age			Sex		Race		Education			
	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
	Percent distribution ¹										
Total	100	100	100	100	100	100	100	100	100	100	100
1. Have you ever heard of AIDS? When was the last time you saw, heard, or read something about AIDS?											
0-3 days ago	75	66	76	79	76	74	76	69	70	73	79
4-7 days ago	15	19	14	12	14	15	14	16	13	15	15
8-14 days ago	3	6	3	2	3	3	3	4	4	4	2
15-31 days ago	4	5	4	2	3	4	4	5	4	4	3
More than 31 days ago	2	2	2	1	2	2	2	3	3	2	1
Never heard of AIDS	-	-	-	-	-	-	-	-	-	-	-
Don't know	2	2	1	3	2	2	2	4	5	2	1
2. Compared to most people, how much would you say you know about AIDS?											
A lot	21	23	25	15	21	22	22	14	8	16	34
Some	40	45	45	31	38	41	41	31	24	42	47
Little	27	28	25	30	29	26	27	29	35	33	17
Nothing	11	4	5	24	12	11	9	26	32	9	2
Don't know	0	0	0	0	0	0	0	-	0	0	0
3a. AIDS is a disease caused by a virus.											
Definitely true	47	59	52	30	50	44	47	39	32	43	58
Probably true	26	23	26	28	26	25	26	22	24	28	25
Probably false	4	4	4	5	3	5	4	6	4	5	3
Definitely false	5	4	5	6	5	5	5	6	6	6	4
Don't know	18	10	13	31	16	20	17	27	34	18	10
3b. AIDS can cripple the body's natural protection against disease.											
Definitely true	72	76	80	59	72	71	74	55	48	72	85
Probably true	17	15	13	23	16	19	16	24	25	19	11
Probably false	1	1	0	1	1	1	1	1	1	1	0
Definitely false	1	1	1	1	1	1	1	1	1	1	1
Don't know	9	7	6	15	10	9	8	19	25	7	2
3c. AIDS is especially common in older people.											
Definitely true	0	1	0	0	1	0	0	2	1	1	0
Probably true	1	1	1	2	1	1	1	2	2	1	1
Probably false	20	22	19	19	21	19	20	14	16	20	22
Definitely false	69	66	75	65	67	71	70	66	59	72	72
Don't know	9	10	5	14	11	8	8	16	22	7	5
3d. The AIDS virus can damage the brain.											
Definitely true	25	21	26	28	26	25	25	26	25	24	27
Probably true	31	33	30	31	30	32	31	36	27	34	30
Probably false	8	10	10	5	9	8	9	4	4	8	11
Definitely false	6	8	8	3	7	6	6	7	5	5	8
Don't know	29	28	26	33	29	29	29	27	39	29	24
3e. AIDS usually leads to heart disease.											
Definitely true	8	5	8	10	7	9	8	10	9	8	7
Probably true	22	22	21	22	22	21	21	23	19	23	21
Probably false	17	20	19	12	19	15	18	12	9	16	21
Definitely false	15	16	18	9	17	13	15	14	11	13	18
Don't know	39	36	34	47	36	42	39	41	52	40	32
3f. AIDS leads to death.											
Definitely true	92	92	94	88	90	94	92	88	88	93	93
Probably true	6	7	5	7	8	4	6	7	6	5	7
Probably false	0	-	0	0	0	0	0	-	-	0	0
Definitely false	0	0	0	0	0	0	0	1	0	0	-
Don't know	2	1	1	4	2	2	2	4	5	1	1
4a. Where do you get most of your information about AIDS? ²											
Television	84	85	82	85	82	85	84	86	88	87	79
Newspapers	57	48	61	59	61	53	59	42	41	55	67
Magazines	30	28	34	26	26	33	32	17	16	26	41
Radio	9	7	10	9	11	7	9	7	8	8	10
Relatives and friends	8	12	8	6	8	8	8	10	9	7	9
Brochures/fliers/pamphlets	8	10	9	4	6	9	7	9	5	7	10
Doctor/HMO/clinic	6	7	6	5	5	6	5	11	5	4	7
Other	15	20	19	7	14	16	14	18	8	9	24
Don't know	0	0	0	1	0	0	0	0	1	0	0
4b. Of the sources you just told me, from which one do you get the most information?											
Television	57	62	51	60	55	59	56	66	71	62	44
Newspapers	19	12	21	22	23	15	20	12	12	18	23
Magazines	9	9	12	7	7	11	10	3	5	7	14
Brochures/fliers/pamphlets	2	3	2	1	1	3	2	2	1	2	2
Doctor/HMO/clinic	2	3	2	2	2	2	1	5	3	2	2
Other	10	12	12	6	10	9	10	12	7	7	14
Don't know	1	0	1	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 1987 National Health Interview Survey, by selected characteristics: United States, November 1987—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	Age			Sex		Race		Education			
	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
5a. If you wanted more specific information about AIDS, where would you get it? ²	Percent distribution ¹										
Doctor/HMO/clinic	57	56	56	58	58	56	57	56	56	58	56
Public health department	18	17	21	15	18	18	18	19	12	15	25
Library	12	15	14	7	10	13	12	12	6	13	15
AIDS hot line	8	9	9	5	8	8	8	8	6	8	9
Other	26	29	31	19	27	25	26	27	22	25	30
Don't know	13	8	10	21	13	13	13	12	22	14	8
5b. Which one source would you most likely use?											
Doctor/HMO/clinic	46	46	43	50	47	46	46	48	48	48	42
Public health department	13	14	15	11	13	13	13	14	8	11	18
Library	7	9	9	4	6	8	7	6	4	7	9
AIDS hot line	6	7	7	4	6	6	6	6	5	6	6
Other	14	16	16	10	15	14	14	14	12	13	17
Don't know	13	8	10	21	13	13	13	12	22	14	8
6a. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true	54	57	61	44	53	55	57	40	34	54	66
Probably true	24	22	23	27	26	23	24	26	23	26	22
Probably false	4	6	3	3	5	3	3	6	5	4	3
Definitely false	3	5	2	2	3	3	2	5	3	3	3
Don't know	15	10	10	24	14	16	14	23	34	13	7
6b. You can tell if people have the AIDS virus just by looking at them.											
Definitely true	1	1	1	1	1	1	1	4	2	1	1
Probably true	4	4	4	5	4	4	4	7	7	4	2
Probably false	15	18	14	15	18	13	15	14	16	16	14
Definitely false	69	71	77	60	67	71	71	57	51	70	79
Don't know	10	6	5	19	9	11	9	18	24	8	4
6c. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true	79	83	81	75	76	82	79	79	73	83	80
Probably true	15	13	16	17	18	13	16	14	17	13	16
Probably false	1	1	1	1	1	0	1	—	1	0	1
Definitely false	1	1	1	0	1	1	1	—	0	0	1
Don't know	4	2	2	7	4	4	4	8	9	3	2
6d. A pregnant woman who has the AIDS virus can give AIDS to her baby.											
Definitely true	75	77	77	70	71	79	75	75	66	75	80
Probably true	19	19	18	20	21	16	19	18	21	19	17
Probably false	0	1	0	0	1	0	1	—	0	0	1
Definitely false	0	0	—	—	—	0	0	—	—	0	—
Don't know	6	3	4	10	7	5	6	8	12	6	2
6e. There is a vaccine available to the public that protects a person from getting the AIDS virus.											
Definitely true	1	2	1	2	1	1	1	4	3	1	0
Probably true	3	3	2	3	2	3	2	7	5	3	1
Probably false	9	11	8	10	11	8	9	9	9	11	8
Definitely false	73	74	80	62	75	71	75	56	54	71	84
Don't know	14	11	9	23	11	16	12	25	28	14	6
6f. There is no cure for AIDS at present.											
Definitely true	86	88	89	80	84	87	87	77	75	85	93
Probably true	7	6	7	9	8	6	7	10	10	8	5
Probably false	1	0	1	0	0	1	0	1	1	1	0
Definitely false	2	2	1	2	2	2	2	2	3	2	1
Don't know	5	4	2	8	5	4	4	10	11	4	1
7. How likely do you think it is that a person will get the AIDS virus from—											
7a. Receiving a blood transfusion?											
Very likely	34	33	32	36	31	36	31	47	41	34	29
Somewhat likely	32	30	32	33	30	33	32	33	30	35	29
Somewhat unlikely	12	14	14	8	13	11	13	3	5	11	16
Very unlikely	17	19	18	13	19	14	18	5	9	14	23
Definitely not possible	2	2	1	2	2	1	2	2	2	2	1
Don't know	5	3	2	8	5	5	4	9	12	4	1
7b. Donating or giving blood?											
Very likely	8	8	8	9	9	8	7	19	16	7	5
Somewhat likely	14	15	11	16	14	14	12	26	19	15	10
Somewhat unlikely	12	13	12	10	12	11	12	12	10	11	12
Very unlikely	35	35	38	30	36	34	37	23	21	37	40
Definitely not possible	24	25	27	21	23	25	27	10	16	24	30
Don't know	7	4	3	13	6	8	6	11	18	5	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 1987 National Health Interview Survey, by selected characteristics: United States, November 1987—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	Age			Sex		Race		Education			
	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
Percent distribution ¹											
7c. Living near a hospital or home for AIDS patients?											
Very likely	1	1	2	1	1	1	1	3	2	1	0
Somewhat likely	4	4	4	5	3	5	4	7	7	4	3
Somewhat unlikely	8	11	7	8	8	8	7	13	8	8	8
Very unlikely	38	41	39	35	42	35	39	30	30	40	41
Definitely not possible	41	39	45	37	38	43	42	31	32	40	46
Don't know	8	3	4	15	7	8	7	16	20	6	2
7d. Working near someone with AIDS?											
Very likely	3	3	4	3	3	4	3	6	5	5	1
Somewhat likely	14	16	13	14	12	15	14	12	15	16	12
Somewhat unlikely	14	15	15	11	15	12	13	17	10	14	16
Very unlikely	34	36	35	32	36	33	35	27	27	34	39
Definitely not possible	27	26	29	24	26	27	27	23	24	26	29
Don't know	8	4	4	15	8	9	7	15	20	7	3
7e. Eating in a restaurant where the cook has AIDS?											
Very likely	8	7	7	9	8	8	7	13	10	9	5
Somewhat likely	22	22	22	22	22	22	22	23	23	23	20
Somewhat unlikely	16	21	17	12	17	15	16	14	15	14	19
Very unlikely	26	24	29	23	28	24	27	17	15	25	32
Definitely not possible	16	18	16	14	14	17	16	13	13	17	16
Don't know	13	9	9	20	11	14	12	20	23	12	7
7f. Kissing—with exchange of saliva—a person who has AIDS?											
Very likely	29	25	29	32	27	30	27	35	29	32	25
Somewhat likely	34	33	37	33	35	33	35	35	33	34	36
Somewhat unlikely	11	15	11	9	12	11	12	7	6	10	16
Very unlikely	11	14	12	7	10	11	11	6	6	11	13
Definitely not possible	4	5	5	4	4	5	4	5	4	5	5
Don't know	10	8	7	16	11	10	10	13	22	9	6
7g. Shaking hands with or touching someone who has AIDS?											
Very likely	1	2	1	2	1	2	1	4	3	1	1
Somewhat likely	7	6	6	7	7	7	6	10	9	7	5
Somewhat unlikely	15	15	17	14	16	15	15	17	12	16	17
Very unlikely	37	39	39	35	39	36	39	30	29	39	41
Definitely not possible	32	36	32	30	31	34	33	28	30	32	35
Don't know	7	3	4	13	6	7	6	11	17	5	2
7h. Sharing plates, forks, or glasses with someone who has AIDS?											
Very likely	11	11	11	11	11	11	10	19	13	13	9
Somewhat likely	31	29	32	32	32	30	30	35	34	33	27
Somewhat unlikely	14	16	15	11	14	14	14	8	8	13	18
Very unlikely	19	21	21	16	20	19	21	11	13	17	25
Definitely not possible	14	16	15	13	14	15	15	11	12	15	15
Don't know	10	7	6	18	9	11	10	14	21	10	5
7i. Using public toilets?											
Very likely	7	7	6	9	6	8	6	15	12	7	5
Somewhat likely	19	19	18	22	19	20	19	26	24	22	21
Somewhat unlikely	15	16	17	12	15	15	15	13	10	14	20
Very unlikely	28	31	29	23	31	25	29	19	17	27	28
Definitely not possible	20	21	22	17	19	21	21	14	15	20	18
Don't know	11	7	8	16	10	11	10	14	22	11	9
7j. Sharing needles for drug use with someone who has AIDS?											
Very likely	93	95	96	87	93	93	93	90	83	95	93
Somewhat likely	4	4	3	5	4	4	4	6	8	3	5
Somewhat unlikely	0	0	0	0	0	0	0	0	0	0	0
Very unlikely	0	0	—	0	0	0	0	—	0	0	—
Definitely not possible	0	0	0	0	0	0	0	0	1	0	0
Don't know	2	1	0	6	3	2	2	4	8	2	2
7k. Kissing on the cheek a person who has AIDS?											
Very likely	3	3	2	3	3	3	2	7	4	3	2
Somewhat likely	10	9	8	13	11	9	10	12	14	11	9
Somewhat unlikely	17	18	18	14	17	17	16	21	16	16	19
Very unlikely	35	34	37	32	36	33	36	25	24	34	37
Definitely not possible	28	32	30	24	26	30	29	22	23	29	28
Don't know	7	4	4	14	8	7	7	12	19	6	5
7l. Being coughed or sneezed on by someone who has AIDS?											
Very likely	8	8	7	10	7	9	7	14	12	9	8
Somewhat likely	25	22	25	28	25	26	25	29	28	27	29
Somewhat unlikely	17	22	17	14	19	16	18	12	12	17	21
Very unlikely	22	23	27	17	24	21	24	13	12	21	20
Definitely not possible	16	18	17	12	15	16	16	14	14	16	13
Don't know	11	7	8	19	10	12	10	19	23	10	9

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 1987 National Health Interview Survey, by selected characteristics: United States, November 1987—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	Age			Sex		Race		Education			
	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
Percent distribution ¹											
7m. Attending school with a child who has AIDS?											
Very likely	2	3	1	2	2	2	1	5	4	2	3
Somewhat likely	8	8	9	8	8	8	8	11	11	8	9
Somewhat unlikely	13	14	13	13	13	13	13	17	11	13	14
Very unlikely	36	39	39	32	39	34	38	26	26	36	40
Definitely not possible	31	32	32	28	29	32	31	27	26	31	27
Don't know	10	4	6	18	9	11	9	14	22	9	7
7n. Mosquitoes or other insects?											
Very likely	8	9	8	8	9	7	7	13	12	9	12
Somewhat likely	24	29	25	20	25	24	23	31	27	26	23
Somewhat unlikely	11	14	11	9	13	10	12	12	6	11	11
Very unlikely	19	17	23	17	19	19	20	10	13	17	22
Definitely not possible	17	17	18	16	17	17	17	13	11	17	17
Don't know	20	15	16	30	18	23	20	22	31	20	16
7o. Pets or animals?											
Very likely	2	3	1	3	3	2	2	7	5	2	2
Somewhat likely	9	10	8	7	10	7	8	14	11	8	8
Somewhat unlikely	9	13	9	7	11	8	9	10	7	9	14
Very unlikely	29	30	32	25	30	28	31	18	20	29	33
Definitely not possible	29	28	32	27	28	31	30	23	23	30	28
Don't know	22	16	17	30	18	24	21	29	35	22	14
7p. Having sex with a person who has AIDS?											
Very likely	93	94	94	90	92	94	93	89	87	95	93
Somewhat likely	5	5	5	5	6	4	5	8	7	4	5
Somewhat unlikely	0	0	0	0	—	0	0	—	0	0	—
Very unlikely	0	—	0	0	0	0	0	—	0	0	1
Definitely not possible	0	0	—	0	0	0	0	0	—	0	—
Don't know	2	0	0	4	2	2	1	2	5	1	1
8. Have you ever heard of a blood test for infection with the AIDS virus?											
Yes	72	81	81	55	74	71	74	60	54	71	77
No	25	18	17	39	24	26	23	35	40	27	21
Don't know	3	1	1	6	2	3	3	5	5	3	2
9. Does this test tell whether a person has the disease AIDS?											
Yes	38	40	42	31	36	39	38	38	34	38	39
No	23	28	29	14	25	22	25	12	9	21	23
Don't know	11	13	11	11	13	10	11	10	12	12	14
Never heard of test (no/don't know to q. 8)	28	19	19	45	26	29	26	40	46	29	23
10. If a person has a positive blood test for infection with the AIDS virus, does this mean that they can give someone else the AIDS virus through sexual intercourse?											
Yes	63	70	71	48	64	62	65	53	46	61	70
No	3	4	3	1	3	3	3	1	2	2	3
Don't know	6	6	7	6	7	6	7	5	7	8	4
Never heard of test (no/don't know to q. 8)	28	19	19	45	26	29	26	40	46	29	23
11. Have you ever had your blood tested for infection with the AIDS virus?											
Yes	5	8	6	1	6	4	5	8	3	4	5
Yes, in blood donation/transfusion	2	3	3	1	3	2	2	2	1	2	2
No	64	69	71	51	62	64	65	49	47	63	69
Don't know	2	1	1	2	2	1	2	1	2	1	0
Never heard of test (no/don't know to q. 8)	28	19	19	45	26	29	26	40	46	29	23
12a. Have you ever thought about having this blood test?											
Already had test	7	11	9	3	9	5	7	10	5	7	8
Yes	11	16	14	4	12	11	11	14	9	10	16
No	53	54	58	48	52	55	56	36	40	54	52
Don't know	—	—	—	—	—	—	—	—	—	—	—
Never heard of test (no/don't know to q. 8)	28	20	19	45	26	30	26	41	46	30	24
12b. Do you plan to be tested in the next 12 months?											
Already had test	7	11	9	3	9	5	7	10	5	7	8
Yes	4	6	4	2	4	3	3	8	5	3	7
No	6	8	8	1	6	5	6	3	2	4	7
Don't know	2	2	3	1	2	2	2	3	2	3	2
Never heard of test or thought about having test (no/don't know to q. 8 or q. 12a)	82	73	77	93	79	84	82	77	87	84	76

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 1987 National Health Interview Survey, by selected characteristics: United States, November 1987—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	Age			Sex		Race		Education			
	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
13. Where would you go to have a blood test for the AIDS virus infection? ³	Percent distribution ¹										
Nowhere/wouldn't take test	-	-	-	-	-	-	-	-	-	-	-
AIDS clinic	4	4	4	7	7	2	5	2	1	5	2
Other clinic	29	35	28	18	32	27	27	44	40	34	33
Doctor/HMO	47	36	51	64	44	50	49	33	35	48	53
Red Cross/blood bank	3	4	3	1	2	5	3	6	-	5	-
Other	10	12	9	6	8	12	10	11	13	6	8
Don't know	6	9	4	5	7	5	6	5	11	2	4
14. Where would you go to find out where to have this blood test? ^{2,4}											
AIDS hot line	19	22	18	-	19	18	17	-	-	-	-
AIDS clinic	-	-	-	-	-	-	-	-	-	-	-
Other clinic	7	5	13	-	5	12	9	-	-	12	-
Doctor/HMO	39	52	17	55	33	49	43	30	67	27	58
Friends	2	-	5	-	-	5	2	-	-	-	-
Public health department	17	11	19	45	18	16	21	-	15	29	-
Other	3	-	8	-	5	-	4	-	-	-	-
Nowhere/wouldn't take test	-	-	-	-	-	-	-	-	-	-	-
Don't know	15	10	25	-	21	5	6	70	18	32	42
15. Have you donated blood since 1985?											
Yes	11	16	14	5	15	8	12	10	7	11	13
No	88	84	86	94	85	91	88	90	92	89	86
Don't know	0	-	0	1	0	0	0	-	0	0	1
16. Have you ever personally known anyone who had the blood test for the AIDS virus infection?											
Yes	14	18	18	6	13	15	14	13	5	12	20
No	85	81	80	92	86	84	84	85	94	86	78
Don't know	1	1	2	1	1	2	1	2	1	1	2
17. What are the chances of someone you know getting the AIDS virus?											
High	9	13	10	4	8	9	9	8	5	9	8
Medium	16	22	19	9	16	16	16	20	12	15	19
Low	35	37	39	28	39	31	36	23	21	36	40
None	28	19	22	41	24	31	27	28	37	30	23
Refused	0	-	0	0	-	0	0	-	0	0	-
Don't know	13	9	10	19	12	13	12	21	25	10	10
18. What are your chances of getting the AIDS virus?											
High	1	1	1	0	1	1	1	1	1	1	1
Medium	4	5	4	2	4	3	3	8	5	3	3
Low	28	36	32	19	31	26	29	23	19	25	31
None	63	54	60	73	59	66	63	59	67	66	62
Refused	0	-	0	-	-	0	0	-	-	0	-
Don't know	4	4	3	6	5	4	4	9	9	4	3
19. Here are methods some people use to prevent getting the AIDS virus through sexual activity. How effective is—											
19a. Using a diaphragm?											
Very effective	2	2	2	2	2	3	2	5	3	3	2
Somewhat effective	11	12	10	10	10	11	10	12	11	10	15
Not at all effective	58	65	65	45	59	58	61	43	40	57	61
Don't know how effective	23	14	19	33	23	22	22	25	33	24	17
Don't know method	6	6	4	9	6	6	5	15	13	6	6
19b. Using a condom?											
Very effective	33	38	35	27	35	31	34	28	23	34	36
Somewhat effective	48	49	51	44	48	48	49	41	40	47	48
Not at all effective	6	7	5	6	4	7	6	7	8	7	5
Don't know how effective	10	4	8	18	10	11	9	17	21	10	9
Don't know method	3	2	1	5	2	3	2	7	7	2	2
19c. Using a spermicidal jelly, foam, or cream?											
Very effective	2	2	1	2	1	2	1	4	3	1	3
Somewhat effective	13	14	13	12	14	12	13	11	9	13	13
Not at all effective	56	64	64	41	55	57	58	46	41	57	62
Don't know how effective	24	16	19	35	24	23	23	26	35	23	19
Don't know method	6	5	3	9	6	6	5	13	12	5	3
19d. Being celibate, that is, not having sex at all?											
Very effective	90	91	94	85	89	91	91	85	79	91	90
Somewhat effective	5	6	3	6	5	5	5	7	8	4	4
Not at all effective	1	1	1	0	1	1	1	3	2	1	1
Don't know how effective	3	1	1	6	3	2	3	3	8	2	4
Don't know method	1	1	0	2	1	1	1	2	3	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 1987 National Health Interview Survey, by selected characteristics: United States, November 1987—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	Age			Sex		Race		Education			
	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
19e. Two people who do not have the AIDS virus having a completely monogamous relationship, that is, having sex only with each other?	Percent distribution ¹										
Very effective	85	85	91	79	85	86	87	78	72	87	90
Somewhat effective	8	10	6	9	8	8	8	12	12	8	6
Not at all effective	2	2	1	2	2	2	1	3	3	2	1
Don't know how effective	4	2	1	8	4	3	3	5	10	3	3
Don't know method	1	1	0	3	1	1	1	2	3	1	0
20. Have you ever discussed AIDS with a friend or relative?	65	72	77	45	60	69	65	62	45	62	67
Yes	35	28	23	53	39	30	34	36	54	36	32
No	1	0	0	1	1	1	1	2	1	1	0
21. When was the last time you discussed AIDS with a friend or relative?											
0-3 days ago	17	19	19	12	15	18	17	17	13	14	24
4-7 days ago	18	18	21	14	16	19	18	16	13	16	17
8-14 days ago	7	9	8	4	6	7	7	6	3	8	5
15-31 days ago	12	13	15	7	11	12	12	11	8	12	12
More than 31 days ago	8	10	8	5	6	8	7	8	4	9	7
Never discussed (no/don't know to q. 20)	36	29	24	55	41	32	36	38	56	38	33
Don't know	3	3	4	3	3	3	3	4	3	3	1
24. Have you ever discussed AIDS with [any of your children age 10-17]? ⁵	68	56	69	60	59	75	70	57	55	64	76
Yes	32	44	30	38	40	25	30	40	45	36	24
No	0	-	0	1	1	-	-	3	-	0	-
25. Have your children had any instruction at school about AIDS? ⁵	51	51	51	56	50	52	51	52	54	47	50
Yes	19	25	19	14	15	22	19	20	18	20	18
No	30	23	30	30	35	26	30	28	28	33	32
26. Have you ever personally known anyone with the AIDS virus?	6	5	9	4	6	6	6	7	3	5	7
Yes	92	93	88	94	91	92	92	90	95	93	91
No	2	2	3	2	2	2	2	3	2	2	2
27. Have you ever personally known anyone with AIDS?	6	5	9	4	7	6	6	9	4	5	7
Yes	92	94	89	94	91	92	92	89	95	94	92
No	2	1	2	2	2	1	2	2	1	1	1
28. 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?	69	74	72	62	69	69	69	71	63	70	71
Yes	22	18	19	27	22	21	22	20	23	22	22
No	2	2	2	3	2	2	2	2	2	2	3
Other	7	6	6	9	6	8	7	7	11	6	4
Don't know	29	29	29	29	29	29	29	29	29	29	29
29. Would you want to know the results of the blood test? ⁶	97	98	97	97	97	97	98	96	99	96	96
Yes	2	2	2	2	2	2	2	3	1	2	3
No											

¹Excludes persons for whom no response was recorded or who refused to respond. For question 2 through 27, total also excludes persons who never heard of AIDS.
²Multiple responses may sum to more than 100 percent.
³Based on persons answering yes to question 12a.
⁴Based on persons answering don't know to question 13.
⁵Based on persons answering yes to question 22, Do you have any children aged 10-17? Question 23 was, How many do you have?
⁶Based on persons answering yes to question 28.

NOTE: Total, age, sex, and education include persons of other and unknown race not shown separately under race. Education refers to years of school completed.

Technical notes

The National Health Interview Survey (NHIS) is a continuous, cross-sectional household interview survey. Each week, a probability sample of the civilian noninstitu-

Table I. Sample size for the National Health Interview Survey of AIDS Knowledge and Attitudes and estimated adult population 18 years of age and over, by selected characteristics: United States, November 1987

<i>Characteristic</i>	<i>Sample size</i>	<i>Estimated population in thousands</i>
All adults	3,333	174,528
Age		
18-29 years.	799	47,725
30-49 years.	1,291	66,109
50 years and over	1,243	60,695
Sex		
Male	1,345	82,703
Female	1,988	91,825
Race		
White	2,794	151,003
Black	448	19,107
Education		
Less than 12 years	745	41,503
12 years.	1,254	66,475
More than 12 years.	1,299	62,363

tionalized 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 AIDS knowledge and attitudes questions were 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 3,333 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 heard of AIDS. 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. The final data file covering the entire 5-month period of data collection, August through December 1987, will be available in 1988.

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, November 1987

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

Symbols

- Quantity zero
- 0 Quantity more than zero but less than 0.5

Suggested citation

National Center for Health Statistics, D. A. Dawson and O. T. Thornberry. 1988. AIDS knowledge and attitudes for November 1987, Provisional data from the National Health Interview Survey. *Advance Data From Vital and Health Statistics*. No. 151. DHHS Pub. No. (PHS) 88-1250. Public Health Service. Hyattsville, Md.

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Characteristics of Registered Nurses in Nursing Homes

Preliminary Data From the 1985 National Nursing Home Survey

by Genevieve Strahan, Division of Health Care Statistics

Introduction

About 85 percent of the nursing homes in the United States in 1985 provided nursing services to their residents. According to data from a 1984 survey of registered nurses (RN's), an estimated 1.5 million RN's worked as nurses in the United States (Bureau of Health Professions, 1986). Hospitals employed more than two-thirds of the RN's, and only about 7 percent were employed in nursing homes. Of this relatively small number of RN's in nursing homes, most do not provide direct nursing care. More than 87 percent of all RN's working full time in nursing homes are on the staff of the homes as the head nurse, assistant head nurse, director of nursing, or assistant director of nursing. These high-level positions rarely provide an opportunity for direct patient care.

Data on characteristics of registered nurses working in nursing homes were collected in the 1985 National Nursing Home Survey (NNHS) and are presented in this report. NNHS is a nationwide (excluding Alaska and Hawaii) sample survey of nursing and related-care homes, their residents, their discharges, and their staff conducted periodically by the National Center for Health Statistics. The 1985 NNHS is the third in a series of periodic surveys and was conducted from August 1985 through January 1986. The first NNHS was conducted from August 1973 through April 1974; the second survey was conducted from May through December 1977.

Six questionnaires were used to collect data in the 1985 survey. Data on characteristics of the facility were collected on the Facility Questionnaire by interviewing the administrator or a designee. With the permission of the administrator, cost data were collected on the self-administered Expense Questionnaire, returned by mail from the facility's accountant or bookkeeper. A recent financial statement, if available, was acceptable as a replacement for the completed Expense Questionnaire. Information to complete the Current Resident Question-

naire and Discharged Resident Questionnaire was obtained by interviewing the staff person most familiar with the medical records of the residents. Additional information about the residents was obtained in a telephone interview using the Next-of-Kin Questionnaire. In addition to data collected on the Facility Questionnaire for all categories of full-time and part-time employees, registered nurses, for the first time in the series of National Nursing Home Surveys, were asked to complete the self-administered Nursing Staff Questionnaire.

On the Facility Questionnaire, the numbers of RN's and of other categories of employees were collected by simply asking the administrator for the number of each type of employee working full time or part time in the nursing home. (Full time was defined for the administrator as equal to 35 hours or more per week.)

The names of RN's asked to complete the Nursing Staff Questionnaire were obtained from three separate lists compiled for sample selection. List one included all registered nurses who were employed on the staff of the nursing home. Lists two and three, respectively, contained all RN's scheduled to work on the day of the survey who were retained through a special contractual relationship and those employed through a temporary service. The selection of up to four nurses from each sampled nursing home yielded a sample of 3,439 RN's. Questionnaires were completed by 2,763 of the sampled RN's, for an 80-percent response rate.

Data from the Nursing Staff Questionnaire presented in this report may differ slightly from estimates from the same questionnaire presented in later reports because of further editing of the data. In addition, estimates presented in this report should not be used interchangeably with estimates of RN's obtained from the Facility Questionnaire because of major differences in survey procedures for the two questionnaires. Because all estimates are based on a sample, they are subject to sampling errors. Information on sampling variability is presented in the Technical notes.

Three other reports presenting preliminary estimates from the 1985 NNHS have been published (National Center for Health Statistics, 1987a, 1987b, and 1987c).

Demographic characteristics

The provision of nursing care in any setting has traditionally been a female-dominated field. This tradition is reflected in the ratio of female to male RN's working in nursing homes in 1985. Only 2 percent of the more than 103,000 RN's in nursing homes were males.

Black persons and persons of other minority groups made up a much smaller proportion of RN's working in nursing homes than their overall representation in the population. About 90 percent of the RN's in nursing homes were white non-Hispanics. This is about the same rate as in hospitals (Jones et al., 1987). Studies show that black persons and persons of other minorities are more likely than white non-Hispanics to serve the aged as a whole, but

this care is usually in a setting other than a nursing home or hospital (Feldbaum and Feldbaum, 1981; Smith, Jepson, and Perloff, 1982).

More than two-thirds of all RN's working in nursing homes were married. Registered nurses who were never married, divorced, or separated worked full time more frequently than their married or widowed counterparts did. More than one-half of all RN's had no children living at home. Of those who did, most had children of school age (5-17 years of age), as shown in table A.

Educational preparation

Most RN's were prepared in a diploma program to work in their jobs. The highest nursing-related education of 56 percent of all RN's working in nursing homes was a 3-year diploma program. Less than 3 percent of the RN's working in nursing homes had their master's degree (table A).

Table A. Number and percent distribution of registered nurses working in nursing homes by selected employee characteristics, according to employment status: United States, 1985

Employee characteristic	Employment status									
	All statuses		Full-time staff		Part-time staff		Contract or temporary staff ¹		Unknown	
	Number	Percent distribution	Number	Percent distribution	Number	Percent distribution	Number	Percent distribution	Number	Percent distribution
Total	103,100	100.0	60,600	100.0	34,800	100.0	3,400	100.0	4,300	100.0
Age										
Under 35 years	23,300	22.6	14,000	23.1	7,900	22.7	*	*	800	18.6
35-44 years	26,400	25.6	15,600	25.7	8,500	24.4	1,100	32.4	1,200	27.9
45-54 years	27,600	26.8	17,200	28.4	8,800	25.3	*	*	1,200	27.9
55 years and over	25,800	25.0	14,000	23.1	9,600	27.6	1,100	32.4	1,100	25.6
Sex										
Female	101,000	98.0	59,300	97.9	34,200	98.3	3,300	97.1	4,300	100.0
Male	2,100	2.0	1,400	2.3	*	*	*	*	*	*
Race and ethnicity										
White, not Hispanic	91,600	88.8	52,100	86.0	33,000	94.8	2,600	76.5	3,900	90.7
Black, not Hispanic	4,700	4.6	3,400	5.6	800	2.3	*	*	*	*
Hispanic and other	6,700	6.5	5,200	8.6	1,000	2.9	*	*	*	*
Marital status										
Married	70,500	68.4	38,600	63.7	26,800	77.0	2,200	64.7	2,900	67.4
Divorced or separated	15,700	15.2	11,300	18.6	3,100	8.9	800	23.5	*	*
Widowed	6,100	5.9	3,000	5.0	2,600	7.5	*	*	*	*
Never married	10,300	10.0	7,500	12.4	2,100	6.0	*	*	*	*
Highest educational preparation										
Associate degree	23,000	22.3	13,800	22.8	7,300	21.0	1,200	35.3	*	*
Nursing diploma	58,000	56.3	33,200	54.8	21,200	60.9	1,200	35.3	2,400	55.8
Bachelor's degree	18,700	18.1	11,900	19.6	5,300	15.2	*	*	900	20.9
Master's degree	2,700	2.6	1,300	2.1	900	2.6	*	*	*	*
Not reported	*	*	*	*	*	*	*	*	*	*
Years employed as registered nurse										
Less than 1 year	4,500	4.4	3,100	5.1	1,400	4.0	*	*	*	*
1-2 years	6,200	6.0	4,000	6.6	1,700	4.9	*	*	*	4.7
3-4 years	6,000	5.8	3,900	6.4	1,600	4.6	*	*	*	2.3
5-9 years	14,600	14.2	7,300	12.0	5,900	17.0	*	*	800	18.6
10-14 years	18,200	17.7	10,100	16.7	6,700	19.3	*	*	800	18.6
15-19 years	15,500	15.0	9,400	15.5	5,100	14.7	*	*	*	*
20 years or more	42,500	41.2	25,900	42.7	13,600	39.1	1,100	32.4	1,900	44.2
Age of children living at home										
No children living at home	53,500	51.9	33,000	54.5	16,700	48.0	1,700	50.0	2,200	51.2
Under 1 year	2,600	2.5	1,700	2.8	800	2.3	*	*	*	*
1-4 years	12,900	12.5	6,200	10.2	5,700	16.4	*	*	800	18.6
5-17 years	41,100	39.9	22,900	37.8	15,000	43.1	1,500	44.1	1,700	39.5

¹The number of contract or temporary registered nurses as shown in this table is an undercount because of the way the data were collected.

NOTE: Figures may not add to totals because of rounding.

Employment characteristics

Registered nurses worked in nursing homes under three basic modes of employment—employed on the staff, hired under special contract for a specified period of time, or hired as a temporary worker (usually through an agency). It is believed that, because of the procedures used to select the sample for these three categories of employment, the number of contract and temporary registered nurses may have been underestimated. This undercount could have occurred in part because contract and temporary RN's are more likely than staff RN's to work on weekends and holidays. Sample selection for the survey did not permit inclusion of nurses on these shifts. However, based on estimates from the 1985 NNHS, 93 percent of all RN's working in nursing homes were staff members on the facility's regular payroll. More than 3 percent of the RN's were under contract or hired through a temporary agency, and about 4 percent did not report employment status.

The full- or part-time employment status of RN's on the staff of nursing homes was related to the hierarchy of the position they held. Head nurses and supervisors or directors of nursing were much more likely to work full time than staff or charge nurses were. Nearly 90 percent of all head nurses, directors of nursing, and their respective assistants were employed full time. RN's who had the title of staff nurse worked more often part time than RN's in other groups did. Charge nurses worked about as often part time as full time (table B).

The work schedules of registered nurses are almost always divided into shifts—day, evening, and night. These shifts can be either rotating (the RN alternates working two shifts or more during the work schedule) or nonrotating (the RN normally works the same shift throughout the work schedule). Eighty-six percent of the RN's on staff worked a nonrotating shift, and for more than 60 percent of them, it was the day shift.

Table B. Number of registered nurses on the staff of nursing homes, percent distribution by employment status, according to type of position and selected characteristics: United States, 1985

Type of position and characteristic	Employment status			
	Total	Full time	Part time	Unknown
All staff registered nurses . . .	99,700	60,600	34,800	4,300
	Number			
	Percent distribution			
Type of position				
Staff nurse	100.0	39.0	58.6	2.4
Charge nurse	100.0	47.7	49.0	3.3
Head nurse or assistant	100.0	87.8	10.8	1.4
Supervisor or assistant	100.0	68.8	26.9	4.4
Director of nursing or assistant	100.0	87.9	6.9	4.6
Other	100.0	66.2	18.8	15.0
		Item		
Median age in years	45	45	46	45
Average hours scheduled to work	32.5	39.2	20.5	33.9
Average hourly wage	\$10.28	\$10.56	\$9.50	\$11.11

Table C. Number and percent distribution of registered nurses on the staff of nursing homes by selected employment characteristics: United States, 1985

Employment characteristic	Total	
	Number	Percent distribution
Total	99,700	100.0
Employment status		
Full time	60,600	60.8
Part time	34,800	34.9
Unknown	4,300	4.3
Work schedule		
Rotating shift	8,900	8.9
Nonrotating shift	85,600	85.9
Day	53,400	53.6
Evening	16,900	17.0
Night	15,300	15.3
Unknown	5,200	5.2
Years worked in facility		
Less than 1 year	20,700	20.8
1 year	14,900	14.9
2 years	8,600	8.6
3-4 years	13,300	13.3
5 years or more	40,600	40.7
Unknown	1,400	1.4
Years employed as registered nurse		
Less than 1 year	4,500	4.5
1-2 years	5,900	5.9
3-4 years	5,700	5.7
5-9 years	14,100	14.1
10 years or more	69,500	69.7

Most RN's on the staff of nursing homes had worked in their occupation for 10 years or more, but 60 percent of them had worked in their present jobs for less than 5 years (table C).

The average number of hours per week worked by full-time RN's on the nursing home staff was 39.2, and the average wage was \$10.56 per hour. Staff RN's working part time worked an average 20.5 hours per week and earned \$9.50 per hour (table B).

Facility characteristics

Registered nurses can be described in terms of the characteristics of the facility in which they work. Data on facility characteristics such as type of ownership, certification, bed size, and location were collected on the Facility Questionnaire and matched to the file of RN's. To neutralize size of facility as a factor in assessing the number of RN's available for patient care, the number of RN's per 100 beds was calculated for each facility characteristic. Table D shows these rates. The overall rate for nursing homes was 6.3 RN's per 100 beds.

The certification status of a nursing home as a skilled nursing facility is determined by minimum standards set by Federal regulations. States may set guidelines that are stricter than standards set by Federal regulation, but they may not set guidelines that are less strict if their federally certified facilities are to retain certification. Individual nursing homes are free to exceed State requirements.

Table D. Number of registered nurses working in nursing homes and rate of registered nurses per 100 nursing home beds, by selected facility characteristics: United States, 1985

Facility characteristic	Number	Registered nurses per 100 beds
Total	103,100	6.3
Ownership		
Proprietary	59,100	5.3
Voluntary nonprofit	32,000	8.6
Government	12,000	9.1
Certification		
Skilled nursing facility only	25,900	8.4
Skilled nursing facility and intermediate care facility	55,900	7.7
Intermediate care facility only	14,800	3.6
Not certified	6,100	3.3
Bed size		
Fewer than 50 beds	7,500	5.0
50-99 beds	27,400	6.2
100-199 beds	42,900	6.1
200 beds or more	25,200	7.7
Geographic region		
Northeast	32,600	8.8
North Central	35,300	6.6
South	18,100	3.7
West	17,100	7.3
Place of residence		
MSA ¹	77,500	7.0
Not MSA	25,600	5.0

¹ Metropolitan statistical area.

One Federal requirement for certification as skilled has to do with the nursing staff of the facility. Skilled nursing facilities (Medicare or Medicaid certified) must have a full-time director of nursing who is a licensed nurse and 24-hour coverage by a licensed nurse. Intermediate care facilities (Medicaid certified) are not required to meet this criterion. The Federal regulation does not require that the nurse be an RN. Licensed nurses also include a large category of licensed practical and, in the State of Texas, licensed vocational nurses.

Because States may exceed Federal requirements, some States will require that an RN be on staff, either as the director of nursing or full time or part time in some other position, especially in facilities that provide skilled nursing care. Data from the 1985 NNHS show that nursing homes certified as "skilled nursing facilities only" employed 8.4 RN's per 100 beds; facilities providing intermediate care only and uncertified facilities had a rate less than one-half as large (figure 1).

Fewer RN's are employed per 100 beds in nursing homes that are privately owned than in nonprofit or government owned homes. Government and nonprofit homes had rates of 9.1 and 8.6 RN's per 100 beds, respectively, in 1985. Privately owned homes had 5.3 RN's per 100 beds. Analysis of this ratio by bed size and certification status did not provide an explanation for the differences by ownership.

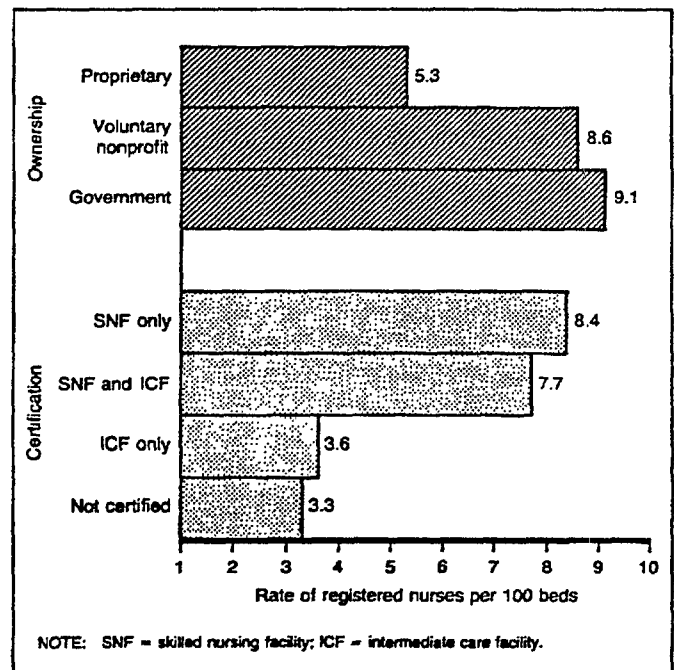


Figure 1. Rate of registered nurses working in nursing homes per 100 nursing home beds, by ownership and certification: United States, 1985

A significantly smaller ratio of RN's to beds was found in the South than in any other region. The South also had a smaller number of homes certified as skilled nursing facilities only. More RN's worked in metropolitan areas than in nonmetropolitan areas because metropolitan areas have a significantly higher concentration of beds in homes that offer skilled care. Therefore, the ratio of RN's to available beds was also higher in metropolitan areas.

Summary

Registered nurses work more often in other types of facilities or settings than in nursing homes. The typical RN working in a nursing home in 1985 was female, white, and married. RN's who work with the elderly tend to be older than the average RN. RN's on the staff of nursing homes in 1985 had a median age of about 45 years, and the majority had been working in their profession for 10 years or more. Studies have shown that nursing students associate negative stereotypes with caring for the elderly and that older health personnel, regardless of their profession, are more likely than their younger colleagues to view the elderly favorably (Feldbaum and Feldbaum, 1981; Smith, Jepson, and Perloff, 1982).

Because the positions held most often by RN's who work full time in nursing homes are head nurse or supervisor or director of nursing, the actual hands-on care of the elderly is usually not performed by the registered nurse. That leaves the primary care of the elderly being provided by licensed practical nurses, licensed vocational nurses, and nurse's aides.

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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
 - # Figure suppressed to comply with confidentiality requirements
-

Technical notes

Because the statistics presented in this report are based on a sample, they will differ somewhat from figures that would have been obtained if a complete census had been taken using the same schedules, instructions, and procedures. The standard error is primarily a measure of the variability that occurs by chance because only a sample, rather than the entire universe, is surveyed. The standard error also reflects part of the measurement error, but it does not measure any systematic biases in the data. The chances are about 95 out of 100 that an estimate from the sample differs from the value that would be obtained from a complete census by less than twice the standard error.

The standard errors used in this report were approximated using the balanced repeated-replication procedure. This method yields overall variability through observation of variability among random subsamples of the total sample. A description of the development and evaluation of the replication technique for error estimation has been published (National Center for Health Statistics, 1966 and 1969).

Although exact standard error estimates were used in tests of significance for this report, it is impractical to present exact estimates of standard errors for all statistics used in this report. Hence, a generalized variance function was produced for aggregate registered nurse estimates by fitting the data presented in this report into a curve

using the empirically determined relationship between the size of an estimate X and its relative variance ($\text{rel var } X$) (figure I). This relationship is expressed as:

$$\text{rel var } X = \frac{S_x^2}{X^2} = a + \frac{b}{X}$$

where a and b are regression estimates determined by an iterative procedure. Preliminary estimates of standard errors for the percents of the estimated number of residents are presented in table I.

The Z -test with a 0.05 level of significance was used to test all comparisons mentioned in this report. Not all observed differences were tested, so lack of comment in the text does not mean that the difference was not statistically significant.

Table I. Standard errors of percents for registered nurses working in nursing homes

Base of percent (registered nurses)	Estimated percent					
	1 or 99	5 or 95	10 or 90	20 or 80	40 or 60	50
	Standard error in percentage points					
800	2.93	6.42	8.84	11.79	14.44	14.73
1,000	2.62	5.74	7.91	10.54	12.91	13.18
3,000	1.51	3.32	4.57	6.09	7.45	7.61
5,000	1.17	2.57	3.54	4.71	5.77	5.89
10,000	0.83	1.82	2.50	3.33	4.08	4.17
20,000	0.59	1.28	1.77	2.36	2.89	2.95
40,000	0.41	0.91	1.25	1.67	2.04	2.08
80,000	0.29	0.64	0.88	1.18	1.44	1.47
103,000	0.26	0.57	0.78	1.04	1.27	1.30

NOTE: A list of references follows the text.

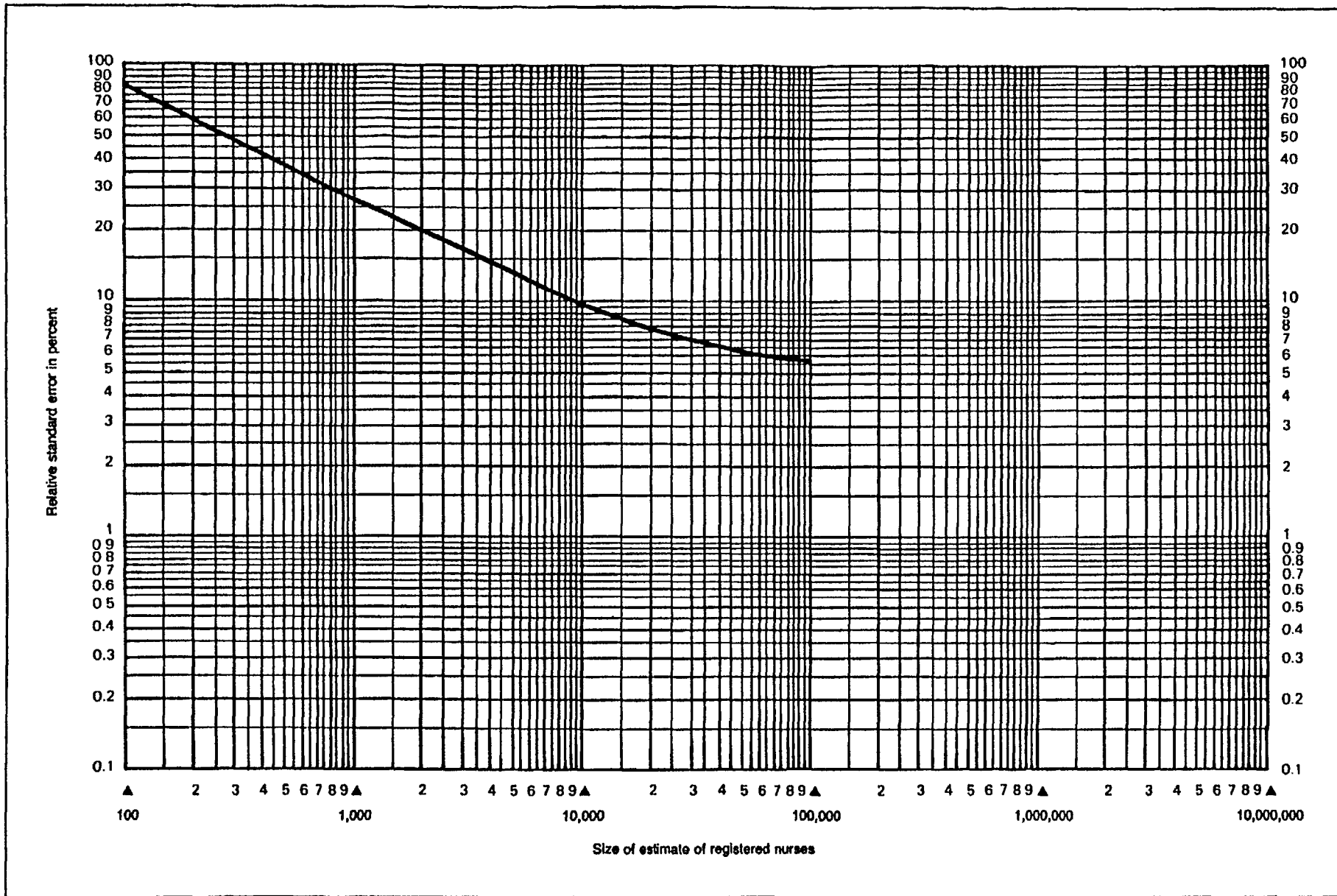


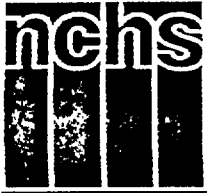
Figure 1. Relative standard errors for estimated number of registered nurses working in nursing homes: United States, 1985

Suggested citation

National Center for Health Statistics, G. Strahan.
1988. Characteristics of registered nurses in nursing
homes, Preliminary data from the 1985 National
Nursing Home Survey. *Advance Data From Vital and
Health Statistics*, No. 152. DHHS Pub. No. (PHS)
88-1250. Public Health Service. Hyattsville, Md.

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AIDS Knowledge and Attitudes for December 1987 Provisional Data From the National Health Interview Survey

Deborah A. Dawson, Ph.D. and Owen T. Thornberry, Ph.D., Division of Health Interview Statistics

Introduction

The National Center for Health Statistics has introduced in the National Health Interview Survey (NHIS) a special set of supplemental questions on the adult population's knowledge and attitudes about acquired immunodeficiency syndrome (AIDS). This report presents provisional findings for December, the fifth month of data collection with the AIDS questionnaire. Data for August, September, October, and November 1987 have been published in *Advance Data From Vital and Health Statistics* Nos. 146, 148, 150, and 151.

The *Advance Data* reports describing the NHIS AIDS data have been restricted to simple descriptive statistics in order to permit 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 AIDS data base will permit more complex analyses than those presented in this series of *Advance Data* reports, and such analyses currently are being undertaken by various groups in the Public Health Service.

The AIDS questionnaire was designed to provide baseline estimates of public knowledge and attitudes about AIDS transmission and prevention of AIDS virus infection and to measure changes in knowledge and attitudes over time. The data also were needed as input for the planning and development of AIDS educational campaigns and for evaluation of major educational efforts.

The AIDS questionnaire was 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 questionnaire includes items on self-assessment of knowledge about AIDS; sources of information about AIDS; knowledge about AIDS and AIDS-related risk factors, modes of transmission, and blood tests for the AIDS virus; plans to take such a test; recent experience with blood donation; self-assessment of chances of getting AIDS; personal knowledge of people with AIDS or the AIDS virus; and finally, willingness of respondents to take part in a proposed national seroprevalence study.

December 1987 was the last month in which AIDS data were collected using the questionnaire described in this report. In May 1988, a new AIDS questionnaire will be included in the National Health Interview Survey. This revised questionnaire will modify some of the questions on sources of AIDS information, blood donation history, and blood testing and will include items designed to measure the impact of educational campaigns.

This report presents provisional data for December 1987 for all AIDS questionnaire items. 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 response categories. In a few cases, questions or response categories have been rephrased or combined. Refusals and other nonresponses are excluded from the denominators in calculating estimates, but responses of "don't know" are included.

Selected findings

The following highlights describe various aspects of changes in AIDS knowledge and attitudes as observed in the August through December data from the NHIS AIDS

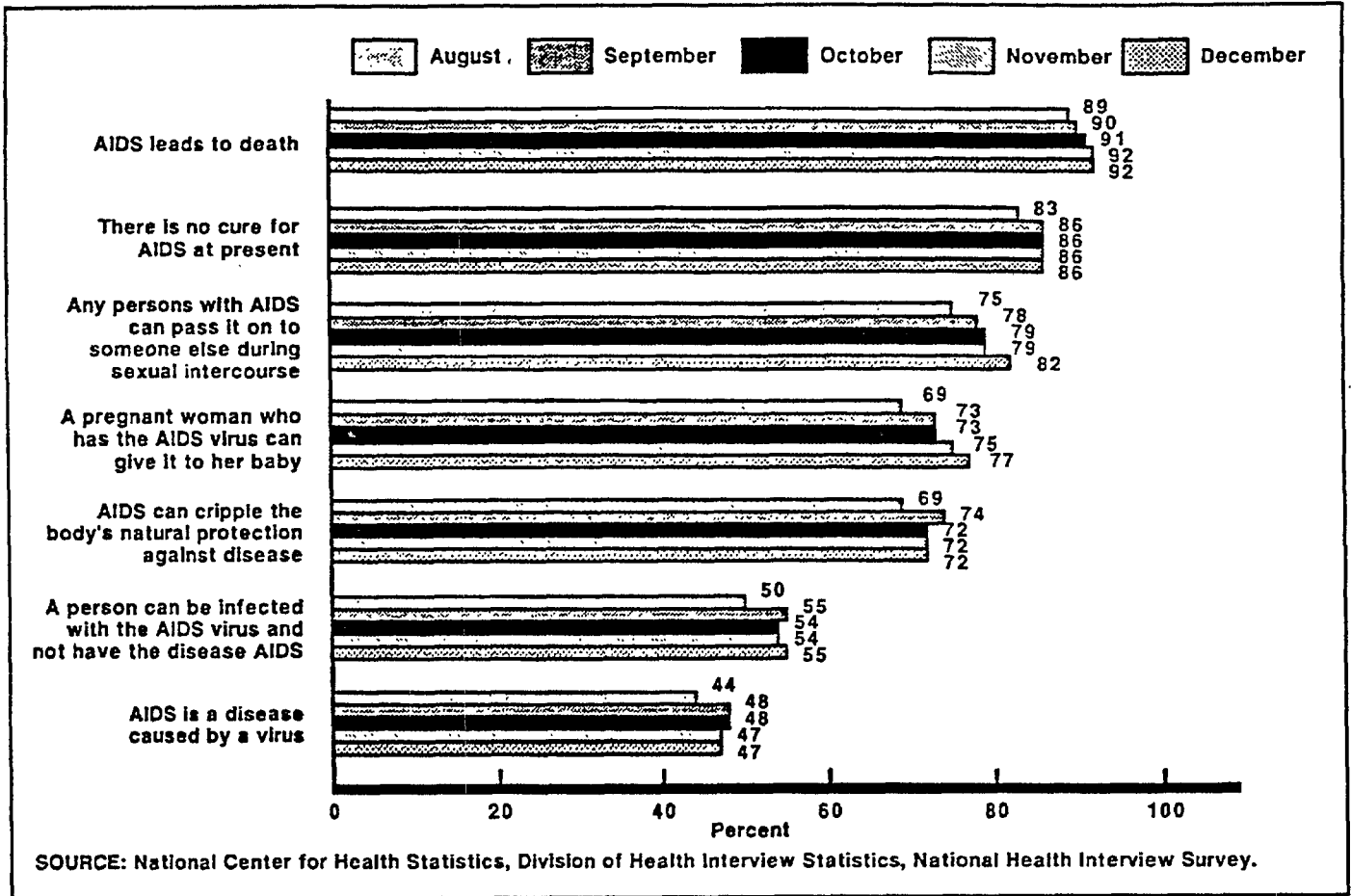


Figure 1. Estimated percent of adults 18 years of age and over who think selected statements about AIDS are definitely true: United States, August-December 1987

survey. Unless otherwise noted, all differences cited in the text are statistically significant.

Awareness of AIDS—More than 99 percent of the adult population has heard of AIDS, and three-quarters of all adults last saw, heard, or read something about AIDS in the 3 days preceding the NHIS interview. These figures did not change between August and December 1987.

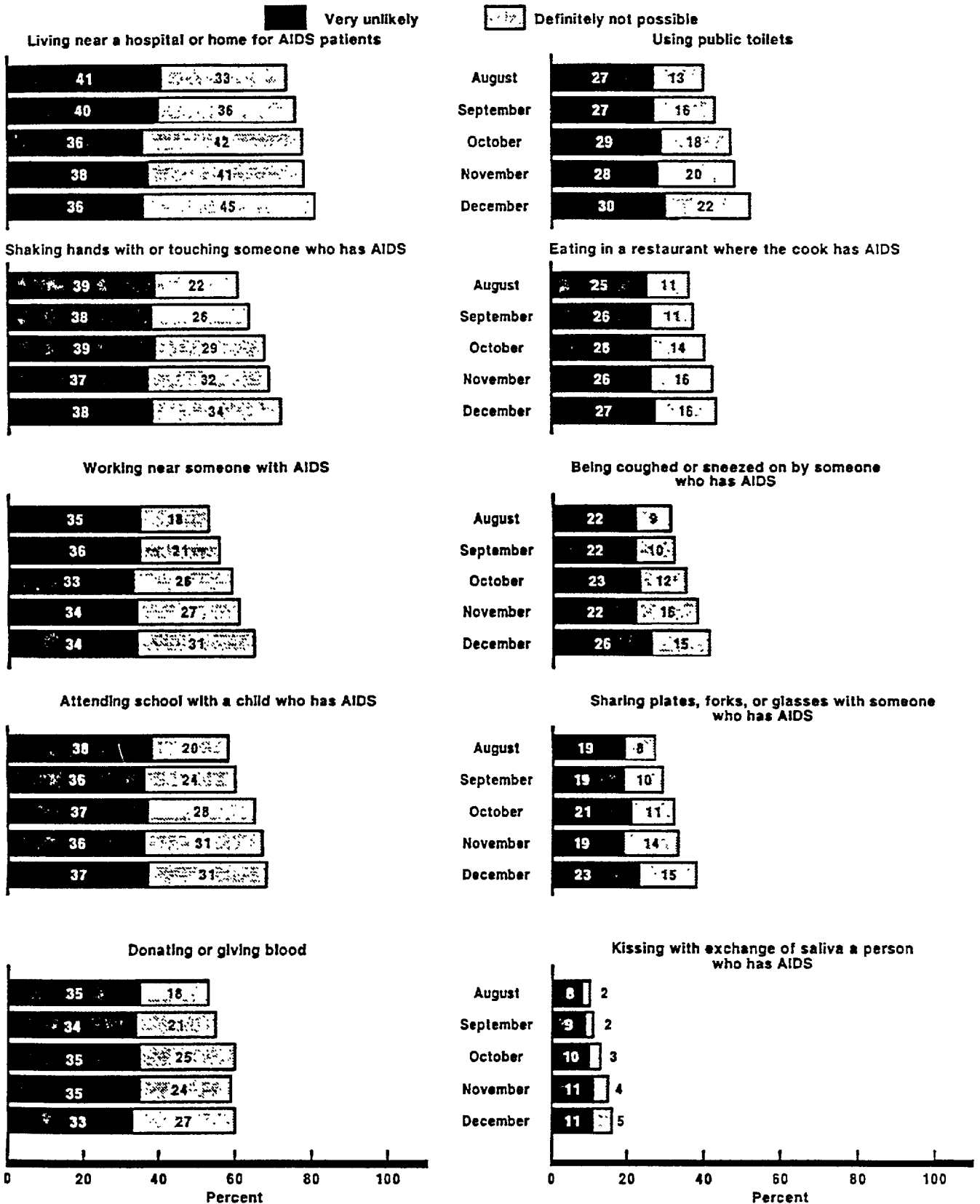
Self-perceived knowledge—The overall level of self-perceived knowledge about AIDS changed little between August and December. In December, 22 percent of all adults stated that they know a lot about AIDS, 40 percent stated that they know some, 27 percent felt they know a little, and 11 percent claimed to know nothing about AIDS. The racial difference in self-perceived AIDS knowledge has increased over time. In August, 20 percent of white adults stated that they know a lot about AIDS, compared to 18 percent of black adults. In December, the respective proportions were 23 percent and 14 percent. The proportions of adults who reported knowing little or nothing about AIDS were 39 percent for white adults and 49 percent for black adults in August; in December, the comparable proportions were 35 and 51 percent, respectively.

General knowledge—Following increases in a number of measures of general AIDS knowledge between August and September 1987 (figure 1), there were few changes during the remainder of the year. However, survey results

indicated continuous improvement in knowledge of how the AIDS virus is transmitted. The proportion of adults who thought it definitely true that the AIDS virus can be transmitted through sexual intercourse increased from 75 percent in August to 82 percent in December; for perinatal transmission, the increase was from 69 to 77 percent. Awareness of the possibility of AIDS virus transmission via shared needles for intravenous drug use was even more widespread, 93 percent, but did not increase over time.

In December, 92 percent of adults stated that it is definitely true that AIDS leads to death, and 86 percent thought it definitely true that there is no cure for AIDS at present. About three-fourths (72 percent) thought it definitely true that AIDS can cripple the immune system, and the same proportion realized that it is definitely false that an AIDS vaccine is available to the public. Seventy percent thought it definitely false that you can tell if people have AIDS just by looking at them. Only about half of all adults thought it definitely true that AIDS is caused by a virus (47 percent) and that a person can be infected with the AIDS virus without having the disease AIDS (55 percent).

Transmission of the AIDS virus—Although the 1987 NHIS AIDS survey revealed widespread misinformation about the risk of AIDS virus transmission through casual contact, knowledge in this area improved continuously between August and December. Figure 2 shows the percents



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

Figure 2. Estimated percent of adults 18 years of age and over considering it very unlikely or definitely not possible to transmit the AIDS virus in selected ways: United States, August-December 1987

of adults who thought it very unlikely or definitely not possible to transmit the AIDS virus by means of various activities. For each activity shown, the percent of individuals stating that the activity could not possibly lead to AIDS virus transmission increased over time, with no reduction in the percent of adults thinking it very unlikely that the activity could transmit the virus.

The percent of adults who thought it definitely not possible to get AIDS or the AIDS virus from living near a hospital or home for AIDS patients increased from 33 percent in August to 45 percent in December. Changes of similar magnitude were observed for some of the other activities: shaking hands with or touching someone with AIDS (up from 22 to 34 percent), working near someone with AIDS (from 18 to 31 percent), and attending school with a child who has AIDS (from 20 to 31 percent). Despite this trend, the NHIS AIDS data show that as of December 1987, almost two-thirds of the adults in the United States still thought that a person is very or somewhat likely to get the AIDS virus by receiving a blood transfusion (66 percent) or by kissing with exchange of saliva someone with AIDS (63 percent). People were most uncertain about AIDS virus transmission via animals and insects. In December, 20 percent of adults did not know if the AIDS virus can be transmitted by mosquitoes or other insects, and 22 percent did not know if pets or other animals can spread the virus.

Blood test for the AIDS virus—By December 1987, 73 percent of U.S. adults had heard of a blood test for infection with the AIDS virus, but 40 percent—over half of those who knew about the test—mistakenly stated that the blood test results tell whether a person has the disease AIDS. There was little change between August and December in any of these measures. The proportion of adults who realized that a positive blood test means that a person can spread the AIDS virus through sexual intercourse rose from 59 percent in August to 63 percent in September and remained at that level for the rest of the year.

Throughout the period from August to December 1987, 7-8 percent of U.S. adults reported that they had ever had their blood tested for the AIDS virus, including 2-3 percent who had the blood test as a routine part of blood donation or transfusion. An additional 7-8 percent of adults said that they had thought about having the AIDS virus blood test, and 3-5 percent reported plans to be tested within 12 months of being interviewed.

Risk of getting AIDS—As of December 1987, only 9

percent of the adults in the United States felt that there was a high chance of someone they know getting the AIDS virus. Sixteen percent said there was a medium chance, 36 percent a low chance, and 26 percent felt that there was no chance that someone they know would become infected with the AIDS virus. They assessed their own chances of becoming infected with the AIDS virus as even lower. In December, 62 percent of adults stated that there was no chance of their getting the AIDS virus, and 29 percent said that the chances were low. The proportions who assessed their chances of getting the AIDS virus as medium or high were 3 and 1 percent, respectively. As of December, 7 percent of the adults in the United States reported having personally known someone with the AIDS virus, and 7 percent stated that they have known someone with the disease AIDS.

AIDS prevention—There was virtually no change between August and December 1987 in the proportions of adults who considered various methods effective in preventing transmission of the AIDS virus. In December, 91 percent of all adults thought that celibacy is very effective in preventing AIDS virus transmission, and 86 percent considered it very effective to maintain a monogamous relationship with a person who does not have AIDS. Thirty-six percent of adults felt that using a condom is very effective in preventing transmission of the AIDS virus; 47 percent considered this method somewhat effective.

AIDS discussion, education, and information—In December 1987, two-thirds of U.S. adults reported that they had discussed AIDS with friends or relatives at some time. In August, 37 percent said that they had last discussed AIDS within the 7 days before being interviewed; by December, this proportion had declined to 29 percent. As of December, 62 percent of the adults with children between the ages of 10 and 17 stated that they had talked with their children about AIDS. Fifty-one percent reported that their children 10-17 years of age had received AIDS instruction at school, up from 36 percent in August.

Adults reported in December that their main source of AIDS information is television (59 percent), followed by newspapers (18 percent). If they wanted more specific AIDS information, the majority of adults (60 percent) said that they would go to a doctor, clinic, or HMO. Almost one-fifth (18 percent) of adults stated that they would go to a public health department for more detailed information about AIDS, and 12 percent listed a library as their preferred source.

Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1987 National Health Interview Survey, by selected characteristics: United States, December 1987

[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	Age			Sex		Race		Education			
	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
Percent distribution ¹											
Total	100	100	100	100	100	100	100	100	100	100	100
1. Have you ever heard of AIDS? When was the last time you saw, heard, or read something about AIDS?											
0-3 days ago	72	64	73	78	75	70	74	63	68	71	76
4-7 days ago	15	19	15	13	14	17	15	17	15	16	15
8-14 days ago	4	6	3	2	4	3	3	5	5	3	3
15-31 days ago	4	6	5	2	3	5	4	6	4	5	4
More than 31 days ago	2	4	2	1	2	3	1	6	3	3	1
Never heard of AIDS	-	-	-	-	-	-	-	-	-	-	-
Don't know	2	2	1	3	2	2	2	3	5	2	1
2. Compared to most people, how much would you say you know about AIDS?											
A lot	22	22	28	15	23	21	23	14	8	17	35
Some	40	46	43	33	38	42	41	32	24	44	45
Little	27	28	23	30	28	26	25	35	38	30	17
Nothing	11	4	5	22	12	10	10	18	30	8	2
Don't know	0	-	0	-	0	-	0	-	-	0	0
3a. AIDS is a disease caused by a virus.											
Definitely true	47	57	54	33	51	44	48	45	34	46	56
Probably true	27	28	26	26	26	27	26	27	25	27	27
Probably false	4	4	3	6	4	5	5	4	5	5	3
Definitely false	5	4	5	7	4	6	5	5	5	7	4
Don't know	16	8	11	28	15	18	16	19	31	14	10
3b. AIDS can cripple the body's natural protection against disease.											
Definitely true	72	77	79	60	73	71	74	57	49	72	84
Probably true	18	17	15	23	18	19	17	24	25	20	13
Probably false	1	1	1	1	1	1	1	2	2	1	1
Definitely false	1	1	1	1	1	1	1	2	2	1	0
Don't know	8	5	5	14	7	9	7	16	22	6	2
3c. AIDS is especially common in older people.											
Definitely true	0	0	0	1	0	0	0	1	1	0	0
Probably true	1	1	1	1	1	1	1	2	2	1	1
Probably false	18	20	17	18	18	18	18	17	17	18	18
Definitely false	73	71	77	70	72	74	74	67	63	75	77
Don't know	8	7	5	11	8	7	7	13	17	6	4
3d. The AIDS virus can damage the brain.											
Definitely true	26	22	27	27	27	25	25	32	25	25	26
Probably true	32	33	31	32	32	32	32	32	31	33	32
Probably false	8	9	9	6	8	8	9	6	4	8	11
Definitely false	7	10	8	4	8	6	7	3	5	7	8
Don't know	27	26	25	31	25	29	27	27	36	27	22
3e. AIDS usually leads to heart disease.											
Definitely true	7	6	7	8	7	7	7	13	9	7	6
Probably true	22	22	22	23	23	22	22	25	22	23	22
Probably false	18	19	20	13	18	17	19	9	9	17	23
Definitely false	14	16	18	9	16	13	15	10	9	13	18
Don't know	38	36	33	47	36	41	38	43	50	39	31
3f. AIDS leads to death.											
Definitely true	92	93	93	89	92	92	92	92	88	93	93
Probably true	7	6	6	8	7	6	7	6	7	6	7
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	1	1	1	3	1	2	1	2	4	1	1
4a. Where do you get most of your information about AIDS? ²											
Television	84	85	82	85	85	83	83	87	90	87	77
Newspapers	55	42	58	63	58	53	58	44	42	53	65
Magazines	28	26	31	24	24	31	29	20	13	26	37
Radio	10	9	12	9	12	9	10	10	11	10	9
Relatives and friends	9	12	10	6	9	9	8	11	9	9	9
Brochures/fliers/pamphlets	9	10	10	6	7	10	8	17	5	7	12
Doctor/HMO/clinic	6	7	9	3	5	7	6	10	3	6	9
Other	16	21	19	8	14	18	16	17	6	13	24
Don't know	0	0	0	1	0	1	0	0	1	0	0
4b. Of the sources you just told me, from which one do you get the most information?											
Television	59	63	55	62	59	59	58	67	76	64	45
Newspapers	18	11	17	23	20	15	19	11	11	16	23
Magazines	8	8	9	6	6	9	8	5	3	7	12
Brochures/fliers/pamphlets	2	2	2	1	2	2	2	4	1	2	3
Doctor/HMO/clinic	3	4	4	1	2	3	3	4	2	3	4
Other	10	12	12	5	10	10	10	8	5	8	13
Don't know	1	0	1	1	1	1	1	1	2	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 1987 National Health Interview Survey, by selected characteristics: United States, December 1987—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
5a. If you wanted more specific information about AIDS, where would you get it? ²					Percent distribution ¹						
Doctor/HMO/clinic	60	63	59	58	59	60	59	67	58	63	58
Public health department	18	16	21	17	19	18	18	21	16	18	20
Library	12	14	13	7	11	12	12	8	5	12	14
AIDS hot line	9	12	10	5	8	9	9	12	5	9	10
Other	27	32	28	20	26	27	26	25	20	23	33
Don't know	11	7	8	17	11	10	11	10	20	10	5
5b. Which one source would you most likely use?											
Doctor/HMO/clinic	48	48	47	50	48	49	49	51	51	51	45
Public health department	13	11	15	12	13	12	13	15	11	12	14
Library	7	9	8	4	7	7	7	4	3	7	9
AIDS hot line	6	8	8	4	6	7	6	8	4	6	7
Other	14	16	15	12	14	14	14	12	11	12	19
Don't know	11	7	8	17	12	10	11	10	20	11	6
6a. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true	55	58	62	45	55	55	58	43	36	54	68
Probably true	24	22	23	27	24	24	24	24	26	27	20
Probably false	3	5	3	4	4	3	3	5	4	3	4
Definitely false	4	7	3	3	5	3	4	6	5	5	2
Don't know	13	9	9	22	13	14	12	21	29	12	6
6b. You can tell if people have the AIDS virus just by looking at them.											
Definitely true	1	1	1	1	1	2	1	3	2	1	1
Probably true	4	4	3	4	3	4	3	5	5	4	3
Probably false	16	17	14	18	16	17	16	16	18	17	14
Definitely false	70	74	75	62	71	70	72	63	57	70	78
Don't know	8	4	6	15	8	8	8	14	18	7	4
6c. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true	82	85	83	78	79	84	82	82	78	83	82
Probably true	14	12	14	16	16	12	14	12	15	14	14
Probably false	1	0	1	1	1	1	1	1	0	1	1
Definitely false	1	1	0	0	1	0	1	1	1	1	1
Don't know	3	1	2	5	3	3	3	4	7	2	2
6d. A pregnant woman who has the AIDS virus can give AIDS to her baby.											
Definitely true	77	79	79	74	74	80	77	78	73	77	79
Probably true	17	17	17	18	19	16	18	15	17	17	18
Probably false	0	0	0	0	0	0	0	0	0	0	0
Definitely false	0	0	0	0	0	0	0	1	0	0	0
Don't know	5	3	4	8	6	4	5	6	10	5	2
6e. 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	3	3	2	3	3	3	2	7	5	3	2
Probably false	10	9	10	12	10	10	10	12	12	12	8
Definitely false	72	74	77	64	74	70	75	55	53	71	83
Don't know	14	11	10	21	12	16	12	23	28	14	6
6f. There is no cure for AIDS at present.											
Definitely true	86	86	88	83	86	86	87	82	77	86	90
Probably true	8	7	7	9	8	8	8	7	10	8	6
Probably false	1	1	1	1	1	1	1	1	1	1	1
Definitely false	2	3	1	1	2	1	1	2	2	2	1
Don't know	4	3	3	6	4	4	3	7	9	3	2
7. How likely do you think it is that a person will get the AIDS virus from—											
7a. Receiving a blood transfusion?											
Very likely	33	32	30	37	30	35	31	44	42	35	24
Somewhat likely	30	30	31	30	29	31	31	33	29	32	29
Somewhat unlikely	12	13	14	10	13	12	13	6	6	11	17
Very unlikely	19	20	21	15	22	16	20	7	9	16	27
Definitely not possible	2	2	1	2	1	2	2	1	2	1	2
Don't know	4	3	3	7	4	4	3	9	11	3	1
7b. Donating or giving blood?											
Very likely	8	9	7	9	9	8	7	17	15	8	5
Somewhat likely	14	15	12	14	13	14	13	22	19	14	10
Somewhat unlikely	12	14	11	11	12	11	12	12	11	13	12
Very unlikely	33	33	37	29	35	32	35	24	23	34	38
Definitely not possible	27	25	29	27	25	29	29	13	18	26	33
Don't know	6	4	4	10	6	6	5	12	15	5	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 1987 National Health Interview Survey, by selected characteristics: United States, December 1987—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											
7c. Living near a hospital or home for AIDS patients?											
Very likely	1	1	1	1	1	1	1	2	2	1	1
Somewhat likely	4	5	3	4	4	3	3	7	5	4	2
Somewhat unlikely	8	8	8	9	9	8	7	12	9	8	8
Very unlikely	36	37	38	33	38	34	37	35	31	37	37
Definitely not possible	45	46	46	43	42	47	47	32	35	45	50
Don't know	6	4	4	11	6	6	5	11	17	5	2
7d. Working near someone with AIDS?											
Very likely	3	2	3	3	3	3	2	5	4	3	2
Somewhat likely	13	13	12	14	13	13	13	15	15	15	11
Somewhat unlikely	12	12	14	11	13	12	12	13	10	12	14
Very unlikely	34	34	36	31	35	33	35	29	27	33	39
Definitely not possible	31	34	30	29	29	32	31	28	27	32	31
Don't know	7	3	5	12	7	7	6	10	16	6	3
7e. Eating in a restaurant where the cook has AIDS?											
Very likely	8	8	7	10	8	8	7	13	12	9	5
Somewhat likely	22	24	21	23	24	20	21	25	24	24	20
Somewhat unlikely	14	16	16	11	14	14	15	12	10	14	17
Very unlikely	27	26	31	23	26	27	28	19	19	24	34
Definitely not possible	16	18	16	14	15	17	17	14	13	17	17
Don't know	12	9	9	20	12	13	12	17	23	12	6
7f. Kissing—with exchange of saliva—a person who has AIDS?											
Very likely	28	25	27	32	27	29	27	39	34	30	22
Somewhat likely	35	35	35	34	35	34	35	30	29	35	38
Somewhat unlikely	11	13	13	7	11	11	12	8	6	11	14
Very unlikely	11	13	12	8	11	11	12	7	9	9	14
Definitely not possible	5	6	5	4	5	5	5	5	5	6	4
Don't know	10	8	8	15	10	11	10	11	18	10	7
7g. Shaking hands with or touching someone who has AIDS?											
Very likely	1	1	1	2	1	2	1	3	4	1	1
Somewhat likely	7	7	6	8	8	6	6	10	10	7	5
Somewhat unlikely	14	15	15	13	16	13	14	14	12	15	14
Very unlikely	38	37	42	35	38	38	39	36	32	37	42
Definitely not possible	34	37	33	32	32	36	35	30	28	35	36
Don't know	6	3	4	11	5	6	5	8	14	5	2
7h. Sharing plates, forks, or glasses with someone who has AIDS?											
Very likely	11	10	11	11	10	11	10	17	14	12	7
Somewhat likely	28	28	27	29	29	27	27	31	29	28	26
Somewhat unlikely	14	15	14	13	15	13	14	11	10	13	17
Very unlikely	23	24	26	19	23	23	24	16	17	22	29
Definitely not possible	15	17	14	14	14	16	15	14	13	15	16
Don't know	10	6	8	14	9	10	9	11	17	10	6
7i. Using public toilets?											
Very likely	6	4	6	8	6	7	5	12	12	7	6
Somewhat likely	19	21	15	20	19	18	17	25	23	20	21
Somewhat unlikely	14	15	15	11	14	13	14	12	10	14	13
Very unlikely	30	28	34	26	30	29	31	20	18	27	29
Definitely not possible	22	25	23	19	22	22	23	18	17	21	21
Don't know	10	8	7	16	9	11	10	13	20	10	10
7j. Sharing needles for drug use with someone who has AIDS?											
Very likely	93	95	94	91	93	93	94	90	88	94	94
Somewhat likely	5	4	4	6	5	5	5	6	7	5	4
Somewhat unlikely	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	0	—	0	0	0	0	0	0	—
Don't know	1	1	1	3	1	2	1	3	5	1	1
7k. Kissing on the cheek a person who has AIDS?											
Very likely	3	2	2	3	3	2	2	4	6	2	4
Somewhat likely	10	10	9	11	11	9	9	16	13	12	7
Somewhat unlikely	16	17	16	14	16	15	15	15	13	15	16
Very unlikely	35	35	37	34	35	36	37	28	29	35	34
Definitely not possible	30	33	31	26	27	32	30	25	24	29	33
Don't know	7	3	5	11	7	7	6	11	15	6	6
7l. Being coughed or sneezed on by someone who has AIDS?											
Very likely	8	5	8	12	8	9	8	13	14	9	7
Somewhat likely	24	26	22	25	24	24	23	28	25	26	24
Somewhat unlikely	16	17	19	13	17	16	17	15	12	16	15
Very unlikely	26	28	28	21	27	25	27	17	17	23	24
Definitely not possible	15	17	15	12	14	15	15	13	12	16	17
Don't know	11	8	8	16	11	11	10	14	21	10	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 1987 National Health Interview Survey, by selected characteristics: United States, December 1987—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	Age			Sex		Race		Education			
	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
Percent distribution ¹											
7m. Attending school with a child who has AIDS?											
Very likely	2	1	2	3	2	2	2	3	3	2	3
Somewhat likely	8	8	8	9	8	8	7	11	11	9	9
Somewhat unlikely	13	14	15	11	14	13	13	15	12	14	11
Very unlikely	37	36	41	33	38	36	38	30	28	35	35
Definitely not possible	31	37	29	30	30	33	32	28	26	33	34
Don't know	8	4	6	14	8	9	7	13	20	7	8
7n. Mosquitoes or other insects?											
Very likely	8	9	8	9	10	7	8	12	13	9	9
Somewhat likely	24	26	23	23	25	23	24	25	25	28	23
Somewhat unlikely	10	12	12	8	11	10	10	11	7	10	10
Very unlikely	20	21	24	16	22	19	22	14	13	18	16
Definitely not possible	16	17	16	16	16	17	17	13	13	16	18
Don't know	20	15	18	27	18	23	19	26	29	19	24
7o. Pets or animals?											
Very likely	2	1	2	2	2	2	1	5	4	2	2
Somewhat likely	9	10	7	9	10	8	8	13	12	10	8
Somewhat unlikely	10	12	9	8	10	9	10	10	7	10	8
Very unlikely	28	29	31	24	31	26	29	21	21	27	26
Definitely not possible	29	28	32	27	26	32	31	21	24	29	29
Don't know	22	19	19	30	20	24	21	31	32	22	27
7p. Having sex with a person who has AIDS?											
Very likely	94	95	95	92	93	95	94	93	91	95	96
Somewhat likely	4	4	4	5	6	3	4	4	4	4	3
Somewhat unlikely	0	0	0	0	0	0	0	0	—	0	0
Very unlikely	0	0	0	0	0	0	0	0	0	0	—
Definitely not possible	0	0	0	—	0	0	0	0	0	0	—
Don't know	1	0	1	3	1	1	1	3	4	1	1
8. Have you ever heard of a blood test for infection with the AIDS virus?											
Yes	73	78	81	59	73	73	75	58	49	74	75
No	24	20	17	36	24	24	22	38	47	23	20
Don't know	3	2	2	5	3	3	3	4	5	3	5
9. Does this test tell whether a person has the disease AIDS?											
Yes	40	43	43	34	38	41	40	37	32	43	43
No	23	26	29	15	25	22	25	12	7	20	21
Don't know	10	9	9	10	9	10	10	9	9	11	11
Never heard of test (no/don't know to q. 8)	27	22	19	41	27	27	25	42	51	26	25
10. If a person has a positive blood test for infection with the AIDS virus, does this mean that they can give someone else the AIDS virus through sexual intercourse?											
Yes	63	70	71	49	63	63	65	49	41	63	65
No	3	3	5	2	4	3	3	3	2	3	3
Don't know	6	5	6	7	6	6	6	5	6	7	7
Never heard of test (no/don't know to q. 8)	27	22	19	41	27	27	25	42	51	26	25
11. Have you ever had your blood tested for infection with the AIDS virus?											
Yes	5	7	6	2	6	4	5	9	3	5	6
Yes, in blood donation/transfusion	3	3	4	1	3	3	3	1	1	2	3
No	63	67	70	53	62	64	66	46	43	65	64
Don't know	2	1	2	2	2	1	2	1	2	1	2
Never heard of test (no/don't know to q. 8)	27	22	19	41	27	27	25	42	51	26	25
12a. Have you ever thought about having this blood test?											
Already had test	8	11	10	3	9	7	8	11	4	8	9
Yes	10	14	12	4	10	10	10	13	7	10	13
No	55	53	59	51	53	56	58	34	38	56	53
Don't know	—	—	—	—	—	—	—	—	—	—	—
Never heard of test (no/don't know to q. 8)	28	22	19	42	27	28	25	43	52	26	25
12b. Do you plan to be tested in the next 12 months?											
Already had test	8	11	10	3	9	7	8	11	4	8	9
Yes	3	6	4	1	4	3	3	8	4	3	5
No	5	5	6	2	5	5	5	2	2	4	5
Don't know	2	3	2	1	2	2	2	2	1	2	3
Never heard of test or thought about having test (no/don't know to q. 8 or q. 12a)	82	75	78	93	81	84	83	77	90	82	78

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 1987 National Health Interview Survey, by selected characteristics: United States, December 1987—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	Age			Sex		Race		Education				
	Total	18-29	30-49	50 years	Male	Female	White	Black	Less than	12 years	More than	
		years	years	and over					12 years		12 years	
Percent distribution ¹												
13. Where would you go to have a blood test for the AIDS virus infection? ²												
Nowhere/wouldn't take test	0	1	—	—	—	0	0	—	—	—	—	—
AIDS clinic	3	3	4	2	4	2	4	—	3	3	8	—
Other clinic	31	36	25	33	32	29	29	35	38	29	34	—
Doctor/HMO	45	36	50	50	40	49	46	42	30	51	41	—
Red Cross/blood bank	2	3	2	—	2	2	2	1	—	3	—	—
Other	12	11	14	7	11	13	11	16	20	6	13	—
Don't know	7	10	4	9	10	5	7	6	9	7	5	—
14. Where would you go to find out where to have this blood test? ^{2,4}												
AIDS hot line	11	5	31	—	10	14	14	—	13	7	20	—
AIDS clinic	3	—	10	—	—	7	3	—	—	—	—	—
Other clinic	4	—	—	21	4	3	2	17	19	—	10	—
Doctor/HMO	27	34	29	—	32	19	29	22	19	34	099	—
Friends	2	3	—	—	2	—	2	—	—	—	—	—
Public health department	15	8	21	32	20	7	17	10	—	18	11	—
Other	13	16	5	15	6	25	6	29	—	14	20	—
Nowhere/wouldn't take test	—	—	—	—	—	—	—	—	—	—	—	—
Don't know	26	34	5	32	26	25	26	22	49	27	40	—
15. Have you donated blood since 1985?												
Yes	13	19	16	5	16	10	13	10	5	12	18	—
No	87	81	84	95	84	90	87	90	95	88	82	—
Don't know	0	—	0	—	0	0	0	—	—	0	0	—
16. Have you ever personally known anyone who had the blood test for the AIDS virus infection?												
Yes	15	19	18	8	14	16	15	11	5	13	15	—
No	84	80	81	90	85	83	83	88	93	85	84	—
Don't know	2	1	2	2	2	2	2	2	2	1	2	—
17. What are the chances of someone you know getting the AIDS virus?												
High	9	11	12	4	8	10	9	12	6	9	9	—
Medium	16	21	17	11	18	14	16	16	14	16	18	—
Low	36	40	39	30	38	35	39	21	23	36	33	—
None	26	19	22	36	23	29	25	29	34	27	27	—
Refused	0	0	0	0	0	0	0	0	0	0	0	—
Don't know	13	8	10	19	13	12	11	22	23	12	13	—
18. What are your chances of getting the AIDS virus?												
High	1	1	1	0	1	1	1	2	1	1	1	—
Medium	3	4	4	3	4	3	3	4	4	3	4	—
Low	29	36	33	20	31	28	30	21	18	26	30	—
None	62	55	59	72	60	63	62	65	69	65	59	—
Refused	0	0	0	0	0	0	0	—	0	0	0	—
Don't know	4	4	3	5	4	4	3	8	9	4	7	—
19. Here are methods some people use to prevent getting the AIDS virus through sexual activity. How effective is—												
19a. Using a diaphragm?												
Very effective	2	3	2	2	3	2	2	5	3	2	2	—
Somewhat effective	11	12	10	12	11	12	11	13	11	12	9	—
Not at all effective	57	58	67	46	56	58	60	44	37	57	59	—
Don't know how effective	23	20	17	32	24	22	22	26	35	23	20	—
Don't know method	6	7	4	9	7	6	5	12	15	5	11	—
19b. Using a condom?												
Very effective	36	41	37	30	37	34	37	32	28	35	34	—
Somewhat effective	47	47	50	45	47	47	48	41	39	48	47	—
Not at all effective	6	5	6	7	5	7	5	10	8	6	6	—
Don't know how effective	10	7	6	16	9	10	9	14	19	9	9	—
Don't know method	2	1	1	4	1	2	2	4	6	1	4	—
19c. Using a spermicidal jelly, foam, or cream?												
Very effective	2	3	2	1	2	1	1	3	2	2	4	—
Somewhat effective	14	15	15	11	14	14	14	13	8	14	11	—
Not at all effective	56	58	63	47	55	57	58	46	43	55	57	—
Don't know how effective	22	18	17	32	23	22	22	27	34	23	20	—
Don't know method	6	6	4	9	6	6	5	11	12	5	8	—
19d. Being celibate, that is, not having sex at all?												
Very effective	91	91	94	88	91	91	92	89	84	92	89	—
Somewhat effective	4	5	3	5	4	4	4	5	5	4	4	—
Not at all effective	1	2	1	1	1	1	1	1	1	1	1	—
Don't know how effective	3	2	2	4	3	3	3	3	7	2	3	—
Don't know method	1	1	0	1	0	1	1	1	3	1	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 1987 National Health Interview Survey, by selected characteristics: United States, December 1987—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	Age			Sex		Race		Education			
	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
19e. Two people who do not have the AIDS virus having a completely monogamous relationship, that is, having sex only with each other?					Percent distribution ¹						
Very effective	86	86	91	82	87	85	88	78	76	88	82
Somewhat effective	8	8	6	9	7	8	7	11	9	7	8
Not at all effective	1	2	1	1	2	1	1	3	2	2	2
Don't know how effective	4	3	2	7	3	4	3	6	9	3	6
Don't know method	1	1	1	2	1	2	1	2	4	1	1
20. Have you ever discussed AIDS with a friend or relative?											
Yes	65	71	74	49	61	69	65	68	44	63	65
No	35	28	25	50	39	31	34	32	56	36	34
Don't know	0	0	0	1	0	1	0	0	1	0	1
21. When was the last time you discussed AIDS with a friend or relative?											
0-3 days ago	14	14	16	11	13	15	13	18	10	14	16
4-7 days ago	15	17	18	11	15	16	15	18	10	15	16
8-14 days ago	8	9	10	5	8	8	8	5	6	8	8
15-31 days ago	14	17	15	10	13	15	14	13	9	14	10
More than 31 days ago	9	11	10	6	8	10	9	9	5	8	11
Never discussed (no/don't know to q. 20)	36	29	27	52	40	32	36	33	58	37	36
Don't know	4	4	4	5	4	4	4	4	4	4	3
24. Have you ever discussed AIDS with [any of your children age 10-17]? ⁵											
Yes	62	59	63	56	50	73	64	57	49	61	66
No	38	41	37	44	50	27	36	43	51	39	34
Don't know	-	-	-	-	-	-	-	-	-	-	-
25. Have your children had any instruction at school about AIDS? ⁵											
Yes	51	38	50	66	49	52	49	63	47	50	52
No	19	44	20	10	18	21	21	13	20	20	19
Don't know	30	17	31	25	33	27	31	24	32	29	29
26. Have you ever personally known anyone with the AIDS virus?											
Yes	7	7	10	5	6	8	7	9	4	5	7
No	91	92	88	94	92	90	91	87	95	93	92
Don't know	2	2	2	2	2	2	1	4	2	1	1
27. Have you ever personally known anyone with AIDS?											
Yes	7	6	10	5	6	8	7	10	4	5	6
No	91	93	89	94	92	91	92	88	94	93	93
Don't know	1	1	1	1	2	1	1	2	1	1	1
28. 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	73	63	71	69	71	70	64	70	70
No	21	19	18	26	21	21	21	19	24	22	21
Other	2	2	2	2	2	2	2	2	2	2	2
Don't know	7	4	7	8	6	8	6	9	9	6	8
29. Would you want to know the results of the blood test? ⁶											
Yes	98	98	98	97	98	98	98	98	98	99	97
No	2	1	1	2	2	2	2	1	2	1	2
Don't know	1	1	1	0	0	1	0	1	1	1	1

¹Excludes persons for whom no response was recorded or who refused to respond. For question 2 through 27, total also excludes persons who never heard of AIDS.

²Multiple responses may sum to more than 100 percent.

³Based on persons answering yes to question 12a.

⁴Based on persons answering don't know to question 13.

⁵Based on persons answering yes to question 22. Do you have any children aged 10-17? Question 23 was, How many do you have?

⁶Based on persons answering yes to question 28.

NOTE: Total, age, sex, and education include persons of other and unknown race not shown separately under race. Education refers to years of school completed.

Technical notes

The National Health Interview Survey (NHIS) is a continuous, cross-sectional household interview survey. Each week, a probability sample of the civilian noninstitu-

Table I. Sample size for the National Health Interview Survey of AIDS Knowledge and Attitudes and estimated adult population 18 years of age and over, by selected characteristics: United States, December 1987

<i>Characteristic</i>	<i>Sample size</i>	<i>Estimated population in thousands</i>
All adults	5,597	174,528
Age		
18-29 years	1,433	47,725
30-49 years	2,105	66,109
50 years and over	2,059	60,695
Sex		
Male	2,303	82,703
Female	3,294	91,825
Race		
White	4,589	151,003
Black	791	19,107
Education		
Less than 12 years	1,273	41,503
12 years	2,134	66,475
More than 12 years	2,119	62,363

tionalized 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 AIDS knowledge and attitudes questions were 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 5,597 persons, or about 87 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 heard of AIDS. 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. The final data file covering the entire 5-month period of data collection, August through December 1987, will be available in 1988.

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, December 1987

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

Symbols

- Quantity zero
- 0 Quantity more than zero but less than 0.5

Suggested citation

National Center for Health Statistics, D. A. Dawson and O. T. Thornberry. 1988. AIDS knowledge and attitudes for December 1987, Provisional data from the National Health Interview Survey. *Advance Data From Vital and Health Statistics*. No. 153. DHHS Pub. No. (PHS) 88-1250. Public Health Service. Hyattsville, Md.

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Relationships Between Smoking and Other Unhealthy Habits: United States, 1985

by Charlotte A. Schoenborn, M.P.H., and Veronica Benson, Division of Health Interview Statistics

Introduction

Smoking has been identified as the number one cause of preventable death in the United States (Office on Smoking and Health, 1979). Extensive medical research has clearly documented the deleterious health effects of smoking. Additional evidence has indicated that combining smoking with other unhealthy behaviors can multiply the probability of serious illness; for instance, combining smoking and heavy drinking greatly increases the probability of oral cancer (Office on Smoking and Health, 1979). Although exploring possible effects for health outcomes of combining smoking with other bad habits is beyond the scope of this report, the following analysis can answer the question of whether smokers have other unhealthy habits that may, based on other available evidence (Belloc and Breslow, 1972; Wiley and Camacho, 1980), increase their probability of succumbing to serious illness, disability, and even death.

Earlier research efforts have examined smoking behavior in relation to specific behaviors such as alcohol and caffeine use (Istvan and Matarazzo, 1984), food consumption (Grunberg and Morse, 1984), body weight (Albanes, Jones, Micozzi, and Mattson, 1987), and exercise (Faulkner, Bailey, and Mirwald, 1987; Salonen et al., 1987). Other investigators have studied interrelationships among a wider variety of behaviors (Blair, Jacobs, and Powell, 1985; Langlie, 1979; Mechanic and Cleary, 1980; Norman, 1985).

This report presents national data on the interrelationships between smoking and eight other behaviors judged to be unhealthy based on currently available evidence. Cross-sectional and longitudinal studies performed in Alameda County, California, since the mid-1960's found that certain health behaviors were related to subsequent morbidity and mortality (Belloc and Breslow, 1972; Breslow and Enstrom, 1980; Wiley and Camacho, 1980). The behaviors studied in Alameda County were smoking, alcohol consumption, hours of sleep, exercise, eating

breakfast, snacking, and being overweight. This report follows the Alameda model, including behaviors that, although not measured identically, are conceptually similar to those shown in the Alameda study to be related to health status and survival.

A similar report using data from the 1983 National Health Interview Survey (NHIS) Alcohol and Health Practices Questionnaire has also been prepared (Hendershot and Bloom, unpublished). Information such as this may aid health educators in planning more effective smoking cessation programs. The case of alcohol and smoking is illustrative. Evidence suggests that a substantial proportion of smokers are heavier drinkers, according to criteria established by the National Institute on Alcohol Abuse and Alcoholism (Hendershot and Bloom, unpublished). It might be hypothesized that, at least for some portion of the smoking population, alcohol consumption may interfere with attempts to quit smoking by reducing the smoker's resolve to quit smoking. If this premise is correct, health promotion efforts aimed at smokers could benefit from simultaneously promoting reduction (or elimination) of alcohol consumption. Similarly, smokers have been found to be less likely to exercise (Hendershot and Bloom, unpublished). Health educators might consider the possibility that increasing smokers' participation in sports activities might stimulate physiological or psychological responses that would enhance the desire to quit smoking. Although reasons for associations between smoking and other health practices are not well understood, it is important to consider such associations when designing programs to change behavior. The following analysis illuminates a number of behaviors other than smoking that could receive attention in lifestyle-oriented smoking cessation programs.

Methods

This report is based on data from the 1985 National Health Interview Survey of Health Promotion and Disease

Prevention (NHIS-HPDP). The NHIS is a continuous, nationwide, household interview survey of the civilian noninstitutionalized population of the United States, conducted by the National Center for Health Statistics. The NHIS consists of two parts: (a) a basic health and demographic questionnaire that remains the same from year to year and (b) special topic questionnaires that change from year to year. In 1985 the special topic section was devoted entirely to health promotion topics. A detailed description of the survey and its methods is available (NCHS, 1986, 1988).

The sample for the NHIS-HPDP consisted of one randomly selected adult per family, aged 18 years or over. Self-response was required. HPDP questionnaires were completed for 33,630 persons, representing an estimated 90 percent of eligible respondents. This analysis is limited to the 32,517 persons aged 20 years and over.

Table 1 shows the percent of current smokers, former smokers, and never smokers who had each of the eight unhealthy behaviors: sleeping six hours or less, skipping breakfast, snacking daily, being less physically active than other per-

Table 1. Percent of persons 20 years of age and over who had selected unhealthy behaviors by smoking status, number of cigarettes smoked daily, health practices, and sex: United States, 1985

[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 the Technical notes]

Health practices and sex	Smoking status				Number of cigarettes smoked daily ¹			
	All smoking statuses	Never smoker	Former smoker	Current smoker	Less than 15	15-24	25-34	35 or more
Sleeps 6 hours or less								
Both sexes.....	22.3	20.9	20.9	25.3	22.6	23.9	27.9	33.1
Male.....	22.9	21.5	21.3	26.0	23.8	23.8	28.0	32.7
Female.....	21.7	20.6	20.3	24.5	21.7	24.1	27.8	34.0
Never eats breakfast								
Both sexes.....	24.3	18.3	19.0	37.6	28.0	38.0	45.7	50.6
Male.....	25.3	20.8	19.2	35.6	25.0	34.3	43.4	47.9
Female.....	23.5	16.8	18.5	39.6	30.3	41.6	48.8	55.6
Snacks daily								
Both sexes.....	38.4	38.2	40.3	37.5	34.3	37.4	41.3	41.7
Male.....	39.8	40.7	39.6	39.2	35.5	39.4	42.9	41.0
Female.....	37.2	36.8	41.3	35.8	33.5	35.4	38.9	43.0
Less physically active ²								
Both sexes.....	18.9	17.3	18.1	21.8	21.0	21.3	23.1	24.0
Male.....	15.6	13.5	15.1	18.5	17.3	17.7	19.7	21.1
Female.....	21.8	19.6	22.7	25.2	23.8	24.9	27.9	29.5
Sedentary ³								
Both sexes.....	56.7	55.3	54.3	58.9	54.5	59.8	60.8	63.4
Male.....	50.5	43.2	50.7	55.5	50.4	55.6	57.4	60.6
Female.....	62.3	62.3	59.7	62.4	57.6	64.1	65.6	68.9
Overweight ⁴								
Both sexes.....	24.6	25.3	29.0	20.1	18.9	17.7	22.6	26.9
Male.....	26.7	26.1	32.2	22.0	18.8	19.1	24.9	29.9
Female.....	22.8	24.9	24.2	18.1	18.9	16.4	19.2	21.1
Heavier drinker ⁵								
Both sexes.....	7.8	3.6	9.0	12.9	10.0	10.9	16.9	22.0
Male.....	13.2	7.9	12.3	19.6	16.3	16.7	22.6	28.8
Female.....	3.0	1.1	3.9	5.9	5.3	5.1	8.9	8.7
Consumes 5 drinks or more ⁶								
Both sexes.....	12.1	7.2	11.9	20.1	15.4	20.6	24.0	26.7
Male.....	20.9	16.1	17.0	30.9	26.1	32.2	33.3	33.9
Female.....	4.4	2.1	4.4	9.1	7.6	9.1	11.2	13.1

¹Current smokers only

²Based on perceived level of physical activity.

³Sedentary equals energy expenditure on leisure activity of 0.0-1.4 kilocalories/kilogram/day.

⁴20 percent or more above desirable weight, based on 1983 Metropolitan Life Insurance Company standards (1983, *Statist. Bull.* 64(1),2-9) National Health Interview Survey data are self-reported, and estimates may vary from those that would be obtained if physical measurements were taken

⁵Measure developed by the National Institute on Alcohol Abuse and Alcoholism. Categories based on ounces of ethanol consumed during the past 2 weeks; heavier drinker is defined as having had an average 1.0 ounce of ethanol (2 drinks) or more per day

⁶5 drinks or more on 10 days or more in the past year

sons of the same age, being sedentary in terms of leisure time sports activities, being significantly overweight (20 percent or more), drinking heavily (an average of two drinks or more daily), and having five drinks or more on 10 days or more in the past year. Table 2 shows the same relationships as those shown in table 1, after adjusting for differences in the age distributions in the various smoking status groups. Because health behaviors vary substantially by age, it is important to rule out age as the explanation for observed differences among groups

with different smoking patterns. For this reason, discussion of results will be limited to the age-adjusted table (table 2). It should be noted, however, that the actual prevalence levels of behaviors are the unadjusted figures in table 1.

In this report, terms such as "similar" and "no difference" mean that there is no statistically significant difference between the measures being compared. Terms relating to difference (for example, "greater than" or "less than") indicate that differences are statistically significant. The *t*-test, with a

Table 2. Age-adjusted percent of persons 20 years of age and over who had selected unhealthy behaviors by smoking status, number of cigarettes smoked daily, health practices, and sex: United States, 1985

[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 the Technical notes]

Health practices and sex	Smoking status				Number of cigarettes smoked daily ¹			
	All smoking statuses	Never smoker	Former smoker	Current smoker	Less than 15	15-24	25-34	35 or more
Age-adjusted percent								
Sleeps 6 hours or less								
Both sexes.....	22.3	21.0	21.2	24.6	22.6	23.3	27.1	31.6
Male.....	22.8	21.5	22.5	24.9	23.7	22.5	26.0	31.1
Female.....	21.6	20.4	19.9	24.4	21.8	23.9	28.6	34.1
Never eats breakfast								
Both sexes.....	24.4	18.1	21.2	35.4	26.7	35.9	42.1	47.6
Male.....	24.8	18.9	22.3	33.3	23.4	31.9	39.4	45.5
Female.....	24.0	17.7	19.8	37.6	29.2	39.8	45.9	51.7
Snacks daily								
Both sexes.....	38.4	38.4	40.8	36.9	33.6	36.8	40.4	42.4
Male.....	39.6	39.3	40.4	38.5	34.7	38.2	42.3	42.5
Female.....	37.4	37.6	41.5	35.3	32.7	35.2	37.7	42.5
Less physically active ²								
Both sexes.....	18.9	17.2	18.4	21.8	20.8	21.0	23.1	26.1
Male.....	15.7	13.2	14.6	18.8	18.0	17.7	19.0	23.6
Female.....	21.9	19.9	23.3	24.9	23.0	24.5	29.9	30.9
Sedentary ³								
Both sexes.....	56.7	55.6	52.3	60.6	57.0	61.7	64.1	64.7
Male.....	51.0	46.6	47.7	57.2	53.0	57.6	60.5	62.1
Female.....	61.8	61.1	58.5	64.3	60.0	65.7	68.8	70.5
Overweight ⁴								
Both sexes.....	24.6	26.4	27.0	19.6	19.3	17.4	22.2	22.4
Male.....	26.5	28.1	30.0	21.2	19.4	18.7	23.0	27.2
Female.....	22.7	24.9	23.0	17.9	19.3	16.0	20.5	19.7
Heavier drinker ⁵								
Both sexes.....	7.8	3.6	8.9	12.6	9.5	10.7	16.9	22.5
Male.....	13.1	7.9	12.7	18.9	15.3	15.5	21.8	28.9
Female.....	3.0	1.1	3.7	6.1	5.2	5.7	10.2	9.5
Consumes 5 drinks or more ⁶								
Both sexes.....	12.1	6.8	14.1	18.7	13.6	19.0	22.1	26.2
Male.....	20.5	13.8	21.2	28.7	23.0	29.3	30.6	33.0
Female.....	4.6	2.2	5.0	8.5	6.7	8.7	10.4	13.2

¹Current smokers only.

²Based on perceived level of physical activity.

³Sedentary equals energy expenditure on leisure activity of 0.0-1.4 kilocalories/kilogram/day.

⁴20 percent or more above desirable weight, based on 1983 Metropolitan Life Insurance Company standards (1983, *Statist. Bull.* 64(1):2-9). National Health Interview Survey data are self-reported, and estimates may vary from those that would be obtained if physical measurements were taken.

⁵Measure developed by the National Institute on Alcohol Abuse and Alcoholism. Categories based on ounces of ethanol consumed during the past 2 weeks, heavier drinker is defined as having had an average 1.0 ounce of ethanol (2 drinks) or more per day

⁶5 drinks or more on 10 days or more in the past year

critical value of 1.96 (0.05 level of significance), was used to test all comparisons. Lack of comment regarding the difference between any two statistics does not mean the difference was tested and found to be not significant.

Definition of terms

Smoking

Current smokers are defined as persons who had smoked at least 100 cigarettes in their lifetime and reported that they were smoking at the time of interview. Former smokers had smoked 100 cigarettes in their lifetime but were not currently smoking. Never smokers had never smoked 100 cigarettes. Unless otherwise indicated, the term "smokers" in this report refers to current smokers.

Sleep

Sleeping 6 hours or less a night has been defined as an unhealthy habit by other researchers (Belloc and Breslow, 1972; Wiley and Camacho, 1980). It was selected for this analysis on that basis.

Breakfast and snacking

Skipping breakfast and snacking regularly have been identified elsewhere as poor eating habits (Belloc and Breslow, 1972). Breakfast and snacks were respondent-defined in the NHIS-HPDP, and frequency was reported as almost every day, sometimes, rarely, or never. In the interest of brevity for discussion of these behaviors, "almost every day" is abbreviated to "every day," and "rarely or never" is shortened to "never." The terms "skipping breakfast" and "never eating breakfast" are used interchangeably.

Physical activity

Two measures of physical activity were included. The first, physical activity level relative to other persons one's own age, is a subjective indicator, combining an assessment of one's own activity level with an assessment of the activity level of one's contemporaries. This indicator offers comparability with an earlier survey (Hendershot and Bloom, unpublished). The second measure of physical activity is based on a more rigorous definition of exercise levels. Respondents were asked to report their participation in 23 leisure time physical activities (such as walking, jogging, gardening, aerobics, golf, and tennis) over the past 2 weeks. Their participation was converted into total kilocalories of energy expended over a 2-week period and averaged over the 14 days to obtain a daily energy expenditure. Persons with kilocalorie levels of under 1.5 per day were defined as sedentary for this analysis. A more complete description of this methodology has been published previously (Schoenborn, 1986).

Overweight

Overweight is defined as being 20 percent or more above desirable body weight according to the 1983 Metropolitan Life Insurance Company height and weight tables (Metropolitan Life Insurance Company, 1983). All height and weight data in the NHIS-HPDP were self-reported. Further information on this variable is available in the Technical notes.

Heavier drinker

The National Institute on Alcohol Abuse and Alcoholism has defined "heavier drinker" as a person consuming an average of 1.0 ounce or more of ethanol per day; that is, about 2 average-sized drinks of beer, wine, or liquor. The National Institute on Alcohol Abuse and Alcoholism definition was used for classifying persons in this analysis. Information was collected on the frequency of alcohol consumption over the 2 weeks preceding the interview and the average quantity consumed per occasion. These data were then converted into ounces of ethanol using a factor of 0.5 ounce per drink. The number of ounces were summed and then averaged over the 14-day period to obtain an average daily amount consumed.

Five drinks or more

Because health-related patterns in drinking behavior may be masked by using an average daily alcohol consumption (for instance, a person with an average daily alcohol consumption of 2 drinks per day could have consumed 28 drinks in a weekend or 2 drinks a day for 14 days over any given 2-week period), an indicator of repeated heavy drinking episodes was also employed. Respondents were asked on how many days in the past year they had had five drinks or more. For this report, the cutoff of 10 days or more was selected because it suggests that this drinking involved more than holiday-type drinking.

Findings

Sleep

Table 2 shows that, controlling for differences in age composition, about 22 percent of U.S. adults slept an average of 6 hours or less each night. Current smokers were more likely than both former and never smokers to sleep this little. In 1985, approximately one-fourth of current smokers slept 6 hours or less compared with about 21 percent of former smokers and persons who had never smoked. The association between current smoking and getting less sleep was found for men and women. Male current smokers were more likely to sleep 6 hours or less (24.9) than males who had never smoked (21.5). Similarly, female current smokers were more likely to sleep 6 hours or less (24.4) than women who had never smoked and women who had quit smoking—about 20 percent for the latter two groups.

Among current smokers, sleeping 6 hours or less was related to the number of cigarettes smoked. Almost one-third of smokers in the heaviest smoking category (those smoking 35 cigarettes or more daily) slept 6 hours or less compared with 27.1 percent of those smoking 25–34 cigarettes, 23.3 percent of those smoking 15–24 cigarettes, and 22.6 percent of those smoking fewer than 15 cigarettes per day. This dose-response relationship between number of cigarettes smoked and sleeping habits was similar for men and women. Women who smoked 35 cigarettes or more daily were the most likely to sleep 6 hours or less of any of the groups shown in table 2 (34.1 percent).

Skipping breakfast

Table 2 shows that, controlling for differences in age composition, skipping breakfast was more prevalent among smokers

than nonsmokers. On average, more than one-third of current smokers never ate breakfast compared with 21.2 percent of former smokers and 18.1 percent of never smokers. The relationship between cigarette smoking and skipping breakfast was found for both men and women. Male current smokers were more likely to skip breakfast (33.3) than male former smokers (22.3) and male never smokers (18.9). Female current smokers also were more likely to skip breakfast (37.6) than female former smokers (19.8) and female never smokers (17.7). Female smokers were more likely than male smokers to never eat breakfast 37.6 and 33.3, respectively).

Among smokers, skipping breakfast was associated with the amount smoked, the highest prevalence being among those smoking a greater number of cigarettes. Persons smoking 35 cigarettes or more daily were more likely to never eat breakfast (47.6) than persons smoking 25–34 cigarettes (42.1), 15–24 cigarettes (35.9), and less than 15 cigarettes daily (26.7). As was the case with unhealthy sleeping habits, female heavy smokers (35 cigarettes or more daily) were the most likely to have unhealthy breakfast habits of any group shown. About 52 percent of female smokers smoking 35 cigarettes or more daily never ate breakfast compared with 39.8 percent of females smoking 15–24 cigarettes and 29.2 percent of females smoking less than 15 cigarettes daily. A similar relationship between breakfast habits and number of cigarettes smoked was found for men. Male smokers who smoked 35 or more cigarettes daily were more likely to skip breakfast (45.5) than males smoking 25–34 cigarettes (39.4), males smoking 15–24 cigarettes (31.9), and males smoking less than 15 cigarettes daily (23.4).

Snacking

Table 2 shows that, controlling for differences in age composition, about 37 percent of current smokers snacked every day compared with 40.8 percent of former smokers and 38.4 percent of never smokers. On average, about 35 percent of female current smokers snacked daily compared with 41.5 percent of female former smokers and 37.6 percent of female never smokers. For males, snacking habits of smokers versus nonsmokers were not significantly different.

Although smokers on the whole tended to be less likely to snack every day than nonsmokers, heavier smokers were more likely to snack. About 42 percent of persons who smoked 35 cigarettes or more daily snacked every day compared with 36.8 percent of those who smoked 15–24 cigarettes daily, 33.6 percent of those who smoked less than 15 cigarettes daily, and 38 percent of those who had never smoked. Males smoking 35 cigarettes or more daily were more likely to snack every day (42.5 percent) than males smoking less than 15 cigarettes daily (34.7 percent). Females who smoked 35 cigarettes or more daily were more likely to snack every day (42.5 percent) than females smoking 15–24 cigarettes daily (35.2 percent) and females smoking less than 15 cigarettes daily (32.7 percent).

Less physically active

Table 2 shows that, controlling for differences in age composition, the perception of being less physically active was more prevalent among current smokers than former and never

smokers. About 22 percent of current smokers perceived themselves to be less physically active than their contemporaries compared with 18.4 percent of former smokers and 17.2 percent of never smokers. About 19 percent of male current smokers reported being less physically active than their contemporaries compared with about 15 percent of male former smokers and about 13 percent of male never smokers. About 25 percent of female current smokers reported being less physically active than their contemporaries compared with about 20 percent of female never smokers.

Compared with lighter smokers, heavier smokers tended to be less physically active than their contemporaries. About 26 percent of those smoking 35 or more cigarettes daily were less physically active than their contemporaries, compared with about 21 percent of smokers smoking less than 25 cigarettes daily. About 24 percent of males smoking 35 cigarettes or more daily were less physically active than their contemporaries, compared with 18.0 percent of males smoking less than 15 cigarettes daily. Similarly, among females smoking 35 cigarettes or more daily, about 31 percent reported being less physically active than their contemporaries, compared with 23 percent of females smoking less than 15 cigarettes daily. Women were more likely than men to report being less physically active than others the same age, across all smoking statuses and all smoking levels.

Sedentary activity level

Table 2 shows that, controlling for differences in age composition, current smokers were more likely to be sedentary in terms of leisure time sports activities (60.6 percent) compared with former smokers (52.3 percent) and never smokers (55.6 percent). Male current smokers were more likely to be sedentary (57.2 percent) than male former smokers (47.7 percent) and male never smokers (46.6 percent); the difference between former and never smokers was not statistically significant. As with males, female current smokers were more likely to be sedentary (64 percent) than were female nonsmokers. In contrast to the findings for males, female former smokers were somewhat less likely to be sedentary (58.5 percent) than females who had never smoked (61.1 percent).

For smokers, sedentary behavior also was associated with the number of cigarettes smoked. About 65 percent of those smoking 35 cigarettes or more daily were sedentary compared with 57 percent of those smoking less than 15 cigarettes daily. This association was found for males and females. Males smoking 35 cigarettes or more daily were more likely to be sedentary (62.1 percent) than males smoking 15–24 cigarettes daily (57.6 percent) and males smoking less than 15 cigarettes daily (53.0 percent). Females smoking 35 cigarettes or more daily were more likely to be sedentary (70.5 percent) than females smoking less than 15 cigarettes daily (60.0 percent). Females were more likely than males to be sedentary, across all smoking statuses and regardless of the number of cigarettes smoked.

Overweight

Table 2 shows that, controlling for differences in age composition, current smokers were less likely to be significantly

overweight (20 percent or more above desirable body weight) than former and never smokers. About 20 percent of current smokers were significantly overweight compared with 27 percent of former smokers and 26.4 percent of never smokers. Male current smokers were less likely to be overweight (21.2 percent) than male former smokers (30.0 percent) and male never smokers (28.1 percent). Similarly, female current smokers were less likely to be overweight (17.9 percent) than female former smokers (23.0 percent) and female never smokers (24.9 percent).

Among male smokers, overweight was related to the number of cigarettes smoked daily, but not in the expected direction. Although smokers on the whole were *less* likely to be overweight, the heaviest smokers were the *most* likely of the smokers to be overweight. Prevalence of overweight among males smoking 35 cigarettes or more daily (27.2 percent) was similar to that of males who had never smoked (28.1 percent). Overweight was substantially less prevalent among males smoking fewer than 25 cigarettes daily (about 19 percent). No clear pattern emerged for female smokers in the relationship between number of cigarettes smoked daily and prevalence of overweight.

Heavier drinker

Table 2 shows that, controlling for differences in age composition, current smokers were more likely than former and never smokers to be heavier drinkers. About 13 percent of current smokers were heavier drinkers compared with 8.9 percent of former smokers and 3.6 percent of never smokers. About 19 percent of male current smokers were heavier drinkers compared with 12.7 percent of male former smokers and 7.9 percent of male never smokers. Female current smokers were more likely to be heavier drinkers (6.1 percent) than female former smokers (3.7 percent) and female never smokers (1.1 percent). Males were more likely than females to be heavier drinkers regardless of smoking status.

Heavier smoking was associated with heavier drinking in the expected direction. Current smokers smoking 35 cigarettes or more daily were more likely to be heavier drinkers (22.5 percent) than those smoking 25–34 cigarettes daily (16.9 percent), 15–24 cigarettes daily (10.7 percent), and less than 15 cigarettes daily (9.5 percent). The dose-response relationship was clearest for males. Among males smoking 35 cigarettes or more daily, 28.9 percent were heavier drinkers compared with 21.8 percent of males smoking 25–34 cigarettes daily, 15.5 percent of males smoking 15–24 cigarettes daily, and 15.3 percent of those smoking less than 15 cigarettes daily. Among females, the relationship between number of cigarettes smoked and heavier drinking habits was dichotomous: About 10 per-

cent of females who smoked 25 cigarettes or more daily were heavier drinkers compared with 5–6 percent of females who smoked fewer than 25 cigarettes. Males were substantially more likely than females to be heavier drinkers, regardless of smoking status or amount smoked.

Five drinks or more

Table 2 shows that, controlling for differences in age composition, current smokers were more likely to have had five drinks or more on 10 days or more during the past year than either former or never smokers. About 19 percent of current smokers had exhibited this drinking behavior compared with 14.1 percent of former smokers and 6.8 percent of never smokers. Male smokers were more likely to have had five drinks or more this many times (28.7 percent) than male former smokers (21.2 percent) and male never smokers (13.8 percent). As with males, female current smokers were more likely to report this behavior (8.5 percent) than were female former smokers (5.0 percent) or never smokers (2.2 percent). Consuming five drinks or more at least 10 times in the past year was more common among males than females across all smoking statuses.

Having five drinks or more on 10 days or more during the past year was also related to the amount smoked. Current smokers smoking 35 cigarettes or more daily were more likely to report this behavior (26.2 percent) than those smoking 25–34 cigarettes (22.1 percent), 15–24 cigarettes (19.0 percent), and less than 15 cigarettes daily (13.6 percent). Males smoking 35 cigarettes or more daily were 10 percentage points more likely to have had five drinks or more at least 10 times over the past year (33.0 percent) than males smoking less than 15 cigarettes daily (23.0 percent). Females smoking 35 cigarettes or more daily were more likely to have had five drinks or more (13.2 percent) than females smoking 15–24 cigarettes daily (8.7 percent) and females smoking less than 15 cigarettes daily (6.7 percent). As was found with the “heavier drinker” classification discussed above, drinking five alcoholic beverages or more was considerably more common among males than among females, regardless of smoking status or amount smoked.

Summary

Overall, these results suggest that smoking is related to other unhealthy behaviors. Compared with nonsmokers, smokers are more likely to get little sleep, skip breakfast, not exercise actively, and drink heavily. In contrast, smokers were less likely to be overweight and less likely to snack daily than were nonsmokers, the more favorable weight status and snacking behavior tending to be most characteristic of lighter smokers.

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Technical notes

Data presented in this report were obtained from household interviews of the National Health Interview Survey (NHIS). These interviews were conducted among a probability sample of the civilian noninstitutionalized population of the United States. During 1985, 91,531 persons living in 34,844 households were interviewed. The total noninterview rate for the NHIS was about 4.3 percent, including 2.6 percent due to respondent refusal and the remainder due to failure to find an eligible respondent at home after repeated calls. Detailed information on the design of the survey is available elsewhere (NCHS, 1986, 1988).

Questions concerning health promotion and disease prevention were asked of a subsample, one person aged 18 years and over per family. This report is based on data for the 32,517 subsample respondents who were 20 years of age and over. Self-reporting was generally required for these questions, but proxy responses were accepted when subsample persons were physically or mentally incapable of answering the questions for themselves. Persons with unknown health practice characteristics are excluded only from the analysis for that health practice. The response rate for the NHIS Health Promotion and Disease Prevention Questionnaire was about 90 percent. Item nonresponse for the data discussed in this report ranged from 0.5 percent for breakfast to 3.6 percent for desirable weight.

The measure of desirable weight used in this report was based on the 1983 Metropolitan Life Insurance Company (MLIC) standards of desirable weights for men and women, which were derived from the 1979 Body Build and Blood Pressure Study conducted by the Society of Actuaries (MLIC, 1983). Desirable weights are shown for small, medium, and large frames for men and women. For NHIS analyses, the midpoint of the desirable weight range for the medium frame category was used as the "desirable weight" for a particular height, with certain adjustments. The MLIC standards were developed based on weight in indoor clothing and height with 1-inch heels. Respondents to the NHIS were asked to report their height without shoes and their weight without clothes or shoes. To compensate for these differences, the MLIC standards were adjusted by subtracting 2 pounds from the midpoint of the medium frame category for both sexes and subtracting 1 inch from the height.

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. Standard errors appropriate for estimated percents of persons are shown in table I. Population sizes for each of the smoking groups are shown in table II.

To understand better the limitations of the estimates pre-

Table I. Standard errors, expressed in percentage points, of estimated percents: 1985 National Health Interview Survey of Health Promotion and Disease Prevention

<i>Base of percent in thousands</i>	<i>Estimated percent</i>				
	<i>2 or 98</i>	<i>5 or 95</i>	<i>10 or 90</i>	<i>20 or 80</i>	<i>50</i>
50	5.1	8.0	11.0	14.7	18.4
70	4.3	6.8	9.3	12.4	15.5
100	3.6	5.7	7.8	10.4	13.0
300	2.1	3.3	4.5	6.0	7.5
500	1.6	2.5	3.5	4.6	5.8
700	1.4	2.1	2.9	3.9	4.9
1,000	1.2	1.8	2.5	3.3	4.1
5,000	0.5	0.8	1.1	1.5	1.8
10,000	0.4	0.6	0.8	1.0	1.3
20,000	0.3	0.4	0.6	0.7	0.9
30,000	0.2	0.3	0.5	0.6	0.8
50,000	0.2	0.3	0.3	0.5	0.6
100,000	0.1	0.2	0.2	0.3	0.4

sented in this report, data users are encouraged to familiarize themselves with the survey design, the methods used in estimation, and the general qualifications of the data, which are described in appendix I of Health Promotion and Disease Prevention, 1985 (NCHS, 1988). The NHIS Health Promotion and Disease Prevention questionnaire is shown in appendix III of that report.

NOTE: A list of references follows the text.

Suggested citation

National Center for Health Statistics, C. A. Schoenborn and V. Benson. 1988. Relationships between smoking and other unhealthy habits: United States, 1985. *Advance Data From Vital and Health Statistics*. No. 154. DHHS Pub. No. (PHS) 88-1250. Public Health Service, Hyattsville, Md.

Table II. Number of persons 20 years of age and over by smoking status, number of cigarettes smoked daily, and sex: United States, 1985

<i>Smoking status, number of cigarettes smoked daily, and sex</i>	<i>Number in thousands</i>
Both sexes, all smoking statuses ¹	163,693
Never	71,590
Former	39,918
Current	48,792
Less than 15 cigarettes	14,982
15-24 cigarettes	20,267
25-34 cigarettes	6,597
35 cigarettes or more	6,524
Male, all smoking statuses ¹	77,187
Never	26,293
Former	24,086
Current	25,021
Less than 15 cigarettes	6,421
15-24 cigarettes	10,193
25-34 cigarettes	3,881
35 cigarettes or more	4,298
Female, all smoking statuses ¹	86,505
Never	45,297
Former	15,831
Current	23,771
Less than 15 cigarettes	8,561
15-24 cigarettes	10,074
25-34 cigarettes	2,716
35 cigarettes or more	2,227

¹Includes unknown smoking status.

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Prevalence of selected chronic conditions, United States, 1983-85

by John Gary Collins, Division of Health Interview Statistics

Introduction

National estimates of the prevalence of selected chronic conditions in the civilian noninstitutionalized population of the United States for the years 1983-85 are presented in this report. 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 on the prevalence of chronic conditions reported in household interviews are shown in terms of number and rate per 1,000 persons for the total population and by rate per 1,000 persons according to age, sex and race. Data are also presented by rank order of prevalence, by rank order of conditions causing the highest percent of limitation in activity, and by the percent of high prevalence conditions for which persons were ever hospitalized.

Data are shown by the following condition categories:

- Circulatory conditions.
- Respiratory conditions.
- Digestive conditions.
- Impairments and conditions of the nervous system and sense organs.
- Conditions of the skin and subcutaneous tissue and conditions of the musculoskeletal system and connective tissue.
- Endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and conditions of the genitourinary system.

NHIS chronic condition prevalence data are presented annually in the NCHS publication *Current Estimates From the National Health Interview Survey*, and periodically for 3 years of data (NCHS, 1986a, 1986b, 1986c, and 1986d). The 3 year data reports have the advantage of smaller variances and hence are more suitable for analysis.

Highlights

- Chronic sinusitis was the chronic condition reported most frequently in the interviews with an average annual prevalence of 31.2 million conditions or 134.6 per 1,000 persons in the civilian noninstitutionalized population.
- Arthritis and high blood pressure (hypertension) were the second and third most prevalent chronic conditions reported with annual averages of 30.3 million and 28.6 million conditions, respectively.
- Arthritis was reported to be more prevalent among females than males. Among females, arthritis ranks as the most frequently reported condition with an annual average rate of 164.3 per 1,000 persons; however, among males arthritis ranks fifth in prevalence with an annual average rate of 95.2 per 1,000 persons.
- Among black persons, high blood pressure (hypertension) was the most prevalent chronic condition reported, with a rate of 146.3 per 1,000 persons.
- Among the younger persons, those under 18 years of age, hay fever, with a rate of 55.7 per 1,000 persons, was the most frequently reported chronic condition.
- Chronic sinusitis was the most prevalent chronic condition reported among persons 18-44 years of age, and deformities or orthopedic impairments was second. The rates were 160.0 and 131.2 per 1,000 persons, respectively.
- For the age groups 45-64 years, 65-74 years, and 75 years and over, arthritis was the chronic condition reported most frequently and high blood pressure ranked second in all three age groups.
- Mental retardation was the chronic condition causing the highest percent of activity limitation with 85.6 percent of reported conditions resulting in limitation. Multiple sclerosis, and malignant neoplasms of lung and bronchus ranked second and third, causing limita-

tion of activity in 76.8 percent and 68.2 percent, respectively, of the conditions reported.

- Among the 15 most prevalent reported chronic conditions, heart disease ranked first in the percent ever hospitalized with 42.6 percent. In the subcategory Ischemic heart disease, there was a hospitalization reported for 68.5 percent of the conditions.

Background

Information from the National Health Interview Survey (NHIS) of the National Center for Health Statistics is based on data collected in a continuing nationwide survey 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. Information is obtained about the health and other characteristics of the people in each household.

One of the strengths of NHIS is the ability to combine data over multiple years. This increases stability of the estimates because augmenting the sample size leads to smaller sampling errors. This is especially helpful in NHIS where each individual condition group constitutes only a one-sixth sample in a given year. That is, each household is surveyed for only one of the six chronic condition checklists. 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, chronic conditions. Therefore, data for this report are based on information obtained during 1983, 1984, and 1985 and annual averages for these 3 years are presented.

Methodological studies have shown that chronic conditions are generally underreported in interview surveys (NCHS, 1987). Respondents in health interviews tend to report conditions of which they are aware and about which they are willing to report to the interviewer. Reporting is better for conditions that have made a significant impact on the affected individual and his family. Conditions that are severe or costly, or that receive treatment tend to be better reported than conditions having less impact. For instance, a condition that has caused limitation of activity, visits to the doctor, or days in bed is more likely to be reported in the interview than a condition that has had little or no impact on the person.

Methodological studies have also indicated that inclusion of a checklist of descriptive condition titles as part of the interview questionnaire increases the probability that respondents will recognize the terms and report those of which they are aware. Of course, the diagnostic accuracy of condition reports depends on how well the respondent remembers information that the attending physician has passed on to the family or, in the absence of medical attendance, on the previous experience or education of the family.

The questionnaires for 1983, 1984, and 1985 are illustrated in their entirety in the Current Estimates reports for these years (NCHS, 1986a, 1986b, and 1986c).

Information about the prevalence of chronic conditions was obtained from responses to the six categorical checklists of conditions in section H of the questionnaires. The question was phrased as follows: "During the past 12 months, did anyone in the family have _____?"

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

Chronic condition prevalence

Prevalence often refers to the number of some item existing at a given point in time; this definition of prevalence is usually referred to as point prevalence. Prevalence can also refer to the average number of some item existing during a specified interval of time and is usually called period prevalence. The latter definition is used in NHIS because the data are collected over intervals of time.

Chronic conditions are defined as conditions that either (1) were first noticed 3 months or more before the date of interview, or (2) belong to a group of conditions considered chronic regardless of when they began.

For the purpose of estimating the prevalence of reported chronic conditions, the total NHIS sample was divided into six representative subsamples. Each subsample was administered one of six checklists that contained broad categories of types of chronic conditions. Respondents were asked to indicate the presence or absence of each condition specified on the particular list administered to them. Because the presence or absence of many types of chronic conditions is often ambiguous, several "impact" questions were asked about each condition reported.

The tables in this report are organized primarily by checklist. However, some modifications in the presentation were made for instances in which more than one of the six lists included data from the same disease classification system as listed in the *Ninth Revision International Classification of Diseases* (World Health Organization, 1977).

Conditions with high prevalence

The chronic conditions with highest prevalence during 1983-85 are presented in table 1. Top 10 rankings are presented for all persons, for males and females, for white and black persons, and for five age categories.

Chronic sinusitis ranked first for all persons, for males, for white persons, and for persons age 18-44 years. Arthritis ranked first among females and among persons in the age groups 45-64 years, 65-74 years, and 75 years and over. High blood pressure (hypertension) ranked first among black persons and hay fever or allergic rhinitis ranked first among persons under 18 years of age.

There was no marked difference between males and females regarding those conditions ranking in the top 10, with nine of the ten appearing on both lists. Deformities or

orthopedic impairment and deafness and other hearing impairments ranked higher among males, and arthritis clearly ranked higher among females.

The groups with the most diversity in the top 10 rankings were the young persons, under 18 years of age, and the older persons, 65-74 years and 75 years and over. Among the younger persons, respiratory conditions ranked high, constituting five of the top 10 conditions—hay fever or allergic rhinitis, chronic bronchitis, chronic sinusitis, asthma, and chronic disease of tonsils and adenoids.

Among the older persons, conditions such as cataracts, tinnitus, diabetes, and hardening of the arteries ranked in the top 10. However, these conditions were not in the top 10 rankings for all persons.

The figure shows the 15 most prevalent chronic conditions for all persons by the percent of the conditions that ever necessitated hospitalization.

The conditions that caused the most hospitalization were heart disease 42.6 percent (68.5 percent for ischemic heart disease by itself) and diabetes 32.7 percent. Seven of the ten most prevalent chronic conditions had relatively low percents of ever being hospitalized for the condition (less than 10 percent). On the other hand, there are many conditions that are not as high in prevalence that resulted in very high percent of hospitalization.

Chronic conditions that result in the largest percent of activity limitation are also quite different from those on the lists of high prevalence. Table 2 presents the 12 chronic conditions that cause the highest percent of activity limitation by rank order. Mental retardation ranks highest (85.6 percent) followed by multiple sclerosis (76.8 percent) and malignant neoplasms of lung and bronchus (68.2 percent). Chronic sinusitis, which is the most prevalent chronic condition, causes activity limitation in less than one-half of one-percent of the reported conditions.

Selected circulatory conditions

Prevalence estimates and rates for chronic circulatory conditions for all persons, and the rates per 1,000 persons by sex, race, and age groups are shown in table 3. The data indicates that high blood pressure (hypertension), estimated at 28.6 million conditions annually, was the most prevalent circulatory condition. High blood pressure was the most prevalent circulatory condition for each group except those under 18 years of age, for whom heart disease had the highest rates. Heart disease was also high in overall prevalence, 19.3 million conditions annually; and hemorrhoids accounted for 10.5 million conditions a year.

Selected respiratory conditions

Table 4 shows the prevalence estimates and rates per 1,000 persons for chronic respiratory conditions for all persons and rates per 1,000 persons by sex, race, and age groups. Chronic sinusitis was the most prevalent respiratory condition with an annual average of 31.2 million conditions reported. Hay fever or allergic rhinitis, chronic bronchitis,

and asthma were also high in prevalence with an annually reported 20.0, 11.1, and 8.6 million conditions, respectively. Chronic sinusitis was the most prevalent respiratory condition for both sexes, for white and black persons, and for all age groups except the group under 18 years of age. In that group, hay fever or allergic rhinitis, chronic bronchitis, and chronic sinusitis were similar in reported annual prevalence. The respective rates per 1,000 persons were 55.7, 54.7, and 51.9.

Selected digestive conditions

Prevalence estimates and rates for digestive conditions for all persons and rates per 1,000 persons by sex, race, and age groups are shown in table 5. Digestive conditions, with the highest annual number of reported conditions, were indigestion and other functional disorders (5.9 million), hernia of abdominal cavity (4.9 million), ulcers (4.5 million), and constipation (4.3 million). Among the young persons under 18 years, constipation was reported most often with a rate of 6.0 per 1,000 persons. The age group 18-44 years reported indigestion and other functional disorders most frequently, 27.8 per 1,000 persons, and the age groups 45-64 years and 65-74 years reported hernia of the abdominal cavity as their most frequent digestive condition, 40.9 and 73.3 per 1,000 persons, respectively. Among those 75 years and over, constipation was reported most frequently, 103.4 per 1,000 persons. Females reported much higher rates of constipation than males, 27.6 to 9.3 per 1,000 persons. Constipation was also the most frequently reported digestive condition among black persons—22.9 per 1,000 persons. For both males and white persons, indigestion and other functional disorders was reported more frequently than any other digestive condition.

Selected impairments and nervous system and sense organ conditions

Table 6 contains the prevalence estimates and rates per 1,000 persons for selected impairments and nervous system and sense organ conditions for all persons; and rates per 1,000 persons by sex, race, and age groups. Among the impairments, the highest prevalence was reported for deformities or orthopedic impairments—28.0 million conditions, of which 14.1 million were of the back and 10.5 million were of the lower extremities. Deafness and other hearing impairments were also reported frequently—21.0 million conditions. In addition 8.2 million visual impairments, including blindness, were reported. Among persons under 18 years of age, speech impairments were quite prevalent, along with the three categories mentioned above. Deformities or orthopedic impairments, hearing impairments, and visual impairments were also the most frequently reported for both sexes, white and black persons and persons in the 18-44 years and 45-64 years age groups. Among the older persons, 65-74 years and 75 years and over, deafness and other hearing impairments were

reported most frequently. The rates of hearing impairments were higher among men than women and higher among white persons than black persons.

The nervous system and sense organ conditions reported most frequently were migraine headache, 7.7 million; tinnitus, 5.8 million; other headache, 5.3 million; and cataracts, 5.2 million. Among persons under 18 years and 18-44 years of age, migraine headache and other headaches were reported most frequently. Tinnitus and migraine headache were the conditions reported most frequently for persons 45-64 years of age; however, cataracts and tinnitus had the highest rates among persons 65-74 years and 75 years of age and over. Tinnitus and color blindness were the conditions of highest prevalence among males and migraine headache was by far the most prevalent condition among females. The rates for both migraine headache and other headache among females were more than double the rates reported among males. However, males were 10 times more likely to report color blindness conditions than were females. Among both white persons and black persons, migraine headache was the highest nervous system and sense organ condition in prevalence.

Selected skin and subcutaneous tissue and musculoskeletal system and connective tissue conditions

Prevalence estimates and rates for chronic conditions of the skin and subcutaneous tissue, and musculoskeletal system and connective tissue for all persons and rates per 1,000 persons by sex, race, and age group are shown in table 7. Dermatitis was the most frequently reported condition of skin and subcutaneous tissue, with an annual prevalence of 9.0 million conditions. Ingrown nails, corns and calluses, and acne were also frequently reported with an annual 5.0, 4.8, and 4.6 million conditions, respectively. Among persons under 18 years and 18-44 years, the highest rates of prevalence were reported for dermatitis and acne. In the age group 45-64 years, corns and calluses were the most frequently reported condition followed by dermatitis. The older persons 65-74 years and 75 years and over reported corns and calluses and ingrown nails most fre-

quently. Dermatitis was the most prevalent skin condition for both males and females, although the rate among females was higher than that reported among males. Dermatitis also had the highest reported rate among white persons. However, corns and calluses were reported highest among the black persons.

Arthritis was by far the most frequently reported condition of the musculoskeletal system and connective tissue, with an annual prevalence of 30.3 million conditions. It was the most prevalent condition for both males and females, white persons and black persons, and all age groups except persons under 18 years of age, for whom very few musculoskeletal system conditions were reported.

Selected endocrine, nutritional and metabolic disease and immunity disorders, diseases of the blood and blood forming organs, and genitourinary conditions

Table 8 contains prevalence estimates and rates per 1,000 persons for selected endocrine, nutritional and metabolic disease and immunity disorders, diseases of the blood and blood forming organs, and genitourinary conditions for all persons, and rates per 1,000 persons by sex, race, and age groups. These individual systems will be discussed together because they do not include many conditions. Diabetes was the most frequently reported condition among these groups with an annual prevalence of 5.9 million conditions. Anemias, other diseases of the thyroid, and gout were also relatively high in prevalence with 3.5, 2.5, and 2.3 million conditions, respectively, reported yearly. Among persons under 18 years and 18-44 years of age, anemias were reported most frequently. Diabetes was the most prevalent condition reported among persons 45-64 years, 65-74 years, and 75 years of age and over, among both males and females, and among both white and black persons. The diabetes rate per 1,000 persons was much higher for black persons than for white persons, 37.1 to 24.3.

The population figures used in computing rates in this report are found in table 9.

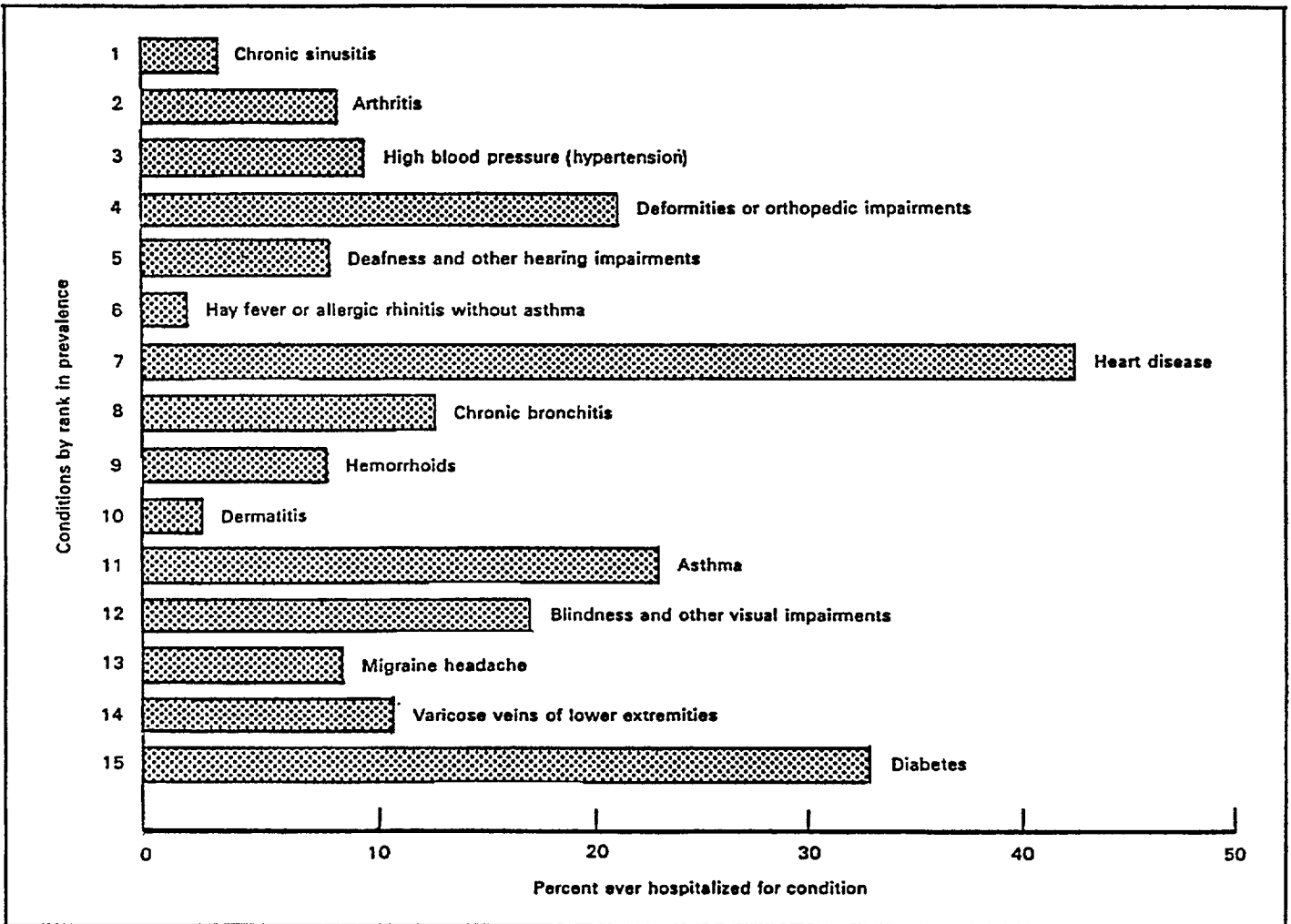


Figure. Selected chronic conditions with highest prevalence, in rank order, by percent ever hospitalized for the condition: United States, 1983-85

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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
 - # Figure suppressed to comply with confidentiality requirements
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Table 1. Selected chronic conditions with highest prevalence, in rank order, by sex, race, and age: United States, 1983-85

Chronic condition	All persons ¹	Sex		Race		Age					
		Male	Female	White	Black	Under 18 years	18-44 years	45-64 years	65-74 years	75 years and over	
											Rank order
Chronic sinusitis	1	1	2	1	3	3	1	3	6	7	1
Arthritis	2	5	1	2	2	-	6	1	1	1	1
High blood pressure (hypertension)	3	3	3	4	1	-	4	2	2	2	2
Deformities or orthopedic impairments	4	2	4	3	4	6	2	4	5	6	6
Deafness and other hearing impairments	5	4	7	5	7	10	7	5	4	3	3
Hay fever or allergic rhinitis without asthma	6	6	5	6	5	1	3	7	-	-	-
Heart disease	7	7	6	7	6	9	-	6	3	4	4
Chronic bronchitis	8	10	8	8	10	2	10	-	-	-	-
Hemorrhoids	9	9	9	9	-	-	5	8	10	-	-
Dermatitis	10	-	-	10	-	5	9	-	-	-	-
Blindness and other visual impairments	-	8	-	-	-	-	-	-	-	-	8
Migraine headache	-	-	10	-	-	-	8	-	-	-	-
Asthma	-	-	-	-	8	4	-	-	-	-	-
Diabetes	-	-	-	-	9	-	-	10	7	-	-
Chronic disease of tonsils and adenoids	-	-	-	-	-	7	-	-	-	-	-
Acne	-	-	-	-	-	8	-	-	-	-	-
Varicose veins of lower extremities	-	-	-	-	-	-	-	9	-	-	-
Cataracts	-	-	-	-	-	-	-	-	8	5	-
Tinnitus	-	-	-	-	-	-	-	-	9	-	-
Hardening of the arteries	-	-	-	-	-	-	-	-	-	9	-
Constipation	-	-	-	-	-	-	-	-	-	-	10

¹Includes races other than white and black.

Table 2. Selected chronic conditions causing highest percent of limitation in activity, in rank order, and percent of persons with conditions who are limited in activity: United States, 1983-85

Chronic condition	Rank	Percent of persons with limitation of activity
Mental retardation	1	85.6
Multiple sclerosis	2	76.8
Malignant neoplasms of lung and bronchus	3	68.2
Paralysis of extremities, complete or partial	4	59.8
Paralysis, complete or partial, other sites	5	50.4
Intervertebral disc disorders	6	48.8
Malignant neoplasms of stomach, intestines, colon, and rectum	7	48.6
Epilepsy	8	46.7
Emphysema	9	42.5
Pneumoconiosis and asbestosis	10	38.2
Cerebrovascular disease	11	37.6
Diabetes	12	35.5

Table 3. Average annual number of selected chronic circulatory system conditions and rates per 1,000 persons, by age, sex, and race: United States, 1983-85

Chronic circulatory condition	Number of conditions in thousands ¹	Age						Sex		Race	
		All ages	Under 18 years	18-44 years	45-64 years	65-74 years	75 years and over	Male	Female	White	Black
		Rate per 1,000 persons									
Heart disease	19,259	83.2	21.4	37.6	136.5	290.6	339.2	79.5	86.6	88.0	58.1
Ischemic heart disease	6,964	30.1	* -	3.1	64.1	147.1	140.3	35.2	25.3	33.1	12.6
Heart rhythm disorders	7,498	32.4	17.0	25.8	40.7	70.7	92.9	25.1	39.1	34.3	22.4
Tachycardia or rapid heart	1,939	8.4	*0.9	5.0	15.1	26.2	29.6	5.8	10.7	9.1	4.4
Heart murmurs	4,108	17.7	15.6	17.4	16.9	23.0	29.8	14.0	21.2	18.3	15.5
Other and unspecified heart rhythm disorders	1,451	6.3	*0.5	3.5	8.8	21.5	33.6	5.3	7.2	6.9	*2.5
Congenital heart disease	711	3.1	3.1	2.7	3.0	*3.6	*5.3	2.9	3.2	3.2	*1.7
Other selected diseases of the heart (excludes hypertension)	4,086	17.6	*1.3	6.0	28.7	69.2	100.6	16.2	19.0	17.4	21.4
Rheumatic fever with or without heart disease	1,494	6.5	*1.1	5.5	12.9	12.7	10.6	5.1	7.7	6.9	4.8
High blood pressure (hypertension)	28,594	123.5	2.3	61.8	264.5	407.9	395.3	108.7	137.3	121.8	146.3
Cerebrovascular disease	2,531	10.9	*0.4	1.9	16.9	44.1	83.8	11.7	10.2	10.8	13.4
Hardening of the arteries	3,127	13.5	* -	*0.4	19.8	66.6	110.5	14.0	13.0	14.8	6.4
Aneurysm	261	1.1	*0.1	*0.1	*1.2	6.4	8.2	1.3	0.9	1.2	*0.9
Phlebitis, thrombophlebitis	928	4.0	*0.1	2.5	7.7	12.9	12.9	2.3	5.6	4.3	3.1
Varicose veins of lower extremities	7,055	30.5	*0.4	24.0	58.4	74.2	87.0	12.7	47.0	32.8	17.8
Hemorrhoids	10,467	45.2	*0.9	53.3	74.3	78.8	58.8	42.1	48.1	48.3	28.5
Poor circulation	1,000	4.3	* -	1.5	7.4	16.7	25.2	3.3	5.3	4.0	7.2

¹Includes races other than white and black.

Table 4. Average annual number of selected chronic respiratory system conditions and rates per 1,000 persons, by age, sex, and race: United States, 1983-85

Chronic respiratory condition	Number of conditions in thousands ¹	Age						Sex		Race	
		All ages	Under 18 years	18-44 years	45-64 years	65-74 years	75 years and over	Male	Female	White	Black
		Rate per 1,000 persons									
Chronic bronchitis	11,135	48.1	54.7	39.3	50.2	67.1	52.2	39.2	56.4	50.9	34.7
Emphysema	2,099	9.1	* -	1.3	19.1	45.6	37.2	13.1	5.3	9.9	4.4
Asthma	8,595	37.1	45.1	33.8	32.1	46.9	25.5	34.6	39.5	37.3	39.8
Hayfever or allergic rhinitis without asthma	20,007	86.4	55.7	112.2	88.8	64.2	51.6	82.2	90.4	89.7	65.6
Nasal polyps	833	3.6	2.2	3.7	5.2	*4.6	*3.1	4.0	3.2	3.8	3.0
Chronic sinusitis	31,162	134.6	51.9	160.0	181.1	166.6	143.6	116.8	151.2	140.5	107.9
Deviated nasal septum	1,213	5.2	*0.8	6.9	6.8	6.7	*7.2	5.8	4.7	6.0	*0.7
Chronic disease of tonsils and adenoids	3,168	13.7	29.8	12.0	1.9	*2.0	*0.8	10.8	16.4	14.4	10.7
Chronic laryngitis	1,265	5.5	3.3	6.7	6.4	5.3	*3.7	2.4	8.3	5.9	3.4
Pleurisy	832	3.6	*0.3	4.0	6.4	6.3	*3.0	2.4	4.7	4.0	*1.0
Pneumoconiosis and asbestosis	359	1.6	* -	0.9	2.4	6.9	*4.9	2.9	*0.3	1.6	*1.0
Malignant neoplasms of lung and bronchus	211	0.9	* -	*0.2	1.8	*3.1	*5.9	1.1	0.8	1.0	*0.3
Other diseases of the lung	1,130	4.9	4.4	3.5	5.9	10.3	*7.3	5.3	4.5	5.1	3.9

¹Includes races other than white and black.

Table 5. Average annual number of selected chronic digestive system conditions and rates per 1,000 persons, by age, sex, and race: United States, 1983-85

Chronic digestive condition	Number of conditions in thousands ¹	Age						Sex		Race	
		All ages	Under 18 years	18-44 years	45-64 years	65-74 years	75 years and over	Male	Female	White	Black
Gallbladder stones	974	4.2	*0.1	2.9	7.8	11.3	15.1	2.4	5.9	4.3	3.8
Liver diseases including cirrhosis	620	2.7	*0.3	2.2	5.3	7.1	*2.8	3.3	2.1	2.7	*2.7
Ulcer, gastric, duodenal and/or peptic	4,461	19.3	1.3	19.6	35.2	35.8	31.1	18.8	19.7	19.6	16.7
Hernia of abdominal cavity	4,912	21.2	4.2	9.3	40.9	73.3	72.3	22.1	20.4	23.1	11.8
Disease of the esophagus	496	2.1	*0.2	1.0	4.4	6.3	8.5	1.5	2.8	2.5	*0.1
Gastritis and duodenitis	2,737	11.8	2.9	10.5	20.7	22.3	23.6	9.3	14.1	11.8	12.1
Indigestion and other functional disorders of the stomach and digestive system	5,910	25.5	2.3	27.8	37.9	52.0	50.9	26.5	24.7	26.5	21.0
Enteritis and colitis	2,391	10.3	4.3	9.8	14.4	21.2	16.8	6.9	13.5	11.1	5.3
Spastic colon	1,321	5.7	*0.2	5.8	10.9	9.9	9.3	2.1	9.1	6.5	*0.9
Diverticula of intestines	1,881	8.1	* -	1.5	15.4	36.1	45.4	4.1	11.9	9.3	*1.0
Constipation	4,349	18.8	6.0	12.6	21.6	44.6	103.4	9.3	27.6	18.3	22.9
Other stomach and intestinal disorders	2,134	9.2	3.5	8.9	11.6	14.6	28.9	7.8	10.5	9.2	8.9
Malignant neoplasms of stomach, intestines, colon, and rectum	249	1.1	* -	*0.1	2.3	*4.2	*7.0	0.9	1.2	1.1	*0.5

¹Includes races other than white and black

Table 6. Average annual number of selected impairments and chronic conditions of the nervous system and sense organs and rates per 1,000 persons, by age, sex, and race: United States, 1983-85

Impairment and chronic condition	Number of conditions in thousands ¹	Age						Sex		Race	
		All ages	Under 18 years	18-44 years	45-64 years	65-74 years	75 years and over	Male	Female	White	Black
Rate per 1,000 persons											
Impairment											
Blindness and other visual impairments	8,172	35.3	10.1	29.9	46.4	71.8	136.3	44.4	26.8	36.3	30.2
Deafness and other hearing impairments	21,028	90.8	20.6	51.1	149.1	260.8	380.9	105.9	76.7	97.0	53.1
Speech impairments	2,360	10.2	17.2	6.3	9.1	11.0	8.2	13.7	6.9	9.1	18.2
Impairment of sensation	747	3.2	*0.2	2.5	5.2	8.1	13.0	3.3	3.1	3.6	*1.1
Mental retardation	1,086	4.7	9.9	3.4	2.3	0.8	*1.3	6.3	3.2	4.0	10.0
Absence of extremities (excludes absence of fingers or toes only)	1,794	7.7	*1.0	5.1	14.8	22.3	20.8	12.7	3.1	8.0	6.9
Absence of upper extremities	1,194	5.2	*0.8	3.4	10.2	13.8	13.4	9.0	1.6	5.5	3.1
Absence of lower extremities	600	2.6	*0.3	1.7	4.6	8.4	*7.3	3.8	1.5	2.5	3.8
Absence of lung	199	0.9	* -	*0.3	1.8	*3.5	*2.9	1.3	*0.4	1.0	*0.3
Absence of kidney	596	2.6	*0.5	2.0	5.1	5.9	*4.8	2.4	2.7	2.7	*1.6
Absence of breast	1,024	4.4	* -	*0.6	10.6	16.6	21.8	*0.3	8.3	4.9	*1.7
Absence of bone, joint, muscle, or extremity	461	2.0	*0.3	1.1	2.7	7.1	10.1	1.6	2.4	2.1	*1.6
Absence of tips of fingers, toes	402	1.7	*0.5	2.0	2.0	*2.8	*4.1	3.0	*0.6	2.0	*0.3
Paralysis of extremities, complete or partial	1,452	6.3	2.4	3.2	9.7	17.7	26.3	7.3	5.3	6.2	7.6
Paralysis of extremities, complete	650	2.8	*0.2	1.3	5.4	9.4	12.1	3.3	2.3	2.8	3.4
Paralysis of extremities, partial	802	3.5	2.2	2.0	4.3	8.3	14.2	4.0	3.0	3.4	4.2
Paralysis of, other site, complete or partial	224	1.0	*0.2	*0.7	*1.6	*2.6	*2.5	0.9	1.0	0.8	*1.9
Deformities or orthopedic impairments, total	27,954	120.7	34.9	131.2	175.4	190.8	197.8	116.7	124.5	124.3	101.9
Deformities or orthopedic impairments of back	14,065	60.7	11.3	71.4	91.1	90.0	83.3	51.7	69.2	63.5	45.3
Deformities or orthopedic impairments of upper extremities	3,108	13.4	2.0	13.3	20.6	25.9	33.0	15.8	11.2	14.3	7.9
Deformities or orthopedic impairments of lower extremities	10,459	45.2	21.0	45.2	61.6	72.8	77.8	47.8	42.7	45.2	46.4
Other deformities or orthopedic impairments	322	1.4	*0.5	1.3	2.1	*2.0	*3.7	1.4	1.4	1.3	*2.3
Cleft palate	164	0.7	*0.9	*0.6	*0.7	*0.5	*0.8	*0.7	0.7	0.8	*0.3
Condition of nervous system and sense organs											
Glaucoma	1,709	7.4	*0.5	1.8	10.2	33.1	49.9	6.5	8.2	7.2	8.9
Cataracts	5,220	22.5	*1.0	2.3	20.2	97.5	241.4	14.9	29.7	23.9	14.6
Color blindness	2,499	10.8	3.5	13.1	14.2	14.6	12.5	20.4	1.8	11.9	4.0
Diseases of retina	763	3.3	*0.3	1.5	4.4	11.7	21.2	2.6	4.0	3.6	*1.2
Tinnitus	5,760	24.9	*0.9	14.7	45.4	90.7	75.9	24.1	25.6	26.4	17.0
Epilepsy	1,043	4.5	5.0	4.8	3.7	5.1	*1.8	4.9	4.1	4.1	7.2
Migraine headache	7,739	33.4	10.0	49.4	41.3	22.0	*7.7	18.0	47.9	34.6	26.9
Other headache (excludes tension headache)	5,328	23.0	7.7	30.2	29.3	22.6	21.6	14.5	30.9	23.1	21.6
Multiple sclerosis	151	0.7	* -	*0.7	*1.5	*0.2	*0.9	*0.4	0.9	0.7	*0.3

¹Includes races other than white and black

Table 7. Average annual number of selected chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue and rates per 1,000 persons, by age, sex, and race: United States, 1983-85

Chronic condition	Number of conditions in thousands ¹	Age						Sex		Race	
		All ages	Under 18 years	18-44 years	45-64 years	65-74 years	75 years and over	Male	Female	White	Black
		Rate per 1,000 persons									
Condition of skin and subcutaneous tissue											
Sebaceous skin cyst	1,563	6.8	1.9	8.8	9.2	6.9	*5.8	7.3	6.2	7.6	*1.9
Acne	4,608	19.9	26.7	28.3	3.1	*1.0	* -	18.2	21.5	20.6	15.7
Psoriasis	2,168	9.4	2.4	8.8	14.8	23.4	11.8	9.6	9.2	10.5	*2.6
Dermatitis	8,977	38.8	40.2	41.8	34.6	29.9	32.9	30.4	46.6	40.3	28.5
Dry (itching) skin, not elsewhere classified	4,020	17.4	8.6	17.5	21.3	31.9	29.9	15.2	19.4	18.1	13.2
Chronic ulcer of skin	211	0.9	*0.1	*0.5	*1.2	*1.5	8.1	0.8	1.1	1.0	*0.6
Ingrown nails	5,023	21.7	7.3	21.2	28.9	40.3	53.6	19.5	23.7	22.7	17.0
Corns and calluses	4,828	20.9	*1.2	17.8	37.3	43.6	63.2	14.1	27.1	19.6	32.2
Benign neoplasms of the skin	704	3.0	*1.2	3.0	4.2	5.6	*5.0	2.6	3.4	3.4	*0.9
Malignant neoplasms of the skin	1,287	5.6	*0.1	1.7	12.0	21.9	22.5	7.1	4.1	6.5	* -
Condition of musculoskeletal system and connective tissue											
Arthritis	30,318	130.9	2.3	52.4	279.4	459.7	507.7	95.2	164.3	135.8	15.3
Rheumatism, unspecified	520	2.2	*0.1	1.2	4.5	5.9	10.0	1.8	2.6	2.2	*1.7
Sciatica (including lumbago)	1,181	5.1	* -	4.0	9.3	16.3	11.2	3.5	6.6	5.7	*1.7
Intervertebral disc disorders	3,927	17.0	*0.2	15.2	37.7	36.1	16.2	18.9	15.2	18.0	12.2
Bone spur or tendinitis, not otherwise specified	1,723	7.4	*0.7	6.1	16.1	15.7	11.6	6.0	8.8	8.5	*1.4
Disorders of bone or cartilage	1,250	5.4	1.9	3.0	7.8	15.1	24.3	3.6	7.1	5.9	*2.6
Bunions	2,318	10.0	*0.8	6.6	19.4	24.7	35.5	3.8	15.8	10.1	11.1
Bursitis, not elsewhere classified	4,684	20.2	*0.5	15.3	47.5	42.8	34.4	16.7	23.5	21.6	12.3

¹Includes races other than white and black

Table 8. Average annual number of selected chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood forming organs; and genitourinary conditions, and rates per 1,000 persons, by age, sex, and race: United States, 1983-85

Chronic condition	Number of conditions in thousands ¹	Age						Sex		Race	
		All ages	Under 18 years	18-44 years	45-64 years	65-74 years	75 years and over	Male	Female	White	Black
Rate per 1,000 persons											
Endocrine, nutritional, and metabolic disease and immunity disorder											
Gout	2,289	9.9	* -	3.4	21.5	39.1	35.5	13.6	6.4	9.7	12.5
Goutier.	440	1.9	*0.1	1.5	4.1	*3.1	*5.4	*0.4	3.3	2.0	*1.5
Other diseases of the thyroid	2,532	10.9	*1.0	8.9	22.0	23.7	23.4	2.7	18.6	11.6	7.3
Diabetes	5,933	25.6	1.7	9.0	54.4	97.9	91.8	22.3	28.7	24.3	37.1
Diseases of the blood and blood forming organs											
Anemias	3,482	15.0	9.6	17.1	14.9	17.0	26.7	4.8	24.6	14.1	24.1
Genitourinary conditions											
Kidney stones	1,037	4.5	*0.4	3.8	10.1	8.6	*5.4	5.4	3.6	4.7	3.1
Kidney infections.	1,364	5.9	2.0	7.3	7.2	5.4	11.4	1.5	10.0	6.0	5.8
Other kidney trouble, not elsewhere classified	1,022	4.4	1.7	3.0	6.2	10.6	17.2	3.4	5.4	4.1	7.2
Bladder infections	1,888	8.2	2.2	9.9	10.5	9.5	16.1	1.5	14.4	8.9	4.1
Other disorders of bladder.	1,979	8.5	1.9	6.6	11.0	22.1	35.7	3.8	13.0	8.4	9.8
Diseases of prostate	1,218	5.3	* -	2.4	9.5	19.5	24.4	10.9	...	5.7	3.2
Inflammatory disease of female genital organs	425	1.8	*0.2	3.6	*0.8	*1.3	*1.1	...	3.5	1.9	*1.6
Noninflammatory disease of female genital organs.	1,020	4.4	*0.2	8.5	3.0	*2.1	*0.4	...	8.5	4.6	3.7
Menstrual disorders	1,513	6.5	2.0	12.3	4.0	*0.2	* -	...	12.6	6.6	6.9
Other diseases of female genital organs	2,096	9.1	3.3	14.2	7.9	*4.3	*7.0	...	17.5	9.3	8.5
Female trouble, not otherwise specified	199	0.9	* -	1.5	*0.6	*1.3	* -	...	1.7	0.8	*1.0
Malignant neoplasm of breast	451	1.9	* -	*0.5	4.4	7.4	8.2	...	3.8	2.0	*1.3
Malignant neoplasm of female genital organs.	185	0.8	*0.1	1.1	*1.2	*1.0	*0.4	...	1.5	0.8	*0.6
Malignant neoplasm of prostate	95	0.4	* -	* -	*0.5	*2.4	*3.3	0.8	...	*0.3	*0.9
Benign neoplasm of breast	98	0.4	* -	*0.5	*0.4	*0.7	*1.7	...	0.8	0.5	*0.1
Benign neoplasm of female genital organs	511	2.2	* -	3.3	3.8	*0.7	*0.3	...	4.3	2.2	2.9

¹Includes races other than white and black

Table 9. Population used in computing rates shown in this report by age, sex, and race: United States, 1983-85

<i>Age, sex, and race</i>	<i>Population in thousands</i>
All persons ¹	231,550
Age	
Under 18 years	62,651
18-44 years	98,120
45-64 years	44,323
65-74 years	16,341
75 years and over	10,115
Sex	
Male	111,799
Female	119,751
Race	
White	197,875
Black	27,734

¹Includes races other than white and black

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, 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 were published previously (NCHS, 1985). 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.

The relatively small size of the sample for the chronic condition lists, one-sixth of the total sample per year, limits the number of variables with which the data can be effectively analyzed.

An asterisk is placed beside certain figures to indicate more than 30-percent relative standard error. Figures

NOTE: A list of references follows the text.

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.

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 ± 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.

Approximate standard errors for estimates in this report are shown in table I.

Table I. Standard errors for numbers of chronic conditions: United States, 1983-85

<i>Number of conditions in thousands</i>	<i>Standard errors in thousands</i>
50	18.9
100	26.8
500	59.9
1,000	84.7
5,000	190.3
10,000	270.6
20,000	386.8
30,000	478.7

Note: Table I shows standard errors associated with various numbers of chronic conditions. To estimate standard errors for rates of chronic conditions per 1,000 population, the rates must be converted to numbers of conditions by multiplying the rate by the base population to which it applies and dividing the result by 1,000. For instance, the rate of chronic bronchitis in the white population is 50.9 per 1,000 persons. This yields an estimated 10,072,000 cases of chronic bronchitis among white individuals (50.9 X 197,875,000/1,000). Thus, the standard error lies between 270,600 and 386,800 cases. Expressed as a percentage of the base number or rate, the standard error lies between 2.7 percent (270,600/10,072,000) and 3.8 percent (386,800/10,072,000). Likewise, to estimate standard errors for the percent of chronic conditions resulting in hospitalization or restricted activity, the number of conditions with those results must be calculated by multiplying the percent times the base number of conditions to which it refers. The standard error then can be estimated using table I, as in the preceding example.

Utilization of Short-Stay Hospitals by Patients With AIDS: United States, 1984-86

by Edmund J. Graves, Division of Health Care Statistics

Introduction

The number of cases of acquired immunodeficiency syndrome (AIDS) reported to the Centers for Disease Control (CDC) has increased each year since 1984. In 1984, 4,445 cases of AIDS were reported to CDC; in 1985, 8,249 new cases were reported, an increase of 86 percent. In 1986, 12,932 new cases of AIDS were reported, an increase of 57 percent from 1985 (CDC, 1986).

During 1986 an estimated 37,000 patients with AIDS were discharged from short-stay non-Federal hospitals (table 1). These patients were hospitalized an average of 16.2 days per episode and used 606,000 days of inpatient hospital care. This is the third year that records have been available on AIDS patients, and each year has shown a substantial gain in the number of AIDS discharges. In 1984 there were about 10,000 AIDS discharges; in 1985 this figure rose to 23,000—an increase of about 122 percent. In 1986 the number of AIDS discharges rose to 37,000—an increase of 66 percent from 1985. Thus during the period 1984-86, 70,000 patients were discharged with a diagnosis of AIDS. These patients used more than 1 million days of hospital care.

The statistics presented in this report are based on data collected by means of the National Hospital Discharge Survey (NHDS), a continuous survey that has been conducted by the National Center for Health Statistics

(NCHS) since 1965. The data for the survey are obtained from a sample of short-stay general and specialty hospitals located in the United States. Approximately 192,000 abstracts of medical records were obtained from 407 participating hospitals in 1984, and 195,000 abstracts were supplied by 414 hospitals in 1985. In 1986, 193,000 abstracts were supplied by 418 hospitals. A detailed report on the design of NHDS was published in 1970 (NCHS, 1977).

The NHDS diagnostic data were coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification*, or ICD-9-CM (Public Health Service and Health Care Financing Administration, 1980). Only the 433 records having a specific diagnosis of AIDS were included in this analysis. (See the Technical notes for specific ICD-9-CM codes used.) Unless the year is specified, data in this report are for the 3 years of data combined because of the relatively small number of cases in the sample. In addition, comparisons are made in this report with NHDS estimates of general hospital utilization for 1984-86. These estimates have been published elsewhere (NCHS, 1986, 1987, 1988). In NHDS, the unit of analysis is the hospital discharge, not the individual. Individuals may have one or more hospital episodes during a year. In this report, the terms "discharge" and "patient" are used interchangeably.

Table 1. Selected measures of hospital utilization for patients discharged from short-stay non-Federal hospitals with the diagnosis of acquired immunodeficiency syndrome (AIDS): United States, 1984-86

Measure of utilization	1984	1985	1986
Number of patients discharged in thousands	10	23	37
Rate of patient discharges per 10,000 population	0.4	1.0	1.6
Number of days of care in thousands	123	387	606
Rate of days of care per 10,000 population	5.2	16.3	25.3
Average length of stay in days	12.1	17.1	16.2

Highlights

- There were approximately 37,000 discharges for AIDS in 1986. This number is more than 200 percent greater than the 10,000 discharges recorded in 1984.
- About three-fourths of all discharges for AIDS were in the West and Northeast Regions.
- For about 23 percent of all patients with AIDS discharged from short-stay hospitals, Medicaid was the expected source of payment.
- About 18 percent of all patients with AIDS died in short-stay hospitals; however, less than 1 percent of all male patients 25-44 years of age died during a hospitalization.
- Of the 70,000 patients having at least one diagnosis for AIDS, 22,000 had pneumocystosis as one of their diagnoses.

Utilization

Patient and hospital characteristics

The number of discharges, days of care and average length of stay of patients with AIDS for 1984-86 are provided in table 2. Of the estimated 70,000 discharges, 95 percent were males and 79 percent were 25-44 years of age. Of the 56,000 AIDS patients 25-44 years of age, 20 percent were 25-29 years of age, 32 percent were 30-34 years, 27 percent were 35-39 years, and 21 percent were 40-44 years. Most of the remaining 14,000 patients were 45 years of age and over.

Approximately 77 percent of hospitalizations for AIDS were in the West and Northeast Regions (table 3). Forty-two percent were in the West and 35 percent in the Northeast. Among all patients, only about 40 percent were discharged from these two regions, 20 percent from the Northeast Region and 18 percent from the West Region.

The two most commonly mentioned principal expected sources of payment for AIDS patients were private insur-

ance and Medicaid. Approximately 54 percent of hospital patients with AIDS indicated private insurance as the principal source of payment, and 23 percent indicated Medicaid. These figures were significantly different from the distribution for all patients under 65 years of age. A higher proportion (64 percent) of the total discharges under 65 years of age indicated private insurance as the principal source of payment, and a lower proportion listed Medicaid (13 percent).

Patients hospitalized for AIDS and all patients discharged from short-stay hospitals were equally likely to have been discharged from nonprofit hospitals. Approximately 71 percent of those hospitalized for AIDS and 69 percent of all hospitalized patients were discharged from nonprofit hospitals. Of the remaining AIDS patients, 26 percent were discharged from government hospitals while 21 percent of all patients were discharged from government hospitals.

Persons with AIDS were more likely to be hospitalized in larger hospitals (300 beds or more) than in hospitals having less than 300 beds. About 82 percent of AIDS patients, but only 48 percent of all patients, were discharged from hospitals with 300 beds or more.

A larger proportion of AIDS discharges (25 percent) than of total discharges (15 percent) were for patients with race listed as other than white.

As expected, a large number of AIDS hospitalizations were terminated by the patient dying in the hospital. Approximately 18 percent of AIDS hospitalizations ended with the death of the patient. In comparison, less than 1 percent of all male hospitalizations in the age group 25-44 years ended in the patient's death.

Diagnosis

Approximately 70,000 of the 106 million patients discharged from short-stay non-Federal hospitals during the period 1984-86 had at least one diagnosis of AIDS. Of these discharges, AIDS was the first-listed or principal diagnosis for 26,000 (37 percent). The only significant

Table 2. Number and percent distribution of discharges and of days of care and average length of stay for patients 25-45 years and over discharged from non-Federal short-stay hospitals with the diagnosis of acquired immunodeficiency syndrome (AIDS) by sex and age: United States, 1984-86

<i>Sex and age</i>	<i>Discharges</i>		<i>Days of care</i>		<i>Average length of stay in days</i>
	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Number in thousands</i>	<i>Percent distribution</i>	
Total	70	100.0	1,116	100.0	15.9
<i>Sex</i>					
Male	66	94.5	1,051	94.1	15.8
Female	*	*	*	*	*
<i>Age</i>					
Under 25 years	*	*	*	*	*
25-29 years	11	16.0	169	15.1	15.0
30-34 years	18	25.4	312	28.0	17.5
35-39 years	15	21.2	258	23.1	17.4
40-44 years	12	16.7	155	13.9	13.3
45 years and over	11	15.8	174	15.6	15.7

Table 3. Number and percent distribution of discharges and days of care for patients with acquired immunodeficiency syndrome (AIDS), percent distribution of discharges and days of care for all patients, and average length of stay for AIDS patients by selected characteristics: United States, 1984-86

Characteristics	Discharges			Days of care			
	Patients with AIDS		Percent distribution for all patients	Patients with AIDS		Percent distribution for all patients	Average length of stay in days for AIDS patients
	Number in thousands	Percent distribution		Number in thousands	Percent distribution		
Total	70	100.0	100.0	1,116	100.0	100.0	15.9
Geographic region							
Northeast	25	35.1	20.2	505	45.3	23.9	20.5
Midwest	*7	*9.7	26.2	*114	*10.2	27.2	*16.8
South	*9	*12.7	35.3	*141	*12.7	33.2	*15.8
West	30	42.4	18.2	355	31.8	15.5	11.9
Principal expected source of payment ¹							
Private insurance	38	54.0	63.8	547	49.0	61.3	14.4
Medicare	*	*	5.6	*	*	8.6	*
Medicaid	16	22.8	13.1	269	24.1	13.4	16.8
All other	14	19.8	17.4	263	23.6	16.7	18.9
Ownership of hospital							
Nonprofit	50	71.0	68.7	760	68.0	70.9	15.2
Proprietary	*	*	9.9	*	*	9.5	*
Government	18	25.5	21.4	300	26.9	19.6	16.8
Bed size of hospital							
Less than 300 beds	12	17.6	52.4	200	18.0	47.8	16.2
300 beds or more	58	82.4	47.6	916	82.0	52.2	15.8
Discharge status							
Alive	57	81.3	96.0	824	73.8	93.6	14.4
Dead	13	17.9	2.7	279	25.0	5.0	22.2
Not stated	*	*	1.3	*	*	1.4	*
Race							
White	49	69.4	75.3	638	57.1	76.1	13.1
All other	17	24.9	14.6	364	32.6	15.1	20.8
Not stated	*	*	10.0	*	*	8.8	*

¹For patients under 65 years of age.

first-listed non-AIDS diagnosis for these patients was pneumocystis carinii pneumonia, also known as PCP, which had an estimated 11,000 first-listed diagnoses, or 16 percent of the principal diagnoses. The other principal diagnoses were divided into numerous diseases.

Approximately 258,000 additional diagnoses were listed for patients with at least one diagnosis of AIDS during the period 1984-86. Of these, pneumocystis carinii pneumonia, with 22,000 (8.5 percent), was the leading diagnosis. In fact almost one-third of all AIDS patients had a diagnosis of PCP. Other leading additional diagnoses for patients with AIDS were malignant neoplasms (17,000), anemias (16,000), and candidiasis (15,000).

Procedures

Approximately 46,000 of the AIDS discharges in 1984-86 (66 percent) had at least one procedure performed. For the same period, approximately 58 percent of all patients had at least one procedure performed. Approximately 99,000 procedures were performed on patients who had at least one diagnosis of AIDS. Of these procedures, five were performed at least 5,000 times. These were diagnostic procedures on the bronchus and lung (18,000); computerized axial tomography, or CAT scan (9,000); spinal tap (9,000); circulatory monitoring (6,000); and puncture of vessel (5,000).

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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

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 of newborn infants are excluded from this report.

The original universe of the survey consisted of 6,965 hospitals contained in the National Master Facility Inventory of Hospitals and Institutions. New hospitals were sampled for inclusion in the survey in 1972, 1975, 1977, 1979, 1981, and 1983. In all, 553 hospitals were sampled in 1984, and 558 were sampled in 1985 and 1986. In 1984 there were a total of 407 hospitals in the sample, with 86 refusals and 60 out of scope; in 1985 there were 414 hospitals in the sample, with 62 refusals and 62 out of scope; and in 1986 there were 418 in the sample, with 75 refusals and 65 out of scope. The number of records sampled was 192,000 in 1984, 195,000 in 1985, and 193,000 in 1986.

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 24 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 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 selection and data abstraction. The second involved the purchase of data tapes from commercial abstracting services. In 1986 this automated method was used in approximately 19 percent of the sample hospitals.

In hospitals for which the manual system was used, sample discharges were selected using the daily listing sheet of discharges as the sampling frame. These discharges were selected by a random technique, usually on the basis of the terminal digit or digits of the patient's medical record number. The sample selection and abstraction of data from the face sheet and discharge summary 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 hospitals for which the automated system is used, tapes containing machine-readable medical record data are purchased from commercial abstracting services. These tapes are subject to NCHS sampling, editing, and weighting procedures. A detailed description of the automated process will be published.

The medical abstract form and the abstract service data tapes contain items relating to the personal characteristics of the patient, including birth date, 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 operations or procedures. Since 1977, patient ZIP Code, expected source of payment, and dates of surgery have also been collected. (The identification of a hospital, the medical record number, and patient ZIP Code are considered confidential information and are not available to the public.)

Presentation of estimates

NHDS statistics are derived by a complex estimating procedure. The estimating procedure used to produce essentially 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 and 1967b).

Based on 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.

Sampling 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 for discharges are shown in table I. The relative standard errors for days of care are shown in table II.

NOTE: A list of references follows the text.

Table I. Approximate relative standard errors of estimated numbers of discharges for selected patient and hospital characteristics: United States, 1984-86

Size of estimate	Number of discharges		
	Region	Bed size 50 beds or more	All other characteristics
5,000	20.3	14.5	11.7
10,000	16.6	11.7	8.7
15,000	13.8	10.4	7.7
20,000	12.4	9.6	7.1
30,000	11.6	8.6	6.3
50,000	11.0	7.6	5.5
100,000	9.4	6.5	4.7

Table II. Approximate relative standard errors of estimated numbers of days of care for selected patient and hospital characteristics: United States, 1984-86

Size of estimate	Number of days of care	
	Region	All other characteristics
10,000	30.6	19.3
20,000	26.1	15.8
30,000	23.8	14.1
50,000	21.3	12.2
100,000	18.4	10.1
200,000	15.9	8.4
300,000	14.7	7.5
500,000	13.3	6.6
1,000,000	11.7	5.5
2,000,000	10.4	4.6

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

Tests of significance

The determination of statistical inference for this report was based on the two-tailed Bonferroni test for multiple comparisons. Terms relating to differences, such as "higher" and "less," indicate that the differences are statistically significant. Terms such as "similar" or "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

Terms relating to hospitals and hospital characteristics

Hospitals—Short-stay special and general hospitals have six beds or more for inpatient use and an average length of stay of less than 30 days. Federal hospitals and hospital units of institutions are not included.

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. In this report the classification of hospitals by bed size reported by the hospitals is based on the number of beds at or near midyear.

Type of ownership of hospital—The type of ownership is determined by the organization that controls and operates the hospital. Hospitals are grouped as follows:

Voluntary nonprofit—Hospitals operated by a church or another nonprofit organization.

Government—Hospitals operated by State or local governments.

Proprietary—Hospitals operated for profit by individuals, partnerships, or corporations.

Patient—A person who is formally admitted to the inpatient service of a short-stay hospital for observation, care, diagnosis, or treatment is considered a patient. In this report the number of patients refers to the number of discharges during the year, including any multiple discharges of the same individual from one short-stay hospital or more. The terms "patient" and "inpatient" are used synonymously.

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

Days of care—The total number of patient days accumulated at time of discharge by patients discharged from short-stay hospitals during a year constitutes days of care. A stay of less than 1 day (patient admission and discharge on the same day) is counted as 1 day in the summation of total days of care. For patients admitted and discharged on different days, the number of days of care is computed by counting all days from (and including) the date of admission to (but not including) the date of discharge.

Average length of stay—The average length of stay is the total number of patient days accumulated at time of discharge by patients discharged during the year divided by the number of patients discharged.

Discharge diagnosis—One or more diseases or injuries (or other factors that influence health status and contact with health services but are not themselves current illnesses or injuries) listed by the attending physician on the medical record of patients are discharge diagnoses. In NHDS all discharge (or final) diagnoses listed on the face sheet (summary sheet) of the medical record for patients discharged from the inpatient service of short-stay hospitals are transcribed in the order listed. Each sample discharge is assigned a maximum of seven 5-digit codes according to the ICD-9-CM. The number of principal or first-listed diagnoses is equivalent to the number of discharges.

The ICD-9-CM code used for coding the diagnosis AIDS was 279.19 for the period 1984-86. During 1986 the ICD-9-CM codes for AIDS were changed to 042.0, 042.1, 042.2, and 042.9 to provide expanded detail (American Medical Record Association, 1983).

NOTE: A list of references follows the text.

Principal diagnosis—The condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care is called the principal diagnosis.

First-listed diagnosis—The coded diagnosis that is identified as the principal diagnosis or listed first on the face sheet of the medical record is the first-listed diagnosis. The number of first-listed diagnoses is equivalent to the number of discharges.

All-listed diagnoses—All-listed diagnoses are the discharge (or final) diagnoses, up to a maximum of seven, listed on the face sheet of the medical record for inpatients discharged from non-Federal short-stay hospitals during the year.

Procedures—Procedures are one or more surgical or nonsurgical operations, procedures, or special treatments assigned by physicians to patients discharged from the inpatient service of short-stay hospitals. In NHDS all terms listed on the face sheet (summary sheet) of the medical record under the captions “operation,” “operative procedures,” “operations and/or special treatment,” and the like are described in the order listed. A maximum of four procedures are coded.

Demographic terms

Age—Patient’s age refers to age at birthday prior to admission to the hospital inpatient service.

Race—Patients are classified into two groups, “white” and “all other.” The all other classification includes all categories other than white.

Geographic region—Hospitals are classified by location in one of the four geographic regions of the United States that correspond to those used by the U.S. Bureau of Census.

<i>Region</i>	<i>States included</i>
Northeast	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania
Midwest	Michigan, Ohio, Illinois, Indiana, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas
South	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas
West	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Hawaii, and Alaska

Suggested citation

National Center for Health Statistics, E. J. Graves.
1988. Utilization of short-stay hospitals by patients
with AIDS: United States, 1984–1986. *Advance Data
From Vital and Health Statistics*. No. 156. DHHS
Pub. No. (PHS) 88–1250. Public Health Service.
Hyattsville, Md.

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Health of the Foreign-Born Population: United States, 1985-86

by Gerry E. Hendershot, Ph.D., Division of Health Interview Statistics

Introduction

Foreign-born persons constitute a large and growing proportion of the U.S. population. Their origins are diverse, but they share the common experience of having migrated to the United States from another nation. That common experience and the ethnic diversity it encompasses may have implications for the health status and medical care utilization of the foreign-born population.

In 1985, the National Center for Health Statistics, by means of the National Health Interview Survey (NHIS), began collecting information on the birthplace of adult persons 18 years of age and over in its sample households, making it possible for the first time to estimate a wide range of national health statistics for the foreign-born population. Two years of data (1985 and 1986) were combined to make reliable estimates because the 1985 NHIS sample was only three-fourths as large as originally planned, and the 1986 sample was only one-half as large (for budgetary reasons). The purpose of this report is to present such estimates for the following selected indicators of health status and health care: respondent-assessed general health; limitation of normal activities due to a chronic health condition; days in bed due to health conditions; hospitalization; and physician contacts.

Immigrants from different origins have different characteristics. The statistics in this report are for all foreign-born persons, foreign-born persons of Mexican ethnic origin, and foreign-born persons of all Hispanic ethnic origins (Mexican and other Hispanic). However, reliable estimates could not be made for foreign-born persons of other specific ethnic origins because of the relatively small sizes of the samples of those persons.

For comparison, health statistics also are shown for the U.S.-born population according to Hispanic and Mexican origin. In the discussion that follows, the focus is on two comparisons—that between the total U.S.-born population

and the total foreign-born population and that between the total U.S.-born population and the foreign-born population of Mexican origin. Of course, many other comparisons can be made with the data that are presented.

Unless otherwise indicated, differences between the U.S.-born and foreign-born populations discussed in this report have been tested and found to be statistically significant. It should be noted that many factors affect health status and health care. Therefore, any differences between the U.S.-born and foreign-born populations in these respects may not be the result of differences in birthplace but may be the result of other factors not considered here. A brief discussion of statistical reliability and other aspects of the NHIS design is presented in the Technical notes to this report.

Characteristics of the foreign-born population

Table 1 shows the number and selected sociodemographic characteristics of the U.S.-born and the foreign-born adult, civilian noninstitutionalized populations. "U.S. born" means born in one of the 50 U.S. States and "foreign born" means born outside the 50 U.S. States. The categories of birthplace do not necessarily correspond to categories of citizenship or legal status, for which data were not available in the NHIS. Classification of persons as "Hispanic" or "Mexican" was based on responses to a question that asked if the sample person's national origin or ancestry corresponded to any of those on a printed list of Hispanic origin groups. Persons were classified as Hispanic if their national origin or ancestry was Puerto Rican, Cuban, Mexican/Mexicano, Chicano, other Latin American, or other Spanish. They were further classified as Mexican if their national origin was Mexican/Mexicano, or Chicano. As used in this report, the term origin refers to Hispanic or Mexican origin as determined in this manner.

Table 1. Number of persons 18 years of age and over and percent distribution by age, sex, education, and annual family income, according to birthplace and Hispanic origin: United States, 1985-86

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

Characteristic	U.S. born			Foreign born		
	Total ¹	Hispanic		Total ¹	Hispanic	
		Total ²	Mexican		Total ²	Mexican
Number in thousands ³ . . .	156,584	5,706	4,190	14,876	5,228	2,036
Age	Percent distribution					
18-44 years.	58.2	75.1	77.3	59.2	69.1	76.5
45-64 years.	26.0	19.0	17.8	24.5	21.4	16.1
65 years and over	15.8	5.8	5.0	16.3	9.5	7.4
Sex						
Male	47.3	46.6	46.9	47.5	49.3	54.3
Female	52.7	53.4	53.1	52.5	50.7	45.7
Education						
Less than 12 years	23.3	32.5	36.2	35.5	52.9	73.3
12 years.	40.0	38.6	37.4	28.2	24.2	15.8
More than 12 years.	36.6	29.0	26.4	36.3	22.9	10.9
Annual family income						
Less than \$20,000	40.0	46.0	48.2	47.0	58.0	67.0
\$20,000 or more	60.0	54.0	51.8	53.0	42.0	33.0

¹Includes persons of unknown Hispanic origin.

²Includes persons of unknown Mexican origin.

³Includes persons with unknown education and family income.

It should be noted that the classification of birthplace and origin is based on information given by household respondents.

Adjusting by the immigration that occurred in the early 1980's, the 1985-86 NHIS estimate for the total foreign-born adult population—about 14.9 million—is consistent with the number enumerated in the 1980 Census of Population—14.1 million (U.S. Bureau of the Census, 1980). For the foreign-born population of Mexican origin, however, the NHIS estimate—about 2.0 million (with a sampling error of about 0.1 million)—is slightly lower than the number enumerated in the 1980 census—2.2 million. Because the actual foreign-born population of Mexican origin is believed to have increased in the early 1980's, this suggests that the NHIS sample underestimates that population. There is no known reason to believe, however, that the possible underestimate creates a bias in the health statistics for the foreign-born population of Mexican origin presented in this report.

Table 1 also shows that, as a whole, the foreign-born population is similar to the U.S.-born population with respect to age and sex distributions but differs with respect to education and income: Compared with the U.S.-born population, foreign-born persons are more likely to have less than 12 years of education and more likely to have a family income below \$20,000 per year.

Comparing the U.S.-born population with the foreign-born population of Mexican origin, the only immigrant group identified by a specific origin in this report, foreign-born persons of Mexican origin are younger, more likely to be male, much more likely to have less than a high school

education, and more likely to have a family income under \$20,000. Because the foreign-born adult population, especially that of Mexican origin, differs from the U.S.-born adult population with respect to these sociodemographic characteristics, the health statistics in tables 2-6 are stratified by these variables.

Respondent assessed health status

Table 2 shows the percent of persons 18 years of age and over who were reported to have been in fair or poor health, based on answers to the question: "Would you say (the sample person's) health is excellent, very good, good, fair, or poor?" Overall, the foreign-born and the U.S.-born populations were equally likely to have been in fair or poor health—12.9 percent. However, foreign-born persons with less than 12 years of education and those with a family income below \$20,000 were less likely than U.S.-born persons of similar education and income to have been in fair or poor health.

Comparing the foreign-born population of Mexican origin with the U.S.-born population, the same statements can be made, but the differences are larger; that is, foreign-born persons of Mexican origin who were less well-educated or who had lower incomes were much less likely than U.S.-born persons with those characteristics to have been in fair or poor health.

Table 2. Percent of persons 18 years of age and over who were in fair or poor health, by age, sex, education, and annual family income, according to birthplace and Hispanic origin: United States, 1985-86

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

Characteristic	U.S. born			Foreign born		
	Total ¹	Hispanic		Total ¹	Hispanic	
		Total ²	Mexican		Total ²	Mexican
Age						
18 years and over	12.9	13.0	13.3	12.9	14.3	13.0
18-44 years.	5.7	8.6	9.3	5.5	7.3	6.6
45-64 years.	18.4	22.7	25.1	17.5	25.6	28.9
65 years and over	30.3	37.7	34.6	33.0	39.4	43.9
Sex						
Male	11.9	11.1	11.4	11.0	11.4	11.5
Female	13.8	14.6	15.1	14.6	17.1	14.8
Education						
Less than 12 years	29.0	24.7	24.2	21.4	18.4	13.7
12 years.	10.4	9.5	8.8	10.2	11.7	13.5
More than 12 years.	5.2	4.1	4.7	6.2	7.1	6.1
Annual family income						
Less than \$20,000	22.1	21.1	21.4	17.9	17.6	12.8
\$20,000 or more	6.7	5.7	5.2	8.5	9.5	11.9

¹Includes persons of unknown Hispanic origin.

²Includes persons of unknown Mexican origin.

Limitation in activity

Table 3 shows the percent of persons who were reported to have been limited in normal activities because of a chronic health condition. In every category of every

Table 3. Percent of persons 18 years of age and over who were limited in activity by age, sex, education, and annual family income, according to birthplace and Hispanic origin: United States, 1985-86

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

Characteristic	U.S. born			Foreign born		
	Total ¹	Hispanic		Total ¹	Hispanic	
		Total ²	Mexican		Total ²	Mexican
Age						
18 years and over	17.6	13.2	12.1	13.2	12.5	8.9
18-44 years.	8.9	8.3	8.0	5.4	5.7	3.9
45-64 years.	23.8	23.7	21.6	17.2	21.9	18.3
65 years and over	39.6	42.0	42.0	11.7	41.5	40.4
Sex						
Male	16.9	12.7	11.8	11.9	10.5	7.4
Female	18.2	13.7	12.3	14.4	14.5	10.7
Education						
Less than 12 years	31.5	22.3	20.2	20.0	15.5	9.8
12 years.	14.7	9.9	8.0	10.7	9.5	7.3
More than 12 years.	11.7	7.3	6.9	7.9	8.6	6.3
Annual family income						
Less than \$20,000	26.7	19.8	18.4	17.1	14.5	9.4
\$20,000 or more	11.7	7.7	6.4	9.5	9.8	7.7

¹Includes persons of unknown Hispanic origin.
²Includes persons of unknown Mexican origin.

variable considered in table 3, the foreign-born population was less likely than the comparable U.S.-born population to have had a limitation of activity.

The same pattern of differences is found when comparing the foreign-born population of Mexican origin and the U.S.-born population: In most categories, foreign-born persons of Mexican origin were less likely than U.S.-born persons to have had a limitation of activity. (The exceptions are persons 45 years of age and over and those with more than 12 years of education, among whom the U.S.-born population and the foreign-born population of Mexican origin did not differ significantly.)

Bed days

Table 4 shows the percent of persons who had 4 days or more during the year before interview when they stayed in bed for more than one-half of the day because of a health condition. Four bed days per year is more than the average for the U.S. population. With the exception of persons 45 years of age and over, foreign-born persons in every category shown were significantly less likely than U.S.-born persons to have had 4 bed days or more.

Comparing the foreign-born population of Mexican origin with the U.S.-born population, the same pattern of differences was found. The differences, where they existed, were even larger: Foreign-born persons of Mexican origin were much less likely than U.S.-born persons with similar socioeconomic characteristics to have had 4 bed days or more in the year before interview (although the difference is not statistically significant for those with 12 years of education).

Table 4. Percent of persons 18 years of age and over who had 4 bed days or more in the last year, by age, sex, education, and annual family income, according to birthplace and Hispanic origin: United States, 1985-86

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

Characteristic	U.S. born			Foreign born		
	Total ¹	Hispanic		Total ¹	Hispanic	
		Total ²	Mexican		Total ²	Mexican
Age						
18 years and over	22.8	22.6	21.9	18.8	17.6	13.6
18-44 years.	22.4	21.8	21.5	15.6	14.0	10.6
45-64 years.	21.7	23.4	21.4	20.7	23.1	20.5
65 years and over	26.3	30.9	29.9	27.6	31.8	30.2
Sex						
Male	18.5	18.0	17.1	15.3	12.3	10.4
Female	26.8	26.6	26.2	22.0	22.8	17.4
Education						
Less than 12 years	27.1	25.3	24.3	20.9	17.8	13.8
12 years.	21.3	19.9	19.6	18.9	19.6	16.1
More than 12 years.	21.9	23.2	22.1	16.6	14.9	9.8
Annual family income						
Less than \$20,000	26.9	24.7	24.3	20.5	17.9	13.1
\$20,000 or more	20.5	20.3	19.3	17.7	17.4	15.2

¹Includes persons of unknown Hispanic origin.
²Includes persons of unknown Mexican origin.

Hospital stays

Table 5 shows the percent of persons who were hospitalized overnight on one occasion or more during the 12 months before interview. In every category shown, the foreign-born population was less likely than the comparable

Table 5. Percent of persons 18 years of age and over who had 1 or more hospital stays in the last year, by age, sex, education, and annual family income, according to birthplace and Hispanic origin: United States, 1985-86

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

Characteristic	U.S. born			Foreign born		
	Total ¹	Hispanic		Total ¹	Hispanic	
		Total ²	Mexican		Total ²	Mexican
Age						
18 years and over	10.8	9.7	9.7	9.5	10.0	8.9
18-44 years.	9.0	9.5	9.8	8.1	9.5	8.8
45-64 years.	10.5	8.2	7.5	7.8	7.7	6.3
65 years and over	18.1	17.7	17.5	17.0	18.4	15.6
Sex						
Male	8.6	5.5	4.8	7.0	5.6	4.2
Female	12.8	13.4	14.1	11.8	14.2	14.5
Education						
Less than 12 years	15.0	11.7	11.6	11.6	10.1	9.2
12 years.	10.2	9.2	8.7	10.0	10.9	9.8
More than 12 years.	8.8	8.2	8.7	7.1	8.5	6.2
Annual family income						
Less than \$20,000	13.5	11.7	11.5	10.4	10.3	8.8
\$20,000 or more	9.1	7.7	7.7	8.6	9.3	9.0

¹Includes persons of unknown Hispanic origin.
²Includes persons of unknown Mexican origin.

U.S.-born population to have been hospitalized. However, most of the differences were small, and for some categories, they were not statistically significant—persons 65 years of age and over, females, persons with 12 years of education, and those with family incomes of \$20,000 or more.

The same pattern of differences is found when the comparisons are made between the U.S.-born population and the foreign-born population of Mexican origin, although the differences, because smaller, are statistically significant only for some categories—males, persons with less than 12 years of education, and those with family incomes under \$20,000.

Physician contacts

Table 6 shows the percent of persons with six physician contacts or more (visit or telephone call with a doctor or health care provider working under a doctor's supervision) during the year before interview. Six visits is above the average for the U.S. population. Although the differences were not large, foreign-born persons were significantly less likely than U.S.-born persons in most sociodemographic categories shown to have had six physician contacts or more. (Differences were not significant for persons 45 years of age and over.)

Comparing foreign-born persons of Mexican origin with the U.S.-born population, the same general pattern of differences is found, but the differences are larger. Foreign-born persons of Mexican origin were less likely than comparable U.S.-born persons to have had six physician contacts or more, although differences in several additional categories were not statistically significant—45-64 years of

Table 6. Percent of persons 18 years of age and over who had 6 or more physician contacts in the last year, by age, sex, education, and annual family income, according to birthplace and Hispanic origin: United States, 1985-86

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

Characteristic	U.S. born			Foreign born		
	Total ¹	Hispanic		Total ¹	Hispanic	
		Total ²	Mexican		Total ²	Mexican
Age						
18 years and over	18.5	16.7	16.1	16.2	16.0	12.4
18-44 years.	15.2	14.7	14.2	12.2	12.1	9.0
45-64 years.	19.4	20.3	19.3	17.2	20.2	16.0
65 years and over	29.1	30.1	33.0	29.2	35.3	40.2
Sex						
Male	13.3	10.4	9.7	10.6	9.4	6.7
Female	23.1	22.1	21.6	21.2	22.5	19.3
Education						
Less than 12 years	23.2	19.4	19.1	19.8	18.1	13.1
12 years.	17.3	15.3	14.5	14.8	14.4	*9.7
More than 12 years.	16.8	15.6	14.3	13.4	12.5	*11.5
Annual family income						
Less than \$20,000	21.9	19.2	18.6	18.6	17.9	12.2
\$20,000 or more	16.5	14.5	13.6	14.2	13.3	12.0

¹Includes persons of unknown Hispanic origin.

²Includes persons of unknown Mexican origin.

age, females, persons with more than 12 years of education, and those with more than \$20,000 annual family income. There was one reversal of that pattern: Among persons 65 years of age and over, foreign-born persons of Mexican origin were more likely than U.S.-born persons to have had six physician contacts or more.

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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
 - # Figure suppressed to comply with confidentiality requirements
-

Technical notes

The estimates shown in this report are based on data obtained in household interviews during a continuing nationwide survey. Each week a probability sample of households is interviewed by personnel of the U.S. Bureau of the Census to obtain information about the health and other characteristics of the civilian noninstitutionalized population of the United States.

During 1985 and 1986, interviews were conducted in 58,682 households containing 153,583 family members and unrelated individuals. The total noninterview rate was about 3.8 percent. The weights of interviewed persons in the segments containing sample households for which data were not obtained were inflated to compensate for household nonresponse.

All persons 17 years of age and over were asked to participate in the interview. When this was not possible, proxy responses were accepted from family members meeting the NHIS respondent rules. About two-thirds of all adult family members responded for themselves.

Because the estimates shown in this report are based on a sample, they are subject to sampling error. A measure of the sampling error is given by the standard error. Approximate standard errors for estimated percents in this report are given by the formula

$$SE = \sqrt{\frac{3390.8p(1-p)}{y}}$$

where SE is the standard error, p is the estimated percent, and y is the estimated base of the percent. The bases of the percents in table 1 are shown in its first line, and the bases of percents shown in tables 2-6 can be calculated from the data in table 1.

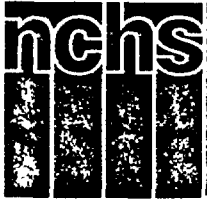
The approximate standard error of a difference between percents is given by the formula

$$SE(x_1 - x_2) = \sqrt{SE(x_1)^2 + SE(x_2)^2}$$

where x_1 and x_2 are the two percents being compared, $x_1 - x_2$ is the difference between them, and $SE(x_1)$ and $SE(x_2)$ are the standard errors of the two percents. In this report, a difference was considered statistically significant at the 5-percent level if the difference ($x_1 - x_2$) was at least twice as large as its standard error.

More detailed discussions of the sample design, estimating procedures, procedures for estimating standard errors, nonsampling errors, and definitions of terms used in this report have been published in *Vital and Health Statistics*, Series 10, Nos. 160 and 164, and in Series 1, No. 18 (NCHS, 1985, 1986, 1987).

NOTE: A list of references follows the text.



Office Visits to Neurologists: 1985

by Cheryl Nelson, M.S.P.H., Division of Health Care Statistics

In 1985, an estimated 5 million ambulatory care visits (96,000 visits per week) were made to office-based neurologists. This estimate represented 0.8 percent of all patient visits to all office-based physicians in the United States (table 1). Of these visits, 60 percent were to partnership and group practices (table 2). Since 1980 the number of visits to neurologists has almost doubled and the visit rate has increased 90 percent to 21 visits per 1,000 persons per year (table 3).

This report is based on data from the 1985 National Ambulatory Medical Care Survey (NAMCS). NAMCS, a year-long probability sample survey of the Nation's office-based physicians, was conducted annually from 1973 through 1981 and again in 1985 by the Division of Health Care Statistics of the National Center for Health Statistics. General findings from the 1985 NAMCS have been published (NCHS, 1987a). In this report, a neurologist is defined as a physician who reports that the majority of his practice is in the specialty of neurology. Neurosurgery is excluded from this definition.

Of the patient visits to neurologists, 25 percent were

referrals from other physicians (table 4). This was about 4.5 times the rate of patients referred to all physicians. Of the visits to neurologists, 31 percent were by new patients, almost twice the percent of visits by new patients to all physicians (NCHS, 1987a). The majority of all visits were made by returning patients.

Visits to neurologists by patients 25 years of age and older represented over 80 percent of all visits. The mean age of patients visiting neurologists was 45.3 years, compared with a mean age of 39.6 years for all patients visiting all physicians. Visits by female patients and white patients represented 56 percent and 90 percent, respectively, of the visits to office-based neurologists (table 5).

Patient's reason for visiting the physician

A symptom was more often given by patients as the major reason for visiting a neurologist than as the major reason for visiting all physicians. Of visits to neurologists, 75 percent were for symptoms, compared with less than 55 percent of the visits to all physicians (NCHS, 1987a). Symptoms relating to the nervous system were given in 34 percent of the visits and symptoms of the musculoskeletal system in 24 percent (table 6).

Headache and convulsions accounted for nearly 21 percent of all patient complaints to neurologists (table 7). There were 1.2 million patient visits made to all physicians in which

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

Physician specialty	Number of visits in thousands	Percent distribution
All visits	636,386	100.0
General and 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
Otorhinolaryngology	16,097	2.5
Urological surgery	11,699	1.8
Cardiovascular disease	10,617	1.7
Neurology	4,992	0.8
All other specialties	52,408	8.2

Table 2. Number and percent distribution of office visits to neurologists by type of practice: United States, 1985

Type of practice	Number of visits in thousands	Percent distribution
All visits	4,992	100.0
Solo	1,992	39.9
Partnership	1,141	22.8
Group	1,859	37.3

Table 3. Number, percent, and rate of office visits to neurologists and all physician specialties, by year of survey: United States, 1985

<i>Physician specialty</i>	1985	1981	1980	1979	1978	1977	1976	1975
Number of visits in thousands								
All specialties	636,386	585,177	575,745	556,313	584,498	570,052	588,300	567,600
Neurology	4,992	3,879	2,499	1,874	2,419	2,690	1,752	2,032
Percent								
All specialties	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Neurology	0.78	0.66	0.43	0.34	0.41	0.47	0.30	0.36
Visit rate per 1,000 persons								
All specialties	2.740	2.620	2.660	2.590	2.750	2.700	2.810	2.730
Neurology	21	17	11	9	11	13	8	10

Table 4. Number and percent distribution of office visits to neurologists by referral status and prior visit status: United States, 1985

<i>Referral status and prior visit status</i>	<i>Number of visits in thousands</i>	<i>Percent distribution</i>
All visits	4,992	100.0
Referral status		
Referred by another physician	1,274	25.5
Not referred by another physician	3,718	74.5
Prior visit status		
New patient	1,581	31.7
Old patient	3,411	68.3
New problem	*259	5.2
Old problem	3,152	63.1

Table 5. Number and percent distribution of office visits to neurologists by age, sex, and race of patient: United States, 1985

<i>Age, sex, and race</i>	<i>Number of visits in thousands</i>	<i>Percent distribution</i>
All visits	4,992	100.0
Age		
Under 15 years	402	8.1
15-24 years	500	10.0
25-44 years	1,587	31.8
45-64 years	1,454	29.1
65 years and over	1,048	21.0
Sex		
Female	2,804	56.2
Male	2,188	43.8
Race		
White	4,533	90.8
Black and other	459	9.2

the patient's principal reason for the visit was convulsions. Of those patient visits, 424,000 (34 percent) were made to office-based neurologists. In contrast, less than 10 percent of all headache visits were made to office-based neurologists. Hence, a patient having convulsions seems more likely to visit a neurologist than a patient having pain in the head. A patient having headaches seems more likely to visit a general practitioner.

Table 6. Number and percent distribution of office visits to neurologists by patient's principal reason for visit: United States, 1985

<i>Principal reason for visit and RVC code¹</i>	<i>Number of visits in thousands</i>	<i>Percent distribution</i>
All visits	4,992	100.0
Symptom module S001-S999	3,742	75.0
General symptoms S001-S099	419	8.4
Symptoms referable to the nervous system (excluding sense organs) S200-S259	1,710	34.3
Symptoms referable to the musculoskeletal system S900-S999	1,216	24.3
Disease module D001-D999	448	9.0
Diseases of the nervous system D350-D399	*246	4.9
Diagnostic, screening, and preventive module X100-X599	*238	4.8
Treatment module T100-T999	371	7.4
Progress visit, NEC T800-T899	*215	4.3
All other ^{2,3}	*192	3.8

¹Based on "A Reason for Visit Classification for Ambulatory Care" (RVC), *Vital and Health Statistics*, Series 2, No. 78, Feb. 1979

²Includes injuries and adverse effects module, test results module, administrative module, and uncodable entries.

³Each element represents fewer than 74,000 visits.

Physician diagnoses

Diagnoses of diseases of the nervous system and sense organs (codes 320-28) were made in 33 percent of office visits to neurologists (table 8). Diseases of the musculoskeletal system and connective tissue (codes 710-39) and symptoms, signs, and ill-defined conditions (codes 780-99) were each diagnosed in 17 percent of the patient visits. General symptoms (code 780) was the most common principal diagnosis in 11 percent of patient visits (table 9). Specifically, 81 percent of the visits diagnosed as general symptoms were convulsions. The most frequent type of diagnostic service given during an office visit was a blood pressure check (table 10). The types of nonmedication therapy provided are shown in table 11.

Medication therapy

In 57 percent of the visits, some type of medication was prescribed or provided by the neurologist. However, three or more medications were prescribed in only 7.8 percent of the visits (table 12). A neurologist's drug therapy utilization

Table 7. Number and percent distribution of office visits to neurologists by the 10 most common principal reasons for visit: United States, 1985

Rank	Most common principal reason for visit and RVC code ¹	Number of visits in thousands	Percent distribution
	All reasons for visits	4,992	100.0
1	Headache, pain in head S210	610	12.2
2	Convulsions S205	424	8.5
3	Disturbances of sensation S220	*235	4.7
4	Neck symptoms S900	*235	4.7
5	Back symptoms S905	*233	4.7
6	Leg symptoms S920	*200	4.0
7	Vertigo, dizziness S225	*180	3.6
8	Arm symptoms S945	*169	3.4
9	Abnormal involuntary movements S200	*142	2.9
10	Low back symptoms S910	*110	2.2
	All other reasons	2,453	49.1

¹Based on "A Reason for Visit Classification for Ambulatory Care" (RVC), *Vital and Health Statistics*. Series 2, No. 78, Feb. 1979.

Table 8. Number and percent distribution of office visits to neurologists by the most common principal diagnosis: United States, 1985

Principal diagnosis and ICD-9-CM code ¹	Number of visits in thousands	Percent distribution
All diagnoses	4,992	100.0
Mental disorders 290-319	*276	5.5
Diseases of the nervous system and sense organs 320-389	1,673	33.5
Diseases of the circulatory system 390-459	442	8.8
Diseases of the musculoskeletal system and connective tissue 710-739	893	17.9
Symptoms, signs, and ill-defined conditions 780-799	919	18.4
Injury and poisoning 800-999	390	7.8
All other diagnoses ^{2,3}	400	8.0

¹Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM).

²Includes infection and parasitic diseases (001-139); neoplasms (140-239); endocrine, nutritional, and metabolic diseases and immunity disorders (240-279); diseases of the respiratory system (460-519); diseases of the digestive system (520-579); diseases of the genitourinary system (580-629); diseases of the skin and subcutaneous tissue (680-709); supplementary classification (V01-V82); all other diagnoses: diseases of the blood and blood-forming organs (280-289); complications of pregnancy, childbirth, and the puerperum (630-676); congenital anomalies (740-759); certain conditions originating in the prenatal period (760-779); and unknown diagnoses, blank diagnosis, uncodable diagnosis, and illegible diagnosis.

³Each element represents fewer than 105,000 visits.

was not different from the drug therapy utilization of all physicians. However, it was far less frequent and less intense than the drug therapy utilization of primary care providers (general and family practitioners and internists—NCHS, 1987b). Of all drugs, those for the central nervous system (CNS) were mentioned most often during a patient office visit (table 13). CNS drugs represented 58 percent of all prescribed medications. Analgesics and antipyretics were the CNS drugs most often mentioned. The generic ingredients most often ordered or prescribed included acetaminophen, phenytoin, and aspirin (table 14).

Duration and disposition of visit

Neurology patient visits had a mean duration of 27 minutes, with 64 percent of all the visits lasting 16 minutes

Table 9. Number and percent distribution of office visits to neurologists by the 10 most common principal diagnoses: United States, 1985

Rank	Most common principal diagnosis and ICD-9-CM code ¹	Number of visits in thousands	Percent distribution
	All diagnoses	4,992	100.0
1	General symptoms 780	563	11.3
2	Other and unspecified disorders of the back 724	*305	6.1
3	Migraine 346	*265	5.3
4	Symptoms involving head and neck 784	*232	4.7
5	Parkinson's disease 332	*205	4.1
6	Sprains and strains of other and unspecified parts of back 847	*202	4.0
7	Mononeuritis of upper limb and mononeuritis multiplex 354	*173	3.5
8	Other disorders of cervical region 723	*169	3.4
9	Multiple sclerosis 340	*164	3.3
10	Epilepsy 345	*151	3.0
	All other diagnoses	2,563	51.3

¹Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM).

Table 10. Number and percent distribution of office visits to neurologists by the most common type of diagnostic service: United States, 1985

Diagnostic service	Number of visits in thousands	Percent distribution
All diagnostic services	4,992	100.0
None	1,376	27.6
Blood chemistry	391	7.8
Blood pressure check	2,114	42.3
Radiology (other than chest)	518	10.4
Other	1,790	35.8
All other ^{1,2}	772	15.5

¹Includes breast exam, visual acuity, urinalysis, hematology, other lab test, chest x ray, EKG, and ultrasound

²Each element represents fewer than 215,000 visits.

Table 11. Number and percent distribution of office visits to neurologists by the most common nonmedication therapy ordered or provided: United States, 1985

Nonmedication therapy	Number of visits in thousands	Percent distribution ¹
All nonmedication therapies	4,992	100.0
None	3,859	77.3
Physical therapy	480	9.6
Counseling (other than diet)	416	8.3
All other ^{2,3}	378	7.6

¹May not add to 100.0 percent because more than one nonmedication therapy was possible.

²Includes ambulatory surgery, radiation therapy, psychotherapy, family planning, diet counseling, corrective lenses, and other.

³Each element represents fewer than 135,000 visits.

or more (table 15). This was greater than the mean duration of 16 minutes for visits to all physicians (NCHS, 1987a).

Of the visiting patients, 84 percent were given some type of "Return" disposition (table 16); most were given the disposition "Return at a specified time."

Table 12. Number and percent distribution of office visits to neurologists in which medications were prescribed or ordered: United States, 1985

Type of visit and number of medications	Number of visits in thousands	Percent distribution
All visits	4,992	100.0
No drug visit (0 medications)	2,124	42.6
Drug visit	2,868	57.4
Number of medications		
1	1,614	32.3
2	866	17.3
3	*285	5.7
4 or more	*103	2.1

Table 13. Number and percent distribution of the most common drug mentions in the office-based practice of neurologists, by therapeutic category: United States, 1985

Therapeutic category ¹	Number of drug mentions in thousands	Percent distribution
All drugs	4,664	100.0
Central nervous system drugs	2,740	58.7
Analgesics and antipyretics	1,075	23.0
Anticonvulsants	698	15.0
Psychotherapeutic agents	473	10.1
Anxiolytics, sedatives, and hypnotics	426	9.1
Autonomic drugs	612	13.1
Anticholinergic agents	344	7.4
Skeletal muscle relaxants	169	3.6
Cardiovascular drugs	532	11.4
Cardiac drugs	235	5.0
All other ^{2,3}	780	16.7

¹Based on the American Hospital Formulary Service Classification System Drug Product Information File, The American Druggist Blue Book Data Center, San Bruno, Calif., 1985.
²Includes antihistamine drugs, anti-infective agents; antineoplastic agents; blood formation and coagulation agents; diagnostic agents; electrolytic, caloric, and water balance agents; antitussives, expectorants, and mucolytic agents; eye, ear, nose, and throat (EENT) preparations; gastrointestinal drugs; hormones and synthetic substitutes; local anesthetics; oxytocics; skin and mucous membrane agents; and other or undetermined drugs.
³Each element represents fewer than 130,000 drug mentions.

Table 14. Number and percent of the 10 most frequently prescribed or provided drugs in the office-based practice of neurologists, by generic ingredients: United States, 1985

Rank	Generic ingredient	Number of drug mentions in thousands	Percent
	All ¹	6,144	100.0
1	Acetaminophen	*363	5.9
2	Phenytoin	*317	5.2
3	Aspirin	*275	4.5
4	Amtriptyline	*252	4.1
5	Carbamazepine	*219	3.6
6	Caffeine	*213	3.5
7	Phenobarbital	*198	3.2
8	Codeine	*171	2.8
9	Propranolol	*157	2.6
10	Levodopa	*150	2.4

¹The total on table 14 is greater than the total on table 13 because multiple ingredients equal multiple counts.

Table 15. Number and percent distribution of office visits to neurologists by duration of visit: United States, 1985

Duration	Number of visits in thousands	Percent distribution
All durations	4,992	100.0
0 minutes ¹	*13	0.3
1-5 minutes	*167	3.3
6-10 minutes	493	9.9
11-15 minutes	1,089	21.8
16-30 minutes	2,029	40.6
31-60 minutes	1,056	21.1
61 minutes and over	*145	2.9

¹Represents office visits in which there were no face-to-face contacts between the patient and the physician.

Table 16. Number and percent distribution of office visits to neurologists by disposition: United States, 1985

Disposition	Number of visits in thousands	Percent distribution ¹
All dispositions	4,992	100.0
No followup planned	436	8.7
Return at specified time	3,306	66.2
Return if needed	459	9.2
Telephone followup planned	*270	5.4
Referred to other physician	*276	5.5
Return to referring physician	458	9.2
Admit to hospital	*125	2.5
Other	*21	0.4

¹May not add to 100.0 percent because more than one disposition was possible.

References

National Center for Health Statistics, T. McLemore and J. DeLozier. 1987a. 1985 summary: National Ambulatory Medical Care Survey. *Advance Data From Vital and Health Statistics*. No. 128. DHHS Pub. No. (PHS) 87-1250. Public Health Service, Hyattsville, Md.

National Center for Health Statistics, H. Koch. 1987b. Highlights of drug utilization in office practice, National Ambulatory Medical Care Survey, 1985. *Advance Data From Vital and Health Statistics*. No. 134. DHHS Pub. No. (PHS) 87-1250. Public Health Service, Hyattsville, Md.

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 conterminous United States by ambulatory patients to nonfederally employed physicians who are principally engaged in office practice, but not in the specialties of anesthesiology, pathology, or radiology. Telephone contacts and nonoffice visits are excluded.

A multistage probability sample design is used in NAMCS, involving samples of primary sampling units (PSU's), physician practices within PSU's, and patient visits within physician practices. For 1985, a sample of 5,032 non-Federal, office-based physicians was selected from master files maintained by the American Medical Association and American Osteopathic Association. The physician response rate for the 1985 NAMCS was 70.2 percent; the response rate for neurologists was 66 percent. Sample physicians were asked to complete patient records (see text figure) for a systematic random sample of office visits occurring during a randomly assigned 1-week reporting period. Responding physicians completed 71,594 patient records; 1,097 patient records

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 other persons or used for any other purpose.		Department of Health and Human Services Public Health Service National Center for Health Statistics				
1. DATE OF VISIT		PATIENT RECORD				OMB No. 0937-0141 Expires 9/30/86 (PHS) 6105-D 456-232
_____ / / / Month Day Year		NATIONAL AMBULATORY MEDICAL CARE SURVEY				
2. DATE OF BIRTH	3. SEX	4. COLOR OR RACE	5. ETHNICITY	6. EXPECTED SOURCE(S) OF PAYMENT <i>[Check all that apply]</i>	7. WAS PATIENT REFERRED FOR THIS VISIT BY ANOTHER PHYSICIAN?	
_____ / / / Month Day Year	1 <input type="checkbox"/> FEMALE 2 <input type="checkbox"/> MALE	1 <input type="checkbox"/> WHITE 2 <input type="checkbox"/> BLACK 3 <input type="checkbox"/> ASIAN/PACIFIC ISLANDER 4 <input type="checkbox"/> AMERICAN INDIAN/ALASKAN NATIVE	1 <input type="checkbox"/> HISPANIC ORIGIN 2 <input type="checkbox"/> NOT HISPANIC	1 <input type="checkbox"/> SELF-PAY 4 <input type="checkbox"/> BLUE CROSS/BLUE SHIELD 7 <input type="checkbox"/> NO CHARGE 2 <input type="checkbox"/> MEDICARE 5 <input type="checkbox"/> OTHER COMMERCIAL INSURANCE 8 <input type="checkbox"/> OTHER <i>[Specify]</i> 3 <input type="checkbox"/> MEDICAID 6 <input type="checkbox"/> HMO/PRE-PAID PLAN	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO	
8. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT <i>[In patient's own words]</i>		9. GLUCOSE TESTS THIS VISIT <i>[Check all ordered or provided]</i>		10. OTHER DIAGNOSTIC SERVICES THIS VISIT <i>[Check all ordered or provided]</i>		
a. MOST IMPORTANT _____ b. OTHER _____		1 <input type="checkbox"/> NONE 2 <input type="checkbox"/> BLOOD 3 <input type="checkbox"/> URINE 4 <input type="checkbox"/> ORAL		1 <input type="checkbox"/> NONE 6 <input type="checkbox"/> URINALYSIS 11 <input type="checkbox"/> BLOOD PRESSURE CHECK 2 <input type="checkbox"/> BREAST EXAM 7 <input type="checkbox"/> HEMATOLOGY 12 <input type="checkbox"/> EKG 3 <input type="checkbox"/> PELVIC EXAM 8 <input type="checkbox"/> BLOOD CHEMISTRY 13 <input type="checkbox"/> CHEST X-RAY 4 <input type="checkbox"/> RECTAL EXAM 9 <input type="checkbox"/> PAP TEST 14 <input type="checkbox"/> OTHER RADIOLOGY 5 <input type="checkbox"/> VISUAL ACUTY 10 <input type="checkbox"/> OTHER LAB TEST 15 <input type="checkbox"/> ULTRASOUND 16 <input type="checkbox"/> OTHER SERVICE <i>[Specify]</i> _____		
11. PHYSICIAN'S DIAGNOSES		12. HAVE YOU SEEN PATIENT BEFORE?		13. NON-MEDICATION THERAPY <i>[Check all services ordered or provided this visit]</i>		
a. PRINCIPAL DIAGNOSIS/PROBLEM ASSOCIATED WITH ITEM 8a. _____ b. OTHER SIGNIFICANT CURRENT DIAGNOSES _____		1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO ↓ IF YES, FOR THE CONDITION IN ITEM 11a? 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO		1 <input type="checkbox"/> NONE 5 <input type="checkbox"/> PSYCHOTHERAPY 9 <input type="checkbox"/> CORRECTIVE LENSES 2 <input type="checkbox"/> PHYSIOTHERAPY 6 <input type="checkbox"/> FAMILY PLANNING 10 <input type="checkbox"/> OTHER <i>[Specify]</i> 3 <input type="checkbox"/> AMBULATORY SURGERY 7 <input type="checkbox"/> DIET COUNSELING 4 <input type="checkbox"/> RADIATION THERAPY 8 <input type="checkbox"/> OTHER COUNSELING		
14. MEDICATION THERAPY <i>[Record all new or continued medications ordered or provided at this visit. Use the same brand name or generic name entered on any Rx or office medical record.]</i> IF NONE, CHECK HERE <input type="checkbox"/>				15. DISPOSITION THIS VISIT <i>[Check all that apply]</i>		16. DURATION OF THIS VISIT <i>[Time actually spent with physician]</i> _____ Minutes
		a. NEW MEDICATION? b. FOR DX IN ITEM 11a?		1 <input type="checkbox"/> NO FOLLOW-UP PLANNED 2 <input type="checkbox"/> RETURN AT SPECIFIED TIME 3 <input type="checkbox"/> RETURN IF NEEDED, PR N 4 <input type="checkbox"/> TELEPHONE FOLLOW-UP PLANNED 5 <input type="checkbox"/> REFERRED TO OTHER PHYSICIAN 6 <input type="checkbox"/> RETURNED TO REFERRING PHYSICIAN 7 <input type="checkbox"/> ADMIT TO HOSPITAL 8 <input type="checkbox"/> OTHER <i>[Specify]</i> _____		
		YES NO YES NO				
1 _____		1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO				
2 _____		1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO				
3 _____		1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO				
4 _____		1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO				
5 _____		1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO				

Figure. 1985 National Ambulatory Medical Care Survey patient record

were from neurologists. Characteristics of the physician's practice, such as primary specialty and type of practice, were obtained during an induction interview. NORC (formerly known as the National Opinion Research Center), under contract to NCHS, was responsible for the survey's data collection and processing operations.

Sampling errors

The standard error is primarily a measure of the sampling variability that occurs by chance when 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; the result is then expressed as a percent of the estimate. Approximate relative standard errors of visits to neurologists are shown in table I. Approximate relative standard errors for aggregate estimates of drug mentions for neurologists are shown in table II.

Statistical inference and rounding

The determination of statistical inference is based on a two-sided *t*-test with a critical value of 1.960 (0.05 level of confidence). Terms relating to differences, such as "greater than" or "less than," indicate that the differences are statistically significant. Terms such as "similar" or "roughly equal" mean that no statistical significance exists between the estimates compared. In the tables, estimates of office visits have been rounded to the nearest thousand. Consequently, estimates

Table I. Relative standard errors of estimated numbers of office visits to neurologists: National Ambulatory Medical Care Survey, 1985

<i>Estimated number of office visits in thousands</i>	<i>Relative standard error in percent</i>
200*	39.3
300	32.4
500	25.5
1,000	18.8
2,000	14.4
5,000	10.8
10,000	9.3
20,000	8.5
50,000	8.0
100,000	7.8

Example of use of table: An aggregate estimate of 50,000,000 visits has a relative standard error of 8 percent, or a standard error of 4,000,000 visits (8 percent of 50,000,000).

Table II. Relative standard errors of estimated numbers of drug mentions in the office-based practice of neurologists: National Ambulatory Medical Care Survey, 1985

<i>Estimated number of drug mentions in thousands</i>	<i>Relative standard error in percent</i>
200*	44.2
400	31.8
700	24.6
1,000	21.1
2,000	16.0
5,000	12.0
10,000	10.3
20,000	9.3
50,000	8.7
100,000	8.5

Example of use of table: An aggregate estimate of 50,000,000 drug mentions has a relative standard error of 8.7 percent, or a standard error of 4,350,000 drug mentions (8.7 percent of 50,000,000).

will not always add to totals. Rates and percents were calculated from original unrounded figures and do not necessarily agree with percents calculated from rounded data.

Definitions of terms

Ambulatory patient—An ambulatory patient is an individual seeking personal health services who is not currently admitted to any health care institution on the premises.

Physician—A physician is a duly licensed doctor of medicine (M.D.) or doctor of osteopathy (D.O.) who is currently in office-based practice, and who spends some time caring for ambulatory patients. Excluded from NAMCS are physicians who are hospital-based; who specialize in anesthesiology, pathology, or radiology; who are federally employed; who treat only institutionalized patients; who are employed full time by an institution; and who spend no time seeing ambulatory patients.

Office—Offices are the premises physicians identify as locations for their ambulatory practices; these customarily include consultation, examination, or treatment spaces the patients associate with the particular physician.

Visit—A visit is a direct personal exchange between an ambulatory patient and a physician or a staff member working under the physician's supervision, for the purpose of seeking care and rendering personal health services.

1987 Summary: National Hospital Discharge Survey

Hospital Care Statistics Branch, Division of Health Care Statistics

Introduction

The hospital discharge rate has continued a decline that began in 1983. The 1987 rate was 138 discharges per 1,000 civilian population—a 17 percent decrease in 4 years. In addition, the average length of stay in 1987 was 6.4 days, the same as in 1986, but compared with 7.6 days a decade

ago. Figures 1 and 2 present the trends in both hospital discharge rates and average length of stay by patient age for 1972–87.

During 1987, an estimated 33.4 million inpatients (excluding newborn infants) were discharged from short-stay non-Federal hospitals in the United States. These patients were hospitalized an average of 6.4 days and used 215

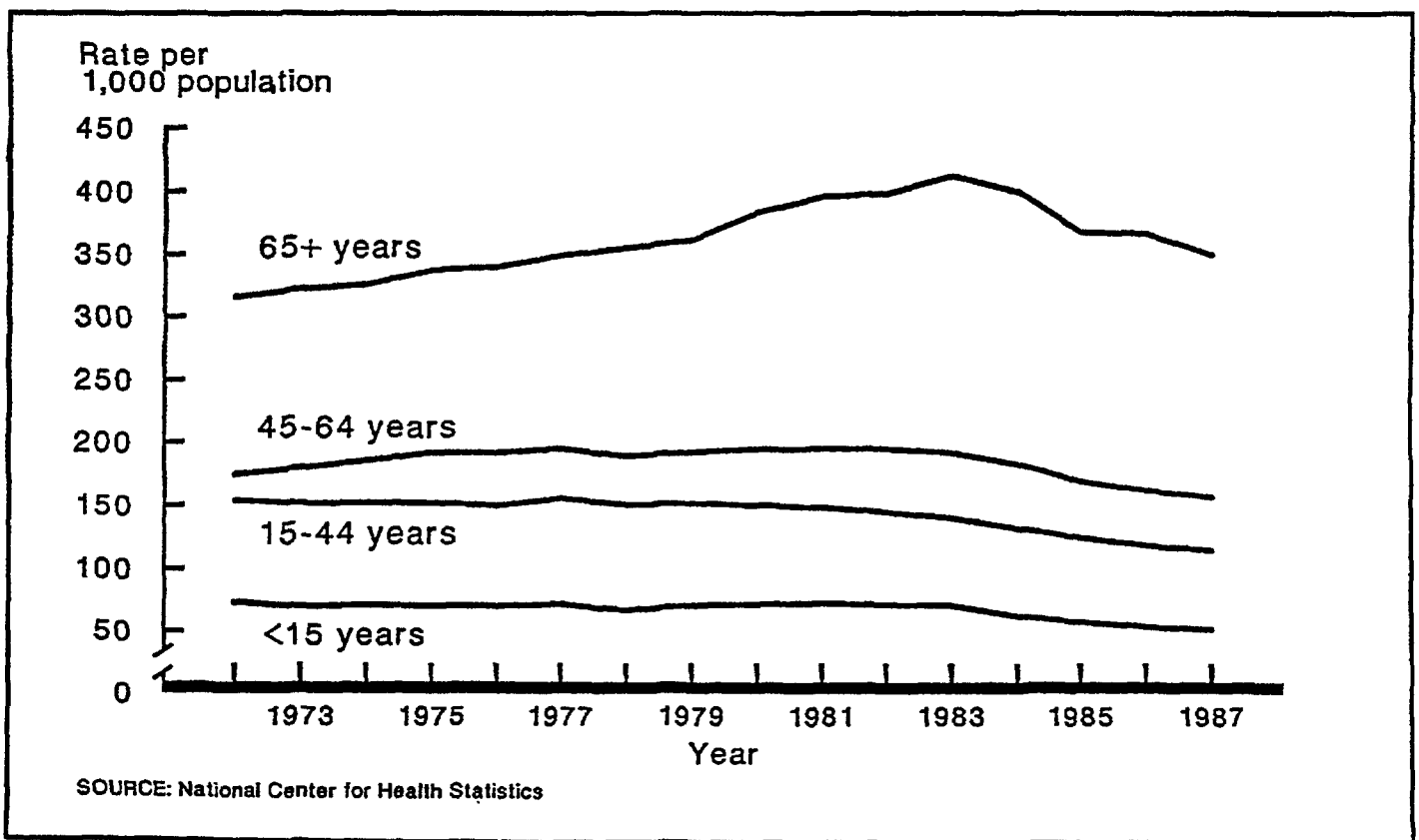


Figure 1. Rate of patients discharged from short-stay hospitals, by age: United States, 1972-87

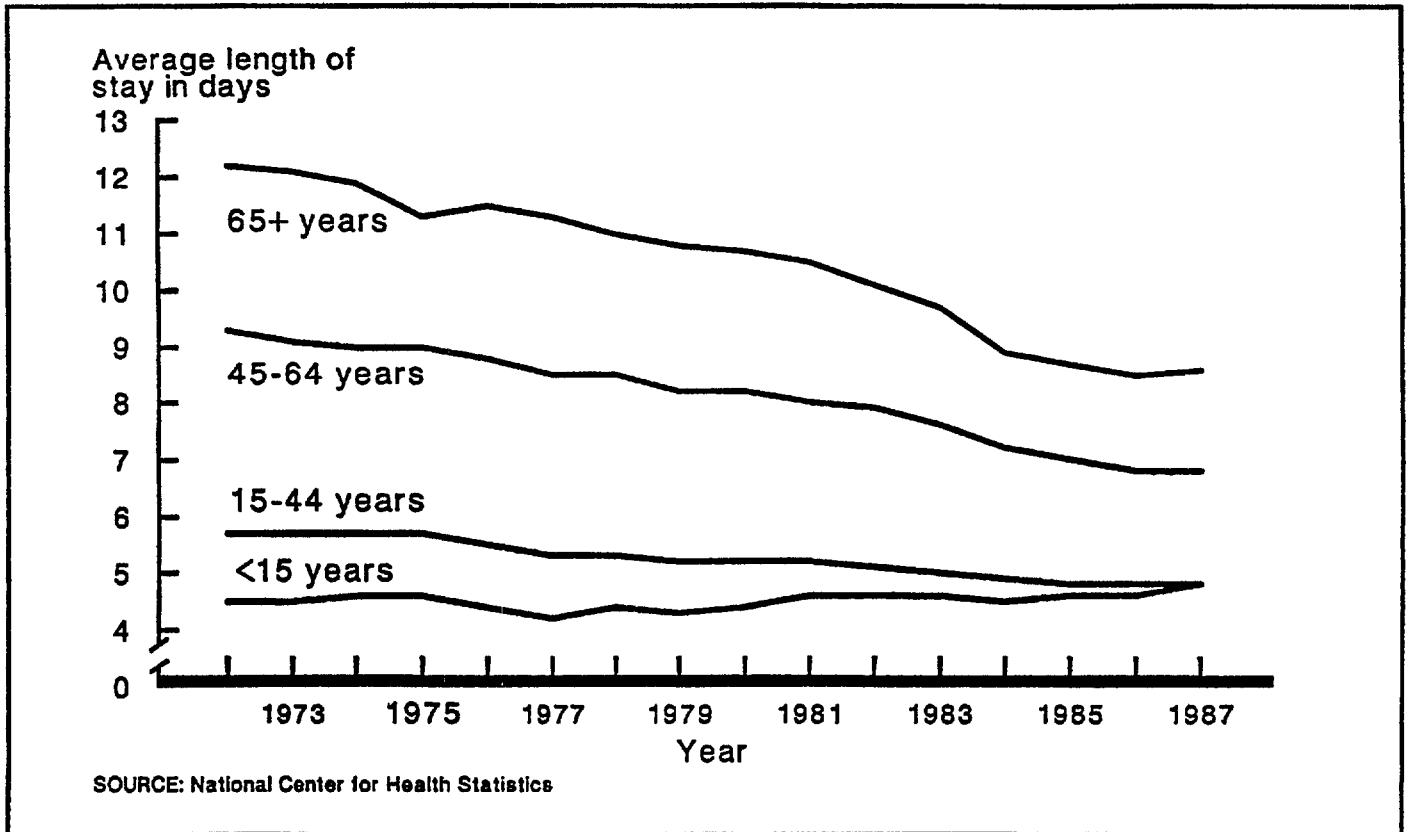


Figure 2. Average length of stay for patients discharged from short-stay hospitals, by age: United States, 1972-87

million days of inpatient hospital care. Patients hospitalized during 1987 accounted for 138 discharges per 1,000 civilian population.

These and other statistics presented in this report are based on data collected by means of the National Hospital Discharge Survey, a continuous survey that has been conducted by the National Center for Health Statistics since 1965. In 1987, data were abstracted from the medical records of approximately 181,000 patients discharged from 400 short-stay non-Federal hospitals. A brief description of the sample design, data collection procedures, and estimation process, and definition of terms used in this report can be found in the section entitled "Technical notes." Detailed discussions of these items, as well as the survey form used to collect the data, have been published (NCHS, 1970, 1987).

Coding of medical data for patients hospitalized is done according to the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* (U.S. Public Health Service and Health Care Financing Administration, 1980). Up to seven diagnoses and four procedures are coded for each discharge. Although diagnoses included in the ICD-9-CM section entitled "Supplementary classification of external causes of injury and poisoning" (codes E800-E999) are used by the National Hospital Discharge Survey, these diagnoses are excluded from this report. The conditions diagnosed and procedures performed are presented here by chapter of ICD-9-CM. Within these chapters, a few diagnoses and procedures or groups thereof also are shown. These specific categories were selected prima-

rily because of large numbers of occurrences or because they are of special interest. Residual categories of the diagnostic and procedure classes, however, are not included in the tables. More detailed analyses of these data will be presented in later reports in Series 13 of Vital and Health Statistics.

In 1987, approximately 17 percent of the hospitals submitted machine-readable data tapes through commercial abstracting services. Preliminary analysis indicates that a greater number of nonsurgical procedures per patient are obtained from these hospitals than from hospitals submitting data in the traditional manual mode (see "Technical notes"). This has resulted in increases from 1984 to 1987 in the estimates for miscellaneous diagnostic and therapeutic procedures and, therefore, for total procedures.

Data highlights

Utilization by patient and hospital characteristics

The number, rate, and average length of stay of patients discharged from short-stay non-Federal hospitals are shown by selected patient and hospital characteristics in tables 1-3. The 33.4 million patients discharged from short-stay hospitals during 1987 included an estimated 13.6 million males and 19.8 million females. The rates per 1,000 population were 116 for males and 159 for females, making the rate for females about 37 percent higher than the rate

for males. The number and rate of discharges are always higher for females than for males because of the large number of women in their childbearing years (15–44 years of age) who are hospitalized for deliveries and other obstetrical conditions.

The average length of stay was 6.9 days for males and 6.1 days for females during 1987. The length of stay for females was shorter than that for males primarily because the average length of stay of the 3.9 million women who were hospitalized for deliveries was only 3.1 days.

The number of discharges from short-stay hospitals by geographic region during 1987 ranged from 11.3 million in the South Region to 6.7 million in the Northeast and West Regions, and the rates per 1,000 population ranged from 147 in the Midwest Region to 134 in the Northeast Regions. Regional differences in the number of discharges are accounted for mainly by variations in population sizes.

Average lengths of stay by geographic region were 5.5 days in the West, 6.2 days in the South, 6.7 days in the Midwest, and 7.5 days in the Northeast.

Discharges from short-stay hospitals were approximately 40 percent male and 60 percent female in every hospital bed-size group. The average length of stay increased steadily from 4.9 days in the smallest hospitals (6–99 beds) to 7.3 days in the largest hospitals (500 beds or more) for all patients.

During 1987, voluntary nonprofit hospitals provided medical care to an estimated 22.8 million patients, or 68 percent of all patients hospitalized. Hospitals operated by State and local governments cared for 6.9 million patients, or 21 percent of all discharges, and proprietary hospitals operated for profit cared for 3.7 million patients, or 11 percent of all discharges. Average lengths of stay were 6.6 days in voluntary nonprofit hospitals, 6.0 days in State and local government hospitals, and 5.9 days in proprietary hospitals.

Utilization by diagnosis

Diseases of the circulatory system ranked first in 1987 among the ICD-9-CM diagnostic chapters as a principal or first-listed diagnosis among patients discharged from non-Federal short-stay hospitals. These conditions accounted for an estimated 5.6 million discharges. Other leading ICD-9-CM diagnostic chapters were supplementary classifications (including females with deliveries) (4.3 million discharges) and diseases of the digestive system (3.7 million discharges). About 40 percent of the patients discharged from non-Federal short-stay hospitals were included in these three ICD-9-CM diagnostic chapters.

The diagnostic categories presented in this report were selected either because they appear as principal or first-listed diagnoses with great frequency or because the conditions are of special interest. Although many of these categories (such as malignant neoplasms; psychoses; and fractures, all sites) are groupings of more detailed diagnoses, they are presented as single categories without showing all of the specific diagnostic inclusions.

The number and rate of discharges and average length of stay for each ICD-9-CM diagnostic chapter and selected categories are shown by sex and age in tables 4–6. The most common diagnostic category for all patients was females with deliveries. This was followed by the diagnostic categories heart disease and malignant neoplasms. Excluding females with deliveries, these last two non-sex-specific diagnostic categories were also the most common first-listed diagnoses for each sex.

The most frequent first-listed diagnoses for 1987 varied for the different age groups. For patients under 15 years of age, the most frequent diagnoses were pneumonia, all forms; acute respiratory infections, except influenza; chronic disease of tonsils and adenoids; and asthma. Excluding females with deliveries, the most frequent diagnoses for patients 15–44 years of age were psychoses; fractures, all sites; and abortions and ectopic and molar pregnancies. Patients 45–64 years of age were hospitalized most frequently for heart disease. The most common diagnoses for patients 65 years of age and over were heart disease and malignant neoplasms.

The average length of stay for all patients ranged from a low of 1.3 days for the diagnostic category chronic disease of tonsils and adenoids, 1.8 days for the diagnostic category of cataract, and 2.2 days for abortions and ectopic and molar pregnancies to a high of 13.7 days for psychoses and 13.9 days for fracture of neck of femur. Although the overall average length of stay for females was shorter than that for males, females stayed in the hospital longer than males for many of the specific diagnostic categories shown in this report.

The average length of stay increased with increasing age for most categories of diagnoses shown. Overall, the average length of stay ranged from 4.7 days for patients under 15 years of age to 8.6 days for patients 65 years and over.

Utilization by procedures

One or more surgical or nonsurgical procedures were performed for an estimated 20.7 million of the 33.4 million inpatients discharged from short-stay hospitals during 1987. A total of 39.1 million procedures, or an average of 1.9 per patient who underwent at least one procedure, were recorded in 1987.

Procedures are grouped in the tables of this report by the ICD-9-CM procedure chapters. Selected procedures within these chapters also are presented by specific categories. Some of these categories (such as extraction of lens and hysterectomy) are presented as single categories although they may be divided into more precise subgroups.

When grouped by chapters, miscellaneous diagnostic and therapeutic procedures with 10.3 million procedures ranked first among the surgical and nonsurgical procedures performed during 1987. These were followed by operations on the digestive system with 5.8 million procedures performed. Other leading chapters were obstetrical procedures with 5.4 million procedures, operations on the

musculoskeletal system with 3.5 million procedures, and operations on the cardiovascular system with 3.1 million procedures. Approximately 72 percent of all procedures performed in 1987 were included in these five ICD-9-CM procedure chapters.

The number and rate of all-listed procedures in 1987 for each ICD-9-CM procedure chapter and selected procedure categories are shown by sex and age in tables 7 and 8. Of the 39.1 million procedures performed during 1987, 15.7 million were for males and 23.4 million were for females. The corresponding rates per 1,000 population were 162 for both sexes, 134 for males, and 188 for females. Of the procedures shown in table 7, some common ones for males were arteriography and angiocardiology and com-

puterized axial tomography; the most frequently performed procedures for females were episiotomy and cesarean section.

The rate of procedures per 1,000 population increased with advancing age from 36 for patients under 15 years to 415 for patients 65 years of age and over. The most frequently performed procedures for patients under 15 years of age were tonsillectomy with or without adenoidectomy and spinal tap; for patients 15–44 years of age, episiotomy and cesarean section; for patients 45–64 years of age, arteriography and angiocardiology, computerized axial tomography, and cardiac catheterization; and for patients 65 years of age and over, computerized axial tomography, diagnostic ultrasound and circulatory monitoring.

***Please replace previous edition with this newly revised copy. The text portion remains the same. However, the tables have been changed.**

TABLE 1. NUMBER OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS BY SELECTED CHARACTERISTICS: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS]

SELECTED CHARACTERISTIC	BOTH SEXES	MALE	FEMALE
NUMBER OF PATIENTS DISCHARGED IN THOUSANDS			
TOTAL	33,387	13,568	19,818
AGE			
UNDER 15 YEARS	2,688	1,537	1,150
15-44 YEARS	13,142	3,874	9,268
45-64 YEARS	7,099	3,528	3,571
65 YEARS AND OVER	10,459	4,629	5,830
REGION			
NORTHEAST	6,699	2,816	3,883
MIDWEST	8,718	3,602	5,117
SOUTH	11,292	4,537	6,755
WEST	6,678	2,614	4,064
BED SIZE			
6-99 BEDS	5,079	1,988	3,091
100-199 BEDS	5,153	2,167	2,986
200-299 BEDS	7,997	3,204	4,794
300-499 BEDS	8,308	3,407	4,902
500 BEDS OR MORE	6,849	2,803	4,046
OWNERSHIP			
NONPROFIT	22,801	9,287	13,514
STATE AND LOCAL GOVERNMENT	6,860	2,781	4,079
PROPRIETARY	3,725	1,500	2,225

TABLE 3. AVERAGE LENGTH OF STAY FOR INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS BY SELECTED CHARACTERISTICS: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS]

SELECTED CHARACTERISTIC	BOTH SEXES	MALE	FEMALE
AVERAGE LENGTH OF STAY IN DAYS			
TOTAL	6.4	6.9	6.1
AGE			
UNDER 15 YEARS	4.7	4.7	4.7
15-44 YEARS	4.8	6.4	4.2
45-64 YEARS	6.8	6.7	6.9
65 YEARS AND OVER	8.6	8.3	8.9
REGION			
NORTHEAST	7.5	7.7	7.3
MIDWEST	6.7	7.1	6.3
SOUTH	6.2	6.7	5.8
WEST	5.5	6.2	5.0
BED SIZE			
6-99 BEDS	4.9	5.1	4.8
100-199 BEDS	6.3	6.6	6.1
200-299 BEDS	6.2	6.7	5.8
300-499 BEDS	7.0	7.4	6.7
500 BEDS OR MORE	7.3	8.1	6.8
OWNERSHIP			
NONPROFIT	6.6	7.1	6.3
STATE AND LOCAL GOVERNMENT	6.0	6.8	5.5
PROPRIETARY	5.9	6.3	5.6

TABLE 2. RATE OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY AGE, GEOGRAPHIC REGION, AND SEX: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS]

AGE AND REGION	BOTH SEXES	MALE	FEMALE
RATE OF PATIENTS DISCHARGED PER 1,000 POPULATION			
TOTAL	138.2	116.0	158.9
AGE			
UNDER 15 YEARS	51.3	57.3	45.0
15-44 YEARS	115.1	68.7	160.3
45-64 YEARS	156.9	163.1	151.2
65 YEARS AND OVER	350.5	381.9	329.1
REGION			
NORTHEAST	133.5	117.5	148.2
MIDWEST	146.8	124.9	167.5
SOUTH	136.1	113.5	157.0
WEST	135.9	108.1	162.9

TABLE 4. NUMBER OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY CATEGORY OF FIRST-LISTED DIAGNOSIS, SEX, AND AGE: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS. DIAGNOSTIC GROUPINGS AND CODE NUMBER INCLUSIONS ARE BASED ON THE INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION, CLINICAL MODIFICATION (ICD-9-CM)]

CATEGORY OF FIRST-LISTED DIAGNOSIS AND ICD-9-CM CODE	TOTAL	SEX		AGE			
		MALE	FEMALE	UNDER 15 YEARS	15-44 YEARS	45-64 YEARS	65 YEARS AND OVER
NUMBER OF PATIENTS DISCHARGED IN THOUSANDS							
ALL CONDITIONS	33,387	13,568	19,818	2,688	13,142	7,099	10,459
INFECTIOUS AND PARASITIC DISEASES001-139	684	338	346	191	228	93	172
NEOPLASMS140-239	2,331	966	1,365	56	433	802	1,040
MALIGNANT NEOPLASMS140-208,230-234	1,879	868	1,011	38	229	658	953
MALIGNANT NEOPLASM OF LARGE INTESTINE AND RECTUM153-154,197.5	198	99	99	*	*7	62	128
MALIGNANT NEOPLASM OF TRACHEA, BRONCHUS, AND LUNG162,197.0,197.3	305	190	115	*	12	129	164
MALIGNANT NEOPLASM OF BREAST174-175,198.81	205	*	204	*	29	90	87
BENIGN NEOPLASMS AND NEOPLASMS OF UNCERTAIN BEHAVIOR AND UNSPECIFIED NATURE210-229,235-239	452	98	354	18	204	143	87
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY							
DISORDERS240-279	1,086	415	671	94	263	273	456
DIABETES MELLITUS250	474	198	276	27	131	150	166
DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS280-289	323	145	179	52	86	60	125
MENTAL DISORDERS290-319	1,781	935	845	65	1,093	359	263
PSYCHOSES290-299	814	377	437	12	448	179	175
ALCOHOL DEPENDENCE SYNDROME303	336	248	87	*	216	92	26
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS320-389	949	437	512	190	260	197	303
DISEASES OF THE CENTRAL NERVOUS SYSTEM320-336,340-349	383	174	208	56	134	80	112
CATARACT366	63	24	39	*	*	11	47
DISEASES OF THE EAR AND MASTOID PROCESS380-389	196	96	100	94	40	26	36
DISEASES OF THE CIRCULATORY SYSTEM390-459	5,572	2,868	2,704	32	450	1,743	3,347
HEART DISEASE391-392.0,393-398,402,404,410-416,420-429	3,736	2,016	1,720	19	242	1,236	2,240
ACUTE MYOCARDIAL INFARCTION410	760	478	282	*	46	279	435
ATHEROSCLEROTIC HEART DISEASE414.0	369	241	128	-	16	178	174
OTHER ISCHEMIC HEART DISEASE411-413,414.1-414.9	1,040	549	491	*	62	415	562
CARDIAC DYSRHYTHMIAS427	521	257	265	*7	40	128	346
CONGESTIVE HEART FAILURE428.0	605	269	336	*5	14	103	483
CEREBROVASCULAR DISEASE430-438	895	392	502	*	34	191	665
DISEASES OF THE RESPIRATORY SYSTEM460-519	2,982	1,478	1,504	767	586	537	1,092
ACUTE RESPIRATORY INFECTIONS, EXCEPT INFLUENZA460-466	416	218	198	190	61	60	105
CHRONIC DISEASE OF TONSILS AND ADENOIDS474	218	100	119	146	70	*	*
PNEUMONIA, ALL FORMS480-486	924	468	456	204	136	139	445
ASTHMA493	454	193	261	149	112	92	101
DISEASES OF THE DIGESTIVE SYSTEM520-579	3,663	1,714	1,949	298	1,143	953	1,270
ULCERS OF THE STOMACH AND SMALL INTESTINE531-534	292	152	140	*	64	84	142
GASTRITIS AND DUODENITIS535	181	81	99	14	67	51	48
APPENDICITIS540-543	275	160	114	65	165	30	14
INGUINAL HERNIA550	301	266	35	38	73	94	96
NONINFECTIOUS ENTERITIS AND COLITIS555-556,558	388	152	236	107	138	56	88
CHOLELITHIASIS574	522	151	371	*	184	162	175
DISEASES OF THE GENITOURINARY SYSTEM580-629	2,515	941	1,574	90	1,114	578	733
CALCULUS OF KIDNEY AND URETER592	314	212	102	*	148	113	52
HYPERPLASIA OF PROSTATE600	274	274	...	-	*	67	206
COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM ¹630-678	904	...	904	*5	898	*	...
ABORTIONS AND ECTOPIC AND MOLAR PREGNANCIES630-639	301	...	301	*	297	*	...
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE680-709	478	229	249	49	172	105	152
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE710-739	1,955	886	1,069	53	734	613	554
ARTHRITIS AND RELATED DISORDERS710-719	484	194	290	12	129	128	215
INTERVERTEBRAL DISC DISORDERS722	486	280	206	*	252	180	53
CONGENITAL ANOMALIES740-759	240	120	119	136	63	28	13
CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD760-779	121	70	51	121	*	*	-
SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS780-799	450	208	242	78	162	145	65
INJURY AND POISONING800-899	3,027	1,660	1,367	360	1,377	515	775
FRACTURES, ALL SITES800-829	1,062	519	543	113	381	164	404
FRACTURE OF NECK OF FEMUR820	249	71	177	*	*9	21	217
SPRAINS AND STRAINS OF BACK (INCLUDING NECK)846-847	159	76	83	*	100	38	18
INTRACRANIAL INJURIES (EXCLUDING THOSE WITH SKULL FRACTURE)850-854	238	154	84	58	127	23	30
LACERATIONS AND OPEN WOUNDS870-904	260	194	66	33	173	34	20
SUPPLEMENTARY CLASSIFICATIONSV01-V82	4,327	157	4,169	52	4,079	97	98
FEMALES WITH DELIVERIESV27	3,911	...	3,911	11	3,897	*	...

¹ FIRST-LISTED DIAGNOSIS FOR FEMALES WITH DELIVERIES IS CODED V27, SHOWN UNDER "SUPPLEMENTARY CLASSIFICATIONS."

TABLE 5. RATE OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY CATEGORY OF FIRST-LISTED DIAGNOSIS, SEX, AND AGE: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS. DIAGNOSTIC GROUPINGS AND CODE NUMBER INCLUSIONS ARE BASED ON THE INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION, CLINICAL MODIFICATION (ICD-9-CM)]

CATEGORY OF FIRST-LISTED DIAGNOSIS AND ICD-9-CM CODE	TOTAL	SEX		AGE			
		MALE	FEMALE	UNDER 15 YEARS	15-44 YEARS	45-64 YEARS	65 YEARS AND OVER
RATE OF INPATIENTS DISCHARGED PER 10,000 POPULATION							
ALL CONDITIONS	1,381.6	1,160.1	1,589.3	512.9	1,151.0	1,568.6	3,505.5
INFECTIOUS AND PARASITIC DISEASES001-139	28.3	28.9	27.7	36.5	19.9	20.5	57.7
NEOPLASMS140-239	96.5	82.6	109.4	10.8	37.9	177.2	348.5
MALIGNANT NEOPLASMS140-208,230-234	77.8	74.2	81.0	7.3	20.1	145.5	319.5
MALIGNANT NEOPLASM OF LARGE INTESTINE AND RECTUM153-154,197.5	8.2	8.5	7.9	*	*0.7	13.6	43.0
MALIGNANT NEOPLASM OF TRACHEA, BRONCHUS, AND LUNG162,197.0,197.3	12.6	16.3	9.2	*	1.1	28.5	54.9
MALIGNANT NEOPLASM OF BREAST174-175,198.81	8.5	*	16.3	*	2.5	19.8	29.1
BENIGN NEOPLASMS AND NEOPLASMS OF UNCERTAIN BEHAVIOR AND UNSPECIFIED NATURE210-229,235-239	18.7	8.3	28.4	3.5	17.8	31.7	29.0
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS240-279	44.9	35.5	53.8	18.0	23.0	60.4	152.7
DIABETES MELLITUS250	19.6	16.9	22.1	5.2	11.4	33.2	55.6
DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS280-289	13.4	12.4	14.3	9.9	7.5	13.3	41.9
MENTAL DISORDERS290-319	73.7	80.0	67.8	12.3	95.7	79.4	88.3
PSYCHOSES290-299	33.7	32.2	35.0	2.3	39.2	39.4	58.8
ALCOHOL DEPENDENCE SYNDROME303	13.9	21.2	7.0	*	18.9	20.3	8.6
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS320-389	39.3	37.4	41.1	36.3	22.8	43.5	101.5
DISEASES OF THE CENTRAL NERVOUS SYSTEM320-336,340-349	15.8	14.9	16.7	10.7	11.7	17.7	37.7
CATARACT366	2.6	2.0	3.2	*	*	2.4	15.9
DISEASES OF THE EAR AND MASTOID PROCESS380-389	8.1	8.2	8.0	17.8	3.5	5.7	12.1
DISEASES OF THE CIRCULATORY SYSTEM390-459	230.6	245.2	216.8	6.0	39.4	385.1	1,121.9
HEART DISEASE391-392.0,393-398,402,404,410-416,420-429	154.6	172.4	138.0	3.5	21.2	273.1	750.7
ACUTE MYOCARDIAL INFARCTION410	31.4	40.9	22.6	*	4.0	61.5	145.8
ATHEROSCLEROTIC HEART DISEASE414.0	15.3	20.6	10.2	-	1.4	39.3	58.4
OTHER ISCHEMIC HEART DISEASE411-413,414.1-414.9	43.0	46.9	39.4	*	5.4	91.6	188.3
CARDIAC DYSRHYTHMIAS427	21.6	21.9	21.2	*1.3	3.5	28.4	116.0
CONGESTIVE HEART FAILURE428.0	25.0	23.0	26.9	*0.9	1.3	22.7	161.8
CEREBROVASCULAR DISEASE430-438	37.0	33.5	40.3	*	3.0	42.3	223.0
DISEASES OF THE RESPIRATORY SYSTEM460-519	123.4	126.4	120.6	146.3	51.3	118.7	366.1
ACUTE RESPIRATORY INFECTIONS, EXCEPT INFLUENZA480-486	17.2	18.7	15.9	36.3	5.4	13.2	35.2
CHRONIC DISEASE OF TONSILS AND ADENOIDS474	9.0	8.5	9.5	27.9	6.1	*	*
PNEUMONIA, ALL FORMS480-486	38.2	40.0	36.6	38.9	11.9	30.7	149.2
ASTHMA493	18.8	16.5	20.9	28.4	9.8	20.4	33.8
DISEASES OF THE DIGESTIVE SYSTEM520-579	151.8	146.5	156.3	56.9	100.1	210.5	425.5
ULCERS OF THE STOMACH AND SMALL INTESTINE531-534	12.1	13.0	11.2	*	5.6	18.6	47.6
GASTRITIS AND DUODENITIS535	7.5	7.0	8.0	2.7	5.9	11.3	16.1
APPENDICITIS540-543	11.4	13.7	9.2	12.5	14.4	6.7	4.8
INGUINAL HERNIA550	12.4	22.7	2.8	7.3	6.4	20.8	32.1
NONINFECTIOUS ENTERITIS AND COLITIS555-556,558	16.1	13.0	19.0	20.4	12.1	12.3	29.5
CHOLELITHIASIS574	21.6	12.9	29.8	*	16.1	35.8	58.6
DISEASES OF THE GENITOURINARY SYSTEM580-629	104.1	80.4	126.2	17.1	97.6	127.7	245.7
CALCULUS OF KIDNEY AND URETER592	13.0	18.1	8.2	*	12.9	25.0	17.3
HYPERPLASIA OF PROSTATE600	11.3	23.4	...	-	*	14.9	69.1
COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM ¹630-676	37.4	...	72.5	*0.9	78.7	*	...
ABORTIONS AND ECTOPIC AND MOLAR PREGNANCIES630-639	12.4	...	24.1	*	26.0	*	...
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE680-709	19.8	19.6	20.0	9.4	15.0	23.1	51.0
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE710-739	80.9	75.8	85.7	10.1	64.3	135.5	185.8
ARTHROPATHIES AND RELATED DISORDERS710-719	20.0	16.6	23.2	2.2	11.3	28.4	72.1
INTERVERTEBRAL DISC DISORDERS722	20.1	24.0	16.5	*	22.1	39.8	17.8
CONGENITAL ANOMALIES740-759	9.9	10.3	9.6	26.0	5.5	6.1	4.4
CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD760-779	5.0	6.0	4.1	23.0	*	*	-
SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS780-799	18.6	17.8	19.4	14.9	14.2	32.1	21.8
INJURY AND POISONING800-999	125.2	141.9	109.6	68.7	120.7	113.7	259.7
FRACTURES, ALL SITES800-829	43.9	44.3	43.6	21.6	33.4	36.2	135.4
FRACTURE OF NECK OF FEMUR820	10.3	6.1	14.2	*	*0.8	4.5	72.7
SPRAINS AND STRAINS OF BACK (INCLUDING NECK)845-847	6.6	6.5	6.6	*	8.7	8.4	6.1
INTRACRANIAL INJURIES (EXCLUDING THOSE WITH SKULL FRACTURE)850-854	9.8	13.1	6.8	11.0	11.1	5.1	10.2
LACERATIONS AND OPEN WOUNDS870-904	10.8	16.6	5.3	6.2	15.2	7.5	6.8
SUPPLEMENTARY CLASSIFICATIONSV01-V82	179.0	13.5	334.4	10.0	357.3	21.4	32.9
FEMALES WITH DELIVERIESV27	161.8	...	313.6	2.0	341.3	*	...

¹FIRST-LISTED DIAGNOSIS FOR FEMALES WITH DELIVERIES IS CODED V27, SHOWN UNDER "SUPPLEMENTARY CLASSIFICATIONS."

TABLE 6. AVERAGE LENGTH OF STAY FOR INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY CATEGORY OF FIRST-LISTED DIAGNOSIS, SEX, AND AGE: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS. DIAGNOSTIC GROUPINGS AND CODE NUMBER INCLUSIONS ARE BASED ON THE INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION, CLINICAL MODIFICATION (ICD-9-CM)]

CATEGORY OF FIRST-LISTED DIAGNOSIS AND ICD-9-CM CODE	TOTAL	SEX		AGE			
		MALE	FEMALE	UNDER 15 YEARS	15-44 YEARS	45-64 YEARS	65 YEARS AND OVER
AVERAGE LENGTH OF STAY IN DAYS							
ALL CONDITIONS	6.4	6.9	6.1	4.7	4.8	6.8	8.6
INFECTIOUS AND PARASITIC DISEASES001-139	7.6	8.3	7.0	4.0	6.9	10.0	11.2
NEOPLASMS140-239	8.0	8.7	7.5	5.1	5.9	7.8	9.3
MALIGNANT NEOPLASMS140-208,230-234	8.7	9.0	8.3	6.0	7.1	8.2	9.4
MALIGNANT NEOPLASM OF LARGE INTESTINE AND RECTUM153-154,197.5	11.8	11.8	11.8	*	*9.7	10.8	12.4
MALIGNANT NEOPLASM OF TRACHEA, BRONCHUS, AND LUNG162,197.0,197.3	8.9	8.7	9.2	*	7.6	8.7	9.1
MALIGNANT NEOPLASM OF BREAST174-175,198.81	6.2	*	6.1	*	5.9	5.9	6.6
BENIGN NEOPLASMS AND NEOPLASMS OF UNCERTAIN BEHAVIOR AND UNSPECIFIED NATURE210-229,235-239	5.4	5.8	5.3	3.1	4.5	5.5	7.7
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS240-279	7.3	7.3	7.3	5.0	5.1	7.3	9.0
DIABETES MELLITUS250	7.6	7.7	7.6	5.4	5.4	7.9	9.4
DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS280-289	6.0	6.1	5.9	3.5	5.0	6.1	7.6
MENTAL DISORDERS290-319	12.3	11.9	12.8	24.0	11.7	11.3	13.0
PSYCHOSES290-299	13.7	13.0	14.2	24.2	13.2	13.5	14.5
ALCOHOL DEPENDENCE SYNDROME303	10.9	10.6	11.7	*	11.2	10.4	10.9
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS320-389	6.0	6.3	5.7	4.4	5.9	6.2	6.9
DISEASES OF THE CENTRAL NERVOUS SYSTEM320-336,340-349	9.8	10.7	9.1	8.6	7.7	10.1	12.7
CATARACT366	1.8	2.1	1.6	*	*	1.8	1.6
DISEASES OF THE EAR AND MASTOID PROCESS380-389	2.8	2.6	3.0	2.3	2.7	3.4	3.7
DISEASES OF THE CIRCULATORY SYSTEM390-459	7.6	7.2	7.9	7.0	5.8	6.7	8.2
HEART DISEASE391-392.0,393-398,402,404,410-416,420-429	6.9	6.7	7.2	8.2	5.5	6.2	7.5
ACUTE MYOCARDIAL INFARCTION410	8.5	8.0	9.4	*	6.8	8.0	9.0
ATHEROSCLEROTIC HEART DISEASE414.0	6.3	6.1	6.8	-	4.3	5.5	7.4
OTHER ISCHEMIC HEART DISEASE411-413,414.1-414.9	5.2	4.9	5.5	*	3.7	4.7	5.7
CARDIAC DYSRHYTHMIAS427	5.7	5.6	5.8	*7.4	3.6	4.9	6.2
CONGESTIVE HEART FAILURE428.0	8.4	8.2	8.6	*6.6	6.4	8.0	8.6
CEREBROVASCULAR DISEASE430-438	10.1	9.6	10.4	*	12.1	9.9	10.1
DISEASES OF THE RESPIRATORY SYSTEM460-519	6.3	6.4	6.2	3.2	4.5	7.0	9.1
ACUTE RESPIRATORY INFECTIONS, EXCEPT INFLUENZA460-466	4.6	4.4	4.9	3.1	3.7	6.1	7.1
CHRONIC DISEASE OF TONSILS AND ADENOIDS474	1.2	1.2	1.3	1.2	1.4	*	*
PNEUMONIA, ALL FORMS480-486	8.0	7.9	8.1	4.4	6.7	8.3	10.0
ASTHMA493	4.8	4.4	5.1	3.3	4.1	5.8	7.0
DISEASES OF THE DIGESTIVE SYSTEM520-579	6.2	5.7	6.6	3.3	4.9	6.2	8.0
ULCERS OF THE STOMACH AND SMALL INTESTINE531-534	6.9	6.8	7.0	*	4.5	6.1	8.5
GASTRITIS AND DUODENITIS535	4.2	4.1	4.3	2.4	4.0	4.2	5.1
APPENDICITIS540-543	4.7	4.6	4.9	4.2	4.3	6.5	8.5
INGUINAL HERNIA550	2.6	2.5	3.2	1.9	2.1	2.3	3.7
NONINFECTIOUS ENTERITIS AND COLITIS555-556,558	4.9	4.6	5.0	2.8	4.8	6.4	6.5
CHOLELITHIASIS574	7.0	7.6	6.8	*	5.6	6.4	9.1
DISEASES OF THE GENITOURINARY SYSTEM580-629	5.0	5.2	5.0	3.3	3.9	5.0	7.0
CALCULUS OF KIDNEY AND URETER592	3.5	3.2	4.2	*	3.0	3.4	5.4
HYPERPLASIA OF PROSTATE600	5.4	5.4	...	-	*	4.6	5.7
COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM ¹630-676	2.7	...	2.7	*1.8	2.7	*	...
ABORTIONS AND ECTOPIC AND MOLAR PREGNANCIES630-639	2.2	...	2.2	*	2.2	*	...
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE680-709	7.9	7.2	8.6	4.2	5.9	8.4	11.2
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE710-739	6.4	5.9	6.9	5.2	4.8	6.1	9.1
ARTHROPATHIES AND RELATED DISORDERS710-719	7.8	6.8	8.5	6.8	4.3	7.6	10.1
INTERVERTEBRAL DISC DISORDERS722	6.4	5.8	7.0	*	5.9	6.3	8.7
CONGENITAL ANOMALIES740-759	6.0	5.7	6.2	6.1	4.8	7.8	6.8
CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD760-779	9.8	9.6	10.1	9.9	*	*	-
SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS780-799	4.1	3.7	4.4	3.4	3.5	4.9	4.6
INJURY AND POISONING800-999	6.7	6.3	7.1	4.3	5.5	6.8	9.9
FRACTURES, ALL SITES800-829	8.9	8.3	9.4	5.4	7.2	7.8	11.8
FRACTURE OF NECK OF FEMUR820	13.9	14.3	13.8	*	*14.9	11.6	14.1
SPRAINS AND STRAINS OF BACK (INCLUDING NECK)846-847	5.4	5.1	5.7	*	5.2	5.9	6.0
INTRACRANIAL INJURIES (EXCLUDING THOSE WITH SKULL FRACTURE)850-854	5.8	6.3	4.9	2.7	6.5	6.2	8.4
LAGERATIONS AND OPEN WOUNDS870-904	4.0	4.0	4.1	3.2	3.8	4.4	6.7
SUPPLEMENTARY CLASSIFICATIONSV01-V82	3.2	5.8	3.1	4.7	3.1	3.9	6.7
FEMALES WITH DELIVERIESV27	3.1	...	3.1	2.8	3.1	*	...

¹ FIRST-LISTED DIAGNOSIS FOR FEMALES WITH DELIVERIES IS CODED V27, SHOWN UNDER "SUPPLEMENTARY CLASSIFICATIONS."

TABLE 7. NUMBER OF ALL-LISTED PROCEDURES FOR INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY PROCEDURE CATEGORY, SEX, AND AGE: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS. PROCEDURE GROUPINGS AND CODE NUMBER INCLUSIONS ARE BASED ON THE INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION, CLINICAL MODIFICATION (ICD-9-CM)]

PROCEDURE CATEGORY AND ICD-9-CM CODE	TOTAL	SEX		AGE			
		MALE	FEMALE	UNDER 15 YEARS	15-44 YEARS	45-64 YEARS	65 YEARS AND OVER
NUMBER OF ALL-LISTED PROCEDURES IN THOUSANDS							
ALL PROCEDURES	39,118	15,716	23,402	1,866	15,632	9,252	12,369
OPERATIONS ON THE NERVOUS SYSTEM01-05	914	474	439	182	306	220	206
SPINAL TAP03.31	351	181	169	143	90	48	70
OPERATIONS ON THE ENDOCRINE SYSTEM06-07	109	30	79	*	44	37	24
OPERATIONS ON THE EYE08-16	497	225	272	39	96	116	246
EXTRACTION OF LENS13.1-13.6	83	31	52	*6	*7	14	57
INSERTION OF PROSTHETIC LENS (PSEUDOPHAKOS)13.7	69	25	44	*	*	13	54
OPERATIONS ON THE EAR18-20	176	106	71	93	42	22	20
OPERATIONS ON THE NOSE, MOUTH, AND PHARYNX21-29	937	485	452	239	432	161	105
RHINOPLASTY AND REPAIR OF NOSE21.8	125	60	65	*6	89	23	*7
TONSILLECTOMY WITH OR WITHOUT ADENOIDECTOMY28.2-28.3	244	115	129	159	80	*	*
OPERATIONS ON THE RESPIRATORY SYSTEM30-34	1,018	600	418	47	197	315	458
BRONCHOSCOPY33.21-33.23	196	121	75	14	29	59	93
OPERATIONS ON THE CARDIOVASCULAR SYSTEM35-39	3,116	1,838	1,279	99	331	1,274	1,412
REMOVAL OF CORONARY ARTERY OBSTRUCTION36.0	184	123	62	-	17	104	64
DIRECT HEART REVASCULARIZATION36.1	332	244	88	*	*9	170	152
CARDIAC CATHETERIZATION37.21-37.23	866	533	333	19	79	440	328
PACEMAKER INSERTION, REPLACEMENT, REMOVAL, REPAIR37.7-37.8	234	132	101	*	*8	49	174
OPERATIONS ON THE HEMIC AND LYMPHATIC SYSTEM40-41	398	202	196	20	80	113	184
OPERATIONS ON THE DIGESTIVE SYSTEM42-54	5,842	2,517	3,326	229	1,815	1,511	2,287
ESOPHAGOSCOPY AND GASTROSCOPY (NATURAL ORIFICE)42.23,44.13	153	74	79	*8	26	43	76
PARTIAL GASTRECTOMY AND RESECTION OF INTESTINE43.5-43.8,45.6-45.8	308	139	168	*6	45	84	172
ENDOSCOPY OF LARGE INTESTINE (NATURAL ORIFICE)45.24	415	185	230	*	87	102	245
APPENDECTOMY, EXCLUDING INCIDENTAL47.0	303	164	139	66	186	33	17
HEMORRHOIDECTOMY49.43-49.46	97	52	45	-	48	32	17
CHOLECYSTECTOMY51.2	536	148	388	*	199	163	172
REPAIR OF INGUINAL HERNIA53.0-53.1	329	290	39	42	77	99	111
DIVISION OF PERITONEAL ADHESIONS54.5	339	53	286	*	194	70	74
OPERATIONS ON THE URINARY SYSTEM55-59	1,721	1,089	631	54	380	476	811
ENDOSCOPIES (NATURAL ORIFICE)55.21-55.22,56.31,57.32,58.22	637	473	164	13	91	170	363
OPERATIONS ON THE MALE GENITAL ORGANS60-64	747	747	...	70	75	160	442
PROSTATECTOMY60.2-60.6	410	410	*	90	318
OPERATIONS ON THE FEMALE GENITAL ORGANS65-71	2,884	...	2,884	*7	2,108	538	231
OOPHORECTOMY AND SALPINGO-OOPHORECTOMY65.3-65.6	490	...	490	*	276	163	50
BILATERAL DESTRUCTION OR OCCLUSION OF FALLOPIAN TUBES66.2-66.3	415	...	415	-	413	*	...
HYSTERECTOMY68.3-68.7	655	...	655	*	406	188	60
DILATION AND CURETTAGE OF UTERUS69.0	379	...	379	*	314	48	16
REPAIR OF CYSTOCELE AND RECTOCELE70.5	149	...	149	-	43	59	46
OBSTETRICAL PROCEDURES72-75	5,358	...	5,358	18	5,337	*	...
EPISIOTOMY WITH OR WITHOUT FORCEPS OR VACUUM EXTRACTION72.1,72.21,72.31,72.71,73.6	1,833	...	1,833	*7	1,826	*	...
CESAREAN SECTION74.0-74.2,74.4,74.99	953	...	953	*	951	*	...
REPAIR OF CURRENT OBSTETRIC LACERATION75.5-75.6	660	...	660	*5	656	-	...
OPERATIONS ON THE MUSCULOSKELETAL SYSTEM76-84	3,466	1,718	1,748	209	1,477	839	941
OPEN REDUCTION OF FRACTURE EXCEPT JAW76.79,79.2-79.3,79.5-79.6	481	257	223	30	200	86	165
OTHER REDUCTION OF FRACTURE EXCEPT JAW76.70,76.78,79.0-79.1,79.4	205	110	95	54	72	26	53
EXCISION OR DESTRUCTION OF INTERVERTEBRAL DISC AND SPINAL FUSION80.5,81.0	352	202	150	*5	176	133	38
ARTHROPLASTY AND REPLACEMENT OF KNEE81.41-81.47	210	106	104	*	79	40	88
ARTHROPLASTY AND REPLACEMENT OF HIP81.5-81.6	212	66	146	*	11	40	161
OPERATIONS ON MUSCLES, TENDONS, FASCIA, AND BURSA82-83.1,83.3-83.9	322	182	140	25	155	91	51
OPERATIONS ON THE INTEGUMENTARY SYSTEM85-86	1,600	667	933	95	642	434	430
MASTECTOMY85.4	141	*	140	*	18	60	62
EXCISION OR DESTRUCTION OF LESION OR TISSUE OF SKIN OR SUBCUTANEOUS TISSUE86.2-86.4	568	302	266	38	235	126	169
SKIN GRAFT (EXCEPT LIP OR MOUTH)86.6-86.7	149	88	61	16	57	35	42
MISCELLANEOUS DIAGNOSTIC AND THERAPEUTIC PROCEDURES87-99	10,335	5,018	5,317	460	2,271	3,032	4,572
COMPUTERIZED AXIAL TOMOGRAPHY87.03,87.41,87.71,88.01,88.38	1,646	814	833	86	366	396	798
PYELOGRAM87.73-87.75	334	190	144	*10	125	93	105
ARTERIOGRAPHY AND ANGIOCARDIOGRAPHY USING CONTRAST MATERIAL88.4-88.5	1,448	868	580	17	155	683	593
DIAGNOSTIC ULTRASOUND88.7	1,596	616	981	69	490	360	677
CIRCULATORY MONITORING89.6	821	430	391	53	109	184	475
RADIOISOTOPE SCAN92.0-92.1	759	350	409	18	136	219	386

TABLE 8. RATE OF ALL-LISTED PROCEDURES FOR INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY PROCEDURE CATEGORY, SEX, AND AGE: UNITED STATES, 1987

[DISCHARGES FROM NON-FEDERAL HOSPITALS. EXCLUDES NEWBORN INFANTS. PROCEDURE GROUPINGS AND CODE NUMBER INCLUSIONS ARE BASED ON THE INTERNATIONAL CLASSIFICATION OF DISEASES, 9TH REVISION, CLINICAL MODIFICATION (ICD-9-CM)]

PROCEDURE CATEGORY AND ICD-9-CM CODE	TOTAL	SEX		AGE			
		MALE	FEMALE	UNDER 15 YEARS	15-44 YEARS	45-64 YEARS	65 YEARS AND OVER
RATE OF ALL-LISTED PROCEDURES PER 100,000 POPULATION							
ALL PROCEDURES	16,187.3	13,437.2	18,766.7	3,560.3	13,691.7	20,443.5	41,456.9
OPERATIONS ON THE NERVOUS SYSTEM01-05	378.1	405.6	352.4	348.2	268.0	485.5	689.2
SPINAL TAP03.31	145.1	155.2	135.7	272.1	78.9	106.5	234.1
OPERATIONS ON THE ENDOCRINE SYSTEM06-07	45.0	25.3	63.6	*	38.5	82.8	79.8
OPERATIONS ON THE EYE08-16	205.7	192.7	217.9	75.1	84.0	255.8	825.1
EXTRACTION OF LENS13.1-13.6	34.4	26.7	41.5	*10.6	*5.8	31.1	190.4
INSERTION OF PROSTHETIC LENS (PSEUDOPHAKOS)13.7	28.4	21.1	35.3	*	*	29.2	180.3
OPERATIONS ON THE EAR18-20	73.0	90.5	56.7	176.7	36.5	49.2	66.8
OPERATIONS ON THE NOSE, MOUTH, AND PHARYNX21-29	387.5	414.5	362.2	455.6	378.4	356.0	350.7
RHINOPLASTY AND REPAIR OF NOSE21.8	51.5	51.1	51.9	*10.6	77.8	50.5	*24.5
TONSILLECTOMY WITH OR WITHOUT ADENOIDECTOMY28.2-28.3	101.0	98.5	103.3	303.1	70.4	*	*
OPERATIONS ON THE RESPIRATORY SYSTEM30-34	421.3	512.6	335.6	90.0	172.7	696.6	1,536.5
BRONCHOSCOPY33.21-33.23	81.1	103.8	59.8	27.4	25.5	130.9	312.9
OPERATIONS ON THE CARDIOVASCULAR SYSTEM35-39	1,289.5	1,571.2	1,025.3	189.4	289.6	2,815.7	4,732.8
REMOVAL OF CORONARY ARTERY OBSTRUCTION36.0	76.3	104.9	49.5	-	14.9	228.9	214.1
DIRECT HEART REVASCULARIZATION36.1	137.3	208.6	70.4	*	*7.6	376.7	511.0
CARDIAC CATHETERIZATION37.21-37.23	358.2	455.4	267.0	35.6	69.5	972.2	1,098.4
PACEMAKER INSERTION, REPLACEMENT, REMOVAL, REPAIR37.7-37.8	96.7	113.2	81.2	*	*6.7	107.6	584.0
OPERATIONS ON THE HEMIC AND LYMPHATIC SYSTEM40-41	164.8	173.0	157.1	39.0	70.4	250.2	617.5
OPERATIONS ON THE DIGESTIVE SYSTEM42-54	2,417.6	2,151.6	2,667.0	437.5	1,589.6	3,338.5	7,666.6
ESOPHAGOSCOPY AND GASTROSCOPY (NATURAL ORIFICE)42.23,44.13	63.3	63.4	63.2	*14.7	22.6	95.5	255.2
PARTIAL GASTRECTOMY AND RESECTION OF INTESTINE43.5-43.8,45.6-45.8	127.3	118.9	135.1	*10.7	39.6	186.5	577.5
ENDOSCOPY OF LARGE INTESTINE (NATURAL ORIFICE)45.24	171.9	158.5	184.4	*	58.4	224.6	821.1
APPENDECTOMY, EXCLUDING INCIDENTAL47.0	125.3	140.3	111.2	126.5	163.3	73.9	55.8
HEMORRHOIDECTOMY49.43-49.46	40.0	44.6	35.8	-	42.0	71.3	55.6
CHOLECYSTECTOMY51.2	221.9	126.6	311.4	*	174.1	360.7	577.1
REPAIR OF INGUINAL HERNIA53.0-53.1	136.2	247.7	31.6	79.6	67.2	219.5	372.8
DIVISION OF PERITONEAL ADHESIONS54.5	140.3	45.4	229.3	*	169.7	153.7	247.0
OPERATIONS ON THE URINARY SYSTEM55-59	712.0	931.5	506.1	103.5	332.5	1,051.6	2,717.3
ENDOSCOPES (NATURAL ORIFICE)55.21-55.22,56.31,57.32,58.22	263.6	404.3	131.6	24.5	79.6	376.3	1,216.5
OPERATIONS ON THE MALE GENITAL ORGANS60-64	309.2	638.8	...	133.3	65.7	353.8	1,481.9
PROSTATECTOMY60.2-60.6	169.7	350.7	*	199.1	1,067.0
OPERATIONS ON THE FEMALE GENITAL ORGANS65-71	1,193.2	...	2,312.4	*13.3	1,846.2	1,188.4	774.1
OOPHORECTOMY AND SALPINGO-OOPHORECTOMY65.3-65.6	202.8	...	393.1	*	242.0	360.8	167.9
BILATERAL DESTRUCTION OR OCCLUSION OF FALLOPIAN TUBES66.2-66.3	171.8	...	333.0	-	361.9	*	...
HYSTERECTOMY68.3-68.7	270.9	...	524.9	*	355.9	415.9	200.4
DILATION AND CURETTAGE OF UTERUS69.0	157.0	...	304.2	*	275.0	106.7	55.2
REPAIR OF CYSTOCELE AND RECTOCELE70.5	61.5	...	119.3	-	38.0	131.2	153.9
OBSTETRICAL PROCEDURES72-75	2,217.3	...	4,297.0	34.5	4,674.5	*	...
EPISIOTOMY WITH OR WITHOUT FORCEPS OR VACUUM EXTRACTION72.1,72.21,72.31,72.71,73.6	758.7	...	1,470.2	*12.8	1,599.6	*	...
CESAREAN SECTION74.0-74.2,74.4,74.99	394.2	...	763.9	*	832.6	*	...
REPAIR OF CURRENT OBSTETRIC LACERATION75.5-75.6	273.1	...	529.3	*8.7	574.2	-	...
OPERATIONS ON THE MUSCULOSKELETAL SYSTEM76-84	1,434.2	1,469.0	1,401.5	398.0	1,293.8	1,854.4	3,153.8
OPEN REDUCTION OF FRACTURE EXCEPT JAW76.79,79.2-79.3,79.5-79.6	198.9	219.9	179.1	56.6	174.8	190.8	553.0
OTHER REDUCTION OF FRACTURE EXCEPT JAW76.70,76.78,79.0-79.1,79.4	84.8	93.9	76.3	102.8	63.3	56.7	177.9
EXCISION OR DESTRUCTION OF INTERVERTEBRAL DISC AND SPINAL FUSION80.5,81.0	145.7	172.6	120.5	*10.2	154.3	292.9	127.5
ARTHROPLASTY AND REPLACEMENT OF KNEE81.41-81.47	86.9	90.5	83.6	*	68.9	88.5	296.6
ARTHROPLASTY AND REPLACEMENT OF HIP81.5-81.6	87.8	56.3	117.3	*	9.4	88.2	538.7
OPERATIONS ON MUSCLES, TENDONS, FASCIA, AND BURSA82-83,1,83.3-83.9	133.2	155.5	112.2	48.0	135.8	200.4	170.5
OPERATIONS ON THE INTEGUMENTARY SYSTEM85-86	662.2	570.3	748.3	181.8	562.1	958.3	1,439.7
MASTECTOMY85.4	58.4	*	112.0	*	16.1	133.4	208.4
EXCISION OR DESTRUCTION OF LESION OR TISSUE OF SKIN OR SUBCUTANEOUS TISSUE86.2-86.4	235.1	258.5	213.2	72.4	206.2	277.4	567.3
SKIN GRAFT (EXCEPT LIP OR MOUTH)86.6-86.7	61.8	75.4	49.0	30.2	50.0	76.6	139.8
MISCELLANEOUS DIAGNOSTIC AND THERAPEUTIC PROCEDURES87-99	4,276.7	4,290.6	4,263.7	877.8	1,989.1	6,699.2	15,325.3
COMPUTERIZED AXIAL TOMOGRAPHY87.03,87.41,87.71,88.01,88.38	681.3	695.7	667.7	164.7	320.7	875.8	2,673.3
PYELOGRAM87.73-87.75	138.1	162.2	115.5	*19.6	109.6	206.5	351.4
ARTERIOGRAPHY AND ANGIOCARDIOGRAPHY USING CONTRAST MATERIAL88.4-88.5	599.2	742.2	465.0	32.4	136.0	1,508.4	1,987.8
DIAGNOSTIC ULTRASOUND88.7	660.5	526.3	786.3	132.5	428.8	795.3	2,269.9
CIRCULATORY MONITORING89.6	339.8	367.4	313.8	100.6	95.6	406.6	1,592.8
RADIOISOTOPE SCAN92.0-92.1	314.0	299.0	328.0	33.7	119.0	483.9	1,294.4

References

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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 standards of reliability or precision (see Technical notes)
#	Figure suppressed to comply with confidentiality requirements

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 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 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, 558 hospitals were sampled in 1987. Of these hospitals, 92 refused to participate and 66 were out of scope. The 400 participating hospitals provided approximately 181,000 abstracts of medical records.

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 24 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, there were two data collection procedures used for the survey. The first was the traditional manual system of sample 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 on the basis of 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 are purchased from commercial abstracting services. These tapes are sub-

ject to NCHS sampling, editing, and weighting procedures. A detailed description of the automated process is to be published.

The Medical Abstract Form and the abstract service data tapes contain items relating to the personal characteristics of the patient, including birth date, 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 operations or procedures. Since 1977, patient zip code, expected source of payment, and dates of surgery have also 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 abstract. The estimating procedure used to produce essentially 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.

Sampling 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 for the first-listed diagnoses and all-listed procedures are shown in table I. The relative standard errors for region and ownership of hospital are approximately 1½ times larger. The standard errors for average lengths of stay are shown in table II.

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

Table I. Approximate relative standard errors of estimated numbers of first-listed discharges and all-listed procedures: United States, 1987.

Size of estimate	First-listed diagnosis	All-listed procedures
5,000	12.7	16.4
10,000	10.2	13.8
50,000	6.5	9.8
100,000	5.5	8.6
500,000	3.8	6.6
1,000,000	3.4	6.0
3,000,000	2.8	5.2
5,000,000	2.6	4.9
10,000,000	2.3	4.6
20,000,000	2.1	4.3
30,000,000	2.0	4.1
40,000,000	2.0	...

Table II. Approximate standard errors of average length of stay by number of discharges: United States, 1987

Number of discharges	Average length of stay in days			
	2	6	10	20
	Standard error in days			
10,000	0.7	1.2	1.7	2.2
50,000	0.3	0.7	1.0	1.4
100,000	0.3	0.6	0.9	1.2
500,000	0.2	0.5	0.8	0.9
1,000,000	0.2	0.5	0.8	0.7
5,000,000	0.2	0.5	0.8	...

Tests of significance

In this report, the determination of statistical inference is based on the two-tailed Bonferroni test for multiple comparisons. Terms relating to differences such as "higher" and "less" indicate that the differences are statistically significant. Terms such as "similar" or "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.

Definition of terms

Terms relating to hospitals and hospital characteristics

Hospitals—Short-stay special and general hospitals have six beds or more for inpatient use and an average length of stay of less than 30 days. Federal hospitals and hospital units of institutions are not included.

Bed size of hospital—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. In this report, the classification of hospitals by bed size reported by the hospitals is based on the number of beds at or near midyear.

Type of ownership of hospital—Determined by the organization that controls and operates the hospital. Hospitals are grouped as follows:

- *Voluntary nonprofit*—Hospitals operated by a church or another nonprofit organization.

- *Government*—Hospitals operated by a State or local government.
- *Proprietary*—Hospitals operated for profit by individuals, partnerships, or corporations.

Terms relating to hospitalization

Patient—A person who is formally admitted to the inpatient service of a short-stay hospital for observation, care, diagnosis, or treatment. In this report, the number of patients refers to the number of discharges during the year including any multiple discharges of the same individual from one or more short-stay hospitals. Infants admitted on the day of birth, directly or by transfer from another medical facility, with or without mention of disease, disorder, or immaturity, are included. All newborn infants, defined as those admitted by birth to the hospitals, are excluded from this report. The terms "patient" and "inpatient" are used synonymously.

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

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

Days of care—The total number of patient days accumulated at time of discharge by patients discharged from short-stay hospitals during a year. A stay of less than 1 day (patient admission and discharge on the same day) is counted as 1 day in the summation of total days of care. For patients admitted and discharged on different days, the number of days of care is computed by counting all days from (and including) the date of admission to (but not including) the date of discharge.

Rate of days of care—The ratio of the number of patient days accumulated at time of discharge by patients discharged from short-stay hospitals during a year to the number of persons in the civilian population on July 1 of that year.

Average length of stay—The total number of patient days accumulated at time of discharge by patients discharged during the year, divided by the number of patients discharged.

Terms relating to diagnoses

Discharge diagnoses—One or more diseases or injuries (or some factor that influences health status and contact with health services that is not itself a current illness or injury) listed by the attending physician on the medical record of a patient. In the NHDS all discharge (or final) diagnoses listed on the face sheet (summary sheet) of the medical record for patients discharged from the inpatient service of short-stay hospitals are transcribed in the order listed. Each sample discharge is assigned a maximum of seven five-digit codes according to ICD-9-CM (U.S. Public Health Service and Health Care Financing Administration,

1980). The number of principal or first-listed diagnoses is equivalent to the number of discharges.

Principal diagnosis—The condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.

First-listed diagnosis—The coded diagnosis identified as the principal diagnosis or listed first on the face sheet of the medical record if the principal diagnosis cannot be identified. The number of first-listed diagnoses is equivalent to the number of discharges.

Procedures—One or more surgical or nonsurgical operations, procedures, or special treatments assigned by the physician to patients discharged from the inpatient service of short-stay hospitals. In the NHDS, all terms listed on the face sheet (summary sheet) of the medical record under the captions "operation," "operative procedures," "operations and/or special treatment," and the like are transcribed in the order listed. A maximum of four procedures is coded.

Rate of procedures—The ratio of the number of all-listed procedures during a year to the number of persons in the civilian population on July 1 of that year determines the rate of procedures.

Demographic terms

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

Population—Civilian population is the resident population excluding members of the Armed Forces.

Geographic regions—Hospitals are classified by location in one of the four geographic regions of the United States corresponding to those used by the U.S. Bureau of the Census:

<i>Region</i>	<i>States included</i>
Northeast	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania
Midwest	Michigan, Ohio, Illinois, Indiana, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas
South	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas
West	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Hawaii, and Alaska

AIDS Knowledge and Attitudes for May and June 1988

Provisional Data From the National Health Interview Survey

Deborah A. Dawson, Ph.D., Division of Health Interview Statistics

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. This report presents provisional findings for May and June, the first two months of data collection with the new questionnaire.

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 May and June 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. Tables 1 and 2, for May and June 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 question asked of the respondent is 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.

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 May and June 1988 data from the NHIS AIDS survey. Unless otherwise noted, all differences cited in the text are statistically significant (see tables II and III for approximate standard errors of estimates).

Sources of AIDS information—In June 1988, 86 percent of all adults in the United States reported having seen public service announcements about AIDS on television, up from 84 percent in May. In both May and June, 49 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 decreased with age and was higher for persons with 12 or more years of school than for those with less than 12 years of school. In June, 24 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). 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 sharp increase in the percent of adults who had read AIDS brochures in the preceding month probably reflects the results of this mailing.

In June, the proportion of adults who had read AIDS brochures in the month preceding the NHIS interview was higher for persons with more than 12 years of school (62 percent) than for those with less than 12 years (39 percent) and was higher for white than black adults (53 compared to 48 percent). Adults age 50 years or over were less likely than younger adults to have read AIDS brochures or pamphlets in the preceding month. In June, 64 percent

of adults reported ever having read pamphlets or brochures about AIDS, compared to 43 percent in May.

By the time they were interviewed in June, 63 percent of all adults reported that they had received the brochure "Understanding AIDS." Of those who had received it, approximately one-half had read all or almost all of the brochure, one-fourth had read half or less, and one-fourth had not read any of the brochure. Approximately 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 felt that the brochure had given them new information or answered questions that they had about AIDS.

Self-assessed knowledge—As of June 1988, 24 percent of adults stated that they knew a lot about AIDS, 43 percent said they knew some, 25 percent felt they knew a little, and 8 percent claimed to know nothing about AIDS.

General knowledge—General knowledge about AIDS and the AIDS virus increased slightly between May and June 1988, possibly reflecting the effect of the CDC household mailing. As shown in figure 1, the proportion of adults who thought it definitely true that there is no cure for AIDS at present increased from 81 percent in May to 84 percent in June. There were increases of similar magnitude in the proportions of adults stating that it is definitely true that any person who has the AIDS virus can pass it on to someone else during sexual intercourse (from 77 to 79 percent), that a pregnant woman can transmit the AIDS virus to her baby (from 74 to 77 percent), that AIDS is an infectious disease caused by a virus (from 58 to 62 percent), and that a person can be infected with the AIDS virus and not have the disease AIDS (from 49 to 53 percent). In response to two new questions in the 1988 AIDS questionnaire, 47 percent of adults stated that it is definitely true that a person who has AIDS can look and feel well and healthy (up from 43 percent in May), and 91 percent realized that it is definitely false that teenagers cannot get AIDS.

As shown in tables 1 and 2, there were large differences by education in the proportions of adults responding correctly to these general information questions. 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. As indicated in figure 2, this aspect of AIDS knowledge also improved between May and June 1988. The proportion of adults who thought it very unlikely or definitely not possible to transmit the AIDS virus by using public toilets increased from 53 to 60 percent, and the proportion who thought it very unlikely or impossible for mosquitoes or other insects to spread the

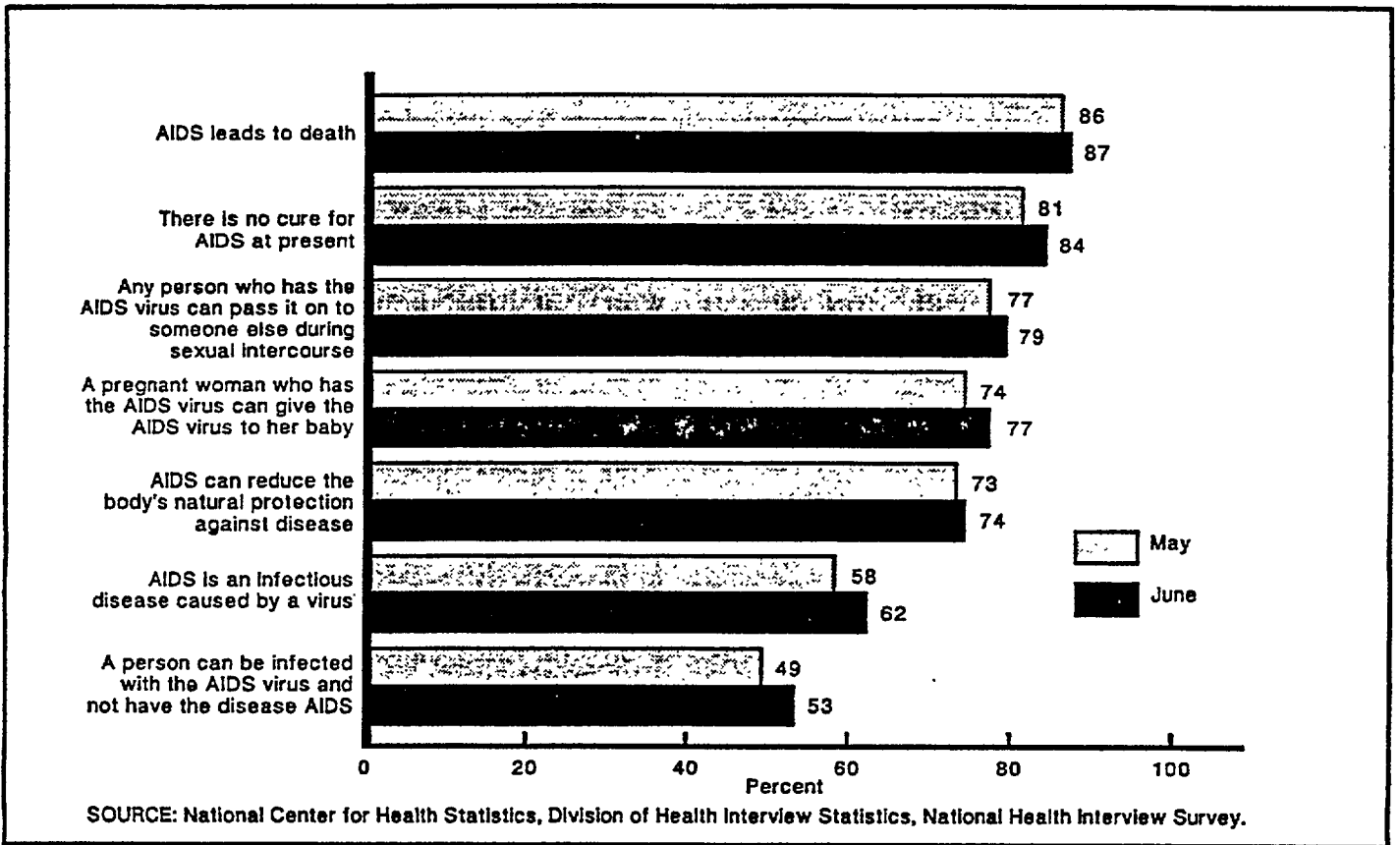


Figure 1. Provisional estimates of percent of adults who think selected statements about AIDS are definitely true: United States, May-June 1988

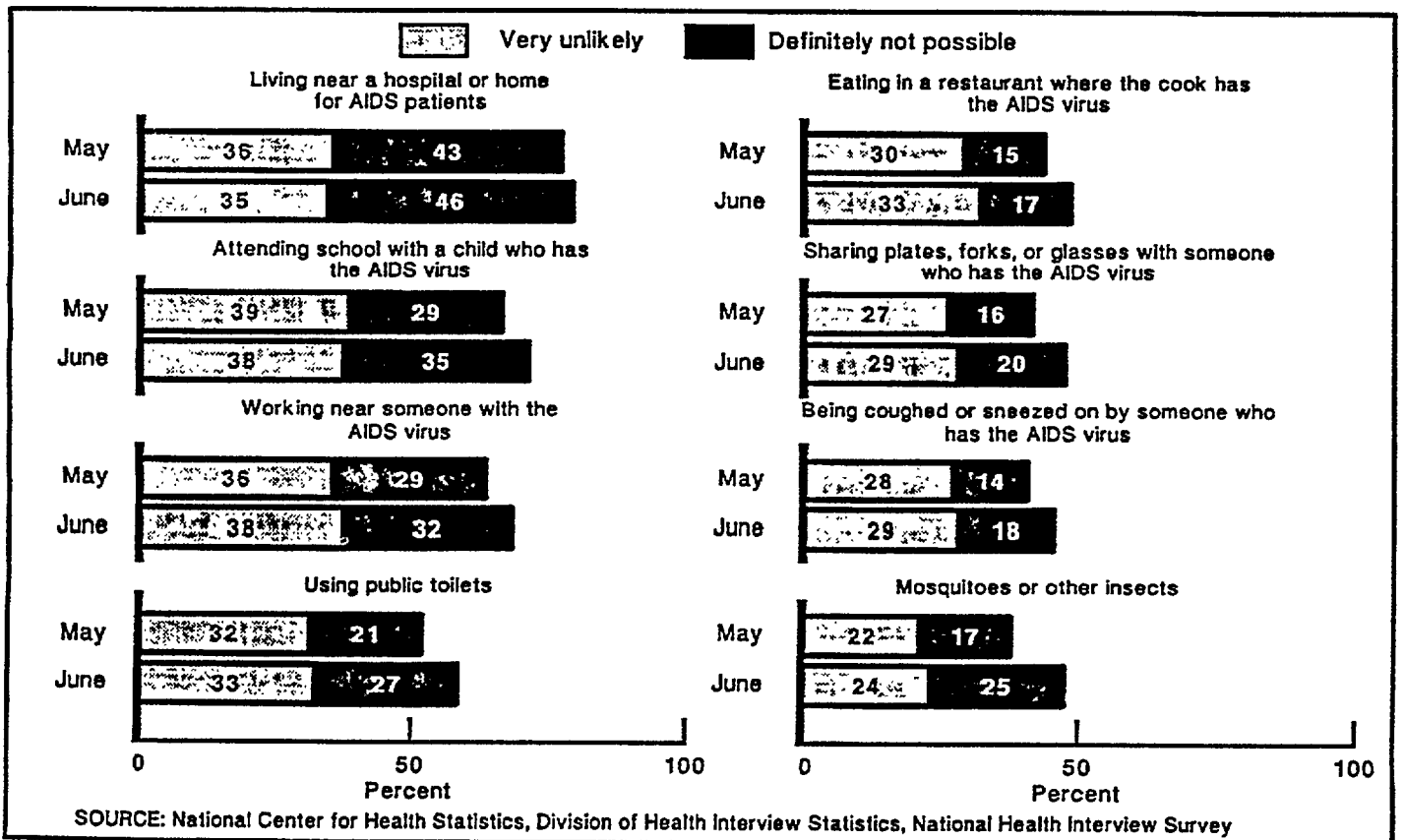


Figure 2: Provisional estimates of percent of adults considering it very unlikely or definitely not possible to transmit the AIDS virus in selected ways: United States, May-June 1988

virus rose from 39 to 49 percent. Increases were noted for other conjectured modes of transmission as well (figure 2).

Blood donation and testing—Based on June data, 40 percent of all adults in the United States have donated blood at some time in their lives, and 12 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 5 percent of persons with less than 12 years of school to 18 percent of those with more than 12 years.

Seventy-six percent of adults had heard of the blood test for the AIDS virus infection as of June 1988, up from 72 percent in December 1987. 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 in June among white than black adults (78 compared to 66 percent) and increased with education from 57 percent of those with less than 12 years of school to 75 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—4 percent of those under age 50 years and 1 percent of those age 50 years and over. Altogether, 16 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 another 8 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 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 (19 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 23 percent of those with more than 12 years.

Of those persons who reported the number of AIDS blood tests they had had, approximately two-thirds had taken only one test. More than three-fourths of all tests reported occurred in the 12 months preceding the NHIS interview. Seventy-four 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, 14 percent (2 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 (54 percent) of the individuals who had 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 (74 compared to 50 percent) and was greater among adults age 18–49 years (55 percent) than among those age 50 years and over (47 percent).

Six percent of all adults reported plans to have their blood tested for the AIDS virus in the next 12 months, and this proportion decreased with age from 11 percent of persons age 18–29 years to 2 percent of those age 50 years and over. Black adults were more than twice as likely as white adults to plan to take the AIDS blood test (13 compared to 5 percent), and among persons with plans to be tested, black individuals reported that the test would be done on a voluntary basis more frequently than did white individuals.

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 June 1988, 44 percent of adults stated that the blood supply is now safe for transfusions; 27 percent did not believe the blood supply is safe; and 28 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—Twenty-nine percent of adults thought that condoms are very effective in preventing transmission of the AIDS virus, and 54 percent thought this method is somewhat effective. Eighty-one 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—Overall, 2 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 June 1988, 80 percent of U.S. adults believed there is no chance that they have the AIDS virus. Fifteen percent reported a low chance, 1 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-four percent reported no chance of their getting the virus, a proportion that has increased steadily since August 1987. Twenty-one percent perceived themselves as being at low risk, 2 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 (68 percent) of adults have talked to friends or relatives about AIDS, a proportion that varied with

education from 48 percent of those persons with less than 12 years of school to 79 percent of those with 12 or more years. Women were more likely than men to have discussed AIDS with friends or relatives, 72 compared to 63 percent. Black and white individuals were equally likely to have had such discussions. Of those persons who had discussed AIDS with friends or relatives, more than one-third (38 percent) had done so within the preceding week.

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 18–44 years than for those age 50 years and over, was slightly higher for women than for men, and was more than 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 0.5
-

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, May 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	Age				Sex		Race		Education				
	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		
Total	100	100	100	100	100	100	100	100	100	100	100		
					Percent distribution ¹								
1. In the past month, have you--													
1a. Seen any public service announcements about AIDS on television?													
Yes	84	88	85	81	83	85	84	86	79	87	85		
No	14	12	13	16	15	13	13	13	18	12	13		
Don't know	2	0	2	3	2	2	2	1	3	1	2		
1b. Heard any public service announcements about AIDS on the radio?													
Yes	49	59	51	40	55	44	48	59	41	49	54		
No	47	39	44	57	41	53	49	38	55	47	42		
Don't know	3	1	5	4	3	4	4	2	3	3	4		
2. Were any of those public service announcements called "America Responds to AIDS"?													
Yes	20	28	20	14	19	21	19	28	21	23	17		
No	14	15	13	14	15	13	14	12	13	14	14		
Don't know	53	48	54	56	53	53	54	46	48	51	57		
Neither heard nor saw any public service announcements.	13	9	13	16	13	13	13	13	17	12	12		
3. In the past month, have you read any brochures or pamphlets about AIDS?													
Yes	25	29	29	18	23	27	24	37	17	24	32		
No	74	71	70	81	76	72	76	62	83	75	68		
Don't know	1	0	1	1	1	1	1	1	1	1	1		
4. Have you ever read any brochures or pamphlets about AIDS?													
Yes	43	49	52	28	41	44	42	53	26	41	55		
No	56	50	47	70	58	54	57	46	74	58	44		
Don't know	1	1	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	4	6	4	3	4	4	3	7	7	4	3		
Doctor's office (HMO)	19	19	17	22	12	24	20	15	24	20	17		
Drug store	2	2	3	2	2	3	2	4	4	4	1		
Public health department	3	4	3	3	3	3	3	5	3	3	3		
Received in mail without asking	12	10	10	17	13	11	12	6	8	14	11		
Red Cross/Red Cross blood donation	4	5	3	3	3	4	4	1	4	4	3		
Other blood donation	1	1	2	0	1	1	1	1	1	1	1		
School	12	18	11	6	12	13	11	17	15	9	14		
Sent/phoned for/requested it	1	1	1	2	1	1	1	1	1	1	1		
Federal/State/local government	7	4	9	8	8	6	8	4	6	5	8		
Work, other than clinic or nurse	18	12	24	14	20	17	17	25	9	18	21		
Work, nurse or clinic	4	3	5	5	3	6	5	3	1	4	6		
Other	23	25	22	24	26	21	22	26	25	22	24		
Don't know	0	0	0	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	8	7	9	7	9	7	8	6	6	8	9		
No	83	82	83	85	81	85	83	86	84	83	83		
Don't know	9	11	8	8	10	8	9	8	10	9	8		
7. How much of the brochure did you read? ³													
All or almost all	43	42	39	50	37	50	45	35	44	42	44		
About half	8	5	12	5	11	5	6	26	4	6	12		
Less than half	14	10	13	18	18	9	13	13	8	21	11		
None	35	43	36	27	34	35	37	26	44	31	34		
Don't know	0	0	0	0	0	0	0	0	0	0	0		
8. When you read it, did you read it carefully, or did you just skim through it? ⁴													
Read carefully	36	30	30	48	33	39	33	56	30	34	39		
Skimmed through	29	27	34	25	33	26	30	17	26	35	26		
Other	0	0	1	0	0	1	0	0	0	0	1		
Don't know	0	0	0	0	0	0	0	0	0	0	0		
Did not read	35	43	36	27	34	35	37	26	44	31	34		
9. Did the brochure give you any new information or answer any questions you had about AIDS? ⁴													
Yes	20	30	15	18	17	22	16	44	24	21	17		
No	45	27	49	55	48	42	47	30	32	48	49		
Don't know	0	0	0	0	0	0	0	0	0	0	0		
Did not read	35	43	36	27	34	35	37	26	44	31	34		
10. Did you discuss the brochure with anyone else in the family? ⁵													
Yes	27	14	34	27	27	27	25	35	31	16	35		
No	73	86	66	73	73	73	75	65	69	84	65		
Don't know	0	0	0	0	0	0	0	0	0	0	0		

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, May 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? ^{3,5}											
Yes	17	—	16	29	20	14	15	46	—	32	15
No	71	100	71	71	69	75	74	36	87	57	73
Don't know	12	—	13	—	12	11	10	18	13	10	12
14. Was the brochure discussed with any of your children aged 10-17? ^{3,5}											
Yes	18	—	17	29	15	21	16	54	7	31	15
No	78	100	79	71	78	79	80	46	93	69	79
Don't know	4	—	4	—	6	—	4	—	—	—	6
15. Have you ever discussed AIDS with any of your children aged 10-17? ²											
Yes	59	40	61	48	46	70	59	55	39	59	67
No	41	60	39	52	54	30	41	45	61	41	33
Don't know	—	—	—	—	—	—	—	—	—	—	—
16. Have any or all of your children aged 10-17 had instruction at school about AIDS? ⁵											
Yes	58	29	60	52	57	60	57	68	56	58	60
No	12	26	13	6	11	13	14	4	14	9	14
Don't know	29	45	27	42	32	26	30	27	29	33	26
21. How much would you say you know about AIDS?											
A lot	22	20	27	17	21	22	23	16	10	18	33
Some	43	50	46	34	42	44	44	37	29	46	48
A little	26	26	22	30	27	24	25	32	33	30	17
None	9	4	5	19	10	9	8	15	28	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	64	71	55	62	65	66	55	35	63	81
No	15	21	14	11	16	13	14	15	18	17	10
Other	1	1	1	0	1	0	1	0	0	1	0
Don't know	21	15	15	34	22	21	20	30	47	19	9
23a. AIDS can reduce the body's natural protection against disease.											
Definitely true	73	75	80	63	73	73	75	60	47	74	87
Probably true	12	12	10	15	13	12	12	14	19	13	8
Probably false	2	3	1	2	2	2	2	4	4	2	1
Definitely false	3	3	2	4	3	3	3	7	6	3	2
Don't know	10	7	6	16	9	10	8	16	24	9	3
23b. AIDS is especially common in older people.											
Definitely true	1	2	1	1	2	1	1	3	3	1	1
Probably true	2	2	1	2	2	2	1	4	3	2	1
Probably false	22	26	20	22	23	21	23	22	23	22	21
Definitely false	67	65	73	63	65	69	68	61	54	69	74
Don't know	8	6	5	13	8	8	7	11	17	7	4
23c. AIDS can damage the brain.											
Definitely true	27	24	27	29	27	27	27	30	23	27	29
Probably true	32	33	31	32	33	31	32	31	30	33	32
Probably false	9	12	11	5	9	9	10	8	6	8	12
Definitely false	5	8	6	3	6	4	5	4	5	4	7
Don't know	27	23	25	31	25	28	26	28	37	28	19
23d. AIDS usually leads to heart disease.											
Definitely true	9	7	7	11	9	9	8	11	11	8	8
Probably true	23	25	21	24	23	23	23	30	23	25	22
Probably false	19	22	23	13	20	18	20	11	11	18	24
Definitely false	12	15	14	8	15	9	12	10	7	10	16
Don't know	37	31	35	44	33	40	36	38	48	39	29
23e. AIDS is an infectious disease caused by a virus.											
Definitely true	58	61	65	49	60	57	60	52	40	57	71
Probably true	22	24	20	22	23	21	22	22	28	23	17
Probably false	2	3	2	3	3	2	2	2	2	2	2
Definitely false	4	5	3	4	4	4	4	3	4	5	3
Don't know	14	7	11	22	12	16	12	22	26	14	6
23f. Teenagers cannot get AIDS.											
Definitely true	2	1	1	3	2	1	1	2	3	1	1
Probably true	0	—	1	1	1	0	0	1	1	1	0
Probably false	4	3	3	5	3	4	3	7	7	3	2
Definitely false	91	95	93	84	91	90	92	84	80	92	95
Don't know	4	1	2	7	3	4	3	6	9	3	1
23g. AIDS leads to death.											
Definitely true	86	87	88	83	85	87	87	86	82	89	86
Probably true	9	10	8	9	10	8	9	7	8	8	9
Probably false	1	0	1	0	1	0	0	—	0	0	1
Definitely false	2	2	2	2	2	1	2	2	3	1	2
Don't know	3	1	2	5	2	3	2	5	7	2	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, May 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	Age			Sex		Race		Education			
	Total	18-29	30-49	50 years	Male	Female	White	Black	Less than	12 years	More than
		years	years	and over					12 years		12 years
Percent distribution ¹											
23h. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true	49	50	57	39	48	50	51	40	27	48	63
Probably true	25	27	23	26	24	26	25	26	25	27	23
Probably false	4	5	4	4	5	3	4	4	4	5	4
Definitely false	5	7	5	4	6	4	5	9	6	5	4
Don't know	17	12	11	27	17	17	16	20	37	15	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	3	4	3	4	3	4	3	4	6	4	2
Probably false	17	16	15	22	18	17	18	17	21	18	15
Definitely false	67	74	75	52	66	67	68	64	48	66	78
Don't know	11	5	6	20	10	11	10	13	23	11	4
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true	77	84	78	71	77	77	77	78	76	78	77
Probably true	15	13	15	17	15	15	16	13	13	15	16
Probably false	2	1	2	2	2	2	2	2	2	2	2
Definitely false	2	2	2	1	2	1	2	2	1	1	2
Don't know	4	1	3	8	4	5	4	6	9	4	2
23k. A person who has the AIDS virus can look and feel healthy and well.											
Definitely true	42	46	50	31	45	40	44	37	24	40	55
Probably true	31	33	28	33	28	33	31	30	30	33	29
Probably false	9	11	7	9	9	9	9	8	13	9	7
Definitely false	4	3	4	6	4	4	4	8	7	4	2
Don't know	14	8	11	21	13	14	13	18	27	13	6
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.											
Definitely true	74	79	78	67	73	76	75	77	65	75	79
Probably true	18	17	17	21	19	17	19	15	21	19	16
Probably false	0	0	0	1	0	0	0	0	1	0	0
Definitely false	1	1	1	1	1	1	1	1	2	1	1
Don't know	6	3	4	10	6	5	5	7	11	5	3
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	2	1	2	2	1	1
Probably true	2	2	2	3	2	3	2	6	5	2	2
Probably false	11	12	10	13	12	11	12	12	13	13	9
Definitely false	70	74	77	60	72	68	73	57	50	70	82
Don't know	14	10	10	22	12	16	13	23	29	14	6
23n. There is no cure for AIDS at present.											
Definitely true	81	83	85	75	82	80	83	71	71	81	86
Probably true	8	7	7	11	8	9	8	10	10	9	7
Probably false	1	2	1	1	1	1	1	1	2	1	1
Definitely false	4	6	4	4	4	4	4	8	6	4	4
Don't know	6	3	4	9	5	6	4	10	12	5	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	1	1	4	3	2	1
Somewhat likely	3	4	2	3	3	3	3	3	5	3	2
Somewhat unlikely	9	9	9	9	10	8	8	14	9	10	7
Very unlikely	36	40	34	35	39	33	36	35	33	36	38
Definitely not possible	43	42	48	36	38	47	44	34	31	42	49
Don't know	8	4	5	14	8	8	8	10	19	7	3
24b. Working near someone with the AIDS virus?											
Very likely	3	3	3	3	3	3	2	5	3	4	1
Somewhat likely	10	9	9	11	9	10	10	9	12	10	8
Somewhat unlikely	14	15	14	13	15	13	13	18	14	15	13
Very unlikely	36	38	37	33	38	35	38	30	31	36	40
Definitely not possible	29	30	32	24	27	30	29	28	22	27	34
Don't know	8	4	6	15	8	9	8	11	18	8	3
24c. Eating in a restaurant where the cook has the AIDS virus?											
Very likely	6	6	5	8	6	6	5	9	11	6	3
Somewhat likely	20	23	18	21	21	19	19	23	22	22	17
Somewhat unlikely	15	17	17	12	15	15	15	16	9	16	18
Very unlikely	30	32	34	25	31	29	31	23	21	27	38
Definitely not possible	15	14	18	13	16	15	15	14	12	16	17
Don't know	13	8	9	21	11	15	13	14	25	14	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, May 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	Age			Sex		Race		Education			
	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
Percent distribution ¹											
24d. Kissing—with exchange of saliva—a person who has the AIDS virus?											
Very likely	24	21	25	26	23	25	23	31	29	27	20
Somewhat likely	29	28	29	29	28	29	29	25	27	30	29
Somewhat unlikely	15	18	15	11	15	14	15	12	10	12	19
Very unlikely	15	18	16	12	16	14	15	14	10	13	19
Definitely not possible	6	7	6	4	6	5	6	5	4	5	6
Don't know	12	8	10	18	12	13	12	13	20	12	7
24e. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?											
Very likely	2	2	2	3	3	2	2	4	5	2	1
Somewhat likely	8	7	6	10	8	7	7	10	14	6	6
Somewhat unlikely	14	14	13	14	15	12	13	16	12	17	11
Very unlikely	36	39	39	31	36	36	38	29	27	37	41
Definitely not possible	32	34	33	28	30	34	32	27	24	30	38
Don't know	8	3	7	14	8	9	8	14	17	8	3
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?											
Very likely	10	11	9	10	9	10	9	15	15	10	7
Somewhat likely	21	19	19	24	21	20	21	22	24	23	17
Somewhat unlikely	14	17	14	12	14	15	15	15	11	16	15
Very unlikely	27	28	30	22	28	26	28	18	16	24	36
Definitely not possible	16	17	18	13	17	16	16	16	14	15	18
Don't know	12	7	10	18	11	13	11	14	21	11	7
24g. Using public toilets?											
Very likely	7	6	5	9	6	7	6	11	12	7	3
Somewhat likely	14	14	13	16	14	14	14	17	18	16	9
Somewhat unlikely	14	17	13	13	15	13	14	19	12	15	14
Very unlikely	32	33	35	28	32	31	33	20	19	32	38
Definitely not possible	21	23	25	16	22	20	22	19	15	17	29
Don't know	13	8	10	19	11	14	12	14	24	12	6
24h. Sharing needles for drug use with someone who has the AIDS virus?											
Very likely	92	94	94	88	92	92	93	87	86	92	95
Somewhat likely	3	3	3	5	4	3	3	5	5	3	3
Somewhat unlikely	0	—	0	0	0	0	0	0	0	0	0
Very unlikely	1	1	1	1	1	1	1	2	1	1	1
Definitely not possible	1	1	1	1	1	1	1	2	1	1	1
Don't know	3	0	2	6	2	3	2	4	7	2	1
24i. Being coughed or sneezed on by someone who has the AIDS virus?											
Very likely	8	5	8	10	7	8	7	11	11	9	5
Somewhat likely	22	22	19	24	22	21	21	25	26	23	18
Somewhat unlikely	16	19	17	14	17	16	17	15	11	17	19
Very unlikely	28	30	30	24	29	27	30	19	19	27	34
Definitely not possible	14	16	16	10	14	14	14	14	11	13	16
Don't know	13	8	10	18	11	14	12	16	23	12	7
24j. Attending school with a child who has the AIDS virus?											
Very likely	2	2	2	3	2	3	2	4	5	2	1
Somewhat likely	7	5	6	9	7	7	6	7	9	6	6
Somewhat unlikely	13	14	14	12	15	12	13	17	12	14	13
Very unlikely	39	43	39	37	41	38	41	31	30	42	42
Definitely not possible	29	32	32	24	28	30	29	29	22	28	35
Don't know	9	4	7	16	8	11	9	12	21	8	4
24k. Mosquitoes or other insects?											
Very likely	9	10	8	10	11	8	9	13	13	10	7
Somewhat likely	17	21	15	17	19	16	17	18	19	17	16
Somewhat unlikely	10	12	10	8	11	9	10	11	9	10	10
Very unlikely	22	22	24	19	22	22	22	18	13	23	26
Definitely not possible	17	15	20	16	16	18	18	14	12	16	21
Don't know	24	21	23	29	22	27	24	25	33	24	20
25. Have you ever donated blood?											
Yes	42	34	44	44	53	31	43	36	32	39	50
No	58	66	55	55	46	69	57	64	68	60	50
Don't know	0	0	0	0	0	0	0	1	0	0	0
26a. Have you donated blood since March 1985?											
Yes	12	18	15	5	15	10	13	7	6	11	17
No	87	81	84	94	84	89	86	92	94	88	82
Don't know	1	1	1	1	1	1	1	1	0	1	1
26b. Have you donated blood in the past 12 months?											
Yes	6	8	9	3	8	5	7	3	2	6	9
No	93	91	90	97	91	94	92	96	97	93	89
Don't know	1	1	1	1	1	1	1	1	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, May 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	77	83	85	62	76	77	78	67	57	78	87
No	19	15	12	29	20	18	17	28	36	18	10
Don't know	5	2	3	9	4	5	4	6	7	5	3
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?											
Yes	68	75	76	54	68	68	70	56	49	69	78
No	3	3	4	3	3	3	3	4	2	3	4
Don't know	5	5	5	6	5	6	5	7	6	6	5
Never heard of test ^b	23	17	15	38	24	23	22	34	43	22	13
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?											
Yes	3	5	5	1	4	3	3	5	2	3	4
No	73	78	80	61	72	74	75	62	55	74	82
Don't know	0	0	0	0	0	0	0	0	0	0	0
Never heard of test ^b	23	17	15	38	24	23	22	33	43	22	13
29b. Was the discussion— ^{1,7}											
With a private doctor?	41	42	42	32	29	55	43	34	52	31	45
At a family-planning clinic?	6	10	3	—	1	11	4	9	10	10	1
On an AIDS hotline?	2	—	4	—	3	1	3	—	—	—	4
At a prenatal clinic?	2	5	1	—	—	5	2	3	—	4	2
At an STD or sexually transmitted disease clinic?	4	5	5	—	6	2	5	—	—	8	3
At an AIDS/HIV counseling and testing site?	6	8	5	—	10	1	6	8	—	8	6
With some other health professional?	48	34	56	56	53	41	47	56	55	44	48
With some other counselor?	15	13	15	23	20	10	14	22	—	16	18
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus? ⁷											
Yes	68	73	66	59	73	61	66	88	76	84	54
No	32	27	34	41	27	39	34	12	24	16	46
Don't know	—	—	—	—	—	—	—	—	—	—	—
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	1	0	0	0	0	1
No	76	82	84	62	76	77	78	66	57	77	86
Don't know	0	0	—	—	—	0	—	—	0	—	—
Never heard of test ^b	23	17	15	38	24	23	22	33	43	22	13
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	0	1	0	1	0	1	0
No	76	82	84	62	75	76	78	66	57	77	86
Don't know	0	0	0	—	—	0	0	—	0	0	—
Never heard of test ^b	24	17	15	38	24	23	22	33	43	22	13
33. Have you had your blood tested for the AIDS virus infection?											
Yes	16	23	20	7	20	13	16	13	8	15	21
No	61	61	66	54	57	64	62	54	50	62	65
Don't know	1	1	1	2	1	1	1	2	1	2	1
Never heard of test ^b	22	15	13	37	22	22	20	32	41	21	12
35a. How many times have you had your blood tested for the AIDS virus infection?											
Once	4	7	6	1	5	4	4	5	2	5	5
Twice	1	2	1	0	1	0	1	1	1	1	1
3-5 times	1	2	1	0	2	0	1	1	1	1	—
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	0
Don't know	9	12	11	4	10	7	9	5	5	8	12
Never heard of or never took test ^b	84	78	81	94	81	88	84	87	92	85	79
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	1	2	1	0	2	1	1	0	0	1	2
Once	4	7	5	1	6	3	4	6	2	4	5
More than once	2	2	3	1	2	1	2	2	1	1	3
Don't know	8	11	10	4	10	7	9	5	5	7	12
Never heard of or never took test ^b	84	78	81	93	81	88	84	88	92	86	79
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?	72	68	73	79	69	76	75	48	68	67	76
Part of a blood transfusion?	2	2	2	2	2	2	2	—	—	3	1
Voluntarily sought?	14	15	15	8	14	14	13	22	15	13	14
Part of some other activity that requires a blood sample?	15	20	13	10	19	9	13	33	16	20	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, May 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	Age			Sex		Race		Education				
	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	
	Percent distribution ¹											
38. Did you get the results of your test/any of your tests? ^b												
Yes	55	57	55	42	56	51	50	81	68	52	54	
No	45	43	45	58	43	49	50	19	30	48	46	
Don't know	0	-	0	-	0	-	0	-	2	-	-	
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	5	14	6	6	7	
No	64	62	72	57	61	67	68	42	47	65	74	
Don't know	6	9	6	3	7	5	5	11	4	6	6	
Never heard of test ^d	23	17	15	38	24	23	22	33	43	22	13	
42. Will the test be— ^{1,10}												
Part of a blood donation?	43	39	46	51	43	44	52	22	23	47	50	
Voluntarily sought?	57	67	53	31	59	54	49	76	64	56	54	
Part of some other activity that requires a blood sample?	15	16	13	20	16	12	12	23	25	12	12	
44a. Did you have a blood transfusion at any time between 1977 and 1985?												
Yes	6	5	5	8	6	6	6	6	7	6	6	
No	92	94	94	89	93	92	92	92	91	93	92	
Don't know	2	1	1	3	2	2	2	2	2	1	2	
44b. Do you think the present supply of blood is safe for transfusions?												
Yes	43	44	48	37	48	38	45	31	30	43	50	
No	28	30	27	27	25	30	26	34	33	27	25	
Other	-	-	-	-	-	-	-	-	-	-	-	
Don't know	29	26	26	36	27	32	29	35	37	30	25	
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	4	4	4	4	4	4	3	8	5	5	3	
Somewhat effective	11	14	8	13	10	13	12	11	9	12	12	
Not at all effective	55	57	64	43	54	56	57	46	34	55	67	
Don't know how effective	21	17	18	28	22	21	21	22	34	21	14	
Don't know method	8	7	6	12	10	7	7	13	18	7	4	
45b. Using a condom?												
Very effective	31	34	35	25	33	30	31	31	28	31	34	
Somewhat effective	51	54	52	48	52	51	52	47	38	53	57	
Not at all effective	5	5	5	5	5	5	5	6	7	5	4	
Don't know how effective	9	6	5	17	8	10	8	14	21	8	4	
Don't know method	3	2	2	6	2	4	3	3	7	3	1	
45c. Using a spermicidal jelly, foam, or cream?												
Very effective	2	3	2	2	2	2	2	5	4	1	2	
Somewhat effective	15	17	16	13	15	16	16	13	12	15	18	
Not at all effective	51	58	56	41	49	53	52	47	35	53	59	
Don't know how effective	24	17	21	32	25	22	23	27	34	24	17	
Don't know method	8	5	6	12	8	7	7	8	15	7	4	
45d. Having a vasectomy?												
Very effective	2	3	1	2	2	2	2	4	2	2	2	
Somewhat effective	3	4	2	3	3	3	3	4	4	3	2	
Not at all effective	70	70	79	60	69	71	73	53	50	70	82	
Don't know how effective	18	18	12	25	18	18	16	27	30	18	11	
Don't know method	7	6	6	11	8	7	6	11	15	8	3	
45e. Two people who do not have the AIDS virus having sex only with each other?												
Very effective	82	80	87	76	84	80	83	73	69	82	88	
Somewhat effective	8	12	6	8	7	9	7	11	10	8	7	
Not at all effective	3	4	3	3	3	3	3	7	6	3	2	
Don't know how effective	5	3	3	9	4	5	4	8	11	3	2	
Don't know method	2	1	1	4	2	3	2	1	4	3	1	
46. What are your chances of having the AIDS virus?												
High	0	1	1	0	1	0	0	1	1	0	0	
Medium	1	1	1	1	1	1	1	1	1	1	1	
Low	16	21	19	10	18	15	16	19	12	15	20	
None	79	76	76	85	78	80	80	73	80	80	78	
Don't know	3	2	2	4	2	3	2	6	5	3	1	
47. What are your chances of getting the AIDS virus?												
High	0	1	0	0	0	0	0	0	0	0	0	
Medium	2	3	2	1	2	2	2	1	1	1	2	
Low	23	28	27	14	25	20	23	22	15	22	28	
None	71	65	67	81	68	74	71	68	76	72	68	
Don't know	4	3	3	5	4	4	3	7	7	4	2	
High chance of already having AIDS virus	0	1	1	0	1	0	0	1	1	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, May 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	Age			Sex		Race		Education			
	Total	18-29	30-49	50 years and over	Male	Female	White	Black	Less than	12 years	More than
		years	years						12 years		12 years
49. Do you say your chance of getting AIDS is high or medium because you— ¹¹	Percent distribution ¹										
Have had a blood transfusion?	8	5	7	20	—	15	9	—	—	9	10
Have had sexual contact with someone who might have the virus?	9	16	6	—	11	8	8	25	16	3	10
Some other reason?	69	66	71	70	58	78	72	64	37	83	72
52. Have you ever discussed AIDS with a friend or relative?											
Yes	66	73	76	51	63	70	67	67	44	68	77
No	33	27	24	48	37	30	33	32	56	31	22
Don't know	0	—	0	1	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	9	10	11	7	9	9	9	10	8	8	11
4-7 days ago	13	11	17	9	12	13	13	16	9	12	16
8-14 days ago	8	7	9	6	7	8	7	8	5	8	9
15-31 days ago	15	18	16	11	14	15	15	13	9	15	18
More than 31 days ago	17	22	20	11	16	18	18	14	10	19	19
Don't know	5	4	4	6	4	5	5	5	3	5	5
Never discussed ¹²	34	27	25	49	37	31	33	34	57	32	23
54. Have you ever personally known anyone with AIDS or the AIDS virus?											
Yes	10	10	12	7	8	11	9	13	6	7	14
No	88	88	86	90	90	86	88	82	92	91	83
Don't know	3	3	2	3	3	3	2	5	2	3	3
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	1
2 weeks—less than 1 month	0	0	0	0	0	1	0	1	0	0	0
1 month—less than 3 months	1	1	1	0	1	1	1	1	0	0	1
3 months—less than 6 months	1	1	2	1	1	1	1	1	0	1	2
6 months or more	6	6	8	5	5	7	6	8	4	4	9
Don't know	0	0	0	0	0	0	0	1	0	0	0
Never knew anyone with AIDS ¹³	91	90	88	94	92	89	91	88	94	94	86
56. How well do you know this person?											
Very well	1	2	1	1	1	2	1	5	2	1	1
Fairly well	2	2	3	1	2	3	2	3	1	2	4
Not very well	3	3	4	2	3	4	3	3	1	2	6
Don't really know personally	2	2	2	2	1	2	2	1	1	1	3
Other	1	0	1	0	0	1	1	0	0	1	1
Don't know how well	—	—	—	—	—	—	—	—	—	—	—
Never knew anyone with AIDS ¹³	91	90	88	94	92	89	91	88	94	93	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	5	3	0	3	2	3	3	3	3	2
No to all statements	97	95	97	100	97	97	97	97	97	97	98
Refused	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	69	75	72	62	71	68	70	68	63	72	71
No	22	18	19	29	22	23	22	23	27	20	22
Other	2	1	3	3	2	3	2	2	2	3	2
Don't know	6	5	6	7	5	7	6	7	8	6	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, May 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	Age			Sex		Race		Education			
	Total	18-29	30-49	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years	
		years	years								and over
Percent distribution ¹											
59. Why wouldn't you take part in the test? ¹⁴											
Don't want to know if I have AIDS	5	9	6	2	4	5	4	9	6	4	4
Don't want any counseling about AIDS.	2	3	1	1	2	1	1	4	3	1	1
Fear I'll get AIDS	7	12	6	5	6	7	5	15	11	7	5
Don't like to give blood	12	18	12	10	12	12	12	15	12	12	12
Don't trust Government programs	8	9	9	7	11	6	8	11	6	8	9
It is a waste of money	4	5	2	5	4	4	4	8	5	5	3
Don't believe AIDS can really be cured anyway	3	4	2	3	4	2	2	6	5	3	2
Other	52	39	52	57	50	52	55	39	48	46	58
Don't know	16	20	14	16	16	16	15	20	21	17	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	63	71	64	57	64	63	63	64	57	62	68
Doubtful	29	24	31	31	29	29	30	23	28	32	27
Don't know	8	5	5	13	7	8	7	12	15	6	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	78	82	80	72	79	76	78	74	68	77	83
Doubtful	16	14	16	18	15	17	16	17	19	17	13
Don't know	6	4	5	10	6	6	6	9	13	5	3

¹Multiple responses may sum to more than 100.
²Based on persons answering yes to question 4 (includes yes to question 3).
³Based on persons answering yes to question 6.
⁴Based on persons answering all or almost all, about half, or less than half to question 7.
⁵Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
⁶Based on persons answering no or don't know to question 27.
⁷Based on persons answering yes to question 29a.
⁸Based on persons answering no or don't know to questions 27 and 33.
⁹Based on persons answering yes to question 33.
¹⁰Based on persons answering yes to question 41.
¹¹Based on persons answering high or medium to question 46.
¹²Based on persons answering no or don't know to question 52.
¹³Based on persons answering no or don't know to question 54.
¹⁴Based 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, June 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	Age			Sex		Race		Education			
	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
Total	100	100	100	100	100	100	100	100	100	100	100
	Percent distribution ¹										
1. In the past month, have you—											
1a. Seen any public service announcements about AIDS on television?											
Yes	86	87	88	83	86	86	86	88	79	89	87
No	12	11	10	13	12	12	11	10	18	9	11
Don't know	2	2	2	4	2	2	2	2	4	2	2
1b. Heard any public service announcements about AIDS on the radio?											
Yes	49	58	51	40	52	47	48	55	41	50	53
No	46	37	44	55	43	49	47	41	55	45	42
Don't know	5	5	5	6	5	5	5	4	5	5	5
2. Were any of those public service announcements called "America Responds to AIDS"?											
Yes	24	34	25	15	22	25	22	35	23	25	23
No	10	10	10	10	11	9	10	10	11	9	10
Don't know	54	45	55	60	55	54	56	44	48	56	56
Neither heard nor saw any public service announcements	12	10	10	15	12	12	12	11	18	10	11
3. In the past month, have you read any brochures or pamphlets about AIDS?											
Yes	52	53	58	46	49	55	53	48	39	51	62
No	47	47	41	53	50	44	46	51	60	48	37
Don't know	1	1	1	1	1	1	1	2	1	1	1
4. Have you ever read any brochures or pamphlets about AIDS?											
Yes	64	69	69	56	61	67	65	60	47	63	76
No	35	31	30	43	38	32	34	39	51	36	24
Don't know	1	0	1	1	1	1	1	1	1	1	0
5. Where did you get the pamphlets or brochures? ^{1,2}											
Clinic, other than work clinic	2	3	2	1	2	2	1	5	3	2	1
Doctor's office (HMO)	7	9	8	6	5	9	7	9	7	8	7
Drug store	1	2	1	1	1	1	1	3	2	1	1
Public health department	1	1	2	1	1	2	1	2	1	1	2
Received in mail without asking	39	32	40	45	39	40	40	35	45	40	37
Red Cross/Red Cross blood donation	2	2	2	1	1	2	2	1	1	2	1
Other blood donation	0	0	1	0	1	0	0	—	0	0	1
School	6	12	5	2	7	6	6	8	6	5	8
Sent/phoned for/requested it	0	0	0	0	0	1	0	0	0	0	0
Federal/State/local government	31	26	31	35	31	31	33	19	34	32	29
Work, other than clinic or nurse	10	9	12	6	11	8	8	18	4	9	12
Work, nurse or clinic	4	4	4	2	2	5	4	4	2	2	5
Other	13	14	11	13	13	12	12	13	11	13	13
Don't know	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	58	67	61	61	64	65	53	53	62	69
No	29	30	27	30	29	29	27	41	39	29	24
Don't know	8	12	6	8	10	7	8	6	9	9	7
7. How much of the brochure did you read? ³											
All or almost all	50	44	55	49	46	53	51	46	43	49	54
About half	12	16	11	11	12	12	12	16	13	12	12
Less than half	12	12	12	11	14	10	11	15	14	11	11
None	26	28	23	29	28	25	26	23	30	27	23
Don't know	0	—	0	0	0	0	0	—	0	0	0
8. When you read it, did you read it carefully, or did you just skim through it? ⁴											
Read carefully	40	38	42	39	36	43	40	39	36	40	41
Skimmed through	33	33	35	31	35	31	33	36	33	32	35
Other	1	0	1	1	1	1	1	1	1	1	1
Don't know	0	0	0	0	0	—	0	—	0	0	0
Did not read	26	28	23	29	28	25	26	23	30	27	23
9. Did the brochure give you any new information or answer any questions you had about AIDS? ⁴											
Yes	24	28	25	20	22	26	22	37	25	26	22
No	50	44	52	51	50	49	51	39	44	46	55
Don't know	0	—	0	0	0	0	0	—	0	0	0
Did not read	26	28	23	29	28	25	27	23	30	28	23
10. Did you discuss the brochure with anyone else in the family? ³											
Yes	35	28	38	36	32	37	35	32	33	33	38
No	65	72	62	64	68	63	65	68	67	67	62
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, June 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	Age			Sex		Race		Education			
	Total	18-29	30-49	50 years	Male	Female	White	Black	Less than	More than	
		years	years	and over					12 years	12 years	
Percent distribution ¹											
13. Did any of your children aged 10-17 read the brochure? ^{3,5}											
Yes	27	26	28	19	22	31	26	31	29	29	24
No	52	65	52	47	51	53	53	50	48	52	55
Don't know	21	9	20	35	27	16	21	19	23	19	20
14. Was the brochure discussed with any of your children aged 10-17? ^{3,5}											
Yes	26	30	26	22	19	31	25	33	24	28	25
No	70	63	70	74	75	67	71	65	72	69	71
Don't know	4	7	3	4	6	2	4	2	5	3	4
15. Have you ever discussed AIDS with any of your children aged 10-17? ⁵											
Yes	64	59	65	53	49	76	64	68	50	63	72
No	36	41	35	47	50	24	36	32	50	37	27
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? ⁵											
Yes	60	58	60	67	55	65	60	68	59	57	65
No	14	23	15	11	13	15	15	12	8	16	16
Don't know	25	20	26	22	32	20	26	20	33	27	19
21. How much would you say you know about AIDS?											
A lot	24	23	29	19	23	25	24	20	12	18	37
Some	43	49	46	36	42	44	45	35	31	47	46
A little	25	25	21	29	26	24	24	30	33	30	15
None	8	3	4	16	9	7	6	15	23	5	2
Don't know	0	-	-	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	65	65	69	59	64	65	67	54	39	64	80
No	15	20	17	10	16	14	14	19	18	17	11
Other	0	0	0	1	1	0	0	1	0	1	0
Don't know	20	15	14	31	19	20	18	26	42	19	8
23a. AIDS can reduce the body's natural protection against disease.											
Definitely true	74	76	80	68	75	73	77	55	51	75	87
Probably true	11	10	9	13	11	11	11	13	16	11	7
Probably false	2	2	1	2	1	3	1	3	3	2	1
Definitely false	3	4	2	3	3	3	2	7	4	4	1
Don't know	10	8	7	15	10	11	8	23	25	8	4
23b. AIDS is especially common in older people.											
Definitely true	1	1	1	1	1	0	1	2	2	1	0
Probably true	1	1	1	1	1	1	1	1	2	1	0
Probably false	19	21	16	20	19	19	19	16	17	20	19
Definitely false	71	71	76	65	70	72	72	65	60	72	76
Don't know	8	6	6	13	10	8	7	16	19	7	4
23c. AIDS can damage the brain.											
Definitely true	27	22	28	30	27	27	27	27	24	28	28
Probably true	30	30	29	31	30	30	30	31	28	29	32
Probably false	9	10	11	6	8	9	9	5	6	9	10
Definitely false	7	8	8	4	8	6	7	6	5	7	8
Don't know	27	29	24	29	26	27	26	31	36	27	22
23d. AIDS usually leads to heart disease.											
Definitely true	9	7	8	11	8	9	8	9	12	9	7
Probably true	22	21	22	22	21	22	22	23	20	22	22
Probably false	17	17	19	14	18	16	18	11	9	15	23
Definitely false	16	17	19	10	18	14	16	13	10	15	19
Don't know	37	38	32	43	35	40	36	44	50	39	29
23e. AIDS is an infectious disease caused by a virus.											
Definitely true	62	64	70	53	63	62	63	58	47	62	72
Probably true	19	20	16	21	19	19	19	18	20	19	17
Probably false	2	2	2	3	2	3	2	1	3	2	2
Definitely false	4	4	3	4	4	3	4	3	4	4	3
Don't know	13	11	9	20	12	14	12	20	26	12	6
23f. Teenagers cannot get AIDS.											
Definitely true	1	1	1	2	1	2	1	2	2	1	1
Probably true	0	0	0	1	0	1	0	1	1	1	0
Probably false	4	3	2	6	4	4	3	7	7	4	2
Definitely false	91	94	93	85	91	90	92	83	81	91	96
Don't know	4	1	3	7	3	4	3	7	9	3	1
23g. AIDS leads to death.											
Definitely true	87	88	89	84	85	89	87	86	85	88	86
Probably true	8	9	8	9	10	7	9	8	7	8	10
Probably false	0	0	0	0	1	0	0	-	0	0	1
Definitely false	1	2	1	2	2	1	1	2	1	1	1
Don't know	3	1	2	5	3	3	2	5	6	3	1

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, June 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	Age			Sex		Race		Education			
	Total	18-29	30-49	50 years	Male	Female	White	Black	Less than	12 years	More than
		years	years	and over					12 years		12 years
Percent distribution ¹											
23h. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true	53	56	57	45	53	52	55	43	33	51	66
Probably true	24	23	23	25	23	24	24	25	25	26	21
Probably false	4	4	4	4	4	3	4	5	4	5	3
Definitely false	6	8	6	4	6	5	5	6	7	6	5
Don't know	14	9	10	22	13	15	13	20	31	13	6
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	4	3	2	2
Probably true	4	4	2	5	4	4	3	8	7	4	2
Probably false	16	16	14	18	17	15	16	15	21	17	12
Definitely false	69	74	77	58	69	70	71	60	48	70	82
Don't know	9	4	5	16	9	9	8	14	22	7	3
23j. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true	79	81	81	75	78	80	80	76	77	81	78
Probably true	13	12	12	15	14	13	13	15	11	12	15
Probably false	2	2	2	1	2	1	2	1	1	1	2
Definitely false	2	2	1	1	2	1	2	2	1	2	1
Don't know	5	3	3	7	5	4	4	7	10	4	3
23k. A person who has the AIDS virus can look and feel healthy and well.											
Definitely true	47	52	53	35	50	44	49	36	28	45	59
Probably true	31	31	29	34	31	32	31	32	29	34	30
Probably false	6	5	5	7	5	7	6	9	10	6	3
Definitely false	5	5	4	6	4	5	4	7	8	5	3
Don't know	11	7	8	18	11	12	10	17	24	10	5
23l. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.											
Definitely true	77	79	79	73	74	80	78	72	71	78	80
Probably true	16	16	15	17	18	14	16	18	16	16	16
Probably false	0	0	0	0	1	0	0	0	0	1	0
Definitely false	1	1	1	0	1	1	1	1	1	1	1
Don't know	6	4	5	9	7	5	5	8	12	4	3
23m. There is a vaccine available to the public that protects a person from getting the AIDS virus.											
Definitely true	1	2	1	1	2	1	1	2	3	1	1
Probably true	3	4	2	3	3	3	2	5	5	3	1
Probably false	10	10	9	11	10	9	10	10	11	11	8
Definitely false	73	74	79	64	73	72	75	62	53	72	84
Don't know	13	10	9	21	12	14	12	22	28	12	6
23n. There is no cure for AIDS at present.											
Definitely true	84	86	87	80	84	85	86	79	74	84	90
Probably true	7	6	6	8	7	7	7	7	10	7	5
Probably false	1	1	1	1	1	1	1	2	2	2	1
Definitely false	3	4	2	3	3	3	3	3	4	3	2
Don't know	5	3	3	8	5	5	4	9	11	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	2	2	2	2	2	2	2	4	4	1	1
Somewhat likely	3	4	2	3	3	3	2	5	4	3	3
Somewhat unlikely	7	8	7	6	7	7	7	7	8	9	4
Very unlikely	35	35	36	35	39	32	36	34	33	38	33
Definitely not possible	46	47	49	41	42	49	47	38	33	44	56
Don't know	7	5	4	12	6	7	6	12	18	5	2
24b. Working near someone with the AIDS virus?											
Very likely	3	2	3	4	3	3	3	6	7	3	1
Somewhat likely	8	8	7	9	8	8	8	7	9	9	6
Somewhat unlikely	12	13	12	11	12	12	12	12	10	14	11
Very unlikely	38	38	39	36	41	35	38	36	33	37	41
Definitely not possible	32	35	33	27	30	33	32	28	23	31	37
Don't know	8	4	5	13	6	9	7	11	18	7	3
24c. Eating in a restaurant where the cook has the AIDS virus?											
Very likely	6	5	5	8	6	6	5	11	10	6	4
Somewhat likely	15	15	15	15	15	15	15	17	16	18	13
Somewhat unlikely	16	18	18	12	15	16	16	14	11	17	17
Very unlikely	33	33	36	30	36	31	35	23	26	32	39
Definitely not possible	17	20	17	16	17	18	17	16	13	16	21
Don't know	12	8	9	19	11	14	11	20	25	11	7

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, June 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	Age			Sex		Race		Education			
	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
Percent distribution ¹											
24d. Kissing—with exchange of saliva—a person who has the AIDS virus?											
Very likely	22	18	20	27	20	23	21	29	25	24	18
Somewhat likely	27	24	29	27	26	28	28	24	26	27	29
Somewhat unlikely	13	17	13	10	14	12	14	12	9	12	16
Very unlikely	19	21	22	15	22	17	20	14	14	18	24
Definitely not possible	7	11	7	5	7	8	7	6	7	8	8
Don't know	11	9	8	16	11	11	10	15	20	11	5
24e. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?											
Very likely	2	2	2	3	2	3	2	4	4	2	1
Somewhat likely	5	4	5	6	5	5	5	6	7	5	4
Somewhat unlikely	12	13	12	11	12	12	12	14	9	13	11
Very unlikely	38	40	39	35	41	34	38	36	35	37	40
Definitely not possible	36	38	37	33	33	39	36	29	26	36	42
Don't know	7	2	6	13	7	8	7	11	18	6	2
24f. Sharing plates, forks, or glasses with someone who has the AIDS virus?											
Very likely	8	7	7	10	7	9	7	14	12	8	6
Somewhat likely	17	16	17	16	18	15	17	15	18	18	15
Somewhat unlikely	15	18	14	12	14	15	15	14	12	15	16
Very unlikely	29	30	31	26	31	28	30	24	22	29	33
Definitely not possible	20	23	21	17	20	21	21	18	15	19	25
Don't know	11	6	9	18	10	12	10	15	22	10	6
24g. Using public toilets?											
Very likely	5	4	4	7	4	6	4	9	9	5	3
Somewhat likely	11	10	10	13	11	11	11	13	15	13	7
Somewhat unlikely	12	15	13	10	12	13	13	13	8	14	13
Very unlikely	33	33	37	30	36	31	35	26	27	31	39
Definitely not possible	27	31	28	24	28	27	28	24	18	27	33
Don't know	11	7	8	17	10	12	10	14	22	10	5
24h. Sharing needles for drug use with someone who has the AIDS virus?											
Very likely	93	94	95	90	93	93	94	89	87	94	95
Somewhat likely	3	3	2	4	4	3	3	5	4	3	3
Somewhat unlikely	0	0	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	0	0	0	0	0	0	0	1	0	0	0
Don't know	3	1	1	5	2	3	2	5	7	2	1
24i. Being coughed or sneezed on by someone who has the AIDS virus?											
Very likely	7	5	5	10	7	7	6	9	11	7	4
Somewhat likely	17	14	16	20	17	17	17	16	18	19	15
Somewhat unlikely	16	18	16	13	17	15	16	14	13	15	18
Very unlikely	29	32	32	24	31	28	30	26	22	29	34
Definitely not possible	18	22	20	14	17	20	19	17	11	18	23
Don't know	13	9	10	19	12	14	12	18	25	12	7
24j. Attending school with a child who has the AIDS virus?											
Very likely	2	2	2	3	2	2	2	2	4	2	1
Somewhat likely	6	6	5	8	7	6	6	6	8	7	5
Somewhat unlikely	10	11	12	8	11	10	10	11	9	13	9
Very unlikely	38	37	41	35	42	34	39	33	32	38	42
Definitely not possible	35	39	35	31	31	38	35	32	27	33	40
Don't know	8	5	6	14	8	9	8	15	20	7	4
24k. Mosquitoes or other insects?											
Very likely	7	8	7	8	8	7	7	10	12	7	5
Somewhat likely	15	19	13	14	16	14	14	16	17	16	13
Somewhat unlikely	8	8	9	7	8	8	8	9	6	9	8
Very unlikely	24	24	27	21	26	22	25	19	18	25	27
Definitely not possible	25	26	27	23	23	27	26	21	19	23	31
Don't know	20	15	18	28	18	23	20	25	29	20	16
25. Have you ever donated blood?											
Yes	40	29	43	44	51	30	42	32	30	37	49
No	60	70	56	55	49	69	58	68	70	62	51
Don't know	0	0	0	1	0	0	0	1	0	0	0
26a. Have you donated blood since March 1985?											
Yes	12	17	15	6	14	11	13	11	5	11	18
No	87	83	84	94	85	89	86	88	94	88	82
Don't know	1	0	1	1	1	0	1	1	0	1	1
26b. Have you donated blood in the past 12 months?											
Yes	6	7	7	3	6	5	6	2	2	6	8
No	94	93	92	96	93	95	93	97	98	94	91
Don't know	1	0	1	1	1	0	1	1	1	1	1

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, June 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	Age			Sex		Race		Education			
	Total	18-29	30-49	50 years	Male	Female	White	Black	Less than	12 years	More than
		years	years	and over					12 years	12 years	12 years
Percent distribution ¹											
27. Have you ever heard of a blood test that can detect the AIDS virus infection?											
Yes	76	83	83	62	76	76	78	66	57	75	87
No	20	14	14	31	20	19	18	28	36	20	10
Don't know	4	4	3	7	4	5	4	6	7	5	3
28. To the best of your knowledge, are blood donations routinely tested now for the AIDS virus infection?											
Yes	67	73	75	53	66	67	69	54	46	67	79
No	3	4	3	3	3	3	3	4	3	3	3
Don't know	6	6	5	6	6	6	6	8	8	5	6
Never heard of test ^b	24	17	17	38	24	24	22	34	43	25	13
29a. Have you ever received counseling or had a talk with a health professional about taking the AIDS virus test?											
Yes	3	4	4	1	4	3	3	5	1	3	5
No	72	78	79	61	71	73	75	61	55	72	82
Don't know	0	0	0	0	0	0	0	0	0	0	0
Never heard of test ^a	24	17	17	38	24	24	22	34	43	25	13
29b. Was the discussion— ^{1,7}											
With a private doctor?	49	42	51	63	47	51	48	49	25	36	59
At a family-planning clinic?	6	14	1	—	3	8	4	11	14	6	4
On an AIDS hotline?	1	2	—	—	—	2	1	—	—	—	2
At a prenatal clinic?	5	13	1	—	1	11	4	9	7	6	5
At an STD or sexually transmitted disease clinic?	1	—	2	—	1	1	1	2	—	2	1
At an AIDS/HIV counseling and testing site?	11	13	9	9	10	11	12	7	12	8	12
With some other health professional?	38	30	45	28	38	39	42	31	17	39	40
With some other counselor?	13	20	10	6	18	8	13	13	33	8	14
30. During that discussion, did you receive information about how to avoid getting or passing on the AIDS virus? ⁷											
Yes	68	82	60	48	68	67	66	80	80	77	61
No	31	15	40	52	32	30	33	20	20	21	38
Don't know	1	3	—	—	—	2	1	—	—	2	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	—	0	0
No	75	82	83	62	75	76	77	66	56	75	87
Don't know	0	0	—	—	0	—	0	—	—	—	0
Never heard of test ^a	24	17	17	38	25	24	22	34	44	25	13
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	0	1	1	—	1	0	1
No	75	82	82	62	75	75	77	66	56	75	87
Don't know	0	0	—	—	0	—	0	—	—	—	0
Never heard of test ^a	24	17	17	38	25	24	22	34	44	25	13
33. Have you had your blood tested for the AIDS virus infection?											
Yes	16	23	20	7	19	14	16	15	8	15	23
No	59	60	64	53	57	61	61	51	48	61	64
Don't know	2	2	1	2	2	2	2	2	2	2	2
Never heard of test ^a	23	15	15	37	22	23	21	32	42	23	11
35a. How many times have you had your blood tested for the AIDS virus infection?											
Once	4	6	5	1	5	3	4	4	3	3	6
Twice	1	1	1	0	1	1	1	0	0	1	1
3-5 times	1	0	1	0	1	0	1	2	0	1	1
6-12 times	0	0	1	0	0	0	0	0	0	0	1
More than 12 times	0	0	0	—	0	0	0	0	—	0	0
Don't know	10	14	11	5	11	9	10	8	5	9	14
Never heard of or never took test ^b	84	78	81	93	82	87	84	85	92	86	78
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	1	2	2	1	2	1	2	1	1	1	2
Once	4	5	5	2	4	3	3	5	2	3	5
More than once	1	2	2	1	2	1	1	2	0	1	2
Don't know	10	14	11	4	11	9	10	8	5	9	13
Never heard of or never took test ^b	84	77	81	93	81	86	84	85	92	85	78
36. Was the test/were any of the tests, including those you had before the past 12 months— ^{1,9}											
Part of a blood donation?	74	73	74	76	71	77	76	60	68	74	75
Part of a blood transfusion?	1	2	1	1	1	2	2	—	2	0	2
Voluntarily sought?	14	10	18	15	17	11	13	21	13	15	14
Part of some other activity that requires a blood sample?	13	16	10	13	15	11	12	21	17	13	12

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, June 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	Age			Sex		Race		Education			
	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
Percent distribution ¹											
38. Did you get the results of your test/any of your tests? ⁹											
Yes	54	56	54	47	55	52	50	74	51	49	58
No	45	42	45	49	44	46	48	26	44	48	42
Don't know	2	2	1	4	1	2	2	-	4	3	-
41. Do you expect to have a blood test for the AIDS virus infection in the next 12 months?											
Yes	6	11	7	2	7	6	5	13	4	6	8
No	64	66	71	56	63	66	68	45	47	64	75
Don't know	5	6	5	4	5	5	4	8	5	5	4
Never heard of test ⁸	24	17	17	38	24	24	22	34	43	25	13
42. Will the test be— ^{1,10}											
Part of a blood donation?	32	25	40	21	33	30	37	17	23	31	35
Voluntarily sought?	59	65	53	55	59	59	55	65	57	55	62
Part of some other activity that requires a blood sample? . .	19	18	19	23	21	17	19	22	27	21	15
44a. Did you have a blood transfusion at any time between 1977 and 1985?											
Yes	5	3	5	7	5	6	5	9	6	6	5
No	93	96	94	91	93	93	94	91	93	93	94
Don't know	1	1	1	2	1	1	1	0	1	1	1
44b. Do you think the present supply of blood is safe for transfusions?											
Yes	44	48	47	39	49	40	46	37	33	43	52
No	27	28	29	24	24	30	26	33	30	29	24
Other	-	-	-	-	-	-	-	-	-	-	-
Don't know	28	24	24	36	27	29	28	30	38	28	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	3	3	2	3	3	3	3	5	4	3	3
Somewhat effective	15	15	13	18	14	15	15	13	14	15	16
Not at all effective	54	58	62	42	54	54	56	44	35	56	63
Don't know how effective	21	18	16	30	21	21	21	25	33	22	15
Don't know method	7	5	6	9	7	6	6	12	15	5	4
45b. Using a condom?											
Very effective	29	34	32	23	31	28	30	27	20	29	35
Somewhat effective	54	53	58	51	55	54	56	45	47	57	57
Not at all effective	5	6	4	7	4	6	5	8	9	5	3
Don't know how effective	9	5	5	15	7	10	8	14	19	7	4
Don't know method	2	1	1	4	2	2	2	6	6	1	1
45c. Using a spermicidal jelly, foam, or cream?											
Very effective	2	3	2	2	3	2	2	4	3	2	3
Somewhat effective	17	18	18	15	17	17	18	13	10	18	20
Not at all effective	50	55	56	39	49	51	51	44	37	52	55
Don't know how effective	23	18	18	32	23	23	23	25	34	23	18
Don't know method	8	6	5	12	8	7	7	14	16	6	5
45d. Having a vasectomy?											
Very effective	2	2	1	2	2	2	2	3	2	2	1
Somewhat effective	3	5	2	2	4	2	3	5	4	3	3
Not at all effective	70	69	79	62	71	70	74	54	50	70	82
Don't know how effective	18	17	12	24	17	18	16	24	28	18	11
Don't know method	7	6	5	10	7	8	6	14	16	7	3
45e. Two people who do not have the AIDS virus having sex only with each other?											
Very effective	81	81	85	76	83	79	83	65	67	81	89
Somewhat effective	9	11	8	8	8	10	8	15	12	10	7
Not at all effective	3	5	2	2	3	3	3	5	4	3	2
Don't know how effective	6	3	3	11	5	7	5	10	14	5	3
Don't know method	2	1	1	3	2	2	1	4	4	1	1
46. What are your chances of having the AIDS virus?											
High	0	0	0	0	0	0	0	1	1	0	0
Medium	1	1	2	1	2	1	1	3	1	1	2
Low	15	21	17	8	17	13	15	16	8	14	20
None	80	75	79	87	77	83	81	76	85	81	77
Don't know	3	2	2	4	3	2	2	5	5	3	1
47. What are your chances of getting the AIDS virus?											
High	0	1	1	0	1	0	0	1	0	1	0
Medium	2	2	2	1	2	1	2	2	2	2	2
Low	21	29	24	11	24	17	21	21	9	18	30
None	74	65	70	84	68	78	74	71	83	76	67
Don't know	3	3	2	4	4	2	3	5	6	3	1
High chance of already having AIDS virus	0	0	0	0	0	0	0	1	1	0	0

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, June 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	Age			Sex		Race		Education			
	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
	Percent distribution ¹										
49. Do you say your chance of getting AIDS is high or medium because you— ¹¹											
Have had a blood transfusion?	9	3	12	16	9	11	10	8	14	11	4
Have had sexual contact with someone who might have the virus?	18	19	18	14	20	14	19	18	20	15	22
Some other reason?	63	73	62	46	64	61	64	47	34	72	65
52. Have you ever discussed AIDS with a friend or relative?											
Yes	68	71	76	56	63	72	69	63	48	67	79
No	32	29	24	44	37	28	31	37	52	33	20
Don't know	0	0	0	1	1	0	1	—	0	1	0
53. When was the last time you discussed AIDS with a friend or relative?											
0-3 days ago	11	11	12	10	11	11	11	13	8	11	13
4-7 days ago	14	14	18	12	13	16	14	16	11	15	16
8-14 days ago	10	12	11	7	10	10	10	9	8	10	11
15-31 days ago	14	13	17	12	13	15	15	10	8	14	17
More than 31 days ago	13	17	14	9	11	15	14	8	8	12	18
Don't know	4	4	4	6	4	5	4	6	5	4	5
Never discussed ¹²	33	30	24	44	38	28	32	37	52	33	21
54. Have you ever personally known anyone with AIDS or the AIDS virus?											
Yes	9	9	13	6	9	10	9	13	4	6	16
No	88	89	85	91	89	88	89	85	93	92	82
Don't know	2	2	2	3	2	2	2	2	2	2	3
55. How long has it been since you saw this person?											
Within past 2 weeks	1	1	2	1	1	1	1	1	1	1	2
2 weeks—less than 1 month	0	1	0	0	0	0	0	1	0	0	1
1 month—less than 3 months	1	1	1	1	1	1	1	2	1	0	2
3 months—less than 6 months	1	1	1	0	1	1	1	2	0	0	2
6 months or more	6	5	8	4	5	6	6	7	2	4	9
Don't know	0	0	—	0	0	—	0	—	0	—	0
Never knew anyone with AIDS ¹³	91	91	87	94	91	90	91	87	96	94	84
56. How well do you know this person?											
Very well	1	1	2	1	2	1	1	3	1	1	2
Fairly well	2	3	3	1	2	3	2	5	1	2	4
Not very well	3	3	5	2	3	3	4	2	1	2	6
Don't really know personally	2	1	2	2	1	2	1	2	2	1	2
Other	1	1	1	1	1	1	1	1	0	1	2
Don't know how well	—	—	—	—	—	—	—	—	—	—	—
Never knew anyone with AIDS ¹³	91	92	87	94	91	90	91	87	96	94	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	1	2	4	2	2	3
No to all statements	98	96	97	100	96	99	98	96	98	98	97
Refused	0	0	0	0	0	0	0	—	0	0	0
Don't know	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	74	72	64	70	69	70	70	65	71	71
No	22	19	20	28	23	22	22	19	25	21	22
Other	3	2	3	3	3	2	3	4	3	2	3
Don't know	5	4	6	5	4	6	5	7	7	5	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, June 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	Age			Sex		Race		Education			
	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
Percent distribution ¹											
59. Why wouldn't you take part in the test? ¹⁴											
Don't want to know if I have AIDS	4	6	6	2	4	5	4	11	3	6	3
Don't want any counseling about AIDS	1	—	2	1	1	1	1	3	1	1	1
Fear I'll get AIDS	6	4	5	7	4	7	5	7	6	6	4
Don't like to give blood	10	14	11	8	8	13	10	11	10	11	10
Don't trust Government programs	7	6	9	5	9	4	6	12	2	6	10
It is a waste of money	3	1	2	4	4	2	3	1	3	3	2
Don't believe AIDS can really be cured anyway	1	0	1	1	1	1	1	2	2	1	0
Other	57	54	52	63	61	53	59	41	59	54	59
Don't know	15	18	15	15	12	18	15	14	17	17	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	73	65	60	64	66	66	65	60	66	68
Doubtful	28	21	30	31	29	26	28	27	29	28	27
Don't know	7	6	5	10	6	7	6	8	11	6	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	81	80	75	78	80	79	76	72	79	82
Doubtful	16	13	16	17	17	14	16	16	18	16	14
Don't know	6	6	4	8	5	6	5	8	10	5	4

¹Multiple responses may sum to more than 100.
²Based on persons answering yes to question 4 (includes yes to question 3).
³Based on persons answering yes to question 5.
⁴Based on persons answering all or almost all, about half, or less than half to question 7.
⁵Based on persons answering yes to question 11, "Do you have any children aged 10 through 17?" Question 12 was "How many do you have?"
⁶Based on persons answering no or don't know to question 27.
⁷Based on persons answering yes to question 29a.
⁸Based on persons answering no or don't know to questions 27 and 33.
⁹Based on persons answering yes to question 33.
¹⁰Based on persons answering yes to question 41.
¹¹Based on persons answering high or medium to question 45.
¹²Based on persons answering no or don't know to question 52.
¹³Based on persons answering no or don't know to question 54.
¹⁴Based 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 3,205 persons in May and 4,048 persons in June, 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. 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 in 1989.

A number of measures of AIDS knowledge declined slightly between December 1987 and May 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

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, May-June 1988

Characteristic	Sample size		Estimated population in thousands
	May	June	
All adults	3,205	4,048	174,528
Age			
18-29 years	730	915	47,725
30-49 years	1,279	1,511	66,109
50 years and over	1,196	1,622	60,695
Sex			
Male	1,381	1,766	82,703
Female	1,824	2,282	91,825
Race			
White	2,638	3,331	151,003
Black	455	579	19,107
Education			
Less than 12 years	753	951	41,503
12 years	1,148	1,553	66,475
More than 12 years	1,292	1,494	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, May 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	1.1	0.8	0.8	0.8	0.7	0.6	1.3	1.0	0.8	0.8
10 or 90	0.7	1.5	1.1	1.1	1.1	0.9	0.8	1.8	1.4	1.2	1.1
15 or 85	0.8	1.7	1.3	1.4	1.3	1.1	0.9	2.2	1.7	1.4	1.3
20 or 80	0.9	1.9	1.5	1.5	1.4	1.2	1.0	2.5	1.9	1.6	1.5
25 or 75	1.0	2.1	1.6	1.6	1.5	1.3	1.1	2.7	2.1	1.7	1.6
30 or 70	1.1	2.2	1.7	1.7	1.6	1.4	1.2	2.8	2.2	1.8	1.7
35 or 65	1.1	2.3	1.8	1.8	1.7	1.5	1.2	2.9	2.3	1.8	1.7
40 or 60	1.1	2.4	1.8	1.9	1.7	1.5	1.3	3.0	2.3	1.9	1.8
45 or 55	1.2	2.4	1.8	1.9	1.8	1.5	1.3	3.1	2.4	1.9	1.8
50	1.2	2.4	1.8	1.9	1.8	1.5	1.3	3.1	2.4	1.9	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, June 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	0.4	0.9	0.7	0.7	0.7	0.6	0.5	1.2	0.9	0.7	0.7
10 or 90	0.6	1.3	1.0	1.0	0.9	0.8	0.7	1.6	1.3	1.0	1.0
15 or 85	0.7	1.5	1.2	1.2	1.1	1.0	0.8	1.9	1.5	1.2	1.2
20 or 80	0.8	1.7	1.4	1.3	1.2	1.1	0.9	2.2	1.7	1.3	1.4
25 or 75	0.9	1.9	1.5	1.4	1.4	1.2	1.0	2.4	1.8	1.4	1.5
30 or 70	0.9	2.0	1.5	1.5	1.4	1.3	1.0	2.5	2.0	1.5	1.6
35 or 65	1.0	2.1	1.6	1.6	1.5	1.3	1.1	2.6	2.0	1.6	1.6
40 or 60	1.0	2.1	1.7	1.6	1.5	1.3	1.1	2.7	2.1	1.6	1.7
45 or 55	1.0	2.2	1.7	1.6	1.6	1.4	1.1	2.7	2.1	1.7	1.7
50	1.0	2.2	1.7	1.6	1.6	1.4	1.1	2.7	2.1	1.7	1.7

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 modified; 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.

Suggested citation

National Center for Health Statistics, D. A. Dawson. AIDS knowledge and attitudes for May and June 1988, Provisional data from the National Health Interview Survey. *Advance Data From Vital and Health Statistics*. No. 160. DHHS Pub. No. (PHS) 88-1250. Public Health Service, Hyattsville, Md.

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National Center for Health Statistics
Centers for Disease Control and Prevention
Public Health Service
6525 Belcrest Road, Room 1064
Hyattsville, MD 20782
(301) 436-8500
E-mail: nchsquery@nch10a.em.cdc.gov
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