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# Vital and Health Statistics

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## Advance Data From Vital and Health Statistics: Numbers 141–150

### Series 16: Compilations of Advance Data From Vital and Health Statistics No. 15

Data in this report from health surveys present statistics by age and other variables on national hospital discharge; adults with noninsulin-dependent diabetes; discharges from nursing homes; inventory of long-term care places; AIDS knowledge and attitudes; and aging in the eighties, people living alone. The reports were originally published in 1987 and 1988.

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## **Health Practices and Perceptions of U.S. Adults with Noninsulin-Dependent Diabetes: Data From the 1985 National Health Interview Survey of Health Promotion and Disease Prevention**

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### **Introduction**

In recent years there have been notable attempts to summarize what is known about current and historical aspects of the magnitude, severity, scope, sources, and impact of diabetes mellitus as a public health problem in the United States and in other countries.<sup>1-4</sup> But much still remains to be clarified with regard to health practices and perceptions bearing on the self-care of diabetes mellitus. A major reason for this latter state of affairs has been the lack of appropriate sets of measurements on representative samples of persons with diabetes.

This report addresses selected aspects of these diabetes data needs for the United States based on information obtained through the 1985 National Health Interview Survey (NHIS) Health Promotion and Disease Prevention (HPDP) study. The data presented were obtained from a subsample of persons 18 years of age and over. A brief description of the procedures used in the 1985 NHIS, as well as in the HPDP study, is given in the Technical notes section of this report.

### **Background**

Proper care and management of diabetes are essential for two reasons. No known cure for diabetes exists, and many of the acute and long-term complications of diabetes may be checked in varying degrees by appropriate treatment.<sup>5-6</sup> Prescriptions for such care generally include an ongoing relationship with the health care system. Depending on the type and severity of diabetes and other patient characteristics, selective use or an optimal mix of diet, exercise, and administration of insulin or oral hypoglycemic agents constitute the essentials of treatment. A high premium also is placed on

good health practices, the use of preventive health services, and patient and family knowledge of the contribution of treatment modes to successful management of diabetes. Patient knowledge is important because, aside from regular contacts with a physician or other health care practitioners, health care of diabetes is primarily self-care.

However, until recently relatively little effort had been made to cull information describing these aspects of the management of diabetes from available national data resources. In the late 1970's, staff of the National Center for Health Statistics had collaborated with staff of the then National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases in a series of secondary analyses of data obtained through NHIS between 1973 and 1978 for persons 20 years of age and over with known diabetes. The results of those analyses were published in an article in *Health, United States, 1981*.<sup>7</sup> That article described the utilization of health services (including the use of preventive health services) by adults with known diabetes and highlighted their use of diet, medication, and exercise, as well as their compliance with other good health practices. This report extends those earlier analyses.

### **Objective**

The purpose of this report is twofold: (1) to provide more current information on selected health practices and perceptions of adults with known diabetes based on data obtained through the 1985 NHIS-HPDP study<sup>8-9</sup> and (2) thereby to stimulate further analysis of this data base by diabetes researchers and by health care professionals with an interest in diabetes care. Although the information is presented without

textual summarization or detailed analytical commentary, the references cited in this introduction, in the footnotes to table 1, and in the Technical notes section of the report will guide the reader wishing to make accurate use of the information presented. Articles published in the November–December 1986 and January–February 1987 issues of the journal *Public Health Reports* are particularly helpful in locating the 1985 HPDP study's data elements in the general context of the Department of Health and Human Services' 1990 Objectives for the Nation.<sup>10–20</sup>

## Scope

Several aspects of the scope of this report require comment. First, "diabetes mellitus" is a term which refers to a heterogeneous group of disorders characterized by glucose intolerance.<sup>21</sup> Generally, two major types of diabetes are distinguished: insulin-dependent diabetes and noninsulin-dependent diabetes. Based on an analysis of information collected in the 1976 NHIS on the age of onset of diabetes, history of medication use, and weight relative to height, it has been estimated that the vast majority (more than 90 percent) of adults with known diabetes, as ascertained through household interview surveys, have noninsulin-dependent diabetes.<sup>22</sup> Because national health surveys, including NHIS, do not oversample insulin-dependent diabetics, national survey respondents with known diabetes are mainly persons with noninsulin-dependent diabetes. Persons with insulin-dependent diabetes are included in the NHIS sample, but in such few numbers as to have relatively little effect on the survey results. It is not possible to routinely distinguish NHIS sample cases with diabetes by the type of diabetes they have (the 1976 NHIS was an exception); therefore, users of the data presented in this report should be cautious not to generalize the information presented here to insulin-dependent diabetics 18 years of age and over. To emphasize this, the phrase "noninsulin-dependent diabetes" has been included in the title of this report, although a small number of insulin-dependent diabetics are included in the sample and in the results presented.

Because the 1985 HPDP study was not designed specifically as a survey of the health practices and perceptions of persons with known diabetes, there are some obvious aspects of their lifestyles with respect to health that are not included in this report. Questions on medication use, for example, were not asked in the 1985 HPDP study. Limited information on this latter topic from earlier NHIS surveys has been previously published.<sup>7,23</sup>

Despite this limitation of the data, the 1985 HPDP study contains a wealth of information directly pertinent to a better descriptive understanding of the management of noninsulin-dependent diabetes in the United States. The information in the text table can be used to provide a current answer to the following kinds of questions: To what extent do adults with known diabetes practice what are generally considered "good" health practices? To what extent are adult diabetics knowledgeable about things that may or may not affect their chances of getting heart disease? To what extent do persons with diabetes experience stress in their lives, and to what extent do they perceive such stress to have any effect on

their health? To what extent do they engage in exercise, sports, or physically active hobbies, and what are the main types of exercise in which they engage? How many diabetics currently smoke cigarettes, and in what amounts? Are individuals with known diabetes aware of problems associated with smoking? To what extent do diabetics make use of alcoholic beverages, and to what extent are they aware of problems associated with heavy alcohol drinking? What do diabetics perceive to be the major ways of preventing tooth decay and gum disease? What do they know about reasons for tooth loss in adults? To what extent are they exposed on their jobs to occupational health hazards: noxious substances, working conditions that could endanger their health, or the risk of injury?

Because the responses to the 1985 HPDP study are presented in this report by diabetic status and age, readers also may explore age variations in health practices and perceptions among adult diabetics, as well as age-specific comparisons between persons with and without known diabetes. Also, because diabetics as a group are much older than nondiabetics,<sup>24</sup> it is important to consider whether apparent differences between diabetics and nondiabetics may simply reflect differences in practices and perceptions associated with age.

## Organization of text table

Information bearing on the aforementioned kinds of questions is shown in the text table, which presents the responses to the HPDP questionnaire items in terms of estimated percents or percent distributions for all persons 18 years of age and over for three age groups by whether or not the person has known diabetes. Generally, except for the questions on knowledge of health practices where "don't know" is a legitimate response, "don't know" and other inappropriate responses were excluded from the denominator in the calculation of the estimates. In most cases, the actual question asked of the respondent is shown along with the response categories. In a few cases, there has been minor paraphrasing or combining of questions. Each question is referenced to the item number on the questionnaire.

The data in the table are organized into nine sections, as follows:

- General health habits.
- Injury control and child safety and health.
- High blood pressure.
- Stress.
- Exercise.
- Smoking.
- Alcohol use.
- Dental care.
- Occupational safety and health.

Most of the questions on knowledge of health practices have answers that currently are presumed to be correct (as determined by the Public Health Service agency with "lead" responsibility). An earlier publication in this series established the convention of highlighting these "correct" answer categories in boldface type;<sup>9</sup> this convention has been continued here. However, it should be noted that the special

circumstances of persons with known diabetes were not explicitly considered by "lead" agencies in determining what a "correct response" to a particular item on the 1985 HPDP questionnaire might be.

In most instances this presents no difficulty. But in one instance the boldface-type convention for indicating a "correct" response to an HPDP question in the earlier report has been removed in this report because there is no one correct answer for persons with diabetes; that is the case of the characteristics of exercise required for cardiovascular conditioning (items R.7a, R.7b, and R.7c in the table). As is pointed out in the American College of Sports Medicine (ACSM) *Guidelines for Exercise Testing and Prescription*,<sup>25</sup> the development of an exercise program for a person with diabetes has to be done with consideration for a number of factors, including the type of diabetes the person has, whether the person's diabetes is well controlled or not well controlled, the type and amount of medication the person is taking, whether the person is obese and thereby possibly at risk of orthopedic injuries from weight-bearing activities, and whether the person has any diabetic complications that require the avoidance of excessive jarring or marked increases in blood pressure. The extent to which diabetics' perceptions and ACSM guidelines are consistent with respect to prudent exercise behavior for persons with these different types of diabetes is a topic that further analysis of the 1985 HPDP data base might be able to elucidate. However, because such an analysis would require more fine-grained tabulations than are presented in this report, the "correct" answer categories that appeared in the earlier publication for items R.7a-R.7c have been removed.

### **Related publications, research opportunities, and public use data tapes**

For some questions in the text table, references are provided to selected publications that present related data, at

least for the general population, from previous data collection by the National Center for Health Statistics. In certain instances, data from these earlier reports can be tabulated by diabetic status by matching NHIS public use computer records containing the information about health practices with the NHIS public use computer records containing information about diabetes conditions.

Further analysis of the information presented in this report by diabetic status can be accomplished more directly because the 1985 HPDP study questionnaire included an item on whether or not the respondent had known diabetes. A number of strategic research issues can be pursued with these 1985 HPDP study data, including clarification of patterns of exercise participation among persons with known diabetes. Readers interested in this area of research are encouraged to consult the growing body of literature on this topic.<sup>26-31</sup> Discussions in the journal literature of the role of exercise in the management of diabetes generally have been written carefully so as to treat this topic in the context of the type of diabetes, medical complications, and other characteristics a person may have. Many important issues that need to be studied better in the laboratory and in the general population also have been highlighted in recent state-of-the-art reviews of the role of exercise in the management of noninsulin-dependent diabetes,<sup>32</sup> including the Consensus Statement resulting from a recent National Institutes of Health Consensus Development Conference, "Diet and Exercise in Noninsulin-Dependent Diabetes Mellitus."<sup>33</sup>

Information regarding the purchase of the public use data tapes for the 1985 NHIS-HPDP study can be obtained by contacting Dr. Owen T. Thornberry, Director, Division of Health Interview Statistics, National Center for Health Statistics, Room 2-44, 3700 East-West Highway, Hyattsville, Md. 20782 (telephone: (301) 436-7085).

Table 1. Estimates of the percent of population with selected behaviors and knowledge from the 1985 National Health Interview Survey Questionnaire on Health Promotion and Disease Prevention, by diabetic status and age: 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 technical notes.)

Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic				
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years	
		Percent of population								
	Total.....	100	100	100	100	100	100	100	100	
	GENERAL HEALTH HABITS									
N.1.	How often do you eat breakfast? <sup>1</sup>									
	Almost every day.....	79	59	75	92	54	44	62	86	
	Sometimes.....	10	17	13	4	21	26	16	6	
	Rarely or never.....	11	23	12	4	25	30	22	8	
N.2.	Including evening snacks, how often do you eat between meals? <sup>1</sup>									
	Almost every day.....	39	42	42	34	39	42	38	30	
	Sometimes.....	26	27	24	26	33	35	30	27	
	Rarely or never.....	36	31	33	40	28	23	32	43	
N.3.	When you visit a doctor or other health professional for routine care, is eating proper foods discussed?									
	Often.....	38	48	39	33	8	8	10	9	
	Sometimes.....	23	21	25	23	16	16	15	15	
	Rarely or never.....	37	30	33	44	66	66	64	67	
	Don't visit for routine care.....	2	2	3	1	10	10	10	9	
N.5.	In your opinion which of these are the two best ways to lose weight?									
	Don't eat at bedtime.....	31	25	35	30	29	28	30	32	
	Eat fewer calories.....	77	75	79	76	74	73	78	73	
	Take diet pills.....	1	2	1	2	2	2	1	1	
	Increase physical activity.....	54	71	54	47	74	82	68	53	
	Eat no fat.....	20	14	17	26	11	8	12	20	
	Eat grapefruit with each meal.....	6	4	6	6	4	4	5	5	
	Don't know.....	11	9	1	14	6	3	6	15	
N.6.	Are you now trying to lose weight? <sup>2</sup> (Yes).....	42	39	53	32	35	36	39	24	
N.7.	Are you eating fewer calories to lose weight? <sup>2</sup> (Persons trying to lose weight (yes) in N.6) (Yes).....	86	86	89	80	80	79	83	83	
N.8.	Have you increased your physical activity to lose weight? <sup>2</sup> (Persons trying to lose weight (yes) in N.6) (Yes).....	37	55	35	31	58	64	51	41	
N.9.	Do you consider yourself overweight, underweight, or just about right? (If overweight) Would you say you are very overweight, somewhat overweight, or only a little overweight? <sup>2,3</sup>									
	Very overweight.....	17	19	22	11	8	7	11	6	
	Somewhat overweight.....	21	21	22	20	17	16	21	13	
	Only a little overweight.....	19	12	22	18	21	20	24	21	
	About right.....	39	42	30	46	49	51	41	52	
	Underweight.....	4	4	4	4	6	6	3	8	
N.10.	On the average, how many hours of sleep do you get in a 24-hour period? <sup>1</sup>									
	Less than 7 hours.....	22	21	25	18	22	22	22	20	
	7-8 hours.....	60	71	58	58	66	67	68	59	
	9 or more hours.....	18	8	17	23	12	11	10	20	
N.11.	Is there a particular clinic, health center, doctor's office, or other place that you usually go to if you are sick or need advice about your health? <sup>4</sup> (Yes).....	95	93	94	97	77	73	83	88	
N.15.	About how long has it been since you had a Pap smear test? <sup>5</sup> (Females only)									
	Less than 1 year.....	32	52	31	27	46	55	38	25	
	1 year.....	17	23	18	13	17	19	17	13	
	2 years.....	13	14	14	12	10	8	13	12	
	3-4 years.....	10	4	12	10	7	6	10	10	
	5 or more years.....	17	7	21	18	11	5	18	26	
	Never.....	10	2	5	19	7	7	4	14	

See footnotes at end of table.



Table 1. Estimates of the percent of population with selected behaviors and knowledge from the 1985 National Health Interview Survey Questionnaire on Health Promotion and Disease Prevention, by diabetic status and age: United States, 1985--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.)

Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic			
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years
GENERAL HEALTH HABITS--Con.		Percent of population							
N.16a.	About how long has it been since you had a breast examination by a doctor or other health professional? <sup>5</sup> (Females only)								
	Less than 1 year.....	44	56	43	40	51	56	45	39
	1 year.....	18	24	20	14	18	19	18	14
	2 years.....	10	5	11	10	10	8	12	10
	3-4 years.....	8	-	11	8	7	6	8	8
	5 or more years.....	11	7	10	13	8	4	12	15
	Never.....	10	7	6	15	7	7	5	14
N.16b.	Do you know how to examine your own breasts for lumps? (Females only) (Yes).....	82	93	83	76	87	89	90	78
N.16c.	About how many times a year do you examine your own breasts for lumps? (Females only)								
	12 or more times.....	35	44	37	29	32	31	37	29
	7-11 times.....	1	1	2	1	2	3	2	2
	2-6 times.....	31	31	31	30	34	37	33	25
	Once a year.....	3	5	2	3	5	5	4	4
	Never.....	11	12	9	12	14	13	13	16
	Don't know how to examine own breast.....	20	7	18	26	13	11	11	25
INJURY CONTROL AND CHILD SAFETY AND HEALTH									
O.1a.	Have you ever heard about Poison Control Centers? (Persons in families with children under 10 years of age) (Yes).....	83	92	58	92	88	89	78	63
O.1b.	Do you have the telephone number for a Poison Control Center in your area? (Persons in families with children under 10 years of age) (Yes).....	52	64	24	64	61	62	49	32
O.3.	Have you heard about child safety seats, sometimes called car safety carriers, which are designed to carry children while they are riding in a car? (Persons in families with children under 5 years of age) (Yes).....	99	100	96	100	98	98	97	98
O.4.	Did a doctor or other health professional ever tell you about the importance of using car safety seats for your children? (Persons in families with children under 5 years of age) (Yes)....	38	46	25	31	45	46	33	19
O.10.	When driving or riding in a car, do you wear a seat belt <sup>3</sup> --								
	All or most of the time.....	30	37	28	30	36	36	36	34
	Some of the time.....	19	15	22	17	18	19	18	15
	Once in awhile.....	11	12	12	9	14	15	14	14
	Never.....	40	37	38	44	32	30	32	37
	Don't ride in car.....	2	0	2	3	1	0	1	2
	Does this home have any working smoke detectors? (Based on Items 0.11a.-c.) (Yes).....	54	61	52	53	60	61	61	57
O.12a.	Do you know about what the hot water temperature is in this home? (Yes).....	36	38	39	32	36	33	46	35
O.13.	In the past 12 months, have you (or has anyone in your household) used a thermometer to test the temperature of the hot water here? (Yes).....	3	5	2	2	4	4	4	3
O.14.	Above what temperature will hot water cause scald injuries?								
	127 degrees or less.....	9	14	9	6	14	18	10	6
	128-139 degrees (can produce burns in less than a minute).....	1	1	2	1	2	3	2	1
	140 degrees or above (can produce burns in 5 seconds or less)...	21	20	23	19	20	18	26	19
	Don't know.....	69	65	66	75	63	61	62	74

See footnotes at end of table.

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Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic			
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years
<b>HIGH BLOOD PRESSURE</b>		Percent of population							
P.1.	I am going to read a list of things which may or may not affect a person's chances of getting heart disease. After I read each one, tell me if you think it definitely increases, probably increases, probably does not, or definitely does not increase a person's chances of getting heart disease.								
	<b>Cigarette smoking</b>								
	<b>Increases</b> .....	84	91	85	81	91	94	90	82
	Definitely increases.....	62	67	64	57	67	70	66	59
	Probably increases.....	23	24	22	23	24	24	24	24
	<b>Does not increase</b> .....	5	5	4	6	4	3	4	5
	Probably does not increase.....	4	4	3	4	3	2	3	3
	Definitely does not increase.....	1	1	0	2	1	1	1	2
	Don't know/No opinion.....	11	4	11	14	5	3	6	13
	<b>Worry or anxiety</b>								
	<b>Increases</b> .....	83	87	86	79	85	85	88	81
	Definitely increases.....	43	43	47	38	40	38	45	38
	Probably increases.....	41	44	39	41	45	46	43	42
	<b>Does not increase</b> .....	7	8	6	7	8	10	6	6
	Probably does not increase.....	4	7	4	4	6	8	5	5
	Definitely does not increase.....	3	1	2	3	2	2	1	2
	Don't know/No opinion.....	10	6	8	14	7	6	6	13
	<b>High blood pressure</b>								
	<b>Increases</b> .....	90	93	93	86	92	94	92	85
	Definitely increases.....	67	68	71	61	69	72	70	59
	Probably increases.....	23	25	22	24	23	22	22	26
	<b>Does not increase</b> .....	2	4	1	3	3	2	3	3
	Probably does not increase.....	2	3	0	2	2	2	2	2
	Definitely does not increase.....	1	0	0	1	1	1	1	1
	Don't know/No opinion.....	8	4	6	11	5	4	5	12
	<b>Diabetes</b>								
	<b>Increases</b> .....	74	76	77	69	61	65	58	47
	Definitely increases.....	48	52	52	42	31	33	31	24
	Probably increases.....	26	24	25	27	29	32	27	23
	<b>Does not increase</b> .....	8	12	7	6	10	10	10	9
	Probably does not increase.....	5	9	4	4	7	8	7	6
	Definitely does not increase.....	3	2	3	2	3	3	3	3
	Don't know/No opinion.....	19	12	15	25	29	25	32	43
	<b>Being very overweight</b>								
	<b>Increases</b> .....	91	94	93	87	94	95	94	87
	Definitely increases.....	69	75	74	61	70	72	70	60
	Probably increases.....	22	19	19	26	24	23	24	27
	<b>Does not increase</b> .....	3	1	2	4	2	2	2	2
	Probably does not increase.....	2	1	1	2	1	1	2	1
	Definitely does not increase.....	1	1	1	2	1	1	1	1
	Don't know/No opinion.....	7	5	5	9	4	3	4	10
	<b>Overwork</b>								
	<b>Increases</b> .....	63	77	67	55	72	78	67	58
	Definitely increases.....	31	35	34	26	31	33	31	25
	Probably increases.....	32	42	32	28	41	44	36	33
	<b>Does not increase</b> .....	21	14	20	26	19	16	24	24
	Probably does not increase.....	14	10	13	18	13	12	16	16
	Definitely does not increase.....	7	3	7	9	6	4	8	8
	Don't know/No opinion.....	15	9	14	19	9	6	9	18
	<b>Drinking coffee with caffeine</b>								
	<b>Increases</b> .....	48	51	48	47	52	54	51	43
	Definitely increases.....	16	16	16	15	13	13	13	12
	Probably increases.....	32	35	32	32	39	42	38	31
	<b>Does not increase</b> .....	26	27	27	25	29	29	30	28
	Probably does not increase.....	19	23	19	17	22	23	22	19
	Definitely does not increase.....	8	5	8	8	7	6	8	9
	Don't know/No opinion.....	26	22	25	28	19	17	19	29

See footnotes at end of table.

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HIGH BLOOD PRESSURE--Con.		Percent of population							
P.1.	I am going to read a list of things which may or may not affect a person's chances of getting heart disease. After I read each one, tell me if you think it definitely increases, probably increases, probably does not, or definitely does not increase a person's chances of getting heart disease.--Con.								
	Eating a diet high in animal fat								
	Increases.....	79	85	80	75	81	81	83	77
	Definitely increases.....	44	43	51	38	42	41	45	41
	Probably increases.....	35	42	29	38	39	40	38	36
	Does not increase.....	5	4	4	6	8	9	7	6
	Probably does not increase.....	4	3	3	5	6	7	5	4
	Definitely does not increase.....	1	1	1	1	2	2	2	2
	Don't know/No opinion.....	16	11	16	19	11	11	10	17
	Family history of heart disease								
	Increases.....	79	87	81	73	84	87	84	71
	Definitely increases.....	48	57	54	38	49	51	51	39
	Probably increases.....	31	31	27	35	35	36	33	32
	Does not increase.....	9	6	8	11	8	7	8	12
	Probably does not increase.....	6	4	5	7	5	4	5	7
	Definitely does not increase.....	4	2	3	4	3	3	3	5
	Don't know/No opinion.....	12	6	11	16	8	6	8	17
	High cholesterol								
	Increases.....	83	89	84	80	87	90	88	77
	Definitely increases.....	54	58	58	48	55	55	58	49
	Probably increases.....	29	31	26	32	32	34	30	29
	Does not increase.....	4	5	3	4	4	4	4	5
	Probably does not increase.....	2	3	2	2	3	3	3	3
	Definitely does not increase.....	1	2	1	2	1	1	1	2
	Don't know/No opinion.....	13	7	13	16	9	7	8	18
P.2.	The following conditions are related to having a stroke. In your opinion, which of these conditions most increases a person's chances of having a stroke?								
	Diabetes.....	7	5	7	7	4	5	3	3
	High blood pressure.....	71	78	71	70	78	77	81	76
	High cholesterol.....	13	10	15	12	12	13	10	10
	Don't know.....	9	6	7	11	6	5	6	11
P.3.	Which one of the following substances in food is most often associated with high blood pressure?								
	Sodium (or salt).....	58	67	60	51	59	60	62	51
	Cholesterol.....	23	23	24	22	25	26	24	24
	Sugar.....	10	4	9	14	9	9	7	10
	Don't know.....	9	6	7	12	8	6	8	15
P.12a.	About how long has it been since you last had your blood pressure taken by a doctor or other health professional? <sup>2,3</sup>								
	Less than 6 months.....	83	72	81	90	55	50	59	70
	6-11 months.....	10	14	11	8	18	20	15	13
	12 months to 23 months.....	4	11	5	1	14	16	13	8
	24 months and over.....	2	3	3	1	13	14	12	9
P.12b.	Blood pressure is usually given as one number over another. Were you told what your blood pressure was, in numbers? (Persons with blood pressure checked within 24 months in 12a) (Yes).....	66	69	66	64	68	67	71	67
P.14.	Have you ever been told by a doctor or other health professional that you had high cholesterol? (Yes).....	16	12	20	14	5	2	8	10

See footnotes at end of table.

Table 1. Estimates of the percent of population with selected behaviors and knowledge from the 1985 National Health Interview Survey Questionnaire on Health Promotion and Disease Prevention, by diabetic status and age: United States, 1985--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.)

Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic			
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years
<b>STRESS</b>		Percent of population							
Q.1.	During the past 2 weeks, would you say that you experienced a lot of stress, a moderate amount of stress, relatively little stress, or almost no stress at all?								
	A lot of stress.....	20	29	24	12	20	23	19	11
	A moderate amount of stress.....	22	32	25	16	31	34	30	18
	Relatively little stress.....	20	22	18	22	23	23	22	21
	Almost none.....	34	15	30	45	25	19	27	46
	Don't know what stress is.....	4	2	3	6	2	1	2	4
Q.2.	In the past year, how much effect has stress had on your health?								
	A lot.....	18	23	23	10	12	13	13	9
	Some.....	28	40	27	24	31	34	29	21
	Hardly any or none.....	50	35	47	60	55	52	56	66
	Don't know what stress is.....	1	-	1	1	1	0	1	1
Q.3a.	In the past year, did you think about seeking help for any personal or emotional problems from family or friends? (Yes).....	10	22	10	5	15	20	9	4
Q.3b.	In the past year, did you think about seeking help for any personal or emotional problems from a helping professional or a self-help group? (Yes).....	9	20	11	4	11	14	8	4
Q.4.	Did you actually seek any help? (Yes) From whom did you seek help?								
	Family or friends.....	4	10	4	2	7	9	3	2
	Professional or self help group.....	7	11	8	4	7	8	5	3
<b>EXERCISE</b>									
R.2a.	In the past 2 weeks, have you done any of the following exercises, sports, or physically active hobbies?--								
	Walking for exercise.....	40	50	40	36	42	42	41	42
	Jogging or running.....	3	12	2	0	11	16	4	1
	Calisthenics or general exercise.....	10	19	7	10	23	29	16	11
	Biking.....	7	17	6	4	11	13	8	6
	Swimming or water exercises.....	3	8	2	1	10	13	6	3
R.3.	Do you exercise or play sports regularly? (Yes).....	26	41	21	24	41	47	32	30
R.4.	For how long have you exercised or played sports regularly?								
	Less than 1 year.....	4	9	3	3	5	7	4	2
	1-2 years.....	5	8	4	5	6	7	5	4
	3-4 years.....	4	6	4	4	4	4	3	3
	5 or more years.....	12	18	10	11	25	29	20	19
	Do not exercise regularly.....	75	60	79	76	60	54	69	72
R.5a.	Would you say that you are physically more active, less active, or about as active as other persons your age? <sup>1,3</sup> Is that (a lot more or a little more/a lot less or a little less) active?								
	A lot more.....	12	15	9	13	18	16	19	23
	A little more.....	10	8	8	14	16	15	16	17
	About as active.....	48	49	47	50	49	49	49	45
	A lot less.....	16	11	22	12	6	5	7	7
	A little less.....	13	18	14	10	12	14	8	7
R.7a.	How many days a week do you think a person should exercise to strengthen the heart and lungs?								
	Less than 3 days.....	4	9	3	3	6	7	4	3
	3-4 days.....	23	44	23	14	41	50	32	17
	5 days or more.....	43	33	46	45	38	34	44	46
	Don't know.....	30	14	28	38	15	8	20	34
R.7b.	For how many minutes do you think a person should exercise on each occasion so that the heart and lungs are strengthened?								
	Less than 15 minutes.....	10	8	9	11	6	4	7	9
	15 to 25 minutes.....	21	21	24	18	23	24	23	20
	More than 25 minutes.....	34	54	34	25	53	62	45	29
	Don't know.....	36	17	34	45	18	10	25	42

See footnotes at end of table.

Table 1. Estimates of the percent of population with selected behaviors and knowledge from the 1985 National Health Interview Survey Questionnaire on Health Promotion and Disease Prevention, by diabetic status and age: United States, 1985--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.)

Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic			
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years
EXERCISE--Con.		Percent of population							
R.7c.	During those (number in 7b) minutes, how fast do you think a person's heart rate and breathing should be to strengthen the heart and lungs? Do you think that the heart and breathing rate should be--								
	No faster than usual.....	7	5	7	9	3	2	3	7
	A little faster than usual.....	42	44	43	41	45	45	46	45
	A lot faster but talking is possible.....	18	35	19	10	35	43	29	12
	So fast that talking is not possible.....	1	-	1	0	1	1	1	0
	Don't know.....	32	16	31	40	16	9	21	36
SMOKING									
	Cigarette smoking status (Based on Items S.1-3)								
	Never.....	44	42	35	55	46	48	37	49
	Former.....	33	21	37	34	24	18	30	34
	Current (Includes unknown amount smoked).....	22	37	28	11	30	33	32	16
	Less than 15.....	8	10	10	4	9	11	8	6
	15-24.....	7	16	7	4	13	14	13	7
	25 and over.....	7	11	10	2	8	8	10	3
S.3.	On the average, about how many cigarettes a day do you now smoke? <sup>7</sup> (Current smokers)								
	Less than 15.....	34	26	37	41	32	33	27	38
	15-24.....	34	44	26	40	42	42	43	43
	25 and over.....	32	30	37	19	26	26	31	19
S.4.	Tell me if you think cigarette smoking definitely increases, probably increases, probably does not, or definitely does not increase a person's chances of getting the following problems?								
	Emphysema								
	Increases.....	88	86	89	86	91	92	92	87
	Definitely increases.....	72	69	75	70	73	74	75	71
	Probably increases.....	16	17	15	16	18	18	17	16
	Does not increase.....	2	4	2	2	2	2	2	2
	Probably does not increase.....	1	1	1	2	1	1	1	1
	Definitely does not increase.....	1	3	1	0	1	1	1	1
	Don't know/No opinion.....	10	10	8	12	7	6	6	11
	Bladder cancer								
	Increases.....	34	29	34	36	35	38	34	31
	Definitely increases.....	13	8	16	13	12	12	12	12
	Probably increases.....	21	22	19	23	24	26	21	19
	Does not increase.....	19	32	18	15	25	29	22	14
	Probably does not increase.....	12	19	12	9	18	21	14	9
	Definitely does not increase.....	7	13	6	6	8	8	8	5
	Don't know/No opinion.....	47	39	48	49	39	33	44	55
	Cancer of the larynx or voice box								
	Increases.....	81	82	83	78	88	91	87	76
	Definitely increases.....	50	53	52	46	56	59	55	47
	Probably increases.....	31	29	31	33	32	32	32	30
	Does not increase.....	4	5	3	5	3	3	3	4
	Probably does not increase.....	2	3	1	3	2	2	2	2
	Definitely does not increase.....	2	3	2	2	1	1	1	2
	Don't know/No opinion.....	15	12	14	17	9	6	10	20
	Cataracts								
	Increases.....	16	18	15	16	16	18	13	12
	Definitely increases.....	5	3	6	5	4	5	4	3
	Probably increases.....	10	15	8	11	11	13	9	8
	Does not increase.....	33	42	34	27	43	47	40	30
	Probably does not increase.....	16	17	17	13	22	25	19	14
	Definitely does not increase.....	17	25	17	14	20	22	21	15
	Don't know/No opinion.....	52	40	51	57	42	35	47	59

See footnotes at end of table.

Table 1. Estimates of the percent of population with selected behaviors and knowledge from the 1985 National Health Interview Survey Questionnaire on Health Promotion and Disease Prevention, by diabetic status and age: United States, 1985--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.)

Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic			
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years
SMOKING--Con.		Percent of population							
S.4.	Tell me if you think cigarette smoking definitely increases, probably increases, probably does not, or definitely does not increase a person's chances of getting the following problems?--Con.								
	Cancer of the esophagus								
	Increases.....	73	75	74	71	80	83	78	69
	Definitely increases.....	36	34	39	34	43	46	41	36
	Probably increases.....	37	41	35	37	37	38	37	33
	Does not increase.....	7	11	6	6	6	6	7	6
	Probably does not increase.....	4	7	3	4	4	4	4	3
	Definitely does not increase.....	3	4	3	3	2	2	2	2
	Don't know/No opinion.....	20	14	20	23	14	11	15	25
	Chronic bronchitis								
	Increases.....	80	88	80	76	87	89	86	76
	Definitely increases.....	49	56	50	46	54	57	53	45
	Probably increases.....	30	32	30	30	32	32	33	32
	Does not increase.....	5	5	5	6	5	4	5	5
	Probably does not increase.....	3	3	3	4	3	3	3	3
	Definitely does not increase.....	2	2	2	2	2	1	2	2
	Don't know/No opinion.....	15	7	16	18	9	6	9	19
	Gallstones								
	Increases.....	11	9	11	12	11	13	9	9
	Definitely increases.....	4	2	5	4	3	3	3	3
	Probably increases.....	7	7	6	8	8	10	7	6
	Does not increase.....	36	49	36	30	46	51	43	32
	Probably does not increase.....	14	21	14	12	23	26	19	14
	Definitely does not increase.....	22	29	22	19	23	24	24	18
	Don't know/No opinion.....	53	42	52	58	43	37	47	59
	Lung cancer								
	Increases.....	89	94	90	86	95	97	94	88
	Definitely increases.....	72	75	73	69	80	84	76	72
	Probably increases.....	17	19	17	17	15	13	18	16
	Does not increase.....	3	2	2	4	1	1	2	2
	Probably does not increase.....	2	0	1	3	1	1	1	1
	Definitely does not increase.....	1	2	1	1	1	1	1	1
	Don't know/No opinion.....	8	4	8	11	4	2	4	10
S.4.	Does cigarette smoking during pregnancy definitely increase, probably increase, probably not or definitely not increase the chances of--(Persons under 45 years of age)								
	Miscarriage								
	Increases.....	74	74	-	-	74	74	-	-
	Definitely increases.....	34	34	-	-	35	35	-	-
	Probably increases.....	40	40	-	-	39	39	-	-
	Does not increase.....	8	8	-	-	12	12	-	-
	Probably does not increase.....	4	4	-	-	9	9	-	-
	Definitely does not increase.....	4	4	-	-	3	3	-	-
	Don't know/No opinion.....	18	18	-	-	14	14	-	-
	Stillbirth								
	Increases.....	68	68	-	-	65	65	-	-
	Definitely increases.....	25	25	-	-	28	28	-	-
	Probably increases.....	43	43	-	-	37	37	-	-
	Does not increase.....	11	11	-	-	14	14	-	-
	Probably does not increase.....	5	5	-	-	11	11	-	-
	Definitely does not increase.....	5	5	-	-	4	4	-	-
	Don't know/No opinion.....	21	21	-	-	20	20	-	-
	Premature birth								
	Increases.....	70	70	-	-	70	70	-	-
	Definitely increases.....	29	29	-	-	32	32	-	-
	Probably increases.....	41	41	-	-	38	38	-	-
	Does not increase.....	9	9	-	-	12	12	-	-
	Probably does not increase.....	5	5	-	-	9	9	-	-
	Definitely does not increase.....	4	4	-	-	3	3	-	-
	Don't know/No opinion.....	21	21	-	-	17	17	-	-

See footnotes at end of table.

Table 1. Estimates of the percent of population with selected behaviors and knowledge from the 1985 National Health Interview Survey Questionnaire on Health Promotion and Disease Prevention, by diabetic status and age: United States, 1985--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.)

Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic			
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years
SMOKING--Con.		Percent of population							
S.4.	Does cigarette smoking during pregnancy definitely increase, probably increase, probably not or definitely not increase the chances of--(Persons under 45 years of age)--Con.								
	Low birth weight of the newborn								
	Increases.....	74	74	-	-	80	80	-	-
	Definitely increases.....	47	47	-	-	45	45	-	-
	Probably increases.....	27	27	-	-	35	35	-	-
	Does not increase.....	5	5	-	-	7	7	-	-
	Probably does not increase.....	3	3	-	-	5	5	-	-
	Definitely does not increase.....	2	2	-	-	2	2	-	-
	Don't know/No opinion.....	22	22	-	-	13	13	-	-
S.5a.	If a woman takes birth control pills, is she more likely to have a stroke if she smokes than if she does not smoke? (Persons under 45 years of age)								
	More likely.....	52	52	-	-	63	63	-	-
	Not likely.....	7	7	-	-	6	6	-	-
	Don't know.....	41	41	-	-	31	31	-	-
ALCOHOL USE									
T.1c.	Have you had at least one drink of beer, wine or liquor during the past year? <sup>1</sup> (Yes).....	37	62	38	26	66	73	63	46
T.2.	In the past 2 weeks, on how many days did you drink any alcoholic beverages, such as beer, wine, or liquor? <sup>1,3</sup>								
	Did not drink in past year.....	63	38	62	74	34	28	37	55
	None.....	15	21	16	10	14	14	14	12
	1-4 days.....	14	29	13	10	33	39	27	16
	5-9 days.....	2	5	2	1	8	10	7	3
	10-14 days.....	5	5	6	4	11	9	14	14
T.3.	In the past 2 weeks, on the days that you drank alcoholic beverages, how many drinks did you have per day, on the average? <sup>1,3</sup>								
	Did not drink in past year.....	63	38	62	74	34	28	37	55
	None.....	15	21	16	10	14	14	14	12
	1 drink.....	9	10	7	10	17	16	19	18
	2 drinks.....	7	13	8	3	16	18	16	9
	3-4 drinks.....	3	7	3	2	13	16	9	4
	5 or more drinks.....	3	9	3	1	7	9	4	1
	Drinking Index (2-week daily drinking, based on items T.1-3) <sup>7</sup>								
	Did not drink in past year.....	63	38	62	74	34	28	37	55
	None.....	15	21	16	10	14	14	14	12
	Light (.01 to .21 ounce absolute alcohol).....	12	20	11	9	25	27	24	16
	Moderate (.22 to .99 ounce absolute alcohol).....	6	11	7	3	20	23	17	12
	Heavier (1.00 ounces or more absolute alcohol).....	4	8	4	3	8	8	8	6
T.6.	During the past 12 months, on how many days did you have 9 or more drinks of any alcoholic beverage?								
	1 or more days.....	4	11	4	1	12	18	6	2
	5 or more days.....	3	7	3	0	7	10	4	1
T.7.	During the past 12 months, on how many days did you have 5 or more drinks of any alcoholic beverage? <sup>1</sup>								
	1 or more days.....	7	20	7	2	25	33	15	6
	10 or more days.....	4	9	4	2	13	17	8	3
T.8.	During the past year, how many times did you drive when you had perhaps too much to drink?								
	1 time.....	1	4	0	-	3	5	1	0
	2 or more times.....	2	6	1	0	7	11	3	0

See footnotes at end of table.

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Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic			
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years
ALCOHOL USE--Con.		Percent of population							
T.9.	Tell me if you think heavy alcohol drinking definitely increases, probably increases, probably does not, or definitely does not increase a person's chances of getting the following problems?								
	Throat cancer								
	<b>Increases</b> .....	45	36	47	48	40	38	41	44
	Definitely increases.....	21	12	21	24	15	12	16	21
	Probably increases.....	25	24	25	24	25	26	24	23
	<b>Does not increase</b> .....	23	35	22	18	34	40	30	18
	Probably does not increase.....	15	21	15	12	23	27	20	11
	Definitely does not increase.....	8	15	8	6	11	12	10	6
	Don't know/No opinion.....	32	28	31	34	26	22	30	38
	Cirrhosis of the liver								
	<b>Increases</b> .....	92	93	93	91	95	96	95	88
	Definitely increases.....	78	79	82	74	79	81	80	71
	Probably increases.....	14	14	11	17	15	15	15	17
	<b>Does not increase</b> .....	1	2	1	0	1	1	1	1
	Probably does not increase.....	0	0	1	0	1	0	1	1
	Definitely does not increase.....	0	2	-	0	0	0	0	0
	Don't know/No opinion.....	7	5	6	9	5	3	4	11
	Bladder cancer								
	<b>Increases</b> .....	65	68	67	61	67	70	63	58
	Definitely increases.....	30	24	32	30	28	29	27	26
	Probably increases.....	35	44	36	31	39	41	37	32
	<b>Does not increase</b> .....	8	12	8	7	11	13	11	7
	Probably does not increase.....	6	7	6	4	8	9	8	5
	Definitely does not increase.....	3	5	2	3	3	3	3	2
	Don't know/No opinion.....	27	20	25	32	22	17	25	35
	Cancer of the mouth								
	<b>Increases</b> .....	40	30	40	44	32	30	34	38
	Definitely increases.....	16	10	17	18	11	9	12	16
	Probably increases.....	23	20	22	26	22	22	21	21
	<b>Does not increase</b> .....	22	36	22	17	37	43	32	20
	Probably does not increase.....	14	21	14	12	24	29	20	12
	Definitely does not increase.....	8	15	9	5	13	14	12	8
	Don't know/No opinion.....	37	34	38	39	31	27	34	43
	Arthritis								
	<b>Increases</b> .....	17	15	18	16	15	15	15	14
	Definitely increases.....	6	4	5	7	4	3	4	4
	Probably increases.....	11	11	12	9	11	12	10	10
	<b>Does not increase</b> .....	35	43	35	30	47	52	42	31
	Probably does not increase.....	16	20	16	15	25	29	21	14
	Definitely does not increase.....	18	23	19	15	22	23	21	17
	Don't know/No opinion.....	49	42	47	54	39	33	43	55
	Blood clots								
	<b>Increases</b> .....	33	37	34	30	34	39	29	26
	Definitely increases.....	12	13	12	11	10	11	9	8
	Probably increases.....	21	24	22	19	24	28	20	18
	<b>Does not increase</b> .....	23	29	24	20	31	33	33	21
	Probably does not increase.....	12	16	12	11	19	21	18	11
	Definitely does not increase.....	11	14	12	9	13	12	14	11
	Don't know/No opinion.....	44	34	42	50	34	28	39	52
T.9.	Does heavy drinking during pregnancy definitely increase, probably increase, probably not or definitely not increase the chances of--(Persons under 45 years of age)								
	Miscarriage								
	<b>Increases</b> .....	82	82	-	-	86	86	-	-
	Definitely increases.....	48	45	-	-	48	48	-	-
	Probably increases.....	34	34	-	-	38	38	-	-
	<b>Does not increase</b> .....	3	3	-	-	4	4	-	-
	Probably does not increase.....	2	2	-	-	3	3	-	-
	Definitely does not increase.....	1	1	-	-	1	1	-	-
	Don't know/No opinion.....	16	16	-	-	10	10	-	-

See footnotes at end of table.



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Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic			
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years
ALCOHOL USE--Con.		Percent of population							
T.9.	Does heavy drinking during pregnancy definitely increase, probably increase, probably not or definitely not increase the chances of--(Persons under 45 years of age)--Con.								
	Mental retardation of the newborn								
	Increases.....	77	77	-	-	84	84	-	-
	Definitely increases.....	40	40	-	-	47	47	-	-
	Probably increases.....	37	37	-	-	37	37	-	-
	Does not increase.....	7	7	-	-	5	5	-	-
	Probably does not increase.....	4	4	-	-	4	4	-	-
	Definitely does not increase.....	3	3	-	-	1	1	-	-
	Don't know/No opinion.....	17	17	-	-	11	11	-	-
	Low birth weight of the newborn								
	Increases.....	83	83	-	-	84	84	-	-
	Definitely increases.....	41	41	-	-	46	46	-	-
	Probably increases.....	42	42	-	-	38	38	-	-
	Does not increase.....	3	3	-	-	4	4	-	-
	Probably does not increase.....	3	3	-	-	3	3	-	-
	Definitely does not increase.....	-	-	-	-	1	1	-	-
	Don't know/No opinion.....	14	14	-	-	11	11	-	-
	Birth defects								
	Increases.....	83	83	-	-	85	85	-	-
	Definitely increases.....	44	44	-	-	49	49	-	-
	Probably increases.....	39	39	-	-	36	36	-	-
	Does not increase.....	5	5	-	-	4	4	-	-
	Probably does not increase.....	4	4	-	-	3	3	-	-
	Definitely does not increase.....	1	1	-	-	1	1	-	-
	Don't know/No opinion.....	12	12	-	-	11	11	-	-
T.10.	Have you ever heard of Fetal Alcohol Syndrome? (Persons under 45 years of age) (Yes).....	54	54	-	-	56	56	-	-
DENTAL CARE									
U.1.	This next question is about preventing tooth decay. After I read each of the following, tell me if you think it is definitely important, probably important, probably not, or definitely not important in preventing tooth decay.								
	Seeing a dentist regularly								
	Important.....	93	95	95	91	36	97	95	92
	Definitely important.....	81	84	82	79	33	84	83	78
	Probably important.....	12	11	13	12	13	13	12	14
	Not important.....	2	3	2	3	2	2	3	2
	Probably not important.....	2	2	2	2	2	1	2	2
	Definitely not important.....	0	0	0	0	1	0	1	1
	Don't know/No opinion.....	4	2	3	6	2	1	2	6
	Drinking water with fluoride from early childhood								
	Important.....	70	81	72	62	50	85	77	63
	Definitely important.....	40	44	44	34	46	50	45	32
	Probably important.....	30	37	28	28	34	35	32	30
	Not important.....	9	7	9	10	8	8	8	8
	Probably not important.....	7	6	6	8	6	6	5	5
	Definitely not important.....	2	1	3	3	3	2	3	3
	Don't know/No opinion.....	21	11	19	28	12	7	15	29
	Regular brushing and flossing of the teeth								
	Important.....	96	98	97	94	98	99	97	95
	Definitely important.....	84	90	85	79	90	92	88	82
	Probably important.....	12	7	12	15	8	7	9	12
	Not important.....	1	0	0	1	1	0	1	1
	Probably not important.....	0	-	0	0	0	0	0	0
	Definitely not important.....	0	0	-	0	0	0	0	0
	Don't know/No opinion.....	4	2	3	5	2	1	2	5

See footnotes at end of table.

Table 1. Estimates of the percent of population with selected behaviors and knowledge from the 1985 National Health Interview Survey Questionnaire on Health Promotion and Disease Prevention, by diabetic status and age: United States, 1985--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.)

Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic			
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years
DENTAL CARE--Con.		Percent of population							
U.1.	This next question is about preventing tooth decay. After I read each of the following, tell me if you think it is definitely important, probably important, probably not, or definitely not important in preventing tooth decay.--Con.								
	Using fluoride toothpaste or fluoride mouth rinse								
	<b>Important</b> .....	84	93	87	78	90	94	87	75
	Definitely important.....	53	63	56	46	62	69	54	44
	Probably important.....	31	30	31	32	28	25	32	31
	<b>Not important</b> .....	5	2	5	6	4	3	6	6
	Probably not important.....	3	0	3	4	3	2	4	4
	Definitely not important.....	2	1	2	2	1	1	1	2
	Don't know/No opinion.....	11	5	8	16	6	3	8	19
	Avoiding between-meal sweets								
	<b>Important</b> .....	89	93	91	84	89	91	89	82
	Definitely important.....	62	61	64	60	60	61	62	53
	Probably important.....	27	32	27	25	30	30	27	29
	<b>Not important</b> .....	5	4	4	5	6	7	6	7
	Probably not important.....	3	2	3	4	5	5	4	5
	Definitely not important.....	2	2	1	1	1	1	2	2
	Don't know/No opinion.....	7	3	4	10	4	2	5	11
U.2.	Now I'm going to ask about preventing gum disease. In your opinion, how important or not important is each of the following in preventing gum disease?								
	Seeing a dentist regularly								
	<b>Important</b> .....	92	97	93	90	95	97	95	90
	Definitely important.....	79	86	80	77	83	84	83	76
	Probably important.....	13	11	13	13	12	12	11	14
	<b>Not important</b> .....	2	1	3	2	2	2	2	2
	Probably not important.....	2	1	2	2	1	1	2	2
	Definitely not important.....	1	0	1	0	1	0	1	1
	Don't know/No opinion.....	5	2	4	8	3	1	3	8
	Drinking water with fluoride from early childhood								
	<b>Important</b> .....	60	66	62	54	66	71	62	53
	Definitely important.....	32	33	34	31	34	37	32	27
	Probably important.....	27	33	28	24	32	34	30	26
	<b>Not important</b> .....	13	20	11	12	16	17	17	11
	Probably not important.....	9	16	7	8	12	13	12	7
	Definitely not important.....	4	4	5	4	4	4	5	4
	Don't know/No opinion.....	27	14	26	33	17	11	21	36
	Regular brushing and flossing of the teeth								
	<b>Important</b> .....	93	96	94	91	96	98	96	91
	Definitely important.....	76	82	77	73	84	87	82	75
	Probably important.....	17	14	17	18	12	10	13	16
	<b>Not important</b> .....	1	1	1	2	1	1	1	1
	Probably not important.....	1	0	1	1	1	1	1	1
	Definitely not important.....	1	1	1	1	0	0	0	0
	Don't know/No opinion.....	5	3	5	7	3	2	3	8
	Using fluoride toothpaste or fluoride mouth rinse								
	<b>Important</b> .....	75	83	76	72	78	82	73	68
	Definitely important.....	43	46	44	41	48	53	42	39
	Probably important.....	32	36	32	30	30	29	31	29
	<b>Not important</b> .....	9	10	9	10	12	12	14	9
	Probably not important.....	7	6	6	7	9	9	10	6
	Definitely not important.....	3	4	3	3	3	3	4	3
	Don't know/No opinion.....	15	7	15	18	10	6	14	23
	Avoiding between-meal sweets								
	<b>Important</b> .....	83	84	85	81	81	83	80	76
	Definitely important.....	54	52	54	54	50	51	52	48
	Probably important.....	30	33	31	27	31	33	28	28
	<b>Not important</b> .....	7	10	6	6	12	12	11	9
	Probably not important.....	4	7	4	4	9	10	8	6
	Definitely not important.....	2	3	2	2	3	3	3	3
	Don't know/No opinion.....	10	6	9	13	7	5	9	15

See footnotes at end of table.

Table 1. Estimates of the percent of population with selected behaviors and knowledge from the 1985 National Health Interview Survey Questionnaire on Health Promotion and Disease Prevention, by diabetic status and age: United States, 1985--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.)

Section and item number	Health behaviors and knowledge	Diabetic				Nondiabetic			
		18+ years	18-44 years	45-64 years	65+ years	18+ years	18-44 years	45-64 years	65+ years
DENTAL CARE--Con.		Percent of population							
U.3.	In your opinion, which of the following is the main cause of tooth loss in children?								
	Tooth decay.....	61	63	60	62	58	56	60	62
	Gum disease.....	9	6	10	8	9	8	9	9
	Injury to the teeth.....	23	30	25	17	29	34	27	17
	Don't know.....	8	1	5	13	4	2	5	12
U.4.	In your opinion, which of the following is the main cause of tooth loss in adults?								
	Tooth decay.....	42	41	40	43	40	39	40	44
	Gum disease.....	50	56	53	45	54	57	54	43
	Injury to the teeth.....	2	2	3	1	3	3	2	2
	Don't know.....	6	1	4	10	3	2	4	10
U.5a.	Have you ever heard of dental sealants? (Yes).....	15	25	18	9	23	25	23	14
U.5b.	Which of the following best describes the purpose of dental sealants--to prevent gum disease, to prevent tooth decay, or to hold dentures in place? (Persons who have heard of dental sealants (yes) in U.5a.)								
	Prevent gum disease.....	8	5	8	9	4	4	4	7
	Prevent tooth decay.....	76	86	69	78	80	81	81	70
	Hold dentures in place.....	11	7	16	5	12	12	10	13
	Don't know.....	6	2	7	8	4	3	5	9
OCCUPATIONAL SAFETY AND HEALTH									
V.1a.	In your present job, are you exposed to any substances that could endanger your health, such as chemicals, dusts, fumes or gases? <sup>3</sup> (Currently employed persons) (Yes).....	34	37	35	15	35	37	32	17
V.2a.	In your present job, are you exposed to any work conditions that could endanger your health, such as loud noise, extreme heat or cold, physical or mental stress, or radiation? <sup>3</sup> (Currently employed persons) (Yes).....	35	44	35	9	36	38	33	14
V.3a.	In your present job are you exposed to any risks of accidents or injuries? <sup>3</sup> (Currently employed persons) (Yes).....	38	44	38	18	40	42	36	26

<sup>1</sup>National Center for Health Statistics, C. A. Schoenborn, and K. M. Danchik: Health practices among adults: United States, 1977. Advance Data From Vital and Health Statistics. No. 64. DHEW Pub. No. (PHS) 78-1250. Public Health Service. Hyattsville, Md., Nov. 4, 1980.

<sup>2</sup>National Center for Health Statistics, A. J. Moss and G. Scott: Characteristics of persons with hypertension, United States, 1974. Vital and Health Statistics. Series 10, No. 121. DHEW Pub. No. (PHS) 79-1549. Public Health Service. Washington. U.S. Government Printing Office, Dec. 1978.

<sup>3</sup>National Center for Health Statistics, C. A. Schoenborn, K. M. Danchik, and J. Elinson: Basic data from Wave I of the National Survey of Personal Health Practices and Consequences, United States, 1979. Vital and Health Statistics. Series 15, No. 2. DHHS Pub. No. (PHS) 81-1163. Public Health Service. Washington. U.S. Government Printing Office, Aug. 1981.

<sup>4</sup>National Center for Health Statistics, B. Bloom and S. S. Jack: Persons with and without a regular source of medical care, United States. Vital and Health Statistics. Series 10, No. 151. DHHS Pub. No. (PHS) 85-1579. Public Health Service. Washington. U.S. Government Printing Office, Sept. 1986.

<sup>5</sup>National Center for Health Statistics, A. J. Moss and M. H. Wilder: Use of selected medical procedures associated with preventive care, United States, 1973. Vital and Health Statistics. Series 10, No. 110. DHEW Pub. No. (HRA) 77-1538. Health Resources Administration. Washington. U.S. Government Printing Office, Mar. 1977.

<sup>6</sup>National Center for Health Statistics, J. W. Choi: Exercise and participation in sports among persons 20 years of age and over: United States, 1975. Advance Data From Vital and Health Statistics. No. 19. DHEW Pub. No. (PHS) 78-1250. Public Health Service. Hyattsville, Md., March 15, 1978.

<sup>7</sup>National Center for Health Statistics: Health, United States, 1985. DHHS Pub. No. (PHS) 85-1232. Public Health Service. Washington. U.S. Government Printing Office, Dec. 1984.

## References

- <sup>1</sup>K. M. West: *Epidemiology of Diabetes and its Vascular Lesions*. New York. Elsevier North Holland, Inc., 1978.
- <sup>2</sup>M. Ellenberg and H. Rifkin, eds.: *Diabetes Mellitus: Theory and Practice*, third ed. New Hyde Park, New York. Medical Examination Publishing Co., Inc., 1983.
- <sup>3</sup>A. Marble et al., eds.: *Joslin's Diabetes Mellitus*, 12th ed. Philadelphia. Lea and Febiger, 1985.
- <sup>4</sup>National Institutes of Health, National Diabetes Data Group, M. I. Harris and R. F. Hamman, eds.: *Diabetes in America*. NIH Pub. No. 85-1468. Public Health Service, Washington. U.S. Government Printing Office, Aug. 1985.
- <sup>5</sup>L. R. Krall, ed.: *Joslin Diabetes Manual*, 11th ed. Philadelphia. Lea and Febiger, 1978.
- <sup>6</sup>National Institute of Diabetes and Digestive and Kidney Diseases: *Noninsulin-Dependent Diabetes*. NIH Pub. No. 87-241. Public Health Service, Washington. U.S. Government Printing Office, Mar. 1987.
- <sup>7</sup>National Center for Health Statistics, T. F. Drury, M. Harris, and L. E. Lipsett: Prevalence and management of diabetes. *Health, United States, 1981*. DHHS Pub. No. (PHS) 82-1232. Public Health Service, Washington. U.S. Government Printing Office, Dec. 1981.
- <sup>8</sup>O. T. Thornberry, R. W. Wilson, and P. M. Golden: The 1985 Health Promotion and Disease Prevention Survey. *Public Health Rep.* 101(6):566-570, Nov.-Dec. 1986.
- <sup>9</sup>National Center for Health Statistics, O. T. Thornberry, R. W. Wilson, and P. M. Golden: Health promotion data for the 1990 objectives, estimates from the National Health Interview Survey of Health Promotion and Disease Prevention, United States, 1985. *Advance Data From Vital and Health Statistics*. No. 126. DHHS Pub. No. (PHS) 86-1250. Public Health Service, Hyattsville, Md., Sept. 19, 1986.
- <sup>10</sup>C. A. Schoenborn: Health habits of U.S. adults: The 'Alameda 7' revisited. *Public Health Rep.* 101(6):571-580, Nov.-Dec., 1986.
- <sup>11</sup>R. E. Hoffman: Tracking 1990 objectives for injury prevention with 1985 NHIS findings. *Public Health Rep.* 101(6):581-586, Nov.-Dec., 1986.
- <sup>12</sup>C. J. Caspersen, G. M. Christenson, and R. A. Pollard: Status of the 1990 physical fitness and exercise objectives—evidence from NHIS 1985. *Public Health Rep.* 101(6):587-592, Nov.-Dec., 1986.
- <sup>13</sup>G. D. Williams, M. Dufour, and D. Bertolucci: Drinking levels, knowledge, and associated characteristics, 1985 NHIS findings. *Public Health Rep.* 101(6):593-598, Nov.-Dec., 1986.
- <sup>14</sup>E. J. Roccella, A. E. Bowler, M. V. Ames, and M. J. Horan: Hypertension knowledge, attitudes, and behavior: 1985 NHIS findings. *Public Health Rep.* 101(6):599-606, Nov.-Dec., 1986.
- <sup>15</sup>S. Shilling and R. Brackbill: Occupational health and safety risks and potential health consequences perceived by U.S. workers, 1985. *Public Health Rep.* 102(1):36-46, Jan.-Feb., 1987.
- <sup>16</sup>M. M. Silverman, A. Eichler, and G. D. Williams: Self-reported stress: findings from the 1985 National Health Interview Survey. *Public Health Rep.* 102(1):47-53, Jan.-Feb., 1987.
- <sup>17</sup>S. B. Corbin, W. R. Maas, D. V. Kleinman, and C. L. Backinger: 1985 NHIS findings on public knowledge and attitudes about oral diseases and preventive measures. *Public Health Rep.* 102(1):53-60, Jan.-Feb., 1987.
- <sup>18</sup>M. G. Stephenson, A. S. Levy, N. L. Sass, and W. E. McGarvey: 1985 NHIS findings: nutrition knowledge and baseline data for the weight-loss objectives. *Public Health Rep.* 102(1):61-67, Jan.-Feb., 1987.
- <sup>19</sup>D. R. Shopland and C. Brown: Toward the 1990 objectives for smoking: measuring the progress with 1985 NHIS data. *Public Health Rep.* 102(1):68-73, Jan.-Feb., 1987.
- <sup>20</sup>S. H. Fox, C. Brown, A. M. Koontz, and S. S. Kessel: Perceptions of risks of smoking and heavy drinking during pregnancy: 1985 NHIS findings. *Public Health Rep.* 102(1):73-79, Jan.-Feb., 1987.
- <sup>21</sup>National Diabetes Data Group: Classification and diagnosis of diabetes mellitus and other categories of glucose intolerance. *Diabetes* 28(12):1039-1057, Dec. 1979.
- <sup>22</sup>M. Harris: The prevalence of diagnosed diabetes, undiagnosed diabetes, and impaired glucose tolerance in the United States, in J. S. Melish, J. Hanna, and S. Baba, eds., *Genetic Environmental Interaction in Diabetes Mellitus*. Amsterdam, Excerpta Medica, 1981.
- <sup>23</sup>D. B. Martin and A. R. Quint: Therapy for diabetes, in National Institutes of Health, National Diabetes Data Group, M. I. Harris and R. F. Hamman, eds., *Diabetes in America*. NIH Pub. No. 85-1468. Washington. U.S. Government Printing Office, Aug. 1985.
- <sup>24</sup>T. F. Drury, K. M. Danchik, and M. I. Harris: Sociodemographic characteristics of adult diabetics, in National Institutes of Health, National Diabetes Data Group, M. I. Harris and R. F. Hamman, eds., *Diabetes in America*. NIH Pub. No. 85-1468. Washington. U.S. Government Printing Office, Aug. 1985.
- <sup>25</sup>American College of Sports Medicine, S. N. Blair, L. W. Gibbons, P. Painter et al.: *Guidelines for Exercise Testing and Prescription*, third ed. Philadelphia. Lea and Febiger, 1986.
- <sup>26</sup>E. A. Richter and H. Galbo: Diabetes, insulin and exercise. *Sports Medicine* 3:275-288, 1986.
- <sup>27</sup>N. B. Ruderman and S. Schneider: Exercise and the insulin-dependent diabetic. *Hosp. Pract.* 21(5A):41-51, May 30, 1986.
- <sup>28</sup>S. J. Coram and M. Mangum: Exercise risks and benefits for diabetic individuals: a review. *Adapted Phys. Activity Q.* 3:35-57, 1986.
- <sup>29</sup>J. T. Devlin and E. S. Horton: An exercise regimen for diabetics. *Cardiovasc. Medicine* 10(1):65-71, 1985.
- <sup>30</sup>J. R. Sutton: Metabolic responses to exercise in normal and diabetic individuals, in R. H. Strauss, ed., *Sports Medicine*. Philadelphia. W. B. Saunders Company, 1984.
- <sup>31</sup>L. N. Cunningham: The adult diabetic and exercise, in R. C. Cantu, ed., *The Exercising Adult*. Lexington, Massachusetts. The Collamore Press, 1982.
- <sup>32</sup>J. O. Holloszy: Exercise, diabetes and glucose utilization. Tutorial lecture presented at the 34th Annual Meeting of the American College of Sports Medicine, Las Vegas, Nevada, May 29, 1987. Available on cassette (#87ACSM-E11) from Mobiltape Company, Inc., 1741 Gardena Avenue, Glendale, CA 91204 (telephone (818) 244-8122).
- <sup>33</sup>National Institutes of Health, Office of Medical Applications of Research: Diet and exercise in noninsulin-dependent diabetes mellitus. *Consensus Development Conference Statement* 6(8):1-7, Dec. 10, 1986.

<sup>34</sup>National Center for Health Statistics, A. Moss: Current estimates from the National Health Interview Survey, United States, 1985. *Vital and Health Statistics*. Series 10, No. 160. DHHS Pub. No. (PHS) 86-1588. Public Health Service, Washington, U.S. Government Printing Office, Sept. 1986.

<sup>35</sup>Office of the Assistant Secretary for Health and Surgeon General: *Healthy People—The Surgeon General's Report on Health Promotion and Disease Prevention—Background Papers, 1979*. DHEW Pub. No. (PHS) 79-55071A.

<sup>36</sup>U.S. Department of Health and Human Services, Public Health Service: *Promoting Health/Preventing Disease: Objectives for the Nation*. Washington, U.S. Government Printing Office, 1980.

<sup>37</sup>T. F. Pechacek, B. H. Fox, D. M. Murray, and R. V. Luepker: Review of techniques for measurement of smoking behavior, in J. D. Matarazzo et al., eds., *Behavioral Health: A Handbook of Health Enhancement and Disease Prevention*. New York. John Wiley & Sons, 1984.

<sup>38</sup>G. D. Williams, S. S. Aitken, and H. Malin: Reliability of self-reported alcohol consumption in a general population survey. *J. Stud. Alcohol* 46:223-227, 1985.

<sup>39</sup>A. W. Stewart, R. T. Jackson, M. A. Ford, and R. Beaglehole: Underestimation of relative weight by use of self-reported height and weight. *Am. J. Epidemiol.* 125(1):122-126, 1987.

<sup>40</sup>R. E. LaPorte, H. J. Montoye, and C. J. Caspersen: Assessment of physical activity in epidemiologic research, problems and prospects. *Public Health Rep.* 100(2):131-146, Mar.-Apr. 1985.

<sup>41</sup>B. S. Dohrenwend and B. P. Dohrenwend, eds.: *Stressful Life Events and Their Contexts*. New York. Prodist, 1981.

<sup>42</sup>G. Block: A review of validations of dietary assessment methods. *Am. J. Epidemiol.* 115:492-505, 1982.

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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
#	Figure suppressed to comply with confidentiality requirements

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## 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 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. The 1985 NHIS sample consisted of 36,399 eligible households. The total noninterview rate for the basic health and demographic household questionnaire was about 4 percent—about 2-3 percent of which was due to respondent refusal and the remainder primarily due to an inability to locate an eligible respondent at home after repeated calls. A more detailed 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, 1985*.<sup>34</sup>

## Objectives and sponsorship of the 1985 NHIS Health Promotion and Disease Prevention study

The 1985 NHIS Health Promotion and Disease Prevention (HPDP) study was designed to monitor progress toward one of the major initiatives of the Department of Health and Human Services. This initiative was described in *Healthy People—The Surgeon General's Report on Health Promotion and Disease Prevention, 1979*.<sup>35</sup> In that report, broad goals were established for the improvement of the health of Americans. The 1980 Public Health Service report, *Promoting Health/Preventing Disease: Objectives for the Nation*,<sup>36</sup> detailed specific objectives necessary for attaining those goals in each of 15 priority areas. Because the target date for achieving those objectives is 1990, current data collection plans call for readministering the 1985 HPDP questionnaire in 1990 for the purpose of monitoring progress achieved in the intervening 5 years.

The planning and development of the questionnaire used

in the 1985 HPDP study was carried out in collaboration with the following Federal agencies, some of which also provided partial funding for the study:

Office of the Assistant Secretary for Health  
 Office of Disease Prevention and Health Promotion  
 Office on Smoking and Health  
 Alcohol, Drug Abuse, and Mental Health Administration  
 National Institute on Alcohol Abuse and Alcoholism  
 National Institutes of Health  
 National Heart, Lung, and Blood Institute  
 National Cancer Institute  
 National Institute of Dental Research  
 National Institute of Child Health and Human  
 Development  
 Health Resources and Services Administration  
 Centers for Disease Control  
 Center for Prevention Services  
 Center for Infectious Diseases  
 Center for Environmental Health  
 Center for Health Promotion and Education  
 National Institute for Occupational Safety and Health  
 Food and Drug Administration  
 Bureau of Foods  
 Department of Transportation  
 Office of Driver and Pedestrian Research  
 The President's Council on Physical Fitness and Sports

### HPDP questionnaire content and administration

The 1985 Health Promotion and Disease Prevention study was devoted primarily to the collection of baseline data on the following topics: general health habits (including nutrition), injury control and child safety and health, high blood pressure, stress, exercise, smoking, alcohol use, dental care, and occupational safety and health. These topics were selected after consultation with the Office of Disease Prevention and Health Promotion (Assistant Secretary for Health) as well as with the agencies designated by the Assistant Secretary for Health as having "lead" responsibility for implementing and monitoring progress toward achieving the 1990 objectives. Within

each agency, subject matter experts were consulted during the development of the questionnaire.

Self-response was required for the Health Promotion and Disease Prevention questionnaire, and one adult per family was selected randomly as the respondent. This procedure resulted in an additional nonresponse of about 7 percent. The number of completed Health Promotion and Disease Prevention questionnaires was 33,630, representing an estimated 90 percent of eligible respondents.

### Populations used in the computation of percents shown in this report

The estimated population for each of the age categories of diabetics and nondiabetics used as a denominator for one of the percents or more discussed in this report is shown in table I. This information allows readers to derive estimates of the number of persons in the United States with a given characteristic by diabetic status and age.

### Reliability of estimates

Because the estimates shown in the text table are based on a sample of the population rather than on the entire population, they are subject to sampling error. Some estimates in the table are small for given characteristics. When an estimate or the numerator or denominator used in the computation of a percent is small, the sampling error may be relatively high. Approximate standard errors for estimates in this report are shown in table II.

### Nonsampling errors

The data presented in this report are also subject to a variety of nonsampling errors, some of which represent random measurement error; others, more systematic error. In recent years, a number of review articles have appeared codifying the current state of knowledge about these kinds of errors in the study of selected health-related behaviors and characteristics, including smoking,<sup>37</sup> alcohol use,<sup>38</sup> reported height and weight,<sup>39</sup> exercise behaviors,<sup>40</sup> reports of stress,<sup>41</sup> and dietary patterns.<sup>42</sup>

Table I. Estimates of selected civilian noninstitutionalized populations by diabetic status and age: United States, 1985

Selected population	Diabetic				Nondiabetic			
	18 - years	18-44 years	45-64 years	65 - years	18 + years	18-44 years	45-64 years	65 + years
	Population in thousands							
Total adult population	6,144	1,036	2,580	2,528	161,589	96,765	40,994	23,830
Females	3,385	523	1,377	1,485	85,251	49,688	21,464	14,099
Population in families with children under 10 years of age	821	509	238	74	44,186	40,641	3,161	384
Population in families with children under 5 years of age	503	301	154	48	28,894	27,195	1,538	161
Currently employed population	2,212	767	1,204	241	103,330	73,525	26,848	2,957

Table II. Standard errors, expressed in percentage points, of estimated percents by diabetic status and age: National Health Interview Survey Questionnaire on Health Promotion and Disease Prevention, United States, 1985

<i>Estimated percent</i>	<i>Diabetic</i>				<i>Nondiabetic</i>			
	<i>18 + years</i>	<i>18-44 years</i>	<i>45-64 years</i>	<i>65 + years</i>	<i>18 + years</i>	<i>18-44 years</i>	<i>45-64 years</i>	<i>65 + years</i>
	Standard error in percentage points							
5 or 95 . . . . .	0.69	1.67	1.07	1.07	0.13	0.17	0.27	0.35
10 or 90 . . . . .	0.95	2.30	1.47	1.47	0.18	0.24	0.37	0.48
15 or 85 . . . . .	1.13	2.74	1.75	1.75	0.22	0.28	0.44	0.57
20 or 80 . . . . .	1.26	3.07	1.96	1.97	0.25	0.32	0.49	0.64
25 or 75 . . . . .	1.36	3.32	2.12	2.13	0.27	0.34	0.53	0.69
30 or 70 . . . . .	1.44	3.52	2.24	2.25	0.28	0.36	0.56	0.73
35 or 65 . . . . .	1.50	3.66	2.33	2.34	0.29	0.38	0.58	0.76
40 or 60 . . . . .	1.54	3.76	2.40	2.41	0.30	0.39	0.60	0.78
45 or 55 . . . . .	1.57	3.82	2.43	2.44	0.31	0.40	0.61	0.80
50 . . . . .	1.58	3.84	2.45	2.46	0.31	0.40	0.61	0.80

## **Discharges From Nursing Homes: Preliminary Data From the 1985 National Nursing Home Survey**

by Edward S. Sekscenski, M.P.H. Division of Health Care Statistics

This report presents information on discharged residents of nursing and related-care homes based on preliminary estimates from the 1985 National Nursing Home Survey (NNHS). The 1985 NNHS is the third in an ongoing series of sample surveys designed to provide a variety of data on nursing homes in the conterminous United States and is conducted periodically by the National Center for Health Statistics (NCHS). Previous surveys were conducted in 1973-74 (NCHS, 1977) and 1977 (NCHS, 1979).

The data presented in this report were collected between August 1985 and January 1986 and deal specifically with demographic, health, and other characteristics of persons formally discharged from nursing homes during the 12-month period immediately prior to the survey date. Other reports already published present information on nursing home residents (NCHS, 1987a) and facilities (NCHS, 1987b) based on national estimates from the same survey. Two other reports resulting from the 1985 NNHS will provide information on registered nurses employed at nursing homes and on current and discharged nursing home residents. The latter report will be based on a followup survey of the next of kin of the sample population. A summary report presenting data from all five components of the survey also will be prepared by NCHS. Because data in this report are preliminary, they may differ slightly from those published later after further edits are conducted.

Facilities included in the 1985 NNHS were nursing and related-care homes in the conterminous United States that had three beds or more set up and staffed for use by residents and that routinely provided nursing and personal care services. A facility could be freestanding or could be a nursing care unit of a hospital, retirement center, or similar institution as long as the unit maintained financial and employee records separate from the parent institution. Facilities providing only room and

board were excluded, as were those serving only persons with specific health problems (for example, mental retardation or alcoholism).

The sampling frame for the 1985 NNHS consisted of the following components:

- The 1982 National Master Facility Inventory (NMFI) (NCHS, 1986), a census of nursing and related-care homes conducted by NCHS.
- Homes identified in the 1982 Complement Survey of the NMFI as "missing" from the 1982 NMFI.
- Nursing homes opened for business from 1982 through June 1984 and identified by the NCHS Agency Reporting System (NCHS, 1968).
- Hospital-based nursing homes identified in records of the Health Care Financing Administration.

The resulting frame contained about 20,500 nursing homes, and a sample of 1,220 homes was selected. In this report, the terms "nursing homes" and "nursing and related-care homes" are used interchangeably.

Estimates in this report are based on a sample of 6,023 discharges from the 1,079 nursing homes participating in the survey. A more detailed description of the survey design, data collection methodology, and estimation procedures for the NNHS has been published elsewhere (Shimizu, 1987). A brief discussion of the standard errors associated with these data is presented in the Technical notes to this report. For convenience, this report uses the terms "discharges" and "discharged residents" interchangeably.

### **Background and type of data**

Data in this report were obtained from personal interviews conducted in the sample nursing homes with the employees



deemed most knowledgeable of the medical records of the discharged residents. In most cases the interviewee was either a nurse or medical records person who consulted with the available medical records of the discharged resident during the interview. As was true in the NNHS of previous years, no discharges were consulted personally in this component of the survey. The full sample consisted of six or fewer discharges from each nursing home whose discharge dates fell within the 12 months prior to the survey date.

The 12-month reference period from which the discharged residents' sample was drawn for the 1985 survey ended on the date immediately preceding the survey date. Previous survey reference periods for discharges were the calendar years 1972 and 1976. The reference period of the 1985 survey was changed in an attempt to obtain more current and readily available data and to provide information on the utilization of nursing homes by both residents and discharges over a more closely related period of time. However, data from the 1985 NNHS for the discharged resident population and current resident population differ in several major areas. These differences are discussed in more detail in other NCHS publications (NCHS, 1978). Briefly, while the discharged resident estimates represent all discharges over a 12-month period, the current resident population is estimated for a single night, that immediately prior to the survey date. The discharge sample, therefore, may underestimate those nursing home residents who tend to stay for very lengthy periods, while the current resident population may underestimate those persons with very short durations of stay. While the current resident file provides for what may be considered a "snapshot" of nursing home residents on any given day, the discharged resident file provides for some indication of the over-the-year changes in the nursing home population.

Because the methodology for counting discharged residents from the 1973-74 NNHS differed from that of the 1977 (NCHS, 1981) and 1985 surveys, no comparisons will be made in this report between estimates from the 1973-74 survey and those derived from the 1985 NNHS. The 1973-74 NNHS estimated the total number of discharges from each nursing home in the sample from one question in the facility component of the survey. The 1985 NNHS obtained a complete listing of all discharges from the sample nursing home. Comparisons will be presented of estimates from the 1977 and 1985 discharged resident components of the NNHS where appropriate.

### **Demographic characteristics, dependency, and duration of stay**

The 1985 NNHS found that an estimated 1,223,500 persons were discharged from an estimated 19,100 nursing and related-care homes during the 12 months prior to the survey date. Because the survey was conducted between August 1985 and January 1986, the 12-month reference period could have fallen anywhere beginning August 1984 and ending January 1986. The preliminary 1985 estimate represents about a 9.5-percent increase over the 1,117,500 discharges estimated by the 1977 NNHS. Of the recent total, about 37 percent were men while 63 percent were women, roughly the same as was

found in the 1977 survey (see table 1). In contrast to the discharge population of 8 years earlier, however, the distribution of discharges in the 1985 survey was more heavily weighted with persons aged 85 years and over and by persons more dependent on the nursing home staff in terms of performance of selected activities of daily living.

Although nearly 9 of every 10 discharges in both surveys were aged 65 years and over, the proportion aged 85 years or over rose from 30 to 38 percent between 1976 and 1984-85. Partly as a result of the aging of the discharge population, the proportion of all discharges who were not dependent in either mobility or continence decreased during the 8-year period from 40 to 31 percent while the proportion who were dependent in both of these functions increased from 35 to 45 percent. The proportion of all discharges who were totally bedfast also rose between surveys from about 21 to 35 percent and the proportion who were chairfast remained about 25 percent. Although in both the 1977 and 1985 surveys older discharges tended to be more dependent than were younger discharges (NCHS, 1981), increased dependencies were evident in all major age groups between surveys (see tables 2 and 3).

In the 1977 and 1985 surveys, persons who were discharged at older ages were more likely to have had lengthier durations of stay in the nursing home than persons discharged at younger ages. This was as true for men as it was for women. The median duration of stay for all discharges was 82 days according to the 1985 survey; for persons aged 85 years and over, however, it was 145 days (see table 4). Women discharges, who tend to be older than discharged men (overall median ages, 83 and 79 years, respectively), also had a longer median duration of stay, 93 as compared with 66 days, according to the 1985 survey. Older women, however, also tended to stay longer in nursing homes than older men. At least half of all women over 84 years of age had been confined to the sample nursing home for more than 4 months according to the 1985 survey, while comparable older men had a median duration of stay of a little over 3 months.

Although the estimated overall median durations of stay for all discharges, as well as those for all men and all women in the 1985 survey show observable increases over comparable estimates from the 1977 survey, none of these increases is statistically significant (according to a Z test with 0.05 level of significance). Similarly, none of the differences between surveys in the proportional distribution of discharges by similar duration-of-stay categories was significant. Nearly two-thirds of all discharges in either survey had stays of less than 6 months. About 31 percent in the 1985 survey had been discharged within 1 month of their admission, while 32 percent were discharged after stays of 1 month to less than 6 months. The remaining 37 percent of discharges in the 1985 survey had been confined to the nursing home for 6 months or more (see table 4).

Because these data represent durations of stay in a nursing home identified with a single discharge, they tend to underestimate the overall duration of stay for persons who may have had a series of admissions and discharges to the same or multiple nursing homes over one episode or more of illness. Definitions of nursing home stays used in this report coincide with

those used in the 1977 NNHS. The 1985 NNHS also attempted collection of information on multiple stays in nursing homes of the discharged residents with histories of other nursing home stays. These data will be presented in forthcoming publications on the 1985 NNHS.

The 1985 NNHS was the first in the series to obtain race and Hispanic origin information on discharged residents. According to the 1985 survey, about 92.8 percent of all discharged residents were white persons, while only 6.7 percent were black persons. Another half percent were of other racial groups including Asian and Pacific Islander, American Indian, and Alaskan native. About 3 percent of the total were known to have been of Hispanic origin, an ethnicity designation distinct from race (see table 1). These distributions are similar to the distributions by race and Hispanic origin of current nursing home residents in the 1985 survey (NCHS, 1987a). Although differences in overall durations of stay are suggested in the median estimates of white and black discharged residents, these differences are not statistically significant at the 0.05 level of significance. Similarly, no statistically significant difference exists between the median duration of stay of Hispanic persons and that for all discharges in the 1985 survey. Discharged residents of Hispanic origin, however, had a male-to-female ratio nearly the reverse of that of the overall discharged population, 66 to 34 percent.

The distribution of discharged residents by marital status did not change appreciably between the 1977 and 1985 surveys. It appears, however, that factors associated with a person being married at the time of discharge impact favorably on shorter durations of stay in a nursing home. Other studies have also found that the availability of a spouse as home caregiver is one factor in decreasing the likelihood of admission to a nursing home (for example, Butler and Newacheck, 1981), and previous NNHS's have found similar favorable impacts on short durations of stay for nursing home discharges.

Widowed persons constituted the majority of all discharges, 55 percent in the 1985 survey. Their median duration of stay was 107 days (see table 4). By contrast, the median duration of stay of married discharges, who constituted the next largest marital group, 22 percent, was only 41 days. Discharges who were never married, however, as well as divorced or separated discharges also had relatively lengthy median stays (see table 4).

Not surprisingly, widowed discharged residents, noted above as having relatively long stays, were also the oldest of the marital groups, with an overall median age of 85 years. However, married discharged residents, who as a group had relatively short durations of stay, had an older median age, 78 years, than discharges who were divorced or separated, 70 years.

The effects of age do appear to explain many of the differences in the abilities of discharged residents to perform selected activities of daily living during their final week in the nursing home. While about 40 percent of persons who were aged 65–74 years at discharge had been dependent in both mobility and continence, about half of all discharges older than 84 years were dependent in both categories. In terms of specific dependencies, about one-third of discharges between ages 65 and 84 years were bedfast in their last week in the nursing

home, while about 4 in 10 aged 85 years or over were bedfast (see table 2).

Bladder and bowel incontinence was also related to age at discharge. About half of all discharges aged 75–84 years were incontinent of bladder in their last 7 days in the nursing home. Among persons aged 85 years and over, this proportion rises to about 59 percent. Similarly, while about 39 percent of discharges aged 65–74 years were incontinent of bowel in their last week in the nursing home, the comparable proportion rises to 52 percent for persons aged 85 years or over. As might be expected, median duration of stay was longer for discharges who were dependent in both continence and mobility, 108 days, than for those not dependent in either of these daily activities, 64 days.

Differences in functional statuses in selected activities of daily living for discharges in the 1977 and 1985 NNHS are summarized in table 3. As is noted above, discharges in the 1985 survey were generally less mobile and more likely to have been incontinent of bowel, bladder, or both in their last 7 days in the nursing home than were discharges in the 1977 survey. These general increases in dependencies are partially a function of the increased proportion of discharges aged 85 years and over, who as a group are more dependent in these activities than are younger discharges. However, there were also increases in the proportions of discharges who were dependent in both mobility and continence among those under 65 years, 65–74 years, and 75–84 years, as well as those aged 85 years and over (see table 3).

### Living arrangements before admission and after discharge

The 1985 NNHS collected information on the living arrangements of all discharged residents for the periods immediately prior to admission and, for live discharges, immediately after discharge. The 1977 survey obtained comparable data only for the living arrangements after discharge. Information on both prestay and poststay living arrangements of discharged nursing home residents provides for a more comprehensive understanding from a wider perspective of the population that utilizes nursing homes.

A minority, about 28 percent of all discharged residents, had been admitted to the nursing home from a private or semi-private residence (see table 5). Slightly over half of these discharged residents had been living with family members at the time of their admission.

About 69 percent of all nursing home discharges had been admitted directly from another health facility, with 8 of every 10 of them representing transfers from general or short-stay hospitals. A slightly higher proportion of female discharges had been admitted from general or short-stay hospitals than had men, 57 versus 51 percent. However, another 7 percent of the male discharges had been admitted directly from a veterans hospital. About 1 in every 10 discharges who had been admitted from another health facility came from another nursing home. The proportions were about the same for both men and women.

The median duration of stay in the sample nursing home was far longer for those discharges who had been admitted from a private or semiprivate residence, 118 days, than for those admitted from a hospital, 57 days. This was partially due to the differences in ages of those in either group. Among those discharges admitted from a residence, about 42 percent were over age 84 years at their discharges. About 37 percent of those admitted from a hospital were aged 85 years or over.

Discharges who had originally been admitted from another nursing home also tended to have long durations of stay. According to the 1985 survey, their median duration of stay was 263 days. The proportion of those discharges over 84 was comparable to that of persons admitted from private or semiprivate residences, 43 percent.

The proportion of live discharges going to private or semiprivate residences immediately following their nursing home stay decreased between the 1977 and 1985 surveys from 37 to 30 percent (see table 6). As a corollary, the proportion of live discharges who were discharged to another health facility increased from 59 to 68 percent. The latter was almost entirely the result of an increase in the proportion of live discharges going to general or short-stay hospitals, from 41 to 49 percent. (Unknown living arrangements following discharge remained about 2–4 percent of the total.)

The increase in live discharges to hospitals, although partially a result of the increased proportion of older persons among all discharged residents, is not fully explained by this shift in demographics. While the proportion of discharges aged 85 years or over going directly to hospitals is slightly larger than is the comparable proportion for discharges aged 65–84 years in both the 1977 and 1985 surveys, the increase in either proportion between surveys is greater among the younger age group. Among live discharges aged 85 years or over, the proportion discharged to hospitals did not rise significantly between the 1977 and 1985 surveys. In 1977 it was 52 percent and in 1985 it was 54 percent. Among live discharges aged 65–84 years old, however, the proportion discharged directly to hospitals increased from 39 to 50 percent over the same period.

The median duration of stay was longer for those persons discharged to another health facility, 113 days, than for those discharged to a private or semiprivate residence, 36 days. Among the former, those who were discharged to a general or short-stay hospital had a median duration of stay of 130 days. In contrast, among those discharged to a private or semiprivate residence, those who went to live with family members had a median duration of stay of 34 days.

### Primary source of payment at admission and discharge

For the first time, the 1985 NNHS collected information on the primary sources of payment for all discharges for the month in which they were admitted to the sample nursing home as well as for the month in which they were discharged. The 1977 NNHS obtained primary source of payment data only for the month of discharge from the nursing home. As might be expected, primary payment sources often differed depending

on whether the payment was for the admission or the discharge month. These differences generally are greater the longer the duration of stay. When observation is made of the total discharge population as a whole, much less shifting among various payment sources is evident, partially due to the large proportion of persons with relatively short durations of stay. However, patterns are evident in shifts of primary payment sources, especially among discharges who shift to medicaid at some time during their stay.

For the month of admission, own income or family support was the primary source of payment for the largest proportion of discharges regardless of their eventual durations of stay. About 4 of every 10 discharges relied primarily on this source to pay for nursing home care in the month of admission, a ratio that was the same whether the completed stay was of short, medium, or lengthy duration (see table 7). The median duration of stay for persons whose primary source of payment for their admission month was own income or family support, 77 days, was similar to that of the overall discharge population. Their distribution by duration of stay was also similar to that for all discharges.

According to the 1985 surveys, the proportion of all discharges who relied on medicaid as the primary payment source in their month of admission totaled about 35 percent. Medicaid coverage for nursing home care is divided into two categories, skilled and intermediate, depending on the certification status of the nursing home. While about 15.5 percent of all discharges relied on medicaid skilled funds in their admission month, another 19.6 percent relied on medicaid intermediate care funds. Unlike the proportion of discharges relying on own income to pay for care in their admission month, the proportion of discharges relying primarily on medicaid differed by the eventual durations of stay. Discharges whose completed stays were relatively lengthy were more likely to have relied on a type of medicaid in their admission month than were those whose stays were relatively short (see table 7).

For example, while 12 percent of all discharges whose stays were less than 1 month in duration relied primarily on medicaid skilled care funds to pay for their nursing home care, 19 percent of those whose stays were 6 months or longer relied primarily on this source in their admission months. Comparable proportions for discharges who relied on medicaid intermediate care funds were 11 percent among those whose stays were less than 1 month and 27 percent for those whose completed stays were 6 months or more.

The median durations of stay of discharges who relied on either medicaid skilled or medicaid intermediate funds to pay for nursing home care in their admission months were 145 and 187 days, respectively, each of which is significantly above the median for the discharge population as a whole.

Medicare accounted for a smaller proportion of all discharges' primary sources of payment in their admission months than either their own income or family support, or the combined total of medicaid. Medicare, however, varied quite widely as a primary admission month payment source according to eventual completed duration of stay. Unlike similar differences outlined above for those relying on medicaid, the proportion of all discharges relying on medicare as their primary source of

payment in their admission month was greater among discharges with relatively short durations of stay and smaller for those with longer completed stays. About 18 percent of all discharges relied primarily on medicare for payment for nursing home care in their admission months. But, while the proportion was 30 percent among discharges whose stays were less than 1 month, for discharges whose completed stays were 6 months or more, only 6 percent had relied primarily on medicare in their admission month. The median duration of stay was 29 days for all discharges whose primary source of payment in the month of admission was medicare, significantly below the median for all discharges.

All other sources of payment, including other government assistance or welfare, religious organizations, volunteer agencies, Veterans Administration contracts, initial payment-for-life care funds, and others accounted for about 5 percent of all discharges' primary sources of payment for month of admission. This proportion did not vary significantly by completed duration of stay. Discharges relying on these other sources, however, tended to be younger than those whose primary payment sources were medicare, medicaid, or own income. Only about 22 percent were over age 84 years at their discharges, which is significantly below the comparable proportion for all discharges.

For the month of discharge, own income or family support was also the primary source of payment for about 4 of every 10 discharges. Although some variability exists in this ratio by duration of stay, as many as 38 percent of all discharges whose stays were 6 months or more relied primarily on this source for payment of nursing home care in their discharge month as opposed to 45 percent among discharges whose stays were 1 month to less than 6 months in length.

Medicaid, skilled and intermediate care funds combined, accounted for another 40 percent of all discharges' primary payment sources in their discharge months. The overall proportion who relied primarily on medicaid, however, was larger for those with longer stays than for those with relatively short stays. For example, while a total of 22 percent of discharges with stays of less than 1 month relied on some form of medicaid as their primary payment source, among discharges whose stays were 6 months or longer, a total of 56 percent relied on medicaid in their discharge months. About 25 percent of those who stayed 6 months or longer relied on medicaid skilled care funds, and another 31 percent relied on medicaid intermediate care funds as the primary payment sources in their discharge months.

The proportion of discharges who relied on medicare as the primary payment source in their discharge month is a reflection of the limitations of coverage for nursing home care imposed by this Federal health care program. Medicare is limited to the first 100 days of nursing home care for residents who had been admitted directly from a general, short-stay hospital. The resident must also require specific medical assistance according to criteria established by the Federal Health Care Financing Administration (Health Care Financing Administration, 1986). Reliance on medicare as the primary source of payment for the discharge month, therefore, is restricted to discharges with relatively short durations of stay.

Among all discharges, about 12 percent used medicare as their primary source of payment in their discharge months. Among those whose stays were less than 1 month, however, about 29 percent relied primarily on medicare, as opposed to about 9 percent with stays of from 1 month to less than 6 months in length.

Changes in primary sources of payment between admission and discharge months are summarized in table 8 for all discharges with a duration of stay of 1 month or more. The percent distributions show that except for those entering with medicare as their primary payment source, more than 8 of every 10 discharges relied on the same primary source of payment in their discharge month as they had utilized in their admission month. For example, among persons using primarily their own income or family support in their admission month, 85 percent relied primarily on this source also in their discharge month. The comparable proportion for medicaid (skilled and intermediate combined) is about 90 percent, while about 87 percent who primarily used other sources in their admission month also relied on those other sources in their discharge month.

Among all persons with durations of stay of 1 month or more who utilized medicare as their primary payment source in their admission month, however, only about 37 percent relied primarily on medicare in their discharge month as well. This was largely the result of the 100-day limitation for medicare coverage of nursing home care. About 32 percent of discharges who used primarily medicare in their admission month shifted to their own income or family support as primary payment source in their discharge month, while another 28 percent shifted to some form of medicaid.

As noted above, while the overall proportion of discharges relying primarily on medicare decreased between admission and discharge months, the proportion using some form of medicaid rose. Shifts to medicaid as the primary source of payment varied by both duration of stay and primary payment source in admission month (see table 9). About 11 percent of persons who entered with other than medicaid as their primary payment source shifted to medicaid by the month of their discharge. The proportions of discharges shifting in this manner varied from 10 percent for those with stays of 1 month to less than 6 months to about 22 percent for those with stays of 6 months or more in duration.

Persons entering with medicare as the primary payment source in their admission month were more likely to shift to medicaid than persons entering with own income or family support. This was especially true for discharges whose durations of stay were beyond the 100-day limit imposed by the medicare program. About 10 percent of discharges who had used their own income in their admission month shifted to medicaid by their discharge month, while 15 percent of those relying primarily on medicare in the admission month converted to medicaid. About 8 percent of persons who entered using primarily their own income or family support and had stays of from 1 month to less than 6 months shifted to medicaid, as opposed to 19 percent of those with equal durations of stay who relied primarily on medicare in their admission month. Among discharges entering with medicare whose durations of

stay were 6 months or longer, 52 percent shifted to some form of medicaid by their discharge months.

It is not possible from the discharged resident data to pinpoint, however, when during a discharged resident's stay a shift from one payment source to another may have occurred. Differences in primary sources of payment in admission and discharge months are indicative only of a change between two points in time. While a pattern is suggested in the differential proportions of discharges shifting from one primary payment source to another, especially for discharges shifting to medicaid, it is not discernible from the data when these shifts occurred. Although the disaggregation of discharges who shift to medicaid by various duration of stay categories provides some evidence of a "spend down" to medicaid, more detailed data are required to determine when during a resident's stay this shift actually occurs and, for those with multiple stays, in which stay it occurred. Data on the latter issue are available from the next-of-kin component of the survey. Data from the next-of-kin component of the 1985 NNHS will be published in a forthcoming report from NCHS.

### Summary and highlights of data

The 1.22 million nursing home discharges in the 1985 NNHS represent about a 9.5-percent increase from the 1977

survey. Dependencies in both mobility and continence were more prevalent among all age groups in the most recent survey while there was also an increase of from about 30 to 38 percent in the proportion of discharges aged 85 years and over. While the overall median duration of stay, as well as those of men and women, showed observed increases between the 1977 and 1985 surveys, none of these increases is statistically significant. The rise from 41 to 49 percent in the proportion of live discharges going to a hospital, however, is statistically significant. The increase is largely the result of increased hospitalization of live nursing home discharges aged 65 to 84 years, although the proportion of discharges to a hospital remains larger among those aged 85 years and over.

About 4 of every 10 discharges used own income or family support as primary payment source in both admission and discharge months. The proportion using medicaid, however, generally rose with duration of stay, while only discharges with relatively short stays relied primarily on medicare, due to the limitations on coverage for nursing home care by the medicare program.

More detailed information from the 1985 NNHS, especially on sources of payment, diagnoses at admission and discharge, and duration of stay by admission and discharge characteristics, will be forthcoming in subsequent publications from NCHS.

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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
-

**Table 1. Number and percent distribution of nursing home discharges by selected characteristics: United States, 1984-85 and 1976**

Characteristic	1984-85 discharges		1976 discharges	
	Number <sup>1 2</sup>	Percent distribution	Number <sup>1 2</sup>	Percent distribution
<b>Discharge status</b>				
All discharges . . . . .	1,223,500	<sup>2</sup> 100.0	1,117,500	<sup>2</sup> 100.0
Live discharges . . . . .	877,400	71.7	825,500	73.9
Dead discharges . . . . .	343,800	28.1	289,800	25.9
<b>Sex</b>				
Male . . . . .	455,500	37.2	407,700	36.5
Female . . . . .	768,000	62.8	709,800	63.5
<b>Age at discharge</b>				
Under 65 years . . . . .	129,400	10.6	136,200	12.1
Under 45 years . . . . .	33,400	2.7	33,900	3.0
45-54 years . . . . .	29,200	2.4	33,500	3.0
55-64 years . . . . .	66,800	5.5	68,800	6.2
65 years and over . . . . .	1,094,100	89.4	981,300	87.8
65-69 years . . . . .	63,500	5.2	81,300	7.3
70-74 years . . . . .	119,400	9.8	122,300	10.9
75-79 years . . . . .	196,500	16.1	204,600	18.3
80-84 years . . . . .	255,700	20.9	241,200	21.6
85-89 years . . . . .	233,900	19.1	210,100	18.8
90-94 years . . . . .	155,900	12.7	90,500	8.1
95 years and over . . . . .	69,200	5.7	31,100	2.8
<b>Marital status at discharge</b>				
Married . . . . .	273,200	22.3	255,900	22.9
Widowed . . . . .	669,200	54.7	628,400	56.2
Divorced or separated . . . . .	84,800	6.9	75,200	6.7
Never married . . . . .	151,800	12.4	127,200	11.4
Unknown . . . . .	44,600	3.6	30,800	2.8
<b>Race</b>				
White . . . . .	1,135,900	92.8	---	---
Black . . . . .	82,000	6.7	---	---
Other . . . . .	5,600	0.5	---	---
<b>Hispanic origin</b>				
Hispanic . . . . .	35,500	2.9	---	---
Non-Hispanic . . . . .	1,130,700	92.4	---	---
Unknown . . . . .	57,400	4.7	---	---

<sup>1</sup> Figures may not add to totals due to rounding.

<sup>2</sup> Total includes small number of unknowns.

**Table 2. Number of nursing home discharges by sex and age at discharge, and percent distribution by type of dependency during last 7 days in nursing home, according to sex and age at discharge: United States, 1984-85**

Sex and age	Discharges	Type of dependency				
		Total	Bedfast	Chairfast	Incontinent of bladder	Incontinent of bowel
<b>Sex</b>		<b>Percent distribution</b>				
	Number					
Both sexes . . . . .	1,223,500	100.0	34.8	25.4	52.8	45.2
Male . . . . .	455,500	100.0	33.2	26.9	54.8	46.3
Female . . . . .	768,000	100.0	35.8	24.6	51.6	44.6
<b>Age at discharge</b>						
Under 65 years . . . . .	129,400	100.0	23.9	22.6	40.4	30.2
65 years and over . . . . .	1,094,100	100.0	36.1	25.8	54.2	47.0
65-74 years . . . . .	182,900	100.0	32.8	24.5	45.5	39.1
75-84 years . . . . .	452,300	100.0	32.9	27.7	52.8	44.7
85 years and over . . . . .	458,900	100.0	40.6	24.3	53.1	52.4

Table 3. Number and percent distribution of nursing home discharges by partial index of dependency, according to age at discharge: United States, 1984-85 and 1976

Age	Discharges in 1984-85						Discharges in 1976						
	Total	Partial index of dependency					Total	Partial index of dependency					
		Total	Not dependent in mobility or continence	Dependent in mobility only	Dependent in continence only	Dependent in mobility and continence		Total	Total	Not dependent in mobility or continence	Dependent in mobility only	Dependent in continence only	Dependent in mobility and continence
			Number	Percent distribution						Number	Percent distribution		
All discharges	1,223,500	100.0	31.0	14.8	8.8	45.4	1,117,500	100.0	40.1	12.6	12.7	34.5	
Under 65 years	129,400	100.0	44.9	13.6	8.5	33.0	136,300	100.0	52.4	13.5	9.7	24.3	
65 years and over	1,094,100	100.0	29.3	15.0	8.8	46.9	981,200	100.0	38.4	12.5	13.1	35.9	
65-74 years	182,900	100.0	35.5	17.2	7.2	40.1	203,600	100.0	43.2	11.6	13.5	31.7	
75-84 years	452,300	100.0	30.3	15.7	9.2	44.9	445,800	100.0	40.9	12.7	13.5	32.9	
85 years and over	458,900	100.0	25.9	13.5	9.1	51.5	331,800	100.0	32.3	12.8	12.3	42.6	

**Table 4. Percent distribution of nursing home discharges by duration of stay, according to selected demographic characteristics, with median duration of stay: United States, 1984–85**

Characteristic	Duration of stay								Median duration of stay
	Total	Less than 1 month	1 month to less than 3 months	3 months to less than 6 months	6 months to less than 12 months	1 year to less than 3 years	3 years to less than 5 years	5 years or more	
<b>Discharge status</b>									
	Percent distribution								Days
All discharges . . . . .	100.0	31.0	20.6	11.2	11.2	15.1	5.2	5.7	82
Live discharges . . . . .	100.0	32.3	23.1	12.2	11.2	13.9	3.8	3.6	70
Dead discharges . . . . .	100.0	27.8	14.3	8.7	11.1	18.4	8.6	11.1	163
<b>Sex</b>									
Male . . . . .	100.0	35.7	20.1	11.3	11.8	13.3	3.8	3.9	66
Female . . . . .	100.0	28.2	20.9	11.1	10.9	16.2	6.0	6.8	93
<b>Age at discharge</b>									
Under 65 years . . . . .	100.0	33.2	24.3	12.2	10.6	13.0	3.5	3.1	70
65 years and over . . . . .	100.0	30.7	20.2	11.0	11.3	15.4	5.4	6.0	84
65–74 years . . . . .	100.0	34.9	22.8	11.8	10.8	13.8	2.5	3.4	56
75–84 years . . . . .	100.0	34.7	21.6	11.5	11.6	13.6	3.8	3.3	66
85 years and over . . . . .	100.0	25.1	17.8	10.3	11.2	17.8	8.0	9.7	145
85–94 years . . . . .	100.0	26.6	17.7	10.0	11.9	17.8	7.5	8.6	136
95 years and over . . . . .	100.0	16.7	18.2	12.1	7.6	18.4	10.8	16.1	297
<b>Marital status at discharge</b>									
Married . . . . .	100.0	44.1	21.3	9.3	10.5	10.5	2.3	2.0	41
Widowed . . . . .	100.0	27.3	20.0	11.5	11.2	16.7	6.5	6.7	107
Divorced or separated . . . . .	100.0	28.6	20.6	13.5	12.1	14.8	4.2	6.3	90
Never married . . . . .	100.0	24.9	23.5	11.0	11.1	17.2	4.7	7.6	101
Unknown . . . . .	100.0	31.2	15.6	13.2	14.6	13.2	*	*	125
<b>Race</b>									
White . . . . .	100.0	31.1	20.6	11.0	11.1	15.1	5.2	5.8	82
Black . . . . .	100.0	29.2	19.8	14.4	13.1	14.9	4.2	*	101
Other . . . . .	100.0	*	*	---	*	*	*	*	44
<b>Hispanic origin</b>									
Hispanic . . . . .	100.0	30.1	16.4	14.7	7.1	23.0	*4.9	*3.8	113
Non-Hispanic . . . . .	100.0	30.7	20.9	11.3	*11.2	15.0	5.2	5.7	83
Unknown . . . . .	100.0	37.4	18.4	*6.7	14.3	12.9	*4.2	*6.1	71



**Table 5. Number of nursing home discharges and number and percent distribution of live discharges, by destination and living arrangement prior to admission: United States, 1984-85**

<i>Living arrangement prior to admission</i>	<i>Live discharges</i>				
	<i>All discharges</i>	<i>Total</i>	<i>Destination</i>		
			<i>Total<sup>1</sup></i>	<i>Private or semiprivate residence</i>	<i>Other health facility</i>
	<i>Number</i>	<i>Number</i>	<i>Percent distribution</i>		
All discharges . . . . .	1,223,500	877,400	100.0	30.4	67.5
Private or semiprivate residence . . . . .	340,700	238,100	100.0	40.5	58.1
Alone . . . . .	110,200	77,500	100.0	38.1	60.1
With family members . . . . .	185,100	128,400	100.0	41.8	57.3
With nonfamily members . . . . .	23,300	16,300	100.0	46.4	51.9
Unknown if with others . . . . .	22,100	16,000	100.0	35.4	61.4
Another health facility . . . . .	848,700	616,400	100.0	27.0	70.8
Another nursing home . . . . .	82,500	52,400	100.0	12.5	84.5
General or short-stay hospital, except psychiatric unit . . . . .	674,300	489,200	100.0	30.0	68.6
Veterans hospital . . . . .	33,000	26,800	100.0	18.9	75.4
Other health facility or unknown type . . . . .	59,100	48,200	100.0	17.5	75.4
Unknown or other . . . . .	34,100	22,800	100.0	15.2	74.9

<sup>1</sup>Total includes small percent of unknown destinations

**Table 6. Number and percent distribution of live discharges by living arrangement after discharge, according to year of discharges: United States, 1984-85 and 1976**

<i>Living arrangement after discharge</i>	<i>Discharges in 1984-85</i>		<i>Discharges in 1976</i>	
	<i>Number</i>	<i>Percent distribution</i>	<i>Number</i>	<i>Percent distribution</i>
All live discharges . . . . .	877,000	100.0	825,500	100.0
Private or semiprivate residence . . . . .	266,400	30.4	306,700	37.2
Another health facility . . . . .	591,500	67.5	484,200	58.7
Another nursing home . . . . .	98,000	11.2	108,600	13.2
General or short-stay hospital, except psychiatric unit . . . . .	430,200	49.1	339,500	41.1
Veterans hospital . . . . .	20,800	2.4	---	---
Other health facility or unknown type . . . . .	42,600	4.9	36,000	4.4
Unknown or other . . . . .	19,000	2.2	34,700	4.2

**Table 7. Number of all nursing home discharges by duration of stay and percent distribution by primary source of payment for admission and discharge months, according to duration of stay with median duration of stay and percent of persons ages 85 years and over: United States, 1984-85**

Primary source of payment	Duration of stay				Median duration of stay	Persons ages 85 years and over
	All stays	Less than 1 month	1 month to less than 6 months	6 months or more		
All discharges	1,233,500	379,000	388,900	455,600	82	37.5
Primary source of payment for admission month						
All sources	100.0	100.0	100.0	100.0	82	37.5
Own income or family support	41.9	42.5	40.9	42.3	77	42.9
Medicare	17.6	29.8	18.9	6.4	29	33.2
Medicaid						
Skilled	15.5	11.5	15.3	19.0	145	35.2
Intermediate	19.6	10.6	19.7	27.0	187	35.8
All other sources	5.4	5.6	5.2	5.4	104	22.3
Primary source of payment for discharge month						
All sources	100.0	100.0	100.0	100.0	82	37.5
Own income or family support	41.8	43.4	45.1	37.6	67	41.4
Medicare	12.1	28.5	8.8	*	19	30.4
Medicaid						
Skilled	18.9	12.2	18.0	25.2	178	39.2
Intermediate	21.3	9.9	21.2	30.9	220	37.1
All other sources	6.0	6.1	6.9	5.1	83	21.0

**Table 8. Number and percent distribution of nursing home discharges with 1 or more months' duration of stay by primary source of payment for discharge month, according to primary source of payment for admission month: United States, 1984-85**

Primary source of payment for admission month	All discharges	Discharges with 1 or more months' duration of stay	Primary source of payment for discharge month					
			All sources	Own income or family support	Medicare	Medicaid	All other sources	
	Number	Number	Percent distribution					
All sources	1,223,500	844,500	100.0	41.1	4.7	21.9	26.4	5.9
Own income or family support	512,600	351,500	100.0	84.8	*	5.9	7.9	*
Medicare	215,500	102,500	100.0	32.0	36.9	21.5	6.4	*
Medicaid								
Skilled	163,700	145,800	100.0	3.3	*	89.7	4.6	*
Intermediate	220,100	199,700	100.0	4.3	*	4.8	90.5	*
All other sources	54,900	45,100	100.0	*	*	*	*	86.6

Table 9. Number of nursing home discharges and percent shifting to medicaid by nonmedicaid primary source of payment for admission month, duration of stay, and source of payment with median duration of stay: United States, 1984-85

Source of payment	Nonmedicaid primary source in admission month		Duration of stay			Median duration of stay			
	Number	Percent shifting to medicaid	Less than 1 month <sup>1</sup>	1 month to less than 6 months	6 months or more				
All sources except medicaid <sup>2</sup> . . . . .	794,500	10.9	295,400	2.1	252,900	10.3	246,200	22.1	56
Own income or family support . . . . .	512,600	9.7	161,200	*	159,000	7.6	192,500	18.9	77
Medicare . . . . .	215,500	15.3	112,900	3.9	73,600	18.5	29,000	51.9	29

<sup>1</sup>Shifts may occur in stays of less than 1 month where admission and discharge are in different calendar months

<sup>2</sup>Includes other sources not shown separately.

## References

- <sup>1</sup>Butler, L. H., and P. W. Newacheck. 1981. Health and social factors relevant to long-term care policy. In *Policy Options in Long-Term Care*, edited by J. Meltzer, F. Farrow, and H. Richman. Chicago: University of Chicago Press. pp. 38–75.
- <sup>2</sup>Health Care Financing Administration. 1986. *Your Medicare Handbook*. DHHS Pub. No. HCFA-10050, ICN-461250. Washington: U.S. Government Printing Office. pp. 16–19.
- <sup>3</sup>National Center for Health Statistics, P. J. McCarthy. 1966. Replication, an approach to the analysis of data from complex surveys. *Vital and Health Statistics*. Series 2, No. 14. PHS Pub. No. 1000. Public Health Service. Washington: U.S. Government Printing Office.
- <sup>4</sup>National Center for Health Statistics. 1968. The Agency Reporting Systems for Maintaining the National Inventory of Hospitals and Institutions. *Vital and Health Statistics*. Series 1, No. 6. PHS Pub. No. 1000. Public Health Service. Washington: U.S. Government Printing Office.
- <sup>5</sup>National Center for Health Statistics, P. J. McCarthy. 1969. Pseudo-replication, further evaluation and application of the balanced half-sample technique. *Vital and Health Statistics*. Series 2, No. 31. DHEW Pub. No. (HSM) 73-1270. Health Services and Mental Health Administration. Washington: U.S. Government Printing Office.
- <sup>6</sup>National Center for Health Statistics, A. Sirrocco and H. W. Koch. 1977. Nursing homes in the United States: 1973–74, National Nursing Home Survey. *Vital and Health Statistics*. Series 14, No. 17. DHEW Pub. No. (HRA) 78-1812. Health Resources Administration. Washington: U.S. Government Printing Office.
- <sup>7</sup>National Center for Health Statistics, E. Hing and A. Zappolo. 1978. A comparison of nursing home residents and discharges from the 1977 National Nursing Home Survey: United States. *Advance Data From Vital and Health Statistics*. No. 29. DHEW Pub. No. (PHS) 78-1250. Public Health Service. Hyattsville, Md.
- <sup>8</sup>National Center for Health Statistics, J. F. Van Nostrand, A. Zappolo, E. Hing, et al. 1979. The National Nursing Home Survey: 1977 summary for the United States. *Vital and Health Statistics*. Series 13, No. 43. DHEW Pub. No. (PHS) 79-1794. Public Health Service. Washington: U.S. Government Printing Office.
- <sup>9</sup>National Center for Health Statistics, A. Zappolo. 1981. Discharges from nursing homes: 1977 National Nursing Home Survey. *Vital and Health Statistics*. Series 13, No. 54. DHHS Pub. No. (PHS) 81-1715. Public Health Service. Washington: U.S. Government Printing Office.
- <sup>10</sup>National Center for Health Statistics, D. A. Roper. 1986. Nursing and related care homes as reported from the 1982 National Master Facility Inventory. *Vital and Health Statistics*. Series 14, No. 32. DHHS Pub. No. (PHS) 86-1827. Public Health Service. Washington: U.S. Government Printing Office.
- <sup>11</sup>National Center for Health Statistics, E. Hing. 1987a. Use of nursing homes by the elderly, preliminary data from the 1985 National Nursing Home Survey. *Advance Data From Vital and Health Statistics*. No. 135. DHHS Pub. No. (PHS) 87-1250. Public Health Service. Hyattsville, Md.
- <sup>12</sup>National Center for Health Statistics, G. Strahan. 1987b. Nursing home characteristics, preliminary data from the 1985 National Nursing Home Survey. *Advance Data From Vital and Health Statistics*. No. 131. DHHS Pub. No. (PHS) 87-1250. Public Health Service. Hyattsville, Md.
- <sup>13</sup>Shimizu, I. 1987. The 1985 National Nursing Home Survey design. *Proceedings of Section on Survey Research Methods, 1986 Annual Meetings of the American Statistical Association*. Chicago: American Statistical Association.

## 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 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 (NCHS, 1966, 1969).

Although exact standard error estimates were used in tests of significance, it is impractical to present exact standard error estimates for all statistics used in this report. Thus, a generalized variance function was produced for aggregated discharge 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 (rel var  $X$ ). This relationship is expressed as

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

NOTE: A list of references follows the text.

Table I. Standard errors of percents for discharges

Base of percent (discharges)	Estimated percent					
	1 or 99	5 or 95	10 or 90	20 or 80	40 or 60	50
	Standard errors in percentage points					
5,000 .....	2.87	6.29	8.66	11.55	14.15	14.44
10,000 .....	2.03	4.45	6.13	8.17	10.00	10.21
30,000 .....	1.17	2.57	3.54	4.72	5.78	5.90
50,000 .....	0.91	1.99	2.74	3.65	4.47	4.57
100,000 .....	0.64	1.41	1.94	2.58	3.16	3.23
200,000 .....	0.45	1.00	1.37	1.83	2.24	2.28
400,000 .....	0.32	0.70	0.87	1.29	1.58	1.61
800,000 .....	0.23	0.50	0.68	0.91	1.12	1.14
1,000,000 .....	0.20	0.45	0.61	0.82	1.00	1.02
1,223,500 .....	0.18	0.40	0.55	0.74	0.90	0.92

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 discharges are presented in table I.

Preliminary estimates of relative standard errors are presented in figure I for estimated numbers of discharges. The formula for obtaining these standard error estimates is

$$\text{RSE}(N) = \sqrt{0.000797 + \frac{417.045}{N}} \times 100.0$$

where RSE is the relative standard error in percent and  $N$  is the estimated number of discharges.

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.

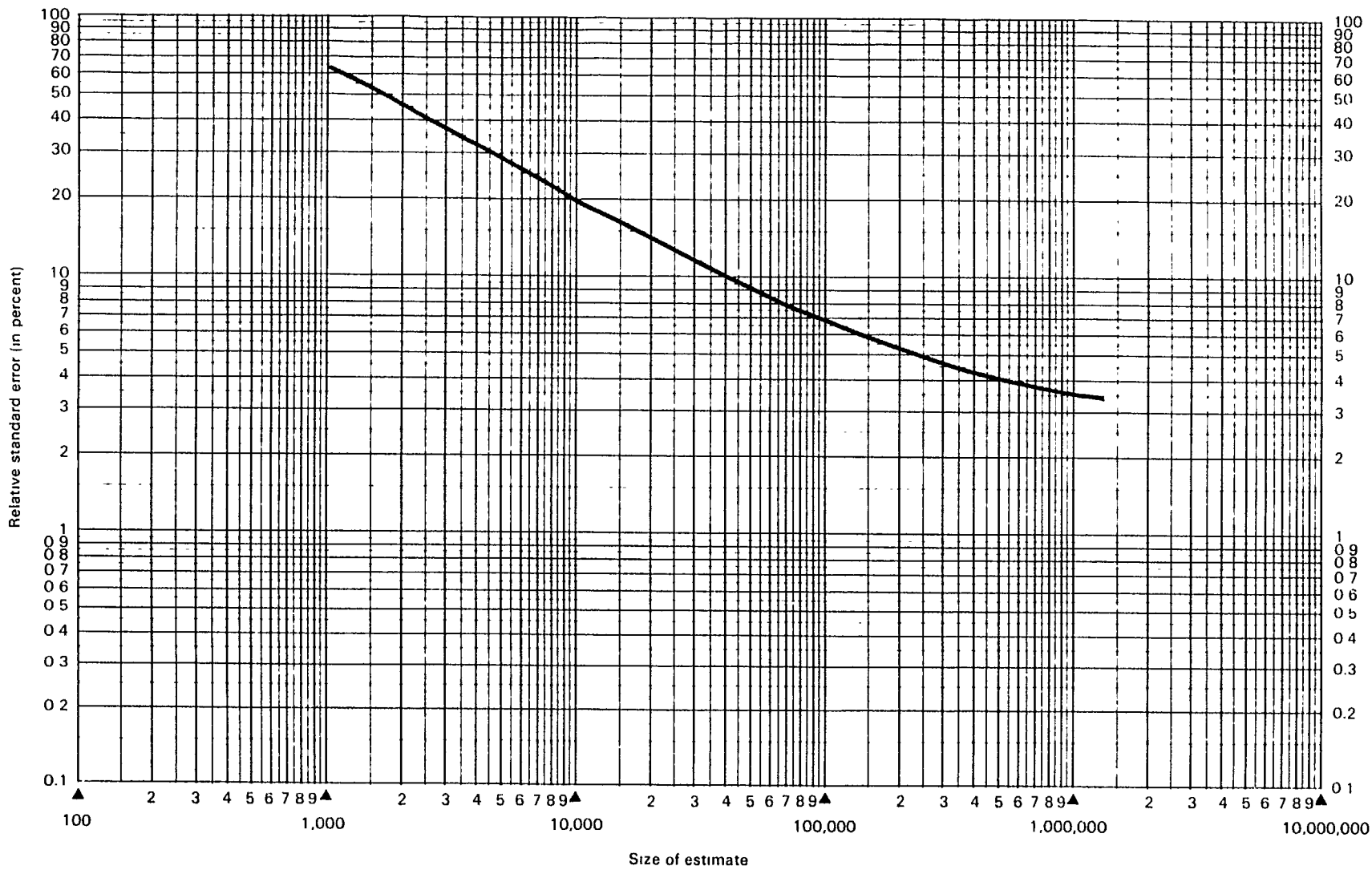


Figure 1. Provisional relative standard errors for estimated number of discharges: United States, 1984-85

## **The 1986 Inventory of Long-Term Care Places An Overview of Facilities for the Mentally Retarded**

by Al Sirrocco, Division of Health Care Statistics

### **Introduction**

The 1986 Inventory of Long-Term Care Places (ILTCP) is a survey of two types of facilities: nursing homes and facilities for the mentally retarded. As used in this survey, the term "nursing homes" includes nursing care homes and such residential facilities as homes for the aged, personal care homes, and board and care homes. All of these facilities must maintain three beds or more. This report deals only with facilities for the mentally retarded.

The National Center for Health Statistics (NCHS), in cooperation with the National Center for Health Services Research and the Health Care Financing Administration (HCFA), employed the U.S. Bureau of the Census to conduct the 1986 ILTCP. The purpose of the survey was to provide a current sampling frame for two portions (nursing home and mental retardation (MR) facilities) of the Institutional Population Component of the 1987 National Medical Expenditure Survey (NMES). The NMES, which was to be conducted by National Center for Health Services Research in early 1987, was on a very tight schedule. The impact of these time restraints will be mentioned in later sections of this report.

### **History and background**

The ILTCP had never been conducted prior to the 1986 survey. However, a similar survey, the National Master Facility Inventory (NMFI), had been conducted many times between 1967 and 1982.<sup>1</sup> Each NMFI included a survey of nursing

homes, but MR facilities had not been surveyed since the 1976 NMFI.<sup>2</sup> Types of questions asked in the ILTCP were similar enough to NMFI questions that a decision was made to publish the ILTCP data to update the 1982 NMFI nursing home data and to give baseline information on MR facilities. The ILTCP file was constructed by the Long-Term Care Statistics Branch of NCHS. Survey procedures are described in the Technical notes.

In creating the mailing list for the MR portion of the ILTCP, NCHS started with a file produced in 1982 by the University of Minnesota's Center for Residential and Community Services (CRCS). The 15,000 MR facilities on this file were matched against current State and local directories obtained by NCHS. Due to time constraints imposed on the ILTCP, NCHS was unable to contact all local sources identified by CRCS in its study. It is believed that most of any places missed would be small MR facilities (fewer than 16 beds).

The 1982 study, conducted by CRCS for HCFA, was very detailed and allowed for extensive followback.<sup>3</sup> Because the primary purpose of the ILTCP was to establish a sampling frame for a major survey (NMES), the information collected on MR facilities was very general. It was intended for use in stratifying and categorizing MR facilities into broad categories. As a result, data collected in the 1986 ILTCP can be compared to the 1982 CRCS study only in the broadest of terms. This report will not present data on individual States. These data will appear in a forthcoming series report.

<sup>1</sup>National Center for Health Statistics, D. Roper. 1986. Nursing and related care homes as reported from the 1982 National Master Facility Inventory Survey. *Vital and Health Statistics*. Series 14, No. 32. DHHS Pub. No. (PHS) 86-1827. Public Health Service, Washington: U.S. Government Printing Office.

<sup>2</sup>National Center for Health Statistics, J. F. Sutton and A. Sirrocco. 1980. Inpatient health facilities as reported from the 1976 MFI Survey. *Vital and Health Statistics*. Series 14, No. 23. DHEW Pub. No. (PHS) 80-1818. Public Health Service, Washington: U.S. Government Printing Office.

<sup>3</sup>Hill, B. K., and K. C. Lakin. 1984. *Classification of Residential Facilities for Mentally Retarded People*. Brief No. 24. Minneapolis: Center for Residential and Community Services, University of Minnesota.

## Classification of MR facilities

Question 6 of the ILTCP questionnaire lists 14 types of facilities, 6 specifically for the mentally retarded. These six categories are intermediate care facility for the mentally retarded (ICF-MR), foster home, group residence, semi-independent living program, State institution, and other kind of MR place.

To make it easier for respondents to categorize their facilities, they were instructed to "check all that apply." Those whose facilities fell into more than one category were, therefore, not forced to check only one. If so restricted, the one category selected would very often have been "other kind of MR place" or, worse, "none of the above." In this regard, the strategy worked. Only 256 cases marked the "other MR" box without marking any other MR category. Table 1 summarizes responses to question 6.

Unfortunately, respondents from 2,020 places ultimately classified as MR facilities checked none of the six MR boxes. Many did not answer this question at all and others checked a box such as "sheltered or custodial care home."

The procedures used to classify a facility as MR were applied to all places, even those checking an MR box. Many different items from the questionnaire were used. Of almost equal importance to responses to question 6 were those to questions 5b ("Did the facility primarily serve only the mentally retarded/developmentally disabled, or the mentally retarded/mentally ill?"), 7d ("Did the facility have ICF-MR beds?"), and 11g ("Did the facility have MR residents?").

Responses were combined into matrices, incorporating another important factor: Was the name of the facility obtained from an MR source (the CRCS file or one of NCHS's State MR directories)? To qualify as an MR facility, a place had to be primarily oriented toward MR. As a result, a nursing home with a small MR wing would remain a nursing home.

Once classified as an MR facility, an institution was either subclassified as ICF-MR or MR—other. Table 1 shows how facilities classified themselves in question 6, but in this report the two classifications ICF-MR and MR—other are used.

**Table 1. Number of mental retardation (MR) facilities by type of categories marked by respondents: United States, 1986**

Type of MR facility	Number of facilities
Total facilities	14,639
Foster care	2,467
Group residence	5,977
Semi-independent living program	668
State institution	252
Other	256
Foster care and group residence	186
Group residence and semi-independent living program	440
Other combinations	285
Intermediate care facility for mental retardation (ICF-MR) only	2,088
No MR or ICF-MR category marked	2,020

NOTE: Each facility was allowed to check as many categories as applied. Many facilities checked ICF-MR plus one or more of the 5 basic MR categories listed. Therefore, the counts for the first 8 categories (and combinations of categories) shown above include those facilities that also checked the ICF-MR box.

## Discussion

### Facility characteristics

The survey found 14,639 MR facilities. These facilities had 269,954 beds and 250,472 residents. Based on actual counts plus imputations for missing data, an estimated 95 percent of the residents were mentally retarded. In other words, while a facility's primary function might be to serve the mentally retarded, it frequently serves other residents (for example, the mentally ill). All numbers and percents associated with the term "MR residents" in this report are based on the total resident count.

The average size of the MR facility was 18 beds, but the distribution showed almost 87 percent of all MR facilities with fewer than 16 beds (table 2). In fact, more than 72 percent had fewer than 10 beds. Despite this lopsided distribution, only 20 percent of MR residents were in facilities with fewer than 10 beds, and nearly half were in facilities with 100 beds or more (see table 3).

Table 3 lists the distribution of MR facilities and residents by geographic region. Although the South had the fewest MR facilities (16.3 percent), it had almost 27 percent of the residents, second only to the Midwest (30.8 percent). Table 3 depicts this distribution as the average number of residents per MR facility. There were an average of 28 residents in the South, 16 in the Northeast and Midwest, and 12 in the West. The overall U.S. average was 17 residents per MR facility.

The West had by far the fewest facilities with 100 beds or more. With 45 MR facilities, it trailed the Midwest (142), the South (136), and the Northeast (82).

Some regional differences can be explained by the relative sizes of resident population bases. The West had only 18 percent of all MR residents, but it also had only about 20 percent of the U.S. population. Similarly, the South had 27 percent of the MR residents and 34 percent of the population, the Midwest had 31 percent of the residents and 25 percent of the population, and the Northeast had 25 percent of the residents and 21 percent of the population.

As mentioned in the Introduction, during classification of facilities as MR or nursing homes, many nursing homes (8,276) were found to have MR residents. These nursing homes reported 39,527 MR residents, an average of almost 5 per home. Those nursing homes with 3–15 beds averaged 2 MR residents; those with 16–99 beds, 5 MR residents; and those with 100 beds or more, 10 MR residents.

Checking nursing home MR residents by region would indicate whether mentally retarded persons in certain regions tend to be placed in nursing homes rather than MR facilities. Table 4 reveals no dramatic tendencies in this direction. It does show that the West, with the fewest MR residents in MR facilities, also had the fewest MR residents in nursing homes (4,871). Only 12 percent of all nursing home MR residents were in the West, which has 20 percent of the U.S. population. Proportions of MR residents in nursing homes in the South (32 percent) and the Northeast (19.6 percent), were virtually identical to their shares of the U.S. population. The Midwest had the most nursing home MR residents (14,240), the largest



**Table 2. Number and percent distribution of mental retardation facilities by bed size and ownership, according to geographic region: United States, 1986**

Bed size and type of ownership	Type of facilities									
	All geographic regions					All geographic regions				
	Northeast	Midwest	South	West	Northeast	Midwest	South	West		
	Number					Percent distribution				
Total	14,639	3,806	4,741	2,380	3,712	100.0	100.0	100.0	100.0	100.0
1-2 beds	1,350	445	471	135	299	9.2	11.7	9.9	5.7	8.1
3-5 beds	3,765	1,263	933	624	945	25.7	33.2	19.7	26.2	25.5
6-9 beds	5,491	1,072	1,926	772	1,721	37.5	28.2	40.6	32.4	46.4
10-15 beds	2,097	657	696	360	384	14.3	17.3	14.7	15.1	10.3
16-24 beds	604	112	247	137	108	4.1	2.9	5.2	5.8	2.9
25-49 beds	524	101	179	114	130	3.6	2.7	3.8	4.8	3.5
50-99 beds	403	74	147	102	80	2.8	1.9	3.1	4.3	2.2
100-199 beds	198	30	85	64	19	1.4	0.8	1.8	2.7	0.5
200-499 beds	126	25	39	45	17	0.9	0.7	0.8	1.9	0.5
500 beds or more	81	27	18	27	9	0.6	0.7	0.4	1.1	0.2
Type of ownership										
Profit	6,330	1,058	2,097	763	2,412	43.2	27.8	44.2	32.1	65.0
Nonprofit	6,396	2,071	2,126	1,146	1,053	43.7	54.4	44.8	48.2	28.4
Government	1,913	677	518	471	247	13.1	17.8	10.9	19.8	6.7

**Table 3. Number and percent distribution of mental retardation facilities, beds, and residents, and average number of beds and residents by bed size, geographic region, and type of ownership: United States, 1986**

Bed size, geographic region, and type of ownership	Facilities			Beds			Residents		
	Number			Percent distribution			Average number		
	Facilities	Beds	Residents	Facilities	Beds	Residents	Beds	Residents	
Total	14,639	269,954	250,472	100.0	100.0	100.0	18	17	
Bed size									
1-9 beds	10,606	54,417	50,049	72.4	20.2	20.0	5	5	
10-15 beds	2,097	24,991	23,444	14.3	9.3	9.4	12	11	
16-99 beds	1,531	58,050	54,090	10.5	21.5	21.6	38	35	
100 beds or more	405	132,496	122,889	2.8	49.1	49.1	327	303	
Geographic region									
Northeast	3,806	65,812	61,707	26.0	24.4	24.6	17	16	
Midwest	4,741	83,067	77,193	32.4	30.8	30.8	18	16	
South	2,380	71,887	66,767	16.3	26.6	26.7	30	28	
West	3,712	49,188	44,805	25.4	18.2	17.9	13	12	
Type of ownership									
Profit	6,330	66,536	60,560	43.2	24.6	24.2	11	10	
Nonprofit	6,396	78,935	75,193	43.7	29.2	30.0	12	12	
Government	1,913	124,483	114,719	13.1	46.1	45.8	65	60	

**Table 4. Number and percent distribution of nursing homes with mental retardation (MR) residents and MR residents in nursing homes by geographic region: United States, 1986**

Geographic region	Nursing homes with MR residents		Nursing homes with MR residents	
	Number	MR residents	Number	MR residents
	Percent distribution		Percent distribution	
Total	8,276	39,527	100.0	100.0
Northeast	1,686	7,753	20.7	19.6
Midwest	2,743	14,240	33.1	36.0
South	2,688	12,663	32.8	32.0
West	1,159	4,871	14.0	12.3

share of total nursing home residents (36 percent), and the greatest proportion of MR residents compared with its proportion of the U.S. population (36 versus 25 percent).

For-profit MR facilities (6,330) and nonprofit MR facilities (6,396) were equally distributed and combined for almost 87 percent of the total (table 5). The 1,913 government-owned places, which accounted for the remaining 13 percent, made up for their small number with size. These government-owned MR facilities included large State institutions and, as a result, accounted for almost 46 percent of all MR facility residents (table 6). They averaged 65 beds per facility, compared with 12 beds in nonprofit and 11 beds in for-profit facilities. Over 85 percent of residents in government-owned MR facilities were in facilities with 100 beds or more; in contrast, less than

Table 5. Number and percent distribution of mental retardation facilities by type of ownership and bed size, according to geographic region: United States, 1986

Type of ownership and bed size	Facilities									
	All geographic regions					All geographic regions				
	Northwest	Northeast	Midwest	South	West	Northwest	Northeast	Midwest	South	West
	Number					Percent distribution				
Total	14,639	3,806	4,741	2,380	3,712	100.0	100.0	100.0	100.0	100.0
Profit										
Total	6,330	1,058	2,097	763	2,412	43.2	27.8	44.2	32.1	65.0
1-9 beds	4,884	877	1,536	515	1,956	33.4	23.0	32.4	21.6	52.7
10-15 beds	737	81	313	104	239	5.0	2.1	6.6	4.4	6.4
16-99 beds	630	92	217	114	207	4.3	2.4	4.6	4.8	5.6
100 beds or more	79	8	31	30	10	0.5	0.2	0.7	1.3	0.3
Nonprofit										
Total	6,396	2,071	2,126	1,146	1,053	43.7	54.4	44.8	48.2	28.4
1-9 beds	4,567	1,533	1,474	749	811	31.2	40.3	31.1	31.5	21.8
10-15 beds	1,062	373	350	203	136	7.3	9.8	7.4	8.5	3.7
16-99 beds	683	147	262	177	97	4.7	3.9	5.5	7.4	2.6
100 beds or more	84	18	40	17	9	0.6	0.5	0.8	0.7	0.2
Government										
Total	1,913	677	518	471	247	13.1	17.8	10.9	19.8	6.7
1-9 beds	1,155	370	320	267	198	7.9	9.7	6.7	11.2	5.3
10-15 beds	298	203	33	53	9	2.0	5.3	0.7	2.2	0.2
16-99 beds	218	48	94	62	14	1.5	1.3	2.0	2.6	0.4
100 beds or more	242	56	71	89	26	1.7	1.5	1.5	3.7	0.7

20 percent of residents in nonprofit and for-profit MR facilities were housed in facilities with 100 beds or more.

As mentioned earlier, the South, which had the fewest MR facilities, was second only to the Midwest in total beds. Government-owned facilities accounted for much of the total, even though the South did not have the most government-owned facilities (471 compared with 677 in the Northeast and 518 in the Midwest). The South did have the most government-owned facilities with 100 beds or more (89 compared with 26 in the West, 56 in the Northeast, and 71 in the Midwest) (table 5).

#### Intermediate care facilities

An ICF-MR is a facility that has met certification requirements set forth in medicaid regulations. Two ILTCP questions were asked about ICF-MR's. Question 6, box 03, was checked when respondents considered their facilities to be ICF-MR's; question 7d was answered only if a facility had ICF-MR beds. The ILTCP counted all places responding positively to either question as ICF-MR's. The result was a total of 4,193 ICF-MR's.

This self-classification might overstate the number of ICF-MR's, but a lack of time and money made it impossible to recontact these 4,193 places to verify their ICF-MR status. As an alternative method of verification, the count was compared with figures obtained from other sources.

The 1982 MR study conducted by CRCS found 1,854 ICF-MR's. This figure represented a tremendous growth from

the 574 ICF-MR's found in its 1977 study.<sup>4</sup> The 1984-85 HCFA file for ICF-MR's contained 2,968 facilities. The growth rate indicated by these three studies makes the 1986 ILTCP figure (4,193) seem reasonable. As a further check, a comparison was made of the bed-size distributions in the three studies. For those ICF-MR's with 16 beds or more, the figures for 1977, 1982, 1984-85, and 1986 were 386, 652, 837, and 885, respectively. Survey totals for facilities with fewer than 16 beds were 188, 1,202, 2,131, and 3,308. Figures for the larger facilities (16 beds or more) represented yearly increases of about 11 percent from 1977 to 1982, 10 percent from 1982 through 1985, and 6 percent from 1985 to 1986. The figures for the smaller facilities (fewer than 16 beds) represented yearly increases of about 45, 30, and 33 percent, respectively. Once again, these rates seem reasonable.

Of these 4,193 ICF-MR's, the Midwest had the most with 1,572 (37.5 percent) and the West had the fewest with 606 (14.5 percent). (See table 7.) The West also had the lowest percent of ICF-MR beds (12.1 percent), so it did not compensate by having more of the larger facilities. On the contrary, the West had only 28 ICF-MR's with 100 beds or more, compared with 128 in the South, 98 in the Midwest, and 62 in the Northeast.

Only 12.8 percent of ICF-MR's in the Northeast were owned for profit, in sharp contrast with the West (49.5 per-

<sup>4</sup>Lakin, K. C., and B. K. Hill. 1984. *Expansion of the Medicaid ICF-MR Program Over a Five Year Period, 1977-1982*. Brief No. 25. Minneapolis: Center for Residential and Community Services, University of Minnesota.

**Table 6. Number and percent distribution of mental retardation residents by type of ownership and bed size, according to geographic region: United States, 1986**

Type of ownership and bed size	Residents									
	All geographic regions					All geographic regions				
	Northeast	Midwest	South	West	Northeast	Midwest	South	West		
	Number					Percent distribution				
Total	250,472	61,707	77,193	66,767	44,805	100.0	100.0	100.0	100.0	100.0
Profit										
Total	60,560	7,874	21,362	11,612	19,712	24.2	12.8	27.7	17.4	44.0
1-9 beds	20,127	2,918	6,640	2,147	8,422	8.0	4.7	8.6	3.2	18.8
10-15 beds	8,289	899	3,560	1,184	2,646	3.3	1.5	4.6	1.8	5.9
16-99 beds	21,390	2,748	6,971	4,236	7,435	8.5	4.5	9.0	6.3	16.6
100 beds or more	10,754	1,309	4,191	4,045	1,209	4.3	2.1	5.4	6.1	2.7
Nonprofit										
Total	75,193	20,818	28,054	15,667	10,654	30.0	33.7	36.3	23.5	23.8
1-9 beds	24,447	7,601	8,264	4,212	4,370	9.8	12.3	10.7	6.3	9.8
10-15 beds	11,922	4,190	4,039	2,212	1,481	4.8	6.8	5.2	3.3	3.3
16-99 beds	24,322	5,662	9,210	5,999	3,451	9.7	9.2	11.9	9.0	7.7
100 beds or more	14,502	3,365	6,541	3,244	1,352	5.8	5.5	8.5	4.9	3.0
Government										
Total	114,719	33,015	27,777	39,488	14,439	45.8	53.5	36.0	59.1	32.2
1-9 beds	5,475	1,981	1,401	1,325	768	2.2	3.2	1.8	2.0	1.7
10-15 beds	3,233	2,186	359	579	109	1.3	3.5	0.5	0.9	0.2
16-99 beds	8,378	1,702	3,563	2,419	694	3.3	2.8	4.6	3.6	1.5
100 beds or more	97,633	27,146	22,454	35,165	12,868	39.0	44.0	29.1	52.7	28.7

**Table 7. Number and percent distribution of intermediate care facilities for the mentally retarded by type of ownership and bed size, according to geographic region: United States, 1986**

Type of ownership and bed size	Facilities									
	All geographic regions					All geographic regions				
	Northeast	Midwest	South	West	Northeast	Midwest	South	West		
	Number					Percent distribution				
Total	4,193	1,182	1,572	833	606	100.0	100.0	100.0	100.0	100.0
Profit										
Total	1,313	151	605	257	300	31.3	12.8	38.5	30.8	49.5
1-9 beds	855	118	382	138	217	20.4	10.0	24.3	16.6	35.8
10-15 beds	215	17	125	48	25	5.1	1.4	8.0	5.8	4.1
16-99 beds	195	15	82	44	54	4.7	1.3	5.2	5.3	8.9
100 beds or more	48	1	16	27	4	1.1	0.1	1.0	3.2	0.1
Nonprofit										
Total	1,992	652	783	330	227	47.5	55.2	49.8	39.6	37.5
1-9 beds	1,297	423	502	194	178	30.9	35.8	31.9	23.3	29.4
10-15 beds	415	173	156	58	28	9.9	14.6	9.9	7.0	4.6
16-99 beds	235	49	103	64	19	5.6	4.1	6.6	7.7	3.1
100 beds or more	45	7	22	14	2	1.1	0.6	1.4	1.7	0.3
Government										
Total	888	379	184	246	79	21.2	32.1	11.7	29.5	13.0
1-9 beds	364	167	69	80	48	8.7	14.1	4.4	9.6	7.9
10-15 beds	162	122	4	35	1	3.9	10.3	0.3	4.2	0.2
16-99 beds	139	36	51	44	8	3.3	3.0	3.2	5.3	1.3
100 beds or more	223	54	60	87	22	5.3	4.6	3.8	10.4	3.6

cent). Midwest (38.5 percent), and South (30.8 percent). Government-owned ICF-MR's represented a small portion of all ICF-MR's in the Midwest (11.7 percent) and West (13.0 percent), but formed a substantial portion of those in the Northwest (32.1 percent) and South (29.5 percent). (See table 7.)

The differences in capacity among ownership types were dramatic. Average bed capacity for all ICF-MR's was 39. Government-owned homes averaged 124 beds; for-profit, 18; and nonprofit, 16 (table 8). In each region, government-owned homes were much larger, but actual average bed sizes were quite different. For instance, the South had the highest and the Northeast had by far the lowest average bed capacities in government-owned homes. Government and nonprofit facilities in the Northeast were half the size of those in the South; their for-profit facilities were only a third the size. The Midwest and West had ICF-MR's much nearer in size to those in the South for all three ownership groups, but the sheer number of facilities with 100 beds or more in the South resulted in its overall average bed size being twice those of the Midwest and West (see table 8).

It is also interesting to note that the South, in addition to having more government-owned ICF-MR's with 100 beds or more than any other region, had more for-profit ICF-MR's with 100 beds or more than the other three regions combined (27 compared with a combined total of 21). The Midwest, on the other hand, had almost as many nonprofit ICF-MR's with 100 beds or more as the other three regions combined (22 compared with a combined total of 23).

#### Resident characteristics

There were 250,472 residents occupying the 269,954 beds in MR facilities, for an occupancy rate of 92.8 percent. Regional occupancy rates were quite close, ranging from 91.1 percent in the West to 93.8 percent in the Northeast (92.9 percent in the Midwest and 92.9 percent in the South). These rates translated into approximately 4,100 empty beds in the Northeast, 4,400 in the West, 5,100 in the South, and 5,900 in the Midwest.

There were 1.04 residents in MR facilities per 1,000 persons in the U.S. population. The Midwest had the highest rate, 1.30, followed by the Northeast (1.24), the West (0.92), and the South (0.81).

Age groups were reported for 237,145 of the 250,472 total residents in MR facilities (95 percent). As table 9 indicates, three-fourths of these residents were between 22 and 64 years

of age. The group 65 years and over was the smallest (17,963), and represented only 7.6 percent of the total. In fact, in non-profit MR facilities, its members made up only 3.6 percent of total residents.

In each age group, there were many more residents in government-owned facilities than in profit or nonprofit facilities. This was not surprising because many more residents in general were in government-owned facilities. A comparison of profit and nonprofit facilities indicated that residents 65 years and over were more than 2½ times more likely to be in for-profit facilities. This contrasts directly with the other two age groups, which have many more residents in nonprofit facilities (see table 9). Comparing these age groups and ownership categories with region, bed size, and MR facility type failed to produce any meaningful explanation for this situation.

Only 10.3 percent of MR residents 65 years and over were in the West. Each of the other regions had 2½–3 times as many MR residents in this age group. The West also had fewer residents 22–64 and under 22 years of age, but the differences were much less than those found for MR residents 65 years and over.

The group 22–64 years of age was consistent across region and ownership categories, representing in almost every instance approximately three-fourths of the total (see table 9). In every region, residents in the age group under 22 years made up a larger percent of total residents than the group 65 years and over. The largest percent differences were in nonprofit facilities and in the South and West.

Other survey questions asked about the number of black and Hispanic residents in the facility the night before the survey. Only 4.4 percent of all facilities and 4.0 percent of MR facilities left one or both of these questions blank.

Approximately 12 percent of all MR facility residents were black persons and 4 percent were of Hispanic origin. Of the 29,442 black residents, almost half (14,538) were in the South; nearly half (4,856) of the 10,181 Hispanic residents were in the West (see table 10).

The distribution of Hispanic residents among small (fewer than 16 beds), medium (16–99 beds), and large (100 beds or more) MR facilities was virtually identical to the distribution of all residents among these facilities (see tables 10 and 3). Black residents, however, were somewhat more likely to reside in large (100 beds or more) MR facilities (58.2 percent of black residents, compared with 49.1 percent of all residents and 47.9 percent of nonblack residents). This tendency occurred in every region except the West, where 28.7 percent of all black

**Table 8. Average bed capacity in intermediate care facilities for the mentally retarded by type of ownership and geographic region: United States, 1986**

Type of ownership	Beds				
	All geographic regions	Northeast	Midwest	South	West
Total average	39	35	31	67	33
Profit	18	9	16	29	17
Nonprofit	16	12	17	23	11
Government	124	83	137	165	158

**Table 9. Number and percent distribution of residents in mental retardation facilities for which an age group was reported by type of ownership and age group, according to geographic region: United States, 1986**

Type of ownership and age group	Residents									
	All geographic regions	Northeast	Midwest	South	West	All geographic regions	Northeast	Midwest	South	West
	Number					Percent distribution				
<b>All types of ownership</b>										
Total .....	237,145	57,183	73,095	64,470	42,397	100.0	100.0	100.0	100.0	100.0
Under 22 years .....	38,841	7,320	10,609	12,365	8,547	16.4	12.8	14.5	19.2	20.2
22-64 years .....	180,341	44,453	56,525	47,370	31,993	76.0	77.7	77.3	73.5	75.5
65 years and over .....	17,963	5,410	5,961	4,735	1,857	7.6	9.5	8.2	7.3	4.4
<b>Profit</b>										
Total .....	56,084	7,378	19,814	10,818	18,074	100.0	100.0	100.0	100.0	100.0
Under 22 years .....	8,873	1,322	2,538	1,444	3,569	15.8	17.9	12.8	13.3	19.7
22-64 years .....	40,728	4,643	14,851	7,956	13,278	72.6	62.9	75.0	73.5	73.5
65 years and over .....	6,483	1,413	2,425	1,418	1,227	11.6	19.2	12.2	13.1	6.8
<b>Nonprofit</b>										
Total .....	71,039	19,552	26,336	15,097	10,054	100.0	100.0	100.0	100.0	100.0
Under 22 years .....	14,159	3,846	4,618	3,405	2,290	19.9	19.7	17.5	22.6	22.8
22-64 years .....	54,353	15,085	20,381	11,353	7,534	76.5	77.2	77.4	75.2	74.9
65 years and over .....	2,527	621	1,337	339	230	3.6	3.2	5.1	2.2	2.3
<b>Government</b>										
Total .....	110,022	30,253	26,945	38,555	14,269	100.0	100.0	100.0	100.0	100.0
Under 22 years .....	15,809	2,152	3,453	7,516	2,688	14.4	7.1	12.8	19.5	18.8
22-64 years .....	85,260	24,725	21,293	28,061	11,181	77.5	81.7	79.0	72.8	78.4
65 years and over .....	8,953	3,376	2,199	2,978	400	8.1	11.2	8.2	7.7	2.8

**Table 10. Number and percent distribution of black and Hispanic residents in mental retardation facilities by race, Hispanic origin, and bed size, according to geographic region: United States, 1986**

Race and Hispanic origin and bed size	Residents									
	All geographic regions	Northeast	Midwest	South	West	All geographic regions	Northeast	Midwest	South	West
	Number					Percent distribution				
<b>Black residents</b>										
Total .....	29,442	5,634	6,438	14,538	2,832	100.0	100.0	100.0	100.0	100.0
1-9 beds .....	4,885	900	1,225	1,693	1,067	16.6	16.0	19.0	11.6	37.7
10-15 beds .....	1,950	732	342	592	284	6.6	13.0	5.3	4.1	10.0
16-99 beds .....	5,485	1,037	1,311	2,468	669	18.6	18.4	20.4	17.0	23.6
100 beds or more .....	17,122	2,965	3,560	9,785	812	58.2	52.6	55.3	67.3	28.7
<b>Hispanic residents</b>										
Total .....	10,181	1,578	1,079	2,668	4,856	100.0	100.0	100.0	100.0	100.0
1-9 beds .....	2,210	273	148	156	1,633	21.7	17.3	13.7	5.8	33.6
10-15 beds .....	937	324	57	162	394	9.2	20.5	5.3	6.1	8.1
16-99 beds .....	2,333	285	295	404	1,349	22.9	18.1	27.3	15.1	27.8
100 beds or more .....	4,701	696	579	1,946	1,480	46.2	44.1	53.7	72.9	30.5

residents (compared with 34.4 percent of all residents and 34.8 percent of nonblack residents) were in the large MR facilities.

Black residents were more likely to reside in government-owned MR facilities (54.3 percent) than in for-profit (22.1 percent) or nonprofit (23.6 percent) facilities (see table 11). Government-owned facilities had 45.8 percent of all residents (44.7 percent for nonblack residents). This tendency was true in every region except the West, where black residents were

more likely to be in for-profit facilities (56.3 compared with 44.0 percent for all residents and 43.2 percent for nonblack residents) (tables 11 and 6).

Hispanic residents were more likely to live in for-profit facilities (34.3 compared with 24.2 percent for all residents and 23.7 percent for non-Hispanic residents) and less likely to be in nonprofit facilities (22.7 compared with 30.0 percent for all residents and 30.3 percent for non-Hispanic residents).

Table 11. Number and percent distribution of black and Hispanic residents in mental retardation facilities by race and Hispanic origin and type of ownership, according to geographic region: United States, 1986

Race and Hispanic origin and type of ownership	Residents										
	All geographic regions	Northeast	Midwest	South	West	All geographic regions	Northeast	Midwest	South	West	
Black residents		Number					Percent distribution				
Total .....	29,442	5,634	6,438	14,538	2,832	100.0	100.0	100.0	100.0	100.0	
Profit .....	6,503	935	1,547	2,427	1,594	22.1	16.6	24.0	16.7	56.3	
Nonprofit .....	6,938	1,786	1,858	2,809	485	23.6	31.7	28.9	19.3	17.1	
Government .....	16,001	2,913	3,033	9,302	753	54.3	51.7	47.1	64.0	26.6	
Hispanic residents											
Total .....	10,181	1,578	1,079	2,668	4,856	100.0	100.0	100.0	100.0	100.0	
Profit .....	3,495	184	314	486	2,511	34.3	11.7	29.1	18.2	51.7	
Nonprofit .....	2,316	647	303	465	901	22.7	41.0	28.1	17.4	18.6	
Government .....	4,370	747	462	1,717	1,444	42.9	47.3	42.8	64.4	29.7	

## Technical notes

The survey identified a number of mental retardation (MR) facilities that were actually units of large mental health facilities. Treating all beds and residents in such facilities as MR beds and residents would significantly inflate MR counts. The data for these facilities were, therefore, altered by (1) changing total beds to equal the larger of either beds in intermediate care facilities for the mentally retarded or total MR residents and (2) changing total residents to equal total MR residents.

The U.S. Bureau of the Census began the first questionnaire mailout on February 14, 1986. A reminder letter followed

a week later. On March 14, a second questionnaire was sent to all nonresponding facilities, and on April 4 a third mailing was sent to remaining nonrespondents.

Nearly 3,300 postmaster returns were received and reviewed to determine which respondents would be eligible for telephone and personal interview followup. Approximately 1,900 respondents were found to be out of scope, and about 1,400 were declared eligible for field followup. Field followup was completed in July 1986. The final overall response rate was 96 percent.

### Suggested citation

National Center for Health Statistics, A. Sirrocco. 1987. The 1986 Inventory of Long-Term Care Places: An overview of facilities for the mentally retarded. *Advance Data From Vital and Health Statistics*, No. 143. DHHS Pub. No. (PHS) 87-1250. Public Health Service, Hyattsville, Md.

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## Expected Principal Source of Payment for Hospital Discharges: United States, 1985

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### Introduction

This report presents statistics on data collected through the National Hospital Discharge Survey. The National Center for Health Statistics has conducted this survey continuously since 1965. In 1985 data were abstracted from the face sheets of medical records of approximately 194,800 patients discharged from 414 non-Federal short-stay hospitals. These data were used to produce estimates of hospital utilization by an estimated 35.1 million inpatients (excluding newborn infants) in the United States.

From 1968 through 1970 information on hospital charges and sources of payment from a subsample of the National Hospital Discharge Survey (NHDS) sample was collected (NCHS, 1974). No information on charges or sources of payment was collected from 1971 through 1976. However, beginning in 1977 data on patients' principal expected sources of payment and other expected sources of payment were collected from the face sheets of all medical records in the NHDS sample. Reports on the 1977 and 1979 data have been published (NCHS, 1980 and 1982). In addition, summary data for 1982-85 have been published (NCHS, 1984, 1985, 1986, and 1987a). Statistics in these reports, as well as in this one, reflect only the patients' principal source of payment. The 1977 report presented estimates of source of payment by age and sex of patients as well as estimates for leading diagnostic and surgical categories. The 1979 report updated the basic estimates by age and sex of patient and provided analysis by discharge status and surgical status of the patient as well as by hospital location and ownership. This report updates the data from both reports; however, the data are analyzed from a different point of view. Expected sources of payment are not analyzed separately, but are analyzed for all the different sources of payment by sex and age of

patient, by hospital characteristics, and by diagnostic and procedural categories. The survey form used to collect these data is reproduced in another publication of the National Center for Health Statistics (NCHS, 1987a).

According to the NHDS, approximately 7 percent of all patients discharged from short-stay hospitals had no health insurance (NCHS, 1987a). On the other hand, data from the National Health Interview Survey indicate that 13 percent of the noninstitutionalized population had no coverage (NCHS, 1987b). This would seem to indicate that a proportionally smaller number of the uninsured rather than the insured are hospitalized. This may be true. However, many individuals who claim they have no health insurance may find on being hospitalized that they are covered under such programs as medicaid, welfare, and Veterans Administration health benefits.

According to the NHDS, the percent of hospitalized individuals covered by private insurance was 44.9 percent (NCHS, 1987a). This is much lower than the estimated 66.5 percent of individuals covered by private insurance found in the 1984 NHIS (NCHS, 1987b). This is not unexpected because public health programs are often billed first for hospital charges, and individuals citing private coverage may be using it as a secondary insurance source. It should be noted that in some cases the expected source of payment recorded on the face sheet of the medical record may not have been the actual source of payment. For example, a patient admitted to a hospital following an automobile accident may have cited Blue Cross as the expected source of payment when, in fact, an automobile insurance company ultimately made restitution. Also, because of the manner in which this variable was collected, there is no way to determine the charge for the hospital stay or what proportions of the hospital stay and medical services were covered by the principal source of payment indicated.

## Highlights

The percent of patients who expected private insurance to pay for their hospitalization decreased significantly from 1977 to 1985 (53 and 45 percent, respectively).

There was a significant increase in the percent of discharges expecting public insurance to pay for their stay.

The average length of stay for patients expecting private insurance to pay for their hospitalization was 5.3 days, which was 1.2 days less than the average of 6.5 days for all patients discharged from short-stay hospitals.

The average age of patients expecting private insurance to pay for their hospitalization was 35.9 years; for those expecting public insurance to pay for their hospitalization, it was 60.2 years.

Only 7 percent of white patients expected medicaid to pay for their hospitalization; about 25 percent of black patients expected medicaid to pay for their hospitalization.

Sixty percent of all females with deliveries expected private insurance to pay for their hospitalization.

About two-thirds of all patients under 65 years of age who had one procedure or more performed expected private insurance to pay for their hospitalization.

## Overview

There are three basic types of payment used in the payment of hospital bills. These are private insurance, public insurance, and other types of hospital bill payment including self-pay and no charge. Private insurance consists of Blue Cross and other private or commercial insurance, and public insurance consists of medicare, medicaid, workmen's compensation, and other government insurance programs.

Private insurance traditionally has been the source of payment used by most hospitalized patients as their expected source of payment. However, in recent years, the percent of patients expecting to pay their hospital bills through some form of private insurance has been on the decline. The percent of patients expecting to pay their hospital bills by private insurance declined from 52.5 percent in 1979 (NCHS, 1982) to 44.9 percent in 1985.

Expected source of payment through public insurance programs has been on the increase in recent years. In 1979 approximately 40.0 percent of all hospitalized patients expected to pay their hospital bills through some form of public insurance. In 1985 this increased to 46.3 percent.

## Patient characteristics

In 1985 there were 35.1 million discharges from short-stay hospitals. Of the patients discharged, 15.7 million expected private insurance to pay for their hospital stay, 16.2 million expected a government program to pay for their hospital stay, and 3.1 million expected to pay for their hospital stay through other means (table 1).

Even though the number of patients expecting private insurance to pay for their hospital stay was similar to the number of patients expecting a public insurance program to pay for their hospital stay, the number of days of care and average length of

**Table 1. Number of discharges, days of care, average length of stay, and average age of patients discharged from non-Federal short-stay hospitals, by principal expected source of payment: United States, 1985**

[Excludes newborn infants]

Item	All expected sources of payment	Expected sources of payment		
		Private	Public	Self-pay, no charge, and other
Total number of discharges in millions . . . . .	35.1	15.7	16.2	3.1
Total days of care in millions . . . . .	226.2	83.0	126.9	16.3
Average length of stay in days . . . . .	6.5	5.3	8.2	5.3
Average age of patients in years . . . . .	46.7	35.9	60.2	30.7

stay for those expecting public insurance to pay for their hospital stay was much larger. This is primarily because the medicare program is designed to help older people defray the cost of their medical bills. Older people tend to have more chronic ailments and longer hospital stays. The number of days of care and average length of stay for those expecting public insurance to pay for their hospital stay was 126.9 million days of care and an average length of stay of 8.2 days; for those expecting private insurance to pay for their hospital stay the figures were 83 million days of care and an average length of stay of 5.3 days. The average age of those expecting public insurance to pay for their hospital bills was 60.2 years; for those expecting private insurance to pay for their hospital stay the average age was 35.9 years.

The number and percent distribution of patients discharged from short-stay hospitals by expected source of payment according to age and sex are provided in table 2. With the exception of workmen's compensation, the number of females was greater than the number of males in each expected source of payment.

Over 50 percent of all patients discharged from short-stay hospitals in each age group, with the exception of those 65 years of age and over, expected to pay their hospital bills through some form of private insurance. Medicare is the expected source of payment for most of those over 65 years of age.

White patients tended to utilize private insurance and medicare as an expected source of payment more often than black patients while black patients tended to use medicaid as an expected source of payment more often than white patients (table 3). About 46 percent of white patients expected private insurance to pay for their hospitalization; only 35 percent of black patients expected private insurance to pay for their hospitalization. Medicare as an expected source of payment was utilized by 35 percent of the white patients but only about 21 percent of the black patients. On the other hand, only 7 percent of white patients used medicaid as an expected source of payment and about one-quarter of black patients used medicaid. These differences are partially explained by the younger age distribution of hospitalized black persons.



**Table 2. Number and percent distribution of patients discharged from non-Federal short-stay hospitals by principal expected source of payment, according to sex and age: United States, 1985**

[Excludes newborn infants]

<i>Sex and age</i>	<i>All expected sources of payment</i>	<i>Private insurance</i>	<i>Medicare</i>	<i>Medicaid</i>	<i>Workmen's compensation</i>	<i>Other government payments</i>	<i>Self-pay</i>	<i>No charge</i>	<i>Other payments</i>
Number in thousands									
<b>Both sexes</b>									
All ages . . . . .	35,056	15,726	11,341	3,344	756	790	2,346	221	531
Under 15 years . . . . .	2,972	1,727	35	712	---	113	316	24	46
15-44 years . . . . .	13,966	8,691	332	1,985	464	446	1,569	131	349
45-64 years . . . . .	7,610	5,064	1,014	551	197	196	402	65	122
65 years and over . . . . .	10,508	244	9,961	96	96	36	59	*	15
Male									
All ages . . . . .	14,160	5,985	5,064	967	569	332	941	79	223
Under 15 years . . . . .	1,698	985	13	403	---	73	185	13	26
15-44 years . . . . .	4,153	2,421	183	350	374	146	521	35	123
45-64 years . . . . .	3,776	2,460	586	180	152	92	208	30	66
65 years and over . . . . .	4,533	118	4,282	34	43	21	27	*	*7
Female									
All ages . . . . .	20,896	9,741	6,277	2,377	187	459	1,405	142	308
Under 15 years . . . . .	1,274	742	22	309	---	40	131	11	20
15-44 years . . . . .	9,813	6,270	149	1,635	91	300	1,049	95	225
45-64 years . . . . .	3,834	2,604	428	371	44	104	193	35	55
65 years and over . . . . .	5,975	126	5,679	62	52	15	32	*	*8
Percent distribution									
<b>Both sexes</b>									
All ages . . . . .	100.0	44.9	32.4	9.5	2.2	2.3	6.7	0.6	1.5
Under 15 years . . . . .	100.0	58.1	1.2	24.0	---	3.8	10.6	0.8	1.5
15-44 years . . . . .	100.0	62.2	2.4	14.2	3.3	3.3	11.2	0.9	2.5
45-64 years . . . . .	100.0	66.6	13.3	7.2	2.6	2.6	5.3	0.8	1.6
65 years and over . . . . .	100.0	2.3	94.8	0.9	0.9	0.3	0.6	*	0.1
Male									
All ages . . . . .	100.0	42.3	35.8	6.8	4.0	2.3	6.6	0.6	1.6
Under 15 years . . . . .	100.0	58.0	0.8	23.7	---	4.3	10.9	0.8	1.5
15-44 years . . . . .	100.0	58.3	4.4	8.4	9.0	3.5	12.5	0.8	3.0
45-64 years . . . . .	100.0	65.2	15.5	4.8	4.0	2.4	5.5	0.8	1.8
65 years and over . . . . .	100.0	2.6	94.5	0.8	1.0	0.3	0.6	*	*0.2
Female									
All ages . . . . .	100.0	46.6	30.0	11.4	0.9	2.2	6.7	0.7	1.5
Under 15 years . . . . .	100.0	58.2	1.7	24.2	---	3.2	10.3	0.8	1.5
15-44 years . . . . .	100.0	63.9	1.5	16.7	0.9	3.1	10.7	1.0	2.3
45-64 years . . . . .	100.0	67.9	11.2	9.7	1.2	2.7	5.0	0.9	1.4
65 years and over . . . . .	100.0	2.1	95.0	1.0	0.9	0.2	0.5	*	*0.1

**Hospital characteristics**

The percent of patients expecting private insurance to pay for their hospitalization was lowest in the West Region (39.9 percent) but similar in all other regions. The percent of patients expecting medicare to pay for their hospitalization was higher in the Northeast Region when compared with the South Region (35.0 versus 30.2 percent) (table 3). There were no differences by region in the percent of patients expecting medicaid to pay for their hospital stay.

For patients of profit, nonprofit, and State and local government hospitals, differences occurred in distribution of patients by source of payment. About 37 percent of all patients in State and local government hospitals expected private insurance

to pay for their hospitalization; about 10 percent of them expected to pay for their own hospitalization. On the other hand, close to 50 percent of patients in profit and nonprofit hospitals expected private insurance to pay for their hospitalization, but only 6 percent or less of the inpatients expected to pay for their own hospitalization. In addition, the percent of patients using medicaid in the government hospitals was twice that of the profit hospitals (12.9 and 5.6 percent, respectively).

**Utilization by diagnosis**

Table 4 provides the number and percent of discharges for selected diagnostic categories for patients discharged from short-

**Table 3. Number and percent distribution of patients discharged from non-Federal short-stay hospitals by principal expected source of payment, according to race, geographic region, and type of hospital ownership: United States, 1985**

[Excludes newborn infants]

<i>Race, region, and type of hospital ownership</i>	<i>All expected sources of payment</i>	<i>Private insurance</i>	<i>Medicare</i>	<i>Medicaid</i>	<i>Workmen's compensation</i>	<i>Other government payments</i>	<i>Self-pay</i>	<i>No charge</i>	<i>Other payments</i>
Number in thousands									
All ages . . . . .	35,056	15,726	11,341	3,344	756	790	2,346	221	531
Race									
White . . . . .	26,379	12,219	9,315	1,751	557	520	1,546	114	357
Black . . . . .	5,181	1,819	1,078	1,266	112	182	534	76	114
All other . . . . .	3,497	1,688	948	328	88	88	266	31	60
Geographic region									
Northeast . . . . .	7,168	3,174	2,508	784	106	87	395	*8	107
Midwest . . . . .	9,111	4,234	3,003	889	225	172	471	11	108
South . . . . .	12,274	5,726	3,707	1,140	270	257	966	27	181
West . . . . .	6,502	2,592	2,123	532	156	275	513	175	135
Type of hospital ownership									
Nonprofit . . . . .	23,984	11,152	7,921	2,154	536	390	1,411	152	267
Profit . . . . .	3,296	1,671	1,085	185	102	75	142	*	33
State or local government . . . . .	7,776	2,903	2,335	1,006	118	325	793	65	231
Percent distribution									
Total . . . . .	100.0	44.9	32.4	9.5	2.2	2.3	6.7	0.6	1.5
Race									
White . . . . .	100.0	46.3	35.3	6.6	2.1	2.0	5.9	0.4	1.4
Black . . . . .	100.0	35.1	20.8	24.4	2.2	3.5	10.3	1.5	2.2
All other . . . . .	100.0	48.3	27.1	9.4	2.5	2.5	7.6	0.9	1.7
Geographic region									
Northeast . . . . .	100.0	44.3	35.0	10.9	1.5	1.2	5.5	*0.1	1.5
Midwest . . . . .	100.0	46.5	33.0	9.8	2.5	1.9	5.2	0.1	1.2
South . . . . .	100.0	46.7	30.2	9.3	2.2	2.1	7.9	0.2	1.5
West . . . . .	100.0	39.9	32.7	8.2	2.4	4.2	7.9	2.7	2.1
Type of hospital ownership									
Nonprofit . . . . .	100.0	46.5	33.0	9.0	2.2	1.6	5.9	0.6	1.1
Profit . . . . .	100.0	50.7	32.9	5.6	3.1	2.3	4.3	*	1.0
State or local government . . . . .	100.0	37.3	30.0	12.9	1.5	4.2	10.2	0.8	3.0

stay hospitals by expected source of payment. Heart disease was the only first-listed diagnosis that was among the leading diagnoses in each of the expected sources of payment. Medicare and private insurance were the expected sources of payment for about 90 percent of all heart disease discharges with medicare accounting for about 62 percent of them. Except for workmen's compensation and medicare, females with deliveries was also among the leading first-listed diagnoses for each expected source of payment. Private insurance, medicaid, and self-pay accounted for about 90 percent of all the discharges for females with deliveries, with private insurance accounting for about 61 percent of them.

Other leading first-listed diagnoses in most of the expected sources of payment were fractures, all sites, and malignant neo-

plasms. Fractures, all sites, was among the leading first-listed diagnoses in each of the expected sources of payment with the exception of medicaid and other government payments; malignant neoplasms was among the leading first-listed diagnoses in each of the expected sources of payment with the exception of medicaid, workmen's compensation, and self-pay.

Workmen's compensation, as would be expected, had leading diagnoses different from the other sources. Four of the five diagnoses were injury related: intervertebral disc disorders; fractures, all sites; sprains and strains of back; and inguinal hernia. In fact, even though workmen's compensation accounted for only 2 percent of all expected sources of payment, it accounted for one-fourth of all intervertebral disc disorders and one-fifth of all sprains and strains of back (including neck).

Table 4. Number and percent of discharges for selected diagnostic categories for patients discharged from non-Federal short-stay hospitals for each principal expected source of payment: United States, 1985

[Excludes newborn infants]

<i>Diagnostic category and ICD-9-CM code</i>	<i>Number of discharges in thousands</i>	<i>Percent<sup>1</sup></i>
<b>Private insurance</b>		
Females with deliveries . . . . . V27	2,366	61.4
Heart disease . . . . . 391-392.0, 393-398, 402, 404, 410-416, 420-429	1,025	28.6
Other ischemic heart disease . . . . . 411-413, 414.1-414.9	455	35.1
Acute myocardial infarction . . . . . 410	235	31.1
Malignant neoplasms . . . . . 140-208, 230-234	690	36.1
Fractures, all sites . . . . . 800-829	419	37.1
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229, 235-239	324	64.8
<b>Medicare</b>		
Heart disease . . . . . 391-392.0, 393-398, 402, 404, 410-416, 420-429	2,220	61.9
Other ischemic heart disease . . . . . 411-413, 414.1-414.9	715	55.2
Congestive heart failure . . . . . 428.0	460	82.6
Acute myocardial infarction . . . . . 410	450	59.6
Cardiac dysrhythmias . . . . . 427	332	65.0
Malignant neoplasms . . . . . 140-208, 230-234	1,020	53.4
Cerebrovascular disease . . . . . 430-438	689	75.2
Fractures, all sites . . . . . 800-829	423	37.4
Hyperplasia of prostate . . . . . 600	177	72.1
<b>Medicaid</b>		
Females with deliveries . . . . . V27	673	17.5
Psychoses . . . . . 290-299	126	18.0
Heart disease . . . . . 391-392.0, 393-398, 402, 404, 410-416, 420-429	117	3.3
Pneumonia, all forms . . . . . 480-486	104	12.2
Asthma . . . . . 493	98	21.2
<b>Workmen's compensation</b>		
Intervertebral disc disorders . . . . . 722	117	23.0
Fractures, all sites . . . . . 800-829	61	5.4
Sprains and strains of back (including neck) . . . . . 846-847	52	21.9
Inguinal hernia . . . . . 550	32	8.4
Heart disease . . . . . 391-392.0, 393-398, 402, 404, 410-416, 420-429	30	0.8
<b>Other government payments</b>		
Females with deliveries . . . . . V27	126	3.3
Heart disease . . . . . 391-392.0, 393-398, 402, 404, 410-416, 420-429	47	1.3
Psychoses . . . . . 290-299	40	5.8
Alcohol dependence syndrome . . . . . 303	31	7.9
Malignant neoplasms . . . . . 140-208, 230-234	26	1.4
<b>Self-pay</b>		
Females with deliveries . . . . . V27	510	13.2
Fractures, all sites . . . . . 800-829	120	10.6
Heart disease . . . . . 391-392.0, 393-398, 402, 404, 410-416, 420-429	112	3.1
Psychoses . . . . . 290-299	72	10.3
Abortions and ectopic and molar pregnancies . . . . . 630-639	68	17.9
<b>No charge</b>		
Females with deliveries . . . . . V27	52	1.3
Heart disease . . . . . 391-392.0, 393-398, 402, 404, 410-416, 420-429	10	0.3
Malignant neoplasms . . . . . 140-208, 230-234	*9	*0.4
Fractures, all sites . . . . . 800-829	*6	*0.5
<b>Other payments</b>		
Females with deliveries . . . . . V27	99	2.6
Heart disease . . . . . 391-392.0, 393-398, 402, 404, 410-416, 420-429	23	0.6
Psychoses . . . . . 290-299	19	2.8
Fractures, all sites . . . . . 800-829	18	1.6
Malignant neoplasms . . . . . 140-208, 230-234	17	0.9

<sup>1</sup>Percent of all discharges in this diagnostic category with this expected principal source of payment.

### Utilization by procedures

Approximately two-thirds of all patients under 65 years of age who had one procedure or more performed expected private insurance to pay for their hospitalization. For those 65 years of age and over, medicare was the expected source of payment for 95 percent of these patients.

About 50 percent of all patients who had one procedure or more performed expected private insurance to pay for their hospitalization (table 5). Of these almost half were women between the ages of 15–44 years. For some of the other sources of payment, the percent of women in this age group with one procedure or more performed is even higher. For example, 58 percent of patients with one procedure or more performed who expected medicaid to pay for their hospitalization and 53 per-

cent who expected to pay for their own hospital bills were females between the ages of 15–44 years.

Table 6 provides the number and percent of all-listed surgeries for patients discharged from short-stay hospitals for each expected source of payment. In each category, with the exception of medicare and workmen's compensation, the leading surgical procedures performed were female sex specific. These included procedures to assist delivery, cesarean section, hysterectomy, and oophorectomy and salpingo-oophorectomy. In addition, for patients with medicaid as a source of payment, bilateral destruction or occlusion of fallopian tubes was a leading procedure. The only two surgical procedures performed that were not sex specific were biopsy and open reduction of fracture, except face and jaw.

Table 5. Number and percent distribution of patients with procedures discharged from non-Federal short-stay hospitals by principal expected source of payment, according to sex and age: United States, 1985

[Excludes newborn infants]

Sex and age	All expected sources of payment	Private insurance	Medicare	Medicaid	Workmen's compensation	Other government payments	Self-pay	No charge	Other payments
Number in thousands									
Both sexes									
All ages	20,651	10,136	6,053	1,695	533	436	1,315	148	335
Under 15 years	1,283	799	15	256	---	51	129	10	24
15–44 years	9,104	5,955	174	1,134	323	252	946	95	226
45–64 years	4,605	3,240	517	260	148	111	211	43	76
65 years and over	5,658	142	5,347	45	63	22	29	*	*9
Male									
All ages	7,900	3,484	2,831	391	413	159	450	45	128
Under 15 years	747	462	*6	149	---	33	77	*5	14
15–44 years	2,309	1,408	94	143	266	60	252	20	66
45–64 years	2,259	1,541	297	82	118	52	109	19	42
65 years and over	2,585	72	2,434	18	29	14	13	*	*5
Female									
All ages	12,751	6,652	3,221	1,304	121	277	865	104	207
Under 15 years	537	337	*9	107	---	18	52	*5	*9
15–44 years	6,795	4,547	80	991	56	192	694	75	160
45–64 years	2,346	1,698	220	178	30	59	103	24	34
65 years and over	3,073	70	2,913	28	34	*8	16	*	*
Percent distribution									
Both sexes									
All ages	100.0	49.1	29.3	8.2	2.6	2.1	6.4	0.7	1.6
Under 15 years	100.0	62.3	1.2	19.9	---	4.0	10.0	0.8	1.8
15–44 years	100.0	65.4	1.9	12.5	3.5	2.8	10.4	1.0	2.5
45–64 years	100.0	70.4	11.2	5.6	3.2	2.4	4.6	0.9	1.7
65 years and over	100.0	2.5	94.5	0.8	1.1	0.4	0.5	*	*0.2
Male									
All ages	100.0	44.1	35.8	5.0	5.2	2.0	5.7	0.6	1.6
Under 15 years	100.0	61.9	*0.8	19.9	---	4.4	10.3	*0.7	1.9
15–44 years	100.0	61.0	4.1	6.2	11.5	2.6	10.9	0.9	2.9
45–64 years	100.0	68.2	13.1	3.6	5.2	2.3	4.8	0.8	1.9
65 years and over	100.0	2.8	94.2	0.7	1.1	0.5	0.5	*	*0.2
Female									
All ages	100.0	52.2	25.3	10.2	0.9	2.2	6.8	0.8	1.6
Under 15 years	100.0	62.8	*1.6	20.0	---	3.4	9.7	*0.9	*1.7
15–44 years	100.0	66.9	1.2	14.6	0.8	2.8	10.2	1.1	2.4
45–64 years	100.0	72.4	9.4	7.6	1.3	2.5	4.4	1.0	1.4
65 years and over	100.0	2.3	94.8	0.9	1.1	*0.3	0.5	*	*

**Table 6. Number and percent of all-listed procedures for selected surgical categories for patients discharged from non-Federal short-stay hospitals for each principal expected source of payment: United States, 1985**

[Excludes newborn infants]

<i>Surgical procedure category and ICD-9-CM code</i>	<i>Number in thousands</i>	<i>Percent<sup>1</sup></i>
<b>Private insurance</b>		
Procedures to assist delivery..... 72-73	1,597	64.1
Cesarean section..... 74.0-74.2, 74.4, 74.99	583	66.5
Biopsy.....	549	38.2
Hysterectomy..... 68.3-68.7	515	76.8
Oophorectomy and salpingo-oophorectomy..... 65.3-65.6	397	75.7
<b>Medicare</b>		
Biopsy.....	708	49.3
Prostatectomy..... 60.2-60.6	283	77.1
Arthroplasty of joints..... 81.3-81.8	239	47.2
Pacemaker insertion, replacement, removal, and repair..... 37.7-37.8	168	75.0
Open reduction of fracture (except face and jaw)..... 79.2-79.3, 79.5-79.6	157	34.8
<b>Medicaid</b>		
Procedures to assist delivery..... 72-73	375	15.0
Cesarean section..... 74.0-74.2, 74.4, 74.99	135	15.4
Repair of current obstetric laceration..... 75.5-75.6	95	17.3
Bilateral destruction or occlusion of fallopian tubes..... 66.2-66.3	88	19.0
Biopsy.....	79	5.5
<b>Workmen's compensation</b>		
Excision or destruction of intervertebral disc and spinal fusion..... 80.5, 81.0	66	20.3
Operations on muscles, tendons, fascia, and bursa..... 82-83.1, 83.3-83.9	42	12.3
Repair of inguinal hernia..... 53.0-53.1	32	7.8
Open reduction of fracture (except face and jaw)..... 79.2-79.3, 79.5-79.6	30	6.7
Arthroplasty of joints..... 81.3-81.8	28	5.4
<b>Other government payments</b>		
Procedures to assist delivery..... 72-73	83	3.3
Cesarean section..... 74.0-74.2, 74.4, 74.99	24	2.7
Repair of current obstetric laceration..... 75.5-75.6	19	3.4
Biopsy.....	16	1.1
Hysterectomy..... 68.3-68.7	15	2.3
<b>Self-pay</b>		
Procedures to assist delivery..... 72-73	327	13.1
Cesarean section..... 74.0-74.2, 74.4, 74.99	99	11.3
Repair of current obstetric laceration..... 75.5-75.6	80	14.7
Open reduction of fracture (except face and jaw)..... 79.2-79.3, 79.5-79.6	48	10.6
Biopsy.....	50	3.5
<b>No charge</b>		
Procedures to assist delivery..... 72-73	34	1.4
Cesarean section..... 74.0-74.2, 74.4, 74.99	12	1.3
Repair of current obstetric laceration..... 75.5-75.6	10	1.8
Bilateral destruction or occlusion of fallopian tubes..... 66.2-66.3	*6	*1.4
<b>Other payments</b>		
Procedures to assist delivery..... 72-73	59	2.4
Repair of current obstetric laceration..... 75.5-75.6	20	3.6
Cesarean section..... 74.0-74.2, 74.4, 74.99	18	2.0
Biopsy.....	15	1.1
Hysterectomy..... 68.3-68.7	*10	*1.5

<sup>1</sup>Percent of all surgical procedures in this category with this expected principal source of payment.

Over 60 percent of all procedures to assist delivery, cesarean sections, hysterectomies, and oophorectomies and salpingo-oophorectomies were performed on patients expecting private insurance to pay for these surgeries.

The leading surgical procedure for patients with medicare

as an expected source of payment was biopsy. In fact, one-half of all biopsies performed were on patients with medicare. Seventy-seven percent of all prostatectomies and 75 percent of all pacemaker insertions, replacements, removals, and repairs were performed on patients using medicare as a source of payment. All

Table 7. Number and percent of all-listed procedures for selected nonsurgical categories for patients discharged from non-Federal short-stay hospitals for each principal expected source of payment: United States, 1985

[Excludes newborn infants]

<i>Nonsurgical procedure category and ICD-9-CM code</i>	<i>Number in thousands</i>	<i>Percent<sup>1</sup></i>
<b>Private insurance</b>		
Endoscopies of the digestive system . . . . . 42.21-42.23, 44.11-44.13, 45.11-45.13, 45.21-45.24, 48.21-48.22, 51.11-51.21	658	42.7
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	502	44.9
Computerized axial tomography . . . . . 87.03, 87.41, 87.71, 88.01, 88.38	440	31.9
Diagnostic ultrasound . . . . . 88.7	431	34.9
Cardiac catheterization . . . . . 37.21-37.23	351	51.6
<b>Medicare</b>		
Endoscopies of the digestive system . . . . . 42.21-42.23, 44.11-44.13, 45.11-45.13, 45.21-45.24, 48.21-48.22, 51.11-51.21	675	43.8
Computerized axial tomography . . . . . 87.03, 87.41, 87.71, 88.01, 88.38	672	48.8
Diagnostic ultrasound . . . . . 88.7	536	43.4
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	496	44.4
Radioisotope scan . . . . . 92.0-92.1	446	53.2
<b>Medicaid</b>		
Diagnostic ultrasound . . . . . 88.7	108	8.7
Endoscopies of the digestive system . . . . . 42.21-42.23, 44.11-44.13, 45.11-45.13, 45.21-45.24, 48.21-48.22, 51.11-51.21	90	5.9
Computerized axial tomography . . . . . 87.03, 87.41, 87.71, 88.01, 88.38	77	5.6
Radioisotope scan . . . . . 92.0-92.1	45	5.4
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	35	3.2
<b>Workmen's compensation</b>		
Contrast myelogram . . . . . 87.21	113	25.9
Computerized axial tomography . . . . . 87.03, 87.41, 87.71, 88.01, 88.38	59	4.2
Radioisotope scan . . . . . 92.0-92.1	22	2.6
Diagnostic ultrasound . . . . . 88.7	16	1.3
Endoscopies of the digestive system . . . . . 42.21-42.23, 44.11-44.13, 45.11-45.13, 45.21-45.24, 48.21-48.22, 51.11-51.21	14	0.9
<b>Other government payments</b>		
Diagnostic ultrasound . . . . . 88.7	27	2.2
Computerized axial tomography . . . . . 87.03, 87.41, 87.71, 88.01, 88.38	26	1.9
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	22	1.9
Endoscopies of the digestive system . . . . . 42.21-42.23, 44.11-44.13, 45.11-45.13, 45.21-45.24, 48.21-48.22, 51.11-51.21	21	1.4
Radioisotope scan . . . . . 92.0-92.1	11	1.4
<b>Self-pay</b>		
Diagnostic ultrasound . . . . . 88.7	83	6.7
Computerized axial tomography . . . . . 87.03, 87.41, 87.71, 88.01, 88.38	73	5.3
Endoscopies of the digestive system . . . . . 42.21-42.23, 44.11-44.13, 45.11-45.13, 45.21-45.24, 48.21-48.22, 51.11-51.21	56	3.6
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	39	3.5
Radioisotope scan . . . . . 92.0-92.1	32	3.9
<b>No charge</b>		
Diagnostic ultrasound . . . . . 88.7	13	1.1
Endoscopies of the digestive system . . . . . 42.21-42.23, 44.11-44.13, 45.11-45.13, 45.21-45.24, 48.21-48.22, 51.11-51.21	*7	*0.5
Computerized axial tomography . . . . . 87.03, 87.41, 87.71, 88.01, 88.38	*7	*0.5
Radioisotope scan . . . . . 92.0-92.1	*6	*0.7
<b>Other payments</b>		
Computerized axial tomography . . . . . 87.03, 87.41, 87.71, 88.01, 88.38	25	1.8
Diagnostic ultrasound . . . . . 88.7	20	1.7
Endoscopies of the digestive system . . . . . 42.21-42.23, 44.11-44.13, 45.11-45.13, 45.21-45.24, 48.21-48.22, 51.11-51.21	20	1.3
Radioisotope scan . . . . . 92.0-92.1	14	1.7
Pyelogram . . . . . 87.73-87.74	11	2.4

<sup>1</sup>Percent of all diagnostic procedures in this nonsurgical category with this expected principal source of payment.

of the leading procedures for which workmen's compensation was the expected source of payment were for work-related injuries. These included excision or destruction of intervertebral disc and spinal fusion; operations on muscles, tendons, fascia, and bursa; repair of inguinal hernia; open reduction of fracture, except face and jaw; and arthroplasty of joints.

Table 7 provides the number and percent of all-listed diagnostic procedures for each expected source of payment. Endoscopies of the digestive system, computerized axial tomography (CAT scan), and diagnostic ultrasound were among the leading diagnostic procedures in each of the source of payment cate-

gories. Approximately 87 percent of the endoscopies of the digestive system, 81 percent of the computerized axial tomographies, and 78 percent of the diagnostic ultrasound procedures were performed on patients using private insurance or medicare as the expected source of payment.

Radioisotope scan was also among the leading diagnostic procedures in each of the different expected source of payment categories with the exception of those using private insurance as the expected source of payment. Over 50 percent of the radioisotope scans were performed on patients using medicare as the expected source of payment.

## References

- American Hospital Association. Unpublished data from The American Hospital Association 1984 Annual Survey. Chicago.
- National Center for Health Statistics, M. G. Sirken. 1967a. Utilization of short-stay hospitals, summary of nonmedical statistics: United States, 1965. *Vital and Health Statistics*. Series 13, No. 2. PHS Pub. No. 1000. Public Health Service. Washington: U.S. Government Printing Office.
- National Center for Health Statistics, M. J. Witkin. 1967b. Utilization of short-stay hospitals by characteristics of discharged patients: United States, 1965. *Vital and Health Statistics*. Series 13, No. 3. PHS Pub. No. 1000. Public Health Service. Washington: U.S. Government Printing Office.
- National Center for Health Statistics, M. Moien. 1974. Patient charges in short-stay hospitals: United States, 1968-70. *Vital and Health Statistics*. Series 13, No. 15. DHEW Pub. No. (HRA) 74-1766. Health Resources Administration. Washington: U.S. Government Printing Office.
- National Center for Health Statistics, R. Pokras and G. Gardocki. 1980. Expected principal source of payment for hospital discharges: United States, 1977. *Advance Data From Vital and Health Statistics*. No. 62. DHHS Pub. No. (PHS) 81-1250. Public Health Service. Hyattsville, Md.
- National Center for Health Statistics, E. Graves and R. Pokras. 1982. Expected principal source of payment for hospital discharges: United States, 1979. *Advance Data From Vital and Health Statistics*. No. 75. DHHS Pub. No. (PHS) 82-1250. Public Health Service. Hyattsville, Md.
- National Center for Health Statistics, E. J. Graves. 1984. Utilization of short-stay hospitals, United States: 1982 annual summary. *Vital and Health Statistics*. Series 13, No. 78. DHHS Pub. No. (PHS) 84-1739. Public Health Service. Washington: U.S. Government Printing Office.
- National Center for Health Statistics, E. J. Graves. 1985. Utilization of short-stay hospitals: Annual summary for the United States, 1983. *Vital and Health Statistics*. Series 13, No. 83. DHHS Pub. No. (PHS) 85-1744. Public Health Service. Washington: U.S. Government Printing Office.
- National Center for Health Statistics, E. J. Graves. 1986. Utilization of short-stay hospitals: Annual summary for the United States, 1984. *Vital and Health Statistics*. Series 13, No. 84. DHHS Pub. No. (PHS) 86-1745. Public Health Service. Washington: U.S. Government Printing Office.
- National Center for Health Statistics, E. J. Graves. 1987a. Utilization of short-stay hospitals: Annual summary for the United States, 1985. *Vital and Health Statistics*. Series 13, No. 91. DHHS Pub. No. (PHS) 87-1752. Public Health Service. Washington: U.S. Government Printing Office.
- National Center for Health Statistics, P. Ries. 1987b. Health care coverage by sociodemographic and health characteristics: United States, 1984. *Vital and Health Statistics*. Series 10, No. 162. DHHS Pub. No. (PHS) 87-1590. Public Health Service. Washington: U.S. Government Printing Office.

## 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 1985. Data on the universe of short-stay non-Federal hospitals are now obtained from the American Hospital Association (unpublished).

Of the 558 hospitals in the 1985 sample, 82 refused to participate and 62 were out of scope either because the hospital had gone out of business or because it failed to meet the definition of a short-stay hospital. Thus, 414 hospitals participated in the survey during 1985 and provided approximately 194,800 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 was an automated method used in approximately 17 percent of the sample hospitals; it involved the purchase of data tapes from commercial abstracting services.

In hospitals using the manual procedure, 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. The completed forms were forwarded to NCHS for coding, editing, and weighting procedures.

For hospitals using the automated procedure, tapes containing machine-readable medical record data are purchased

from commercial abstracting services. These tapes are subject to National Center for Health Statistics 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 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 the 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 the 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 consideration of the complex sample design of the NHDS, the following guidelines are used for presenting NHDS estimates in this report:

1. If the sample size is less than 30, the value of the estimate is not reported. Only an asterisk (\*) is shown in the tables.
2. 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

Because the estimates for this report are based on a sample rather than the entire universe, they are subject to sampling variability. The relative standard errors presented in tables I and II are obtained by dividing the standard error of the estimate by the estimate itself and are expressed as a percent of the estimate.

About 3.1 percent of the discharges sampled for the 1985 NHDS did not have information concerning source of payment on the face sheet of the medical record. An expected source of payment was imputed for these discharges based on the sex and age of the patient.

There were several edits performed on the raw data. When a principal expected source of payment was not indicated, but a single source of payment was listed as a secondary source of payment, the indicated secondary source of payment was assumed to be the principal expected source of payment. When workmen's compensation was listed in conjunction with other



Table I. Approximate relative standard errors of estimated numbers of discharges: United States, 1985

Size of estimate	Number of discharges	
	Region, proprietary, or State and local government hospitals	All other characteristics
5,000.....	22.4	13.2
10,000.....	18.3	10.6
50,000.....	12.0	6.7
100,000.....	10.3	5.7
500,000.....	7.5	4.0
1,000,000.....	6.6	3.5
3,000,000.....	5.6	2.9
5,000,000.....	5.2	2.7
10,000,000.....	4.8	2.4
20,000,000.....	4.4	2.2
30,000,000.....	4.2	2.1
40,000,000.....	4.1	2.1

Table II. Approximate relative standard errors of estimated numbers of all-listed procedures: United States, 1985

Size of estimate	All-listed procedures
5,000.....	18.2
10,000.....	15.1
50,000.....	10.3
100,000.....	8.9
500,000.....	6.7
1,000,000.....	6.0
3,000,000.....	5.1
5,000,000.....	4.8
10,000,000.....	4.4
20,000,000.....	4.1
30,000,000.....	4.0

insurance sources, workmen's compensation was taken as the principal expected source of payment; when medicare was listed in conjunction with other insurance sources (except workmen's compensation), medicare was taken as the principal expected source of payment. Estimates have been rounded to the nearest thousand. For this reason detailed figures within tables do not always add to the totals.

### 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

*Private insurance*—Private insurance is health insurance provided by nongovernment sources including consumers, insurance companies, private industry, and philanthropic organizations.

*Workmen's compensation*—Workmen's compensation is a program in all States under which employees injured on the job receive financial compensation without regard to fault.

*Medicare (Title XVIII)*—Medicare is a nationwide health program providing health insurance protection, regardless of income, to people 65 years of age and over, people eligible for Social Security disability payments for more than 2 years, and people with end-stage renal disease.

*Medicaid*—Medicaid is a joint Federal-State welfare program, available in virtually all States, that provides benefits for low-income persons, including the aged. To qualify for this program, a person must meet each State's definition of "low income."

*Other government payments*—Other government payments refers to government payments in which the expected source of payment cannot be classified in one of the other three government categories. These include payments made under the Title V Program, Champus (a program designed to provide medical coverage for dependents of military personnel), no-fault casualty coverage, vocational rehabilitation, Federal or State research grant (medical research), or legal hold (prisoner in medical detention).

*Self-pay*—Self-pay is a form of hospital payment in which the major share of the total cost is paid by the patient, spouse, family, or next of kin.

*No charge*—There is no charge to a patient when a patient is admitted to a hospital with the understanding that payment will not be expected because the medical services are provided free of charge by the hospital. This category includes hospital-sponsored welfare, donated staff services, hospital-sponsored special research, and patients in "teaching" hospitals.

*Other payments*—Other payments includes all other non-profit sources of payment such as church welfare, United Way (United Appeal), or Shriner's Crippled Children Services.

Definitions of other terms are available in appendix II of another report (NCHS, 1987a).

## 1986 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 1986 rate was 143 discharges per 1,000 civilian population—a 14 percent decrease in 3 years (figure 1). In addition, the average length of stay in 1986 was 6.4 days compared with 7.6 days a decade ago (figure 2).

During 1986 an estimated 34.3 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 218.5 million days of inpatient hospital care. Patients hospitalized during 1986 accounted for 143 discharges per 1,000 civilian population.

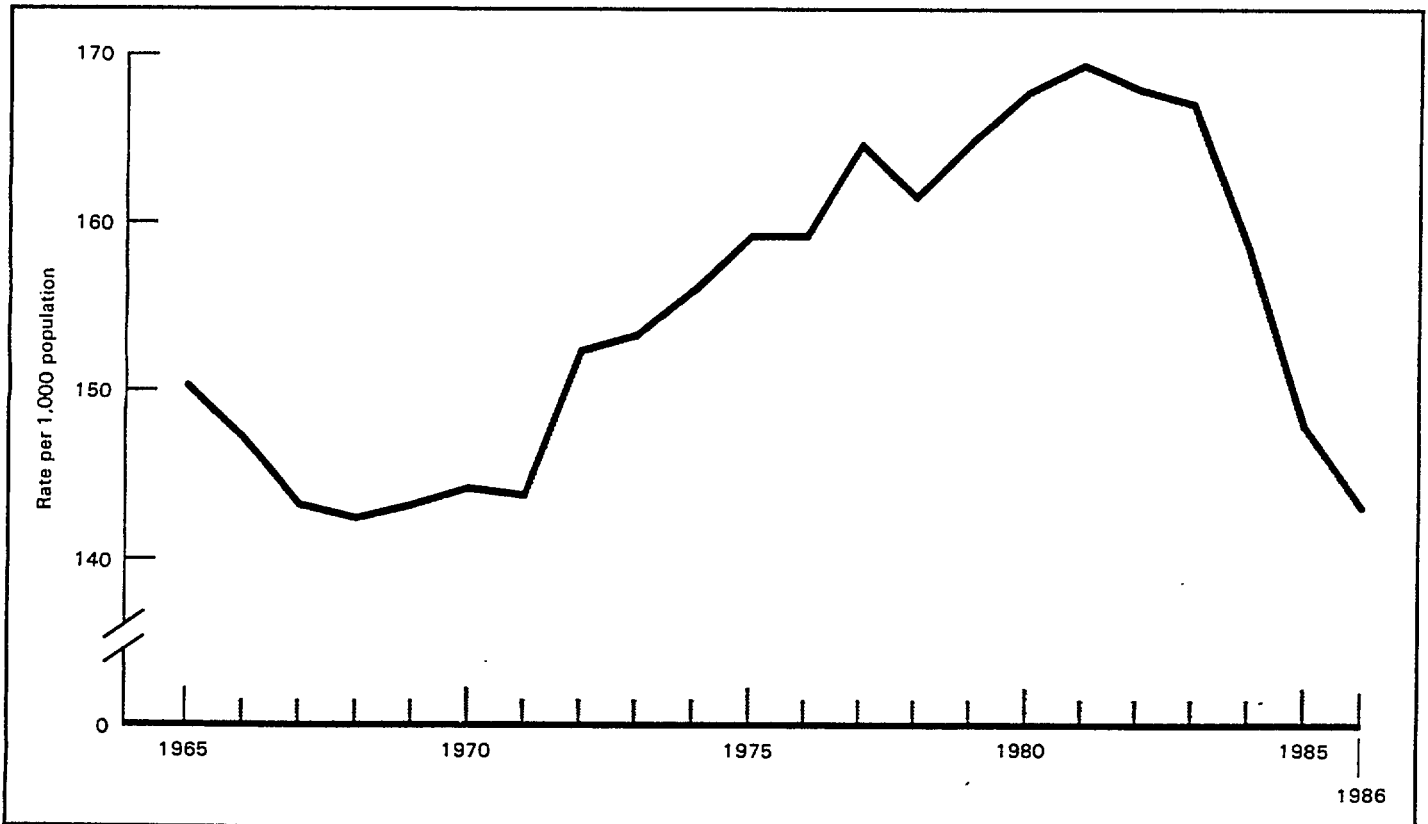


Figure 1. Discharge rate in non-Federal short-stay hospitals: United States, 1965-86

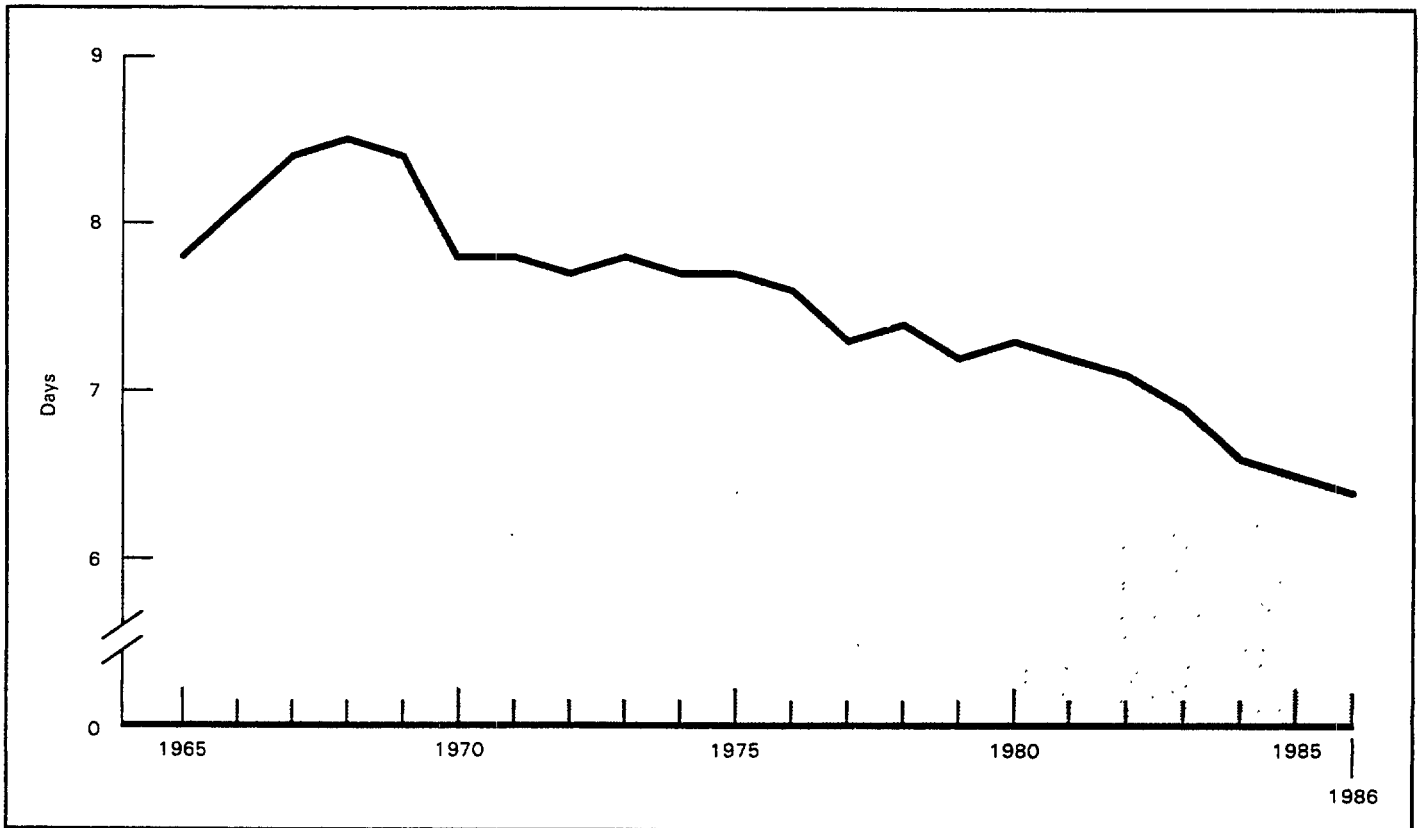


Figure 2. Average length of stay in non-Federal short-stay hospitals: United States, 1965-86

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 1986, data were abstracted from the medical records of approximately 193,000 patients discharged from 418 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 primarily 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 1986, approximately 19 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 1986 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 34.3 million patients discharged from short-stay hospitals during 1986 included an estimated 13.9 million males and 20.3 million females. The rates per 1,000 population were 121 for males and 164 for females, making the rate for females about 36 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 child-bearing years (15-44 years of age) who are hospitalized for deliveries and other obstetrical conditions.

The average length of stay was 6.8 days for males and 6.1 days for females during 1986. The length of stay for females

was shorter than that for males primarily because the average length of stay of the 3.8 million women who were hospitalized for deliveries was only 3.2 days.

The number of discharges from short-stay hospitals by geographic region during 1986 ranged from 11.9 million in the South Region to 6.5 million in the West Region, and the rates per 1,000 population ranged from 151 in the Midwest Region to 134 in the West Region. 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, 6.1 days in the South, 6.6 days in the Midwest, and 7.4 days in the Northeast.

Discharges from short-stay hospitals were about 40 percent male and 60 percent female in every hospital bed-size group. The average length of stay increased steadily from 5.3 days in the smallest hospitals (6–99 beds) to 7.3 days in the largest hospitals (500 beds or more) for all patients.

During 1986, voluntary nonprofit hospitals provided medical care to an estimated 23.5 million patients, or 69 percent of all patients hospitalized. Hospitals operated by State and local governments cared for 7.1 million patients, or 21 percent of all discharges, and proprietary hospitals operated for profit cared for 3.6 million patients or 11 percent of all discharges. Average lengths of stay were 6.6 days in voluntary nonprofit hospitals, 5.9 days in State and local government hospitals, and 6.0 days in proprietary hospitals.

#### Utilization by diagnosis

Diseases of the circulatory system ranked first in 1986 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) (4.2 million discharges) and diseases of the digestive system (3.7 million discharges). About 39 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 1986 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, 1.7 days for the diagnostic category of cataract, and 2.1 days for abortions and ectopic and molar pregnancies to a high of 14.4 days for psychoses and 14.2 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 4.6 days for patients under 15 years of age to 8.5 days for patients 65 years and over.

#### Utilization by procedures

One or more surgical or nonsurgical procedures were performed for an estimated 20.6 million of the 34.3 million inpatients discharged from short-stay hospitals during 1986. A total of 38.0 million procedures, or an average of 1.8 per patient who underwent at least one procedure, were recorded in 1986.

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 9.8 million procedures ranked first among the surgical and nonsurgical procedures performed during 1986. These were followed by operations on the digestive system with 5.7 million procedures performed. Other leading chapters were obstetrical procedures with 4.7 million procedures, operations on the musculoskeletal system with 3.5 million procedures, and operations on female genital organs with 3.0 million procedures. Approximately two-thirds of all procedures performed in 1986 were included in these five ICD–9–CM procedure chapters.

The number and rate of all-listed procedures in 1986 for each ICD–9–CM procedure chapter and selected procedure categories are shown by sex and age in tables 7 and 8. Of the 38.0 million procedures performed during 1986, 15.3 million were for males and 22.7 million were for females. The corresponding rates per 1,000 population were 159 for both sexes, 132 for males, and 184 for females. Of the procedures shown in table 7, some common ones for males were arteriography and angiocardiology and computerized 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 409 for patients 65 years of age and over. The most frequently performed procedures for patients under 15 years of age were ton-

sillectomy with or without adenoidectomy; 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 and diagnostic ultrasound.

TABLE 1. NUMBER OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS BY SELECTED CHARACTERISTICS: UNITED STATES, 1986

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

SELECTED CHARACTERISTIC	BOTH SEXES	MALE	FEMALE
NUMBER OF PATIENTS DISCHARGED IN THOUSANDS			
TOTAL.....	34,256	13,949	20,307
AGE			
UNDER 15 YEARS.....	2,783	1,603	1,179
15-44 YEARS.....	13,458	4,100	9,358
45-64 YEARS.....	7,300	3,569	3,731
65 YEARS AND OVER.....	10,716	4,677	6,039
REGION			
NORTHEAST.....	6,955	2,925	4,031
MIDWEST.....	8,931	3,712	5,219
SOUTH.....	11,892	4,758	7,134
WEST.....	6,478	2,555	3,923
BED SIZE			
6-99 BEDS.....	5,614	2,260	3,354
100-199 BEDS.....	6,243	2,444	3,799
200-299 BEDS.....	6,215	2,670	3,544
300-499 BEDS.....	8,803	3,512	5,291
500 BEDS OR MORE.....	7,381	3,063	4,318
OWNERSHIP			
NONPROFIT.....	23,506	9,578	13,928
STATE AND LOCAL GOVERNMENT.....	7,131	2,903	4,229
PROPRIETARY.....	3,618	1,468	2,150

TABLE 3. AVERAGE LENGTH OF STAY FOR INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS BY SELECTED CHARACTERISTICS: UNITED STATES, 1986

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

SELECTED CHARACTERISTIC	BOTH SEXES	MALE	FEMALE
AVERAGE LENGTH OF STAY IN DAYS			
TOTAL.....	6.4	6.8	6.1
AGE			
UNDER 15 YEARS.....	4.6	4.5	4.6
15-44 YEARS.....	4.8	6.1	4.3
45-64 YEARS.....	6.8	6.7	6.9
65 YEARS AND OVER.....	8.5	8.2	8.7
REGION			
NORTHEAST.....	7.4	7.7	7.1
MIDWEST.....	6.6	7.0	6.3
SOUTH.....	6.1	6.4	5.9
WEST.....	5.5	6.0	5.1
BED SIZE			
6-99 BEDS.....	5.3	5.4	5.2
100-199 BEDS.....	5.7	5.9	5.6
200-299 BEDS.....	6.5	6.8	6.2
300-499 BEDS.....	6.7	7.2	6.4
500 BEDS OR MORE.....	7.3	8.0	6.8
OWNERSHIP			
NONPROFIT.....	6.6	7.0	6.3
STATE AND LOCAL GOVERNMENT.....	5.9	6.4	5.5
PROPRIETARY.....	6.0	6.3	5.8

TABLE 2. RATE OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY AGE, GEOGRAPHIC REGION, AND SEX: UNITED STATES, 1986

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

AGE AND REGION	BOTH SEXES	MALE	FEMALE
RATE OF PATIENTS DISCHARGED PER 1,000 POPULATION			
TOTAL.....	143.1	120.5	164.4
AGE			
UNDER 15 YEARS.....	53.5	60.3	46.5
15-44 YEARS.....	118.9	73.4	163.2
45-64 YEARS.....	162.2	166.1	158.7
65 YEARS AND OVER.....	367.3	395.6	348.1
REGION			
NORTHEAST.....	139.4	122.7	154.6
MIDWEST.....	150.9	129.2	171.4
SOUTH.....	144.9	120.4	167.6
WEST.....	134.4	107.7	160.3

TABLE 4. NUMBER OF INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY CATEGORY OF FIRST-LISTED DIAGNOSIS, SEX, AND AGE: UNITED STATES, 1986

[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.....	34,256	13,949	20,307	2,783	13,458	7,300	10,716
INFECTIOUS AND PARASITIC DISEASES.....001-139	700	343	357	184	223	95	198
NEOPLASMS.....140-239	2,305	959	1,346	60	423	774	1,049
MALIGNANT NEOPLASMS.....140-208,230-234	1,860	866	994	42	222	631	964
MALIGNANT NEOPLASM OF LARGE INTESTINE AND RECTUM.....153-154,197.5	210	105	105	*	95	59	146
MALIGNANT NEOPLASM OF TRACHEA, BRONCHUS, AND LUNG.....162,197.0,197.3	290	175	115	-	15	120	155
MALIGNANT NEOPLASM OF BREAST.....174-175,198.81	216	*	214	-	35	84	96
BENIGN NEOPLASMS AND NEOPLASMS OF UNCERTAIN BEHAVIOR AND UNSPECIFIED NATURE.....210-229,235-239	445	93	353	17	201	143	85
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS.....240-279	1,117	422	695	80	268	285	484
DIABETES MELLITUS.....250	491	205	286	20	133	159	179
DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS.....280-289	333	147	186	60	92	55	126
MENTAL DISORDERS.....290-319	1,807	962	845	53	1,111	392	251
PSYCHOSES.....290-299	766	356	410	96	422	180	158
ALCOHOL DEPENDENCE SYNDROME.....303	397	303	93	*	258	114	24
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS.....320-389	1,039	480	558	196	270	225	348
DISEASES OF THE CENTRAL NERVOUS SYSTEM.....320-336,340-349	401	194	206	60	134	79	127
CATARACT.....366	104	41	62	*	95	20	76
DISEASES OF THE EAR AND MASTOID PROCESS.....380-389	217	107	110	94	48	41	35
DISEASES OF THE CIRCULATORY SYSTEM.....390-459	5,563	2,846	2,717	38	468	1,717	3,341
HEART DISEASE.....391-392.0,393-398,402,404,410-416,420-429	3,731	2,002	1,729	25	247	1,219	2,240
ACUTE MYOCARDIAL INFARCTION.....410	758	467	290	*	42	263	452
ATHEROSCLEROTIC HEART DISEASE.....414.0	338	219	119	*	16	156	164
OTHER ISCHEMIC HEART DISEASE.....411-413,414.1-414.9	1,043	565	479	*	67	412	561
CARDIAC DYSRHYTHMIAS.....427	515	240	275	*8	41	128	338
CONGESTIVE HEART FAILURE.....428.0	582	274	308	*	13	104	461
CEREBROVASCULAR DISEASE.....430-438	889	398	491	*	34	178	674
DISEASES OF THE RESPIRATORY SYSTEM.....460-519	3,204	1,560	1,644	772	657	585	1,189
ACUTE RESPIRATORY INFECTIONS, EXCEPT INFLUENZA.....460-466	426	213	213	169	80	60	118
CHRONIC DISEASE OF TONSILS AND ADENOIDS.....474	255	107	148	166	86	*	*
PNEUMONIA, ALL FORMS.....480-486	943	471	472	194	134	148	466
ASTHMA.....493	477	206	271	158	122	99	98
DISEASES OF THE DIGESTIVE SYSTEM.....520-579	3,732	1,696	2,036	308	1,158	977	1,288
ULCERS OF THE STOMACH AND SMALL INTESTINE.....531-534	295	149	146	*	67	80	146
GASTRITIS AND DUODENITIS.....535	196	79	117	11	77	54	54
APPENDICITIS.....540-543	250	138	112	56	153	28	13
INGUINAL HERNIA.....550	304	273	31	34	78	94	98
NONINFECTIOUS ENTERITIS AND COLITIS.....555-556,558	429	169	260	115	159	65	90
CHOLELITHIASIS.....574	494	142	352	*	171	150	170
DISEASES OF THE GENITOURINARY SYSTEM.....580-629	2,665	949	1,715	91	1,210	613	751
CALCULUS OF KIDNEY AND URETER.....592	331	219	112	*	164	114	51
HYPERPLASIA OF PROSTATE.....600	256	256	...	*	*	60	194
COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM 1/.....630-676	889	...	889	*5	883	*	...
ABORTIONS AND ECTOPIC AND MOLAR PREGNANCIES.....630-639	343	...	343	*	341	*	...
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE.....680-709	515	249	266	50	177	132	156
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE.....710-739	2,081	940	1,142	53	838	639	552
ARTHROPATHIES AND RELATED DISORDERS.....710-719	475	194	280	14	142	125	193
INTERVERTEBRAL DISC DISORDERS.....722	504	288	216	*	273	178	52
CONGENITAL ANOMALIES.....740-759	267	149	118	163	59	31	14
CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD.....760-779	139	79	60	138	*	*	-
SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS.....780-799	454	225	229	83	196	109	66
INJURY AND POISONING.....800-999	3,225	1,776	1,449	395	1,453	561	816
FRACTURES, ALL SITES.....800-829	1,100	540	560	134	381	173	413
FRACTURE OF NECK OF FEMUR.....820	252	62	190	*	98	23	218
SPRAINS AND STRAINS OF BACK (INCLUDING NECK).....846-847	192	98	95	*	118	55	16
INTRACRANIAL INJURIES (EXCLUDING THOSE WITH SKULL FRACTURE).....850-854	267	163	104	60	140	29	38
LACERATIONS AND OPEN WOUNDS.....870-904	284	219	65	35	187	36	26
SUPPLEMENTARY CLASSIFICATIONS.....V01-V82	4,222	169	4,052	55	3,973	110	84
FEMALES WITH DELIVERIES.....V27	3,762	...	3,762	11	3,748	*	...

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, 1986

[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	SEX		AGE				
	TOTAL	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.....	1,431.2	1,204.6	1,643.5	535.3	1,168.8	1,622.2	3,673.1
INFECTIOUS AND PARASITIC DISEASES.....001-139	29.3	29.6	28.9	35.4	19.7	21.1	68.0
NEOPLASMS.....140-239	96.3	82.8	109.0	11.5	37.3	171.9	359.6
MALIGNANT NEOPLASMS.....140-208,230-234	77.7	74.8	80.4	8.2	19.6	140.2	330.6
MALIGNANT NEOPLASM OF LARGE INTESTINE AND RECTUM.....153-154,197.5	8.8	9.1	8.5	*	0.4	13.0	50.1
MALIGNANT NEOPLASM OF TRACHEA, BRONCHUS, AND LUNG.....162,197.0,197.3	12.1	15.1	9.3	-	1.3	26.7	53.3
MALIGNANT NEOPLASM OF BREAST.....174-175,198.81	9.0	*	17.3	-	3.1	18.8	32.9
BENIGN NEOPLASMS AND NEOPLASMS OF UNCERTAIN BEHAVIOR AND UNSPECIFIED NATURE.....210-229,235-239	18.6	8.0	28.6	3.3	17.7	31.7	29.0
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS.....240-279	46.7	36.4	56.3	15.5	23.6	63.3	165.9
DIABETES MELLITUS.....250	20.5	17.7	23.1	3.8	11.7	35.4	61.5
DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS.....280-289	13.9	12.7	15.0	11.5	8.2	12.2	43.3
MENTAL DISORDERS.....290-319	75.5	83.1	68.4	10.2	98.1	87.1	86.1
PSYCHOSES.....290-299	32.0	30.8	33.2	0.1	37.3	40.1	54.2
ALCOHOL DEPENDENCE SYNDROME.....303	16.6	26.2	7.6	*	22.8	25.4	8.1
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS.....320-389	43.4	41.5	45.2	37.6	23.8	50.0	119.4
DISEASES OF THE CENTRAL NERVOUS SYSTEM.....320-336,340-349	16.7	16.8	16.7	11.6	11.9	17.5	43.7
CATARACT.....366	4.3	3.6	5.0	*	0.5	4.4	26.0
DISEASES OF THE EAR AND MASTOID PROCESS.....380-389	9.1	9.3	8.9	18.0	4.2	9.0	12.0
DISEASES OF THE CIRCULATORY SYSTEM.....390-459	232.4	245.8	219.9	7.3	41.3	381.5	1,145.3
HEART DISEASE.....391-392.0,393-398,402,404,410-416,420-429	155.9	172.9	139.9	4.8	21.8	270.9	767.7
ACUTE MYOCARDIAL INFARCTION.....410	31.7	40.4	23.5	*	3.7	58.4	155.0
ATHEROSCLEROTIC HEART DISEASE.....414.0	14.1	18.9	9.6	*	1.5	34.7	56.4
OTHER ISCHEMIC HEART DISEASE.....411-413,414.1-414.9	43.6	48.8	38.8	*	5.9	91.5	192.3
CARDIAC DYSRHYTHMIAS.....427	21.5	20.7	22.3	0.5	3.6	28.5	116.0
CONGESTIVE HEART FAILURE.....428.0	24.3	23.7	24.9	*	1.2	23.1	158.2
CEREBROVASCULAR DISEASE.....430-438	37.1	34.4	39.7	*	3.0	39.5	231.0
DISEASES OF THE RESPIRATORY SYSTEM.....460-519	133.8	134.7	133.0	148.0	58.1	130.0	407.6
ACUTE RESPIRATORY INFECTIONS, EXCEPT INFLUENZA.....460-466	17.8	16.4	17.2	32.4	7.1	13.3	40.3
CHRONIC DISEASE OF TONSILS AND ADENOIDS.....474	10.6	9.2	12.0	31.9	7.0	*	*
PNEUMONIA, ALL FORMS.....480-486	39.4	40.6	38.2	37.4	11.9	32.9	159.9
ASTHMA.....493	19.9	17.8	21.9	30.3	10.8	22.0	33.7
DISEASES OF THE DIGESTIVE SYSTEM.....520-579	155.9	146.4	164.8	59.3	102.3	217.1	441.7
ULCERS OF THE STOMACH AND SMALL INTESTINE.....531-534	12.3	12.9	11.8	*	5.9	17.8	50.2
GASTRITIS AND DUODENITIS.....535	8.2	6.8	9.5	2.2	6.3	12.1	18.4
APPENDICITIS.....540-543	10.5	11.9	9.1	10.8	13.5	6.2	4.6
INGUINAL HERNIA.....550	12.7	23.6	2.5	6.5	6.9	20.8	33.7
NONINFECTIOUS ENTERITIS AND COLITIS.....555-556,558	17.9	14.6	21.1	22.1	14.1	14.5	30.8
CHOLELITHIASIS.....574	20.6	12.2	28.5	*	15.1	33.4	58.3
DISEASES OF THE GENITOURINARY SYSTEM.....580-629	111.3	82.0	138.8	17.4	106.9	136.2	257.4
CALCULUS OF KIDNEY AND URETER.....592	13.8	15.9	9.1	*	14.5	25.3	17.5
HYPERPLASIA OF PROSTATE.....600	10.7	22.1	0.0	*	*	13.3	66.5
COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM 1/.....630-676	37.1	0.0	72.0	0.9	78.0	*	0.0
ABORTIONS AND ECTOPIC AND MOLAR PREGNANCIES.....630-639	14.3	0.0	27.8	*	30.1	*	0.0
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE.....680-709	21.5	21.5	21.5	9.6	15.0	29.4	53.5
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE.....710-739	87.0	81.2	92.4	10.2	74.0	142.0	189.1
ARTHROPATHIES AND RELATED DISORDERS.....710-719	19.8	16.8	22.7	2.7	12.6	27.9	66.0
INTERVERTEBRAL DISC DISORDERS.....722	21.0	24.8	17.5	*	24.1	39.5	17.8
CONGENITAL ANOMALIES.....740-759	11.1	12.8	9.6	31.4	5.2	6.8	4.8
CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD.....760-779	5.8	6.8	4.9	26.5	*	*	-
SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS.....780-799	19.0	19.4	18.5	16.0	17.3	24.3	22.7
INJURY AND POISONING.....800-999	134.7	153.4	117.3	76.0	128.3	124.6	279.8
FRACTURES, ALL SITES.....800-829	46.0	46.6	45.4	25.7	33.6	38.4	141.5
FRACTURE OF NECK OF FEMUR.....820	10.5	5.4	15.4	*	0.7	5.1	74.8
SPRAINS AND STRAINS OF BACK (INCLUDING NECK) INTRACRANIAL INJURIES (EXCLUDING THOSE WITH SKULL FRACTURE).....846-847	8.0	8.4	7.7	*	10.4	12.3	5.6
LACERATIONS AND OPEN WOUNDS.....850-854	11.1	14.1	8.4	11.6	12.3	6.4	13.0
LACERATIONS AND OPEN WOUNDS.....870-904	11.9	18.9	5.3	6.7	16.5	8.1	8.9
SUPPLEMENTARY CLASSIFICATIONS.....V01-V82	176.4	14.6	328.0	10.6	350.9	24.5	28.7
FEMALES WITH DELIVERIES.....V27	157.2	0.0	304.5	2.1	331.1	*	0.0

1/ FIRST-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, 1986

[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	6.8	6.1	4.6	4.8	6.8	8.5
INFECTIOUS AND PARASITIC DISEASES.....001-139	7.0	7.4	6.6	3.9	6.3	8.7	9.8
NEOPLASMS.....140-239	8.4	9.0	7.9	5.4	5.9	8.2	9.6
MALIGNANT NEOPLASMS.....140-208,230-234	9.1	9.4	8.8	6.6	6.8	8.8	9.9
MALIGNANT NEOPLASM OF LARGE INTESTINE AND RECTUM.....153-154,197.5	12.8	13.1	12.5	*	*10.9	11.3	13.5
MALIGNANT NEOPLASM OF TRACHEA, BRONCHUS, AND LUNG.....162,197.0,197.3	8.8	8.6	9.2	-	8.0	8.7	9.0
MALIGNANT NEOPLASM OF BREAST.....174-175,198.81	7.1	*	7.0	-	6.2	6.8	7.7
BENIGN NEOPLASMS AND NEOPLASMS OF UNCERTAIN BEHAVIOR AND UNSPECIFIED NATURE.....210-229,235-239	5.3	4.9	5.4	2.5	4.9	5.4	6.6
ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS.....240-279	7.2	7.2	7.1	5.6	5.4	7.0	8.5
DIABETES MELLITUS.....250	7.6	7.4	7.8	4.1	5.4	8.0	9.4
DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS.....280-289	5.8	5.9	5.8	4.0	5.4	5.9	7.0
MENTAL DISORDERS.....290-319	12.3	11.9	12.7	24.2	12.0	11.5	12.2
PSYCHOSES.....290-299	14.4	13.7	15.1	*41.6	14.5	14.2	13.5
ALCOHOL DEPENDENCE SYNDROME.....303	10.7	10.5	11.2	*	10.4	10.7	13.1
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS.....320-389	5.6	6.0	5.3	4.0	5.8	5.4	6.5
DISEASES OF THE CENTRAL NERVOUS SYSTEM.....320-336,340-349	9.3	10.0	8.5	6.8	8.1	9.8	11.3
CATARACT.....366	1.7	1.9	1.6	*	*2.3	1.7	1.7
DISEASES OF THE EAR AND MASTOID PROCESS.....380-389	2.9	2.7	3.1	2.3	2.5	2.9	4.9
DISEASES OF THE CIRCULATORY SYSTEM.....390-459	7.5	7.2	7.8	6.8	5.7	6.7	8.1
HEART DISEASE.....391-392.0,393-39d,402,404,410-416,420-429	7.0	6.7	7.4	7.7	5.7	6.4	7.5
ACUTE MYOCARDIAL INFARCTION.....410	8.9	8.5	9.5	*	7.2	8.2	9.4
ATHEROSCLEROTIC HEART DISEASE.....414.0	6.2	6.2	6.2	*	5.0	5.5	7.0
OTHER ISCHEMIC HEART DISEASE.....411-413,414.1-414.9	5.3	5.1	5.5	*	4.2	4.9	5.8
CARDIAC DYSRHYTHMIAS.....427	5.9	5.2	6.5	*9.9	4.2	5.5	6.1
CONGESTIVE HEART FAILURE.....428.0	8.2	7.7	8.7	*	7.3	8.0	8.3
CEREBROVASCULAR DISEASE.....430-438	9.7	9.5	9.9	*	10.9	9.7	9.6
DISEASES OF THE RESPIRATORY SYSTEM.....460-519	6.0	5.9	6.1	3.2	4.0	6.7	8.6
ACUTE RESPIRATORY INFECTIONS, EXCEPT INFLUENZA.....460-466	4.7	4.4	5.1	3.2	3.6	5.9	7.0
CHRONIC DISEASE OF TONSILS AND ADENOIDS.....474	1.3	1.3	1.3	1.3	1.3	*	*
PNEUMONIA, ALL FORMS.....480-486	7.8	7.6	8.0	4.6	6.3	8.0	9.5
ASTHMA.....493	4.8	4.4	5.1	3.2	4.1	6.1	6.8
DISEASES OF THE DIGESTIVE SYSTEM.....520-579	6.1	5.5	6.5	3.4	4.8	6.2	7.8
ULCERS OF THE STOMACH AND SMALL INTESTINE.....531-534	7.1	6.6	7.7	*	5.2	7.2	8.0
GASTRITIS AND DUODENITIS.....535	4.5	4.2	4.7	2.9	3.8	4.6	5.8
APPENDICITIS.....540-543	4.9	4.7	5.0	4.1	4.2	6.8	11.3
INGUINAL HERNIA.....550	3.0	2.9	3.8	1.7	2.3	3.0	3.9
NONINFECTIOUS ENTERITIS AND COLITIS.....555-556,558	4.8	4.5	5.1	3.0	5.0	5.4	6.6
CHOLELITHIASIS.....574	6.9	7.6	6.6	*	5.3	6.5	8.8
DISEASES OF THE GENITOURINARY SYSTEM.....580-629	5.2	5.5	5.0	4.0	4.2	5.0	7.2
CALCULUS OF KIDNEY AND URETER.....592	3.6	3.3	4.0	*	2.9	3.7	5.2
HYPERPLASIA OF PROSTATE.....600	5.7	5.7	...	*	*	5.0	6.0
COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM 1/.....630-676	2.5	...	2.5	*2.0	2.5	*	...
ABORTIONS AND ECTOPIC AND MOLAR PREGNANCIES.....630-639	2.1	...	2.1	*	2.1	*	...
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE.....680-709	7.9	7.7	8.0	4.4	5.9	8.1	10.9
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE.....710-739	6.6	6.3	6.9	6.3	5.1	6.4	9.3
ARTHRITIS AND RELATED DISORDERS.....710-719	7.8	7.0	8.4	7.2	4.4	7.0	10.9
INTERVERTEBRAL DISC DISORDERS.....722	6.9	6.4	7.5	*	6.4	7.0	8.9
CONGENITAL ANOMALIES.....740-759	5.5	5.5	5.5	5.1	4.4	8.1	8.7
CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD.....760-779	9.0	7.6	10.8	9.0	*	*	-
SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS.....780-799	3.4	3.2	3.5	3.0	3.2	3.2	4.7
INJURY AND POISONING.....800-999	6.4	5.8	7.2	4.2	5.2	6.4	9.8
FRACTURES, ALL SITES.....800-829	8.6	7.4	9.7	5.2	6.4	7.8	11.9
FRACTURE OF NECK OF FEMUR.....820	14.2	12.9	14.6	*	*15.1	13.0	14.2
SPRAINS AND STRAINS OF BACK (INCLUDING NECK).....846-847	5.6	5.3	5.8	*	5.4	5.8	6.5
INTRACRANIAL INJURIES (EXCLUDING THOSE WITH SKULL FRACTURE).....850-854	5.0	4.8	5.4	2.8	5.3	4.9	7.4
LACERATIONS AND OPEN WOUNDS.....870-904	4.5	4.2	5.2	3.1	4.1	5.8	7.3
SUPPLEMENTARY CLASSIFICATIONS.....V01-V82	3.3	4.3	3.2	4.0	3.2	4.2	6.8
FEMALES WITH DELIVERIES.....V27	3.2	...	3.2	3.5	3.2	*	...

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, 1986

[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.....	38,000	15,318	22,682	1,887	15,192	8,976	11,946
OPERATIONS ON THE NERVOUS SYSTEM.....01-05	933	480	453	164	326	214	229
SPINAL TAP.....03.31	347	180	167	123	99	45	80
OPERATIONS ON THE ENDOCRINE SYSTEM.....06-07	101	26	75	9	41	32	23
OPERATIONS ON THE EYE.....08-16	561	252	310	37	96	132	297
EXTRACTION OF LENS.....13.1-13.6	122	48	74	0	48	23	87
INSERTION OF PROSTHETIC LENS (PSEUDOPHAKOS).....13.7	105	40	65	0	0	18	83
OPERATIONS ON THE EAR.....18-20	208	120	88	102	60	31	16
OPERATIONS ON THE NOSE, MOUTH, AND PHARYNX.....21-29	1,046	535	511	280	484	185	96
RHINOPLASTY AND REPAIR OF NOSE.....21.8	153	79	74	7	109	27	10
TONSILLECTOMY WITH OR WITHOUT ADENOIDECTOMY.....28.2-28.3	281	121	160	176	100	0	0
OPERATIONS ON THE RESPIRATORY SYSTEM.....30-34	1,011	585	426	57	199	313	442
BRONCHOSCOPY.....33.21-33.24	199	119	80	14	36	65	85
OPERATIONS ON THE CARDIOVASCULAR SYSTEM.....35-39	2,786	1,684	1,102	129	332	1,108	1,217
REMOVAL OF CORONARY ARTERY OBSTRUCTION.....36.0	133	94	39	0	15	74	44
DIRECT HEART REVASCULARIZATION.....36.1	284	214	70	0	16	144	125
CARDIAC CATHETERIZATION.....37.21-37.23	775	495	280	32	82	386	275
PACEMAKER INSERTION, REPLACEMENT, REMOVAL, REPAIR.....37.7-37.8	214	113	101	0	48	44	158
OPERATIONS ON THE HEMIC AND LYMPHATIC SYSTEM.....40-41	403	203	200	20	96	116	171
OPERATIONS ON THE DIGESTIVE SYSTEM.....42-54	5,728	2,434	3,294	221	1,798	1,471	2,238
ESOPHAGOSCOPY AND GASTROSCOPY (NATURAL ORIFICE).....42.23,44.13	194	92	102	7	38	56	93
PARTIAL GASTRECTOMY AND RESECTION OF INTESTINE.....43.5-43.8,45.6-45.8	293	128	165	5	41	80	168
ENDOSCOPY OF LARGE INTESTINE (NATURAL ORIFICE).....45.24	448	192	256	5	80	110	254
APPENDECTOMY, EXCLUDING INCIDENTAL.....47.0	275	143	132	59	174	28	15
HEMORRHOIDECTOMY.....49.43-49.46	114	60	55	0	54	40	19
CHOLECYSTECTOMY.....51.2	502	144	358	0	176	157	166
REPAIR OF INGUINAL HERNIA.....53.0-53.1	329	293	36	37	84	101	107
DIVISION OF PERITONEAL ADHESIONS.....54.5	325	54	271	0	175	67	91
OPERATIONS ON THE URINARY SYSTEM.....55-59	1,885	1,159	726	61	427	520	877
ENDOSCOPIES (NATURAL ORIFICE).....55.21-55.22,56.31,57.32,58.22	671	493	178	14	113	178	366
OPERATIONS ON THE MALE GENITAL ORGANS.....60-64	718	718	0	79	80	147	411
PROSTATECTOMY.....60.2-60.6	367	367	0	0	0	77	287
OPERATIONS ON THE FEMALE GENITAL ORGANS.....65-71	2,999	0	2,999	99	2,186	573	230
DUPHORECTOMY AND SALPINGO-DUPHORECTOMY.....65.3-65.6	502	0	502	0	277	173	51
BILATERAL DESTRUCTION OR OCCLUSION OF FALLOPIAN TUBES.....66.2-66.3	423	0	423	0	421	0	0
HYSTERECTOMY.....68.3-68.7	644	0	644	0	397	191	57
DILATION AND CURETTAGE OF UTERUS.....69.0	472	0	472	0	382	66	23
REPAIR OF CYSTOCELE AND RECTOCELE.....70.5	147	0	147	0	48	60	39
OBSTETRICAL PROCEDURES.....72-75	4,701	0	4,701	15	4,682	0	0
EPISIOTOMY WITH OR WITHOUT FORCEPS OR VACUUM EXTRACTION.....72.1,72.21,72.31,72.71,73.6	1,741	0	1,741	7	1,732	0	0
CESAREAN SECTION.....74.0-74.2,74.4,74.99	906	0	906	0	904	0	0
REPAIR OF CURRENT OBSTETRIC LACERATION.....75.5-75.6	612	0	612	0	609	0	0
OPERATIONS ON THE MUSCULOSKELETAL SYSTEM.....76-84	3,521	1,754	1,767	220	1,533	862	905
OPEN REDUCTION OF FRACTURE EXCEPT JAW.....76.79,79.2-79.3,79.5-79.6	459	239	220	32	180	82	165
OTHER REDUCTION OF FRACTURE EXCEPT JAW.....76.70,76.78,79.0-79.1,79.4	214	110	104	55	73	33	53
EXCISION OR DESTRUCTION OF INTERVERTEBRAL DISC AND SPINAL FUSION.....80.5,81.0	338	211	127	0	191	115	29
ARTHROPLASTY AND REPLACEMENT OF KNEE.....81.41-81.47	185	91	94	0	75	33	74
ARTHROPLASTY AND REPLACEMENT OF HIP.....81.5-81.6	201	63	138	0	48	40	152
OPERATIONS ON MUSCLES, TENDONS, FASCIA, AND BURSA.....82-83.1,83.3-83.9	344	196	149	30	163	98	54
OPERATIONS ON THE INTEGUMENTARY SYSTEM.....85-86	1,619	651	969	93	642	446	438
MASTECTOMY.....85.4	132	0	130	0	19	51	63
EXCISION OR DESTRUCTION OF LESION OR TISSUE OF SKIN OR SUBCUTANEOUS TISSUE.....86.2-86.4	565	283	282	40	225	134	166
SKIN GRAFT (EXCEPT LIP OR MOUTH).....86.6-86.7	150	87	63	17	50	37	46
MISCELLANEOUS DIAGNOSTIC AND THERAPEUTIC PROCEDURES.....87-99	9,781	4,718	5,062	392	2,209	2,825	4,355
COMPUTERIZED AXIAL TOMOGRAPHY.....87.03,87.41,87.71,88.01,88.38	1,531	747	784	68	346	373	743
PYELOGRAM.....87.73-87.75	406	223	183	13	145	110	138
ARTERIOGRAPHY AND ANGIOCARDIOGRAPHY USING CONTRAST MATERIAL.....88.4-88.5	1,285	771	514	17	159	579	529
DIAGNOSTIC ULTRASOUND.....88.7	1,411	547	865	52	435	337	587
CIRCULATORY MONITORING.....89.6	799	414	385	20	104	184	492
RADIOISOTOPE SCAN.....92.0-92.1	851	389	462	18	149	254	429

TABLE 8. RATE OF ALL-LISTED PROCEDURES FOR INPATIENTS DISCHARGED FROM SHORT-STAY HOSPITALS, BY PROCEDURE CATEGORY, SEX, AND AGE: UNITED STATES, 1986

[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.....	15,876.0	13,228.2	18,357.7	3,629.2	13,420.4	19,946.6	40,947.9
OPERATIONS ON THE NERVOUS SYSTEM.....01-05	389.8	414.9	366.3	316.0	287.9	474.8	786.0
SPINAL TAP.....03-31	144.9	155.2	135.2	235.7	87.8	99.6	274.3
OPERATIONS ON THE ENDOCRINE SYSTEM.....06-07	42.2	22.1	61.0	10.5	36.3	70.1	78.8
OPERATIONS ON THE EYE.....08-16	234.5	217.4	250.5	71.6	84.4	292.6	1,017.8
EXTRACTION OF LENS.....13-1-13.6	51.0	41.4	60.0	*	47.1	51.8	298.1
INSERTION OF PROSTHETIC LENS (PSEUDOPHAKOS).....13.7	43.7	34.5	52.4	*	*	40.1	285.8
OPERATIONS ON THE EAR.....18-20	87.1	103.6	71.6	196.5	52.7	68.6	54.3
OPERATIONS ON THE NOSE, MOUTH, AND PHARYNX.....21-29	436.9	462.0	413.4	539.1	428.0	410.1	330.7
RHINOPLASTY AND REPAIR OF NOSE.....21.8	64.1	68.4	60.1	113.9	96.2	60.5	34.4
TONSILLECTOMY WITH OR WITHOUT ADENOIDECTOMY.....28.2-28.3	117.4	104.1	129.8	339.2	88.5	*	*
OPERATIONS ON THE RESPIRATORY SYSTEM.....30-34	422.4	505.0	345.0	109.9	176.1	694.8	1,514.8
BRONCHOSCOPY.....33-21-33-23	83.3	102.7	65.1	26.6	31.6	143.6	291.9
OPERATIONS ON THE CARDIOVASCULAR SYSTEM.....35-39	1,164.0	1,454.1	892.1	248.8	293.4	2,462.1	4,170.8
REMOVAL OF CORONARY ARTERY OBSTRUCTION.....36.0	55.8	81.5	31.7	*	13.2	164.6	150.4
DIRECT HEART REVASCULARIZATION.....36.1	118.8	185.1	56.8	-	13.9	314.1	429.0
CARDIAC CATHETERIZATION.....37-21-37-23	323.8	427.6	226.4	62.1	72.5	857.8	941.4
PACEMAKER INSERTION, REPLACEMENT, REMOVAL, REPAIR.....37.7-37.8	89.5	97.8	81.8	*	46.9	97.5	542.9
OPERATIONS ON THE HEMIC AND LYMPHATIC SYSTEM.....40-41	168.3	175.2	161.7	38.3	85.2	257.4	584.7
OPERATIONS ON THE DIGESTIVE SYSTEM.....42-54	2,393.2	2,102.1	2,666.0	424.7	1,588.5	3,268.8	7,672.5
ESOPHAGOSCOPY AND GASTROSCOPY (NATURAL ORIFICE).....42-23-44-13	81.1	79.3	82.7	113.1	33.9	124.4	318.1
PARTIAL GASTRECTOMY AND RESECTION OF INTESTINE.....43.5-43.8,45.6-45.8	122.5	110.5	133.8	48.8	36.1	177.4	576.0
ENDOSCOPY OF LARGE INTESTINE (NATURAL ORIFICE).....45.2-4	187.3	165.9	207.3	48.8	70.3	244.7	870.6
APPENDECTOMY, EXCLUDING INCIDENTAL.....47.0	115.0	123.3	107.1	112.7	153.5	62.3	50.7
HEMORRHOIDECTOMY.....49.43-49.46	47.7	51.5	44.2	*	48.0	89.8	64.7
CHOLECYSTECTOMY.....51.2	209.8	124.1	290.1	*	155.6	348.5	569.5
REPAIR OF INGUINAL HERNIA.....53.0-53.1	137.5	253.3	29.0	72.1	74.0	225.0	365.7
DIVISION OF PERITONEAL ADHESIONS.....54.5	135.9	46.6	219.7	*	154.7	147.9	276.0
OPERATIONS ON THE URINARY SYSTEM.....55-59	787.5	1,000.8	587.6	117.2	376.8	1,156.3	3,006.7
ENDOSCOPIES (NATURAL ORIFICE).....55-21-55-22,56.31,57.32,58.22	280.3	425.6	144.2	26.9	99.6	326.6	1,253.9
OPERATIONS ON THE MALE GENITAL ORGANS.....60-64	299.8	619.7	...	152.5	70.7	327.1	1,409.1
PROSTATECTOMY.....60-2-60.6	153.2	316.7	...	...	*	171.3	985.2
OPERATIONS ON THE FEMALE GENITAL ORGANS.....65-71	1,252.8	...	2,427.0	416.9	1,931.4	1,274.0	789.3
OPHORECTOMY AND SALPINGO-OPHORECTOMY.....65.3-65.6	209.8	...	406.4	*	244.3	385.4	173.6
BILATERAL DESTRUCTION OR OCCLUSION OF FALLOPIAN TUBES.....66.2-66.3	176.8	...	342.6	-	372.0	*	...
HYSTERECTOMY.....68.3-68.7	269.1	...	521.4	-	350.3	424.5	194.0
DILATION AND CURETTAGE OF UTERUS.....69.0	197.0	...	381.6	*	337.2	146.3	79.3
REPAIR OF CYSTOCELE AND RECTOCELE.....70.5	61.3	...	118.8	-	42.5	133.2	132.7
OBSTETRICAL PROCEDURES.....72-75	1,963.8	...	3,804.4	29.7	4,136.2	*	...
EPISIOTOMY WITH OR WITHOUT FORCEPS OR VACUUM EXTRACTION.....72.1,72.21,72.31,72.71,73.6	727.5	...	1,409.3	414.0	1,530.3	*	...
CESAREAN SECTION.....74.0-74.2,74.4,74.99	378.4	...	733.0	*	798.4	*	...
REPAIR OF CURRENT OBSTETRIC LACERATION.....75.5-75.6	255.8	-	495.6	*	537.8	*	...
OPERATIONS ON THE MUSCULOSKELETAL SYSTEM.....76-84	1,470.9	1,514.5	1,430.0	424.2	1,354.3	1,914.9	3,103.4
OPEN REDUCTION OF FRACTURE EXCEPT JAW.....76.79,79.2-79.3,79.5-79.6	191.7	206.4	177.9	61.9	158.7	182.3	565.7
OTHER REDUCTION OF FRACTURE EXCEPT JAW.....76.70,76.78,79.0-79.1,79.4	89.5	95.4	84.0	105.2	64.7	73.7	182.3
EXCISION OR DESTRUCTION OF INTERVERTEBRAL DISC AND SPINAL FUSION.....80.5,81.0	141.1	181.8	102.9	*	168.7	255.2	98.6
ARTHROPLASTY AND REPLACEMENT OF KNEE.....81.41-81.47	77.4	78.4	70.5	*	65.9	72.7	252.6
ARTHROPLASTY AND REPLACEMENT OF HIP.....81.5-81.6	83.9	54.7	111.3	*	47.1	89.7	521.2
OPERATIONS ON MUSCLES, TENDONS, FASCIA, AND BURSA.....82-83.1,83.3-83.9	143.8	169.0	120.2	57.3	143.8	217.4	184.6
OPERATIONS ON THE INTEGUMENTARY SYSTEM.....85-86	676.5	561.9	784.0	179.1	567.5	991.7	1,500.0
MASTECTOMY.....85.4	55.3	*	105.4	-	16.4	112.9	216.2
EXCISION OR DESTRUCTION OF LESION OR TISSUE OF SKIN OR SUBCUTANEOUS TISSUE.....86.2-86.4	235.9	244.0	228.4	77.2	198.6	297.4	568.9
SKIN GRAFT (EXCEPT LIP OR MOUTH).....86.6-86.7	62.6	75.4	50.7	32.2	44.3	83.0	158.6
MISCELLANEOUS DIAGNOSTIC AND THERAPEUTIC PROCEDURES.....87-99	4,086.2	4,074.7	4,097.1	754.3	1,951.1	6,276.9	14,928.9
COMPUTERIZED AXIAL TOMOGRAPHY.....87.03,87.41,87.71,88.01,88.38	639.6	645.5	634.2	131.6	305.5	829.7	2,548.1
PYELOGRAM.....87.73-87.75	169.8	192.6	148.4	25.8	127.7	244.3	474.6
ARTERIOGRAPHY AND ANGIOCARDIOGRAPHY USING CONTRAST MATERIAL.....88.4-88.5	536.7	665.7	415.8	33.3	140.3	1,287.2	1,814.2
DIAGNOSTIC ULTRASOUND.....88.7	589.7	472.1	699.8	100.8	384.2	748.8	2,012.5
CIRCULATORY MONITORING.....89.6	334.0	357.9	311.6	38.0	91.7	409.6	1,685.0
RADIOISOTOPE SCAN.....92.0-92.1	355.3	335.8	373.6	35.0	131.5	564.8	1,471.4

## References

- National Center for Health Statistics, M. G. Sirken. 1967a. Utilization of short-stay hospitals, summary of nonmedical statistics, United States, 1965. *Vital and Health Statistics*. Series 13, No. 2. PHS Pub. No. 1000. Public Health Service. Washington. U.S. Government Printing Office.
- National Center for Health Statistics, M. J. Witkin. 1967b. Utilization of short-stay hospitals by characteristics of discharged patients, United States, 1965. *Vital and Health Statistics*. Series 13, No. 3. PHS Pub. No. 1000. Public Health Service. Washington. U.S. Government Printing Office.
- National Center for Health Statistics, W. R. Simmons. 1970. Development of the design of the NCHS Hospital Discharge Survey. *Vital and Health Statistics*. Series 2, No. 39. PHS Pub. No. 1000. Public Health Service. Washington. U.S. Government Printing Office.
- National Center for Health Statistics, E. J. Graves. 1987. Utilization of short-stay hospitals, United States, 1985, annual summary. *Vital and Health Statistics*. Series 13, No. 91. DHHS Pub. No. (PHS) 87-1752. Public Health Service. Washington. U.S. Government Printing Office.
- U.S. Public Health Service and Health Care Financing Administration. 1980. *International Classification of Diseases, 9th Revision, Clinical Modification*. DHHS Pub. No. (PHS) 80-1260. Public Health Service. Washington. U.S. Government Printing Office.

## 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 1986. Of these hospitals, 75 refused to participate, and 65 were out of scope. The 418 participating hospitals provided approximately 193,000 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 1986 this automated method was used in approximately 19 percent of the sample hospitals.

In the manual 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 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 the automated hospitals, 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 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 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 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

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

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NOTE: A list of references follows the text.

**Table I. Approximate relative standard errors of estimated numbers of first-listed discharges and all-listed procedures: United States, 1986**

Size of estimate	First-listed diagnosis	All-listed procedures
5,000 .....	13.2	18.2
10,000 .....	10.6	15.1
50,000 .....	6.7	10.3
100,000 .....	5.7	8.9
500,000 .....	4.0	6.7
1,000,000 .....	3.5	6.0
3,000,000 .....	2.9	5.1
5,000,000 .....	2.7	4.8
10,000,000 .....	2.4	4.4
20,000,000 .....	2.2	4.1
30,000,000 .....	2.1	4.0
40,000,000 .....	2.1	...

**Table II. Approximate standard errors of average lengths of stay by number of discharges: United States, 1986**

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	...

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 by individuals, partnerships, or corporations for profit.

**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 hospital, 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 which is not itself a current illness or injury) listed by the attending physician or 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.

NOTE: A list of references follows the text.

*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.

#### 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*—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

### Provisional Data From the National Health Interview Survey: United States, August 1987

by Deborah A. Dawson, Ph.D., Marcie Cynamon, M.A.,  
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#### Introduction

The National Center for Health Statistics has introduced 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 August, the first month of data collection with the AIDS questionnaire.

The AIDS questionnaire was designed to provide baseline estimates of public knowledge and attitudes about AIDS transmission and prevention of AIDS virus infection and changes in knowledge and attitudes over time. Data also were needed for the planning and development of AIDS educational campaigns and for evaluation of 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, the willingness of respondents to take part in a proposed national seroprevalence study.

This report presents provisional data 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 marital status. 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

*Awareness of AIDS*—Virtually everyone (more than 99 percent) has heard of AIDS. Almost three-fourths of adults (74 percent) last saw, heard, or read something about AIDS within 3 days of the NHIS interview.

*Self-perceived knowledge*—Twenty percent of adults 18 years of age and over feel that they know a lot about AIDS (compared to most people); 40 percent feel they know some; 30 percent feel they know a little; and 10 percent feel they know nothing about AIDS. Adults 50 years and over are more likely than younger adults to state that they know nothing about AIDS and less likely to think that they know a lot. Black respondents (17 percent) are almost twice as likely as white respondents (9 percent) to state that they know nothing about AIDS.

*General knowledge*—Figure 1 shows the percents answering "definitely true" and "probably true" to selected knowledge questions. The majority of respondents are certain that AIDS leads to death (89 percent) and that there is



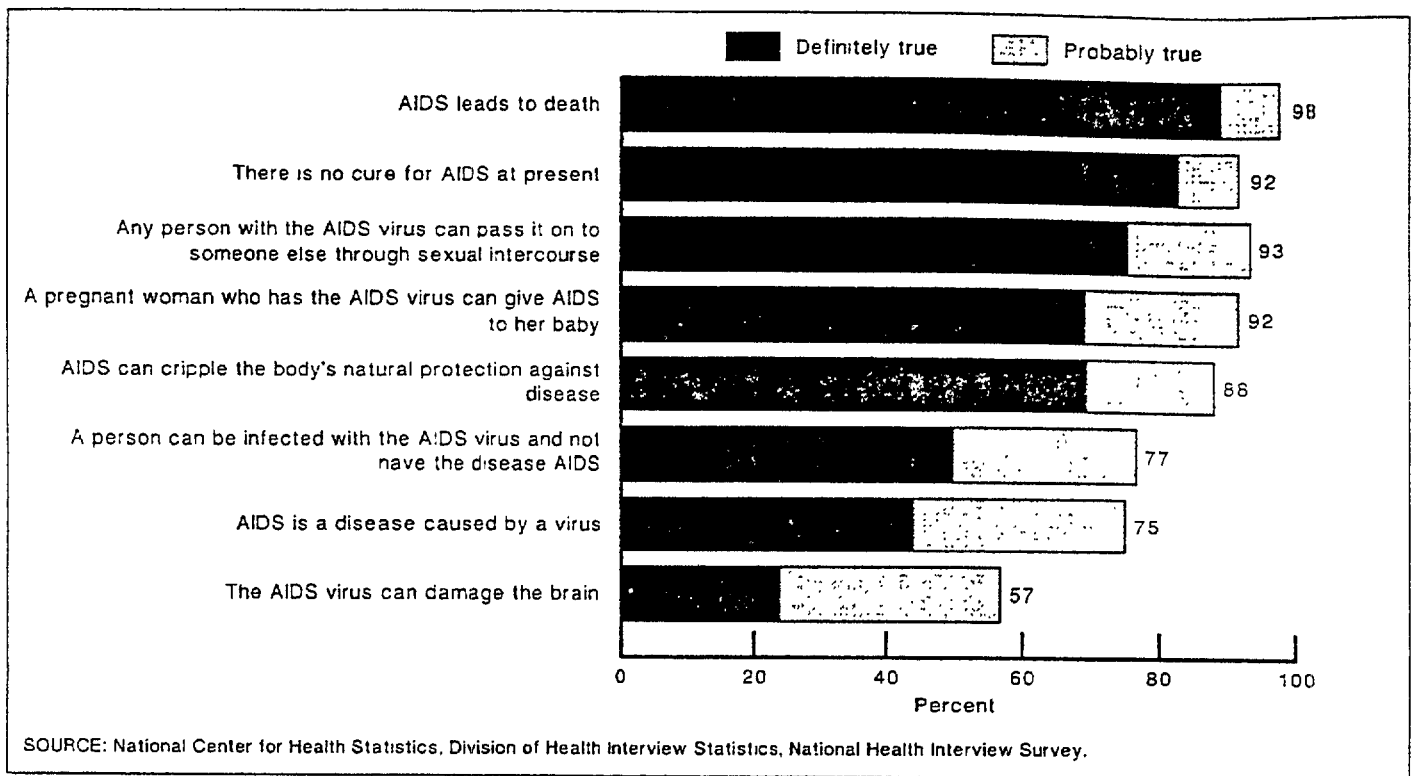


Figure 1. Provisional estimates of percent of adults 18 years of age and over who think selected statements about AIDS are definitely true or probably true: United States, August 1987

no cure for AIDS at present (83 percent). Three-fourths of adults think that it is definitely true that anyone with the AIDS virus can transmit it to other individuals through sexual intercourse; another 18 percent think that it is probably true. About two-thirds of the adults in the United States definitely think that AIDS can cripple the body's natural protection against disease and that a pregnant woman can transmit AIDS to her baby.

There is less certainty about the causes of AIDS and about the relationship between the AIDS virus and the disease AIDS: 44 percent of adults definitely believe that a virus causes AIDS, and 31 percent think that this is probably true; 50 percent are certain that a person can be infected with the AIDS virus and not have the disease AIDS, and 27 percent think that this is probably true. Adults are less informed about the specific ways that AIDS can affect its victims than about its causes; for example, 24 percent are certain that the AIDS virus can damage the brain. For the most part, the lowest levels of general knowledge are found among adults 50 years of age and over, consistent with their own self-assessment as a group that they know relatively little about the disease.

*Transmission of the AIDS virus*—Most Americans are aware of the ways in which the AIDS virus is most likely to be transmitted. More than 9 out of 10 adults say that it is very likely that a person will get AIDS from having sex with a person who has AIDS (92 percent) or by sharing needles for drug use with someone who has AIDS (91 percent). On the other hand, the level of misinformation about modes of transmission, particularly from casual contact, is very high. For example, donating blood is considered a likely mode of

transmission by 25 percent; working near someone with AIDS by 21 percent; sharing eating utensils with someone who has AIDS by 47 percent; using public toilets by 31 percent; and being bitten by mosquitoes or other insects by 38 percent.

Black respondents are significantly more likely than white respondents to perceive a threat of AIDS virus infection from receiving a blood transfusion, donating blood, using public toilets, or various other types of casual contact with persons who have AIDS.

There are few differences by age, sex, and marital status in knowledge or misinformation about the transmission of AIDS.

*Blood test for the AIDS virus*—A number of questions were asked about blood tests for the AIDS virus. Overall, 70 percent of adults have heard of the blood test. Persons 30-49 years of age are most likely (79 percent) and persons 50 years of age and over least likely (57 percent) to have heard of the test. Although there is widespread awareness that a blood test for the AIDS virus is available, there appears to be some misunderstanding about the purpose of the test. Forty-one percent of adults (58 percent of those who have heard of the test) erroneously believe that the blood test results tell whether a person has the disease AIDS.

Seven percent of respondents report having had their blood tested for the AIDS virus, including 2 percent who voluntarily said that they were tested because of a blood donation or transfusion. (On the other hand, about 12 percent report having given blood since January 1985, the approximate date when routine testing of donated blood

began.) These provisional data indicate that adults under age 30 are about four times as likely to have had the AIDS blood test as persons 50 years of age and over. In addition, 11 percent of all adults have thought about having the AIDS test, and 4 percent say that they plan to be tested in the next 12 months. Twelve percent of Americans age 18 years and over know someone who has had the AIDS blood test.

*Risk of getting AIDS*—Most adults believe that they (and the people that they know) are at little or no risk of AIDS virus infection. Nine in 10 feel that there is no chance (60 percent) or a low chance (30 percent) of getting AIDS themselves. Six in 10 say that the chance of someone they know getting AIDS is low (34 percent) or nonexistent (26 percent). Six percent of adults report personally knowing someone with the AIDS virus.

*AIDS prevention*—Almost 9 out of 10 Americans realize that both celibacy and restricting sexual activity to a

monogamous relationship with a person who does not have the AIDS virus are very effective ways to avoid infection with the AIDS virus. One-third (34 percent) think that using condoms is a very effective way to avoid the virus, and an additional 48 percent consider this method somewhat effective. Slightly more than one-half of the adults in the United States (56 percent) think that using a diaphragm is not an effective way to avoid infection with the AIDS virus. An almost equal proportion (54 percent) feel that using spermicides is ineffective in AIDS prevention.

*AIDS discussion and education*—Two-thirds of adults (67 percent) have discussed AIDS with friends or relatives. Persons age 50 and over are the least likely to have done so. Of adults with children between the ages of 10 and 17, 60 percent have talked with their children about AIDS (12 percent of all adults), and just over one-third of those with children in this age range report that their children have received instruction about AIDS at school.

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#### 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 1987 National Health Interview Survey, by selected characteristics: United States, August 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	Total	Age			Sex		Race		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
		Percent distribution <sup>1</sup>								
Total . . . . .	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 . . . . .	74	65	77	76	75	72	75	69	76	70
4-7 days ago . . . . .	14	19	14	11	13	15	14	16	14	14
8-14 days ago . . . . .	3	4	2	2	3	3	3	3	3	3
15-31 days ago . . . . .	4	6	4	3	3	5	4	6	4	4
More than 31 days ago . . . . .	2	4	2	1	2	3	2	1	2	3
Never heard of AIDS . . . . .	0	0	0	0	0	1	0	-	0	1
Don't know . . . . .	3	2	1	5	3	2	2	5	2	4
2. Compared to most people, how much would you say you know about AIDS?										
A lot . . . . .	20	22	24	14	20	20	20	18	19	21
Some . . . . .	40	43	45	31	39	40	41	33	42	36
Little . . . . .	30	32	26	33	29	31	30	32	29	32
Nothing . . . . .	10	3	5	22	12	9	9	17	10	11
Don't know . . . . .	0	-	0	0	0	0	0	-	0	0
3a. AIDS is a disease caused by a virus.										
Definitely true . . . . .	44	52	52	30	48	40	44	39	43	46
Probably true . . . . .	31	33	31	29	29	32	30	39	31	30
Probably false . . . . .	4	4	2	5	4	4	4	2	4	3
Definitely false . . . . .	4	2	3	6	3	5	4	3	4	3
Don't know . . . . .	18	9	12	31	16	19	18	17	18	17
3b. AIDS can cripple the body's natural protection against disease.										
Definitely true . . . . .	69	72	76	60	70	69	72	54	71	68
Probably true . . . . .	19	18	17	21	19	19	17	27	18	19
Probably false . . . . .	1	1	0	1	1	1	1	1	1	1
Definitely false . . . . .	1	1	1	1	1	1	1	1	1	1
Don't know . . . . .	10	8	5	17	9	11	8	18	9	11
3c. AIDS is especially common in older people.										
Definitely true . . . . .	1	1	0	1	1	0	0	1	0	1
Probably true . . . . .	1	1	2	1	1	1	1	2	1	1
Probably false . . . . .	24	26	23	23	25	23	24	20	24	23
Definitely false . . . . .	65	64	70	60	63	66	66	62	66	63
Don't know . . . . .	9	7	5	16	10	9	8	14	8	12
3d. The AIDS virus can damage the brain.										
Definitely true . . . . .	24	22	24	25	22	26	23	30	23	25
Probably true . . . . .	33	33	32	33	34	31	33	34	34	31
Probably false . . . . .	8	11	10	5	9	8	9	7	8	8
Definitely false . . . . .	5	6	6	4	7	4	6	2	6	5
Don't know . . . . .	29	28	27	33	28	31	29	27	29	30
3e. AIDS usually leads to heart disease.										
Definitely true . . . . .	7	7	6	8	6	8	6	12	7	7
Probably true . . . . .	22	22	22	21	21	23	21	27	22	23
Probably false . . . . .	16	17	20	12	20	14	17	11	16	17
Definitely false . . . . .	14	15	18	9	16	12	14	12	14	14
Don't know . . . . .	41	40	34	49	37	44	41	38	41	40
3f. AIDS leads to death.										
Definitely true . . . . .	89	90	92	85	87	91	89	90	90	87
Probably true . . . . .	8	9	6	10	10	7	8	7	8	9
Probably false . . . . .	0	-	0	0	0	0	0	-	0	-
Definitely false . . . . .	0	-	0	0	0	0	0	-	0	0
Don't know . . . . .	2	1	1	4	3	2	2	3	1	4
4a. Where do you get most of your information about AIDS? <sup>2</sup>										
Television . . . . .	81	80	81	83	80	82	81	84	82	80
Newspapers . . . . .	61	53	65	63	65	58	63	49	64	57
Magazines . . . . .	30	29	33	26	26	33	31	21	30	29
Radio . . . . .	10	12	9	9	11	9	10	8	10	10
Relatives and friends . . . . .	10	15	10	7	10	10	9	17	8	14
Brochures/fliers/pamphlets . . . . .	7	7	8	5	7	7	5	15	6	8
Doctor/HMO/clinic . . . . .	6	6	8	5	5	8	6	7	7	5
Other . . . . .	14	16	16	9	13	14	14	14	13	16
Don't know . . . . .	1	1	-	1	1	1	1	2	0	1
4b. Of the sources you just told me, from which one do you get the most information?										
Television . . . . .	54	57	52	55	53	56	53	62	55	53
Newspapers . . . . .	23	17	24	28	27	20	25	14	24	23
Magazines . . . . .	8	8	11	6	7	9	9	5	9	7
Brochures/fliers/pamphlets . . . . .	2	1	2	1	2	2	1	6	2	2
Doctor/HMO/clinic . . . . .	2	2	2	1	1	2	2	2	2	2
Other . . . . .	9	13	9	7	9	10	9	9	8	12
Don't know . . . . .	1	1	0	2	1	1	1	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, August 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		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
5a. If you wanted more specific information about AIDS, where would you get it? <sup>2</sup>					Percent distribution <sup>1</sup>					
Doctor/HMO/clinic . . . . .	60	60	60	59	56	63	59	67	60	58
Public health department . . . . .	16	14	19	13	18	14	16	13	16	15
Library . . . . .	12	13	16	7	11	13	12	10	13	10
AIDS hot line . . . . .	9	10	9	8	9	9	9	8	8	10
Other . . . . .	32	38	31	29	30	35	32	35	31	34
Don't know . . . . .	11	8	7	18	12	10	11	9	11	11
5b. Which one source would you most likely use?										
Doctor/HMO/clinic . . . . .	49	48	48	50	45	52	48	52	49	48
Public health department . . . . .	11	9	15	9	13	9	12	8	12	10
Library . . . . .	6	7	8	4	6	7	6	6	6	7
AIDS hot line . . . . .	7	8	6	7	7	7	7	7	7	8
Other . . . . .	15	19	15	12	16	15	15	17	15	16
Don't know . . . . .	11	8	7	19	13	10	12	9	12	12
6a. A person can be infected with the AIDS virus and not have the disease AIDS.										
Definitely true . . . . .	50	51	59	39	50	50	51	42	51	48
Probably true . . . . .	27	26	24	31	26	27	28	24	28	26
Probably false . . . . .	4	5	4	4	5	4	4	4	4	4
Definitely false . . . . .	4	7	3	2	4	4	3	10	3	5
Don't know . . . . .	15	12	10	23	15	15	14	19	14	17
6b. You can tell if people have the AIDS virus just by looking at them.										
Definitely true . . . . .	1	1	1	1	1	1	1	2	1	1
Probably true . . . . .	4	4	4	5	4	4	4	5	4	5
Probably false . . . . .	18	23	15	16	19	17	18	15	18	18
Definitely false . . . . .	65	64	74	56	66	65	66	64	67	63
Don't know . . . . .	11	8	6	21	11	12	11	14	11	13
6c. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.										
Definitely true . . . . .	75	79	78	70	72	79	75	80	76	74
Probably true . . . . .	18	16	18	20	21	16	19	13	18	19
Probably false . . . . .	1	1	1	1	1	1	1	0	1	0
Definitely false . . . . .	1	2	1	1	1	1	1	1	1	1
Don't know . . . . .	5	3	2	9	5	4	5	6	4	6
6d. A pregnant woman who has the AIDS virus can give AIDS to her baby.										
Definitely true . . . . .	69	71	73	63	67	71	69	75	69	69
Probably true . . . . .	22	22	21	25	24	21	23	15	23	22
Probably false . . . . .	1	1	0	1	0	1	0	3	0	1
Definitely false . . . . .	0	0	-	-	0	0	0	-	-	0
Don't know . . . . .	8	6	6	11	9	7	8	7	8	8
6e. There is a vaccine available to the public that protects a person from getting the AIDS virus.										
Definitely true . . . . .	2	2	3	2	2	3	2	5	2	3
Probably true . . . . .	4	4	4	5	4	5	4	8	4	5
Probably false . . . . .	12	15	9	12	12	12	12	11	12	12
Definitely false . . . . .	65	65	73	56	68	63	68	53	67	62
Don't know . . . . .	16	14	10	24	13	19	15	23	15	19
6f. There is no cure for AIDS at present.										
Definitely true . . . . .	83	82	85	81	83	83	85	77	84	80
Probably true . . . . .	9	9	8	9	9	8	9	9	9	9
Probably false . . . . .	1	3	1	1	2	1	1	1	1	2
Definitely false . . . . .	2	2	3	2	2	3	2	3	2	2
Don't know . . . . .	5	4	4	7	5	5	4	10	4	7
7. How likely do you think it is that a person will get the AIDS virus from—										
7a. Receiving a blood transfusion?										
Very likely . . . . .	37	37	36	39	35	38	35	50	38	36
Somewhat likely . . . . .	32	32	31	33	28	35	32	34	32	31
Somewhat unlikely . . . . .	13	16	14	11	15	12	14	6	13	13
Very unlikely . . . . .	13	11	16	11	16	10	15	1	13	13
Definitely not possible . . . . .	1	1	1	1	1	0	1	0	1	1
Don't know . . . . .	4	4	2	6	4	4	3	8	3	6
7b. Donating or giving blood?										
Very likely . . . . .	10	11	9	11	10	10	8	23	10	11
Somewhat likely . . . . .	15	17	15	15	15	15	14	22	16	15
Somewhat unlikely . . . . .	14	15	12	16	15	14	14	11	14	13
Very unlikely . . . . .	35	34	41	30	37	34	37	27	36	34
Definitely not possible . . . . .	18	18	20	17	18	19	20	6	19	17
Don't know . . . . .	7	5	4	11	5	8	6	11	5	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, August 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		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
7c. Living near a hospital or home for AIDS patients?					Percent distribution <sup>1</sup>					
Very likely . . . . .	2	1	2	2	2	2	1	5	2	1
Somewhat likely . . . . .	5	7	3	5	6	4	4	8	5	5
Somewhat unlikely . . . . .	11	13	10	10	10	12	11	12	10	12
Very unlikely . . . . .	41	43	42	39	44	39	42	41	42	41
Definitely not possible . . . . .	33	32	37	31	31	36	35	24	34	33
Don't know . . . . .	8	4	5	13	8	7	7	11	7	8
7d. Working near someone with AIDS?										
Very likely . . . . .	5	4	5	5	5	5	4	8	5	4
Somewhat likely . . . . .	16	16	15	17	15	17	16	18	18	13
Somewhat unlikely . . . . .	17	18	16	17	16	18	18	14	17	17
Very unlikely . . . . .	35	36	37	32	38	33	36	33	35	36
Definitely not possible . . . . .	18	18	21	16	18	19	19	13	18	19
Don't know . . . . .	9	7	6	14	9	8	8	14	8	11
7e. Eating in a restaurant where the cook has AIDS?										
Very likely . . . . .	11	9	10	13	11	11	10	19	11	10
Somewhat likely . . . . .	24	24	24	25	25	24	24	29	25	23
Somewhat unlikely . . . . .	18	22	18	14	19	17	18	15	18	17
Very unlikely . . . . .	25	25	28	22	25	25	26	16	24	27
Definitely not possible . . . . .	11	12	12	9	10	11	11	7	11	11
Don't know . . . . .	11	8	9	17	11	12	11	15	11	12
7f. Kissing—with exchange of saliva—a person who has AIDS?										
Very likely . . . . .	36	31	36	40	33	38	35	42	37	33
Somewhat likely . . . . .	34	39	33	31	36	32	35	28	35	33
Somewhat unlikely . . . . .	10	12	12	7	11	9	10	10	10	11
Very unlikely . . . . .	8	9	10	6	9	8	9	9	8	10
Definitely not possible . . . . .	2	2	3	2	2	2	2	0	2	2
Don't know . . . . .	10	7	6	15	9	10	9	10	9	11
7g. Shaking hands with or touching someone who has AIDS?										
Very likely . . . . .	2	1	2	3	1	2	2	4	2	2
Somewhat likely . . . . .	10	8	11	12	11	10	10	11	11	8
Somewhat unlikely . . . . .	19	22	18	18	19	20	20	18	21	16
Very unlikely . . . . .	39	38	43	35	41	37	39	41	39	39
Definitely not possible . . . . .	22	26	21	21	21	24	23	16	21	26
Don't know . . . . .	7	5	5	12	8	6	6	11	6	9
7h. Sharing plates, forks, or glasses with someone who has AIDS?										
Very likely . . . . .	15	12	16	17	14	16	15	20	17	12
Somewhat likely . . . . .	32	34	31	32	32	32	32	30	32	32
Somewhat unlikely . . . . .	15	20	14	13	16	15	15	14	15	15
Very unlikely . . . . .	19	17	23	16	20	18	20	16	18	20
Definitely not possible . . . . .	8	8	10	8	9	8	9	6	9	8
Don't know . . . . .	10	8	7	15	9	11	9	14	9	12
7i. Using public toilets?										
Very likely . . . . .	9	9	9	11	9	10	8	17	10	9
Somewhat likely . . . . .	22	21	20	26	22	22	22	25	22	22
Somewhat unlikely . . . . .	18	21	18	16	18	19	19	18	19	16
Very unlikely . . . . .	27	26	32	23	31	24	28	21	28	26
Definitely not possible . . . . .	13	14	15	10	12	14	13	11	12	14
Don't know . . . . .	10	9	7	15	9	11	10	10	9	12
7j. Sharing needles for drug use with someone who has AIDS?										
Very likely . . . . .	91	92	94	88	91	92	92	92	92	90
Somewhat likely . . . . .	5	5	4	8	6	5	6	3	5	6
Somewhat unlikely . . . . .	0	1	0	-	0	1	0	1	0	0
Very unlikely . . . . .	0	-	0	0	0	0	0	1	0	0
Definitely not possible . . . . .	0	0	0	0	0	0	0	0	0	0
Don't know . . . . .	2	2	1	4	3	2	2	4	2	3
7k. Kissing on the cheek a person who has AIDS?										
Very likely . . . . .	3	3	4	4	4	3	2	11	3	4
Somewhat likely . . . . .	13	12	12	14	13	12	12	15	13	11
Somewhat unlikely . . . . .	21	22	22	19	22	20	22	18	22	20
Very unlikely . . . . .	37	36	40	34	38	36	38	27	38	35
Definitely not possible . . . . .	19	21	19	17	16	21	19	15	18	21
Don't know . . . . .	8	6	4	12	8	7	6	12	6	9
7l. Being coughed or sneezed on by someone who has AIDS?										
Very likely . . . . .	11	9	10	13	10	12	10	15	11	11
Somewhat likely . . . . .	30	30	28	33	32	29	30	32	32	28
Somewhat unlikely . . . . .	18	22	20	13	19	17	19	14	19	17
Very unlikely . . . . .	22	22	24	19	24	20	23	15	23	20
Definitely not possible . . . . .	9	10	10	7	8	9	9	11	7	12
Don't know . . . . .	10	8	8	15	8	12	9	12	8	13

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, August 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		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
Percent distribution <sup>1</sup>										
7m. Attending school with a child who has AIDS?										
Very likely . . . . .	3	2	4	4	3	3	3	8	3	3
Somewhat likely . . . . .	12	11	12	13	12	12	12	11	13	10
Somewhat unlikely . . . . .	17	18	17	16	18	16	17	18	18	14
Very unlikely . . . . .	38	39	40	34	39	36	40	27	38	37
Definitely not possible . . . . .	20	24	21	17	18	22	20	21	18	24
Don't know . . . . .	9	7	5	16	9	10	8	14	9	11
7n. Mosquitoes or other insects?										
Very likely . . . . .	10	11	9	11	12	9	10	16	11	10
Somewhat likely . . . . .	28	29	29	26	30	27	27	36	28	28
Somewhat unlikely . . . . .	12	13	13	9	12	12	12	7	13	10
Very unlikely . . . . .	19	18	22	15	20	18	19	16	19	18
Definitely not possible . . . . .	10	11	10	10	9	11	11	7	10	11
Don't know . . . . .	21	18	16	29	18	23	21	18	20	23
7o. Pets or animals?										
Very likely . . . . .	3	3	3	3	3	3	2	8	3	3
Somewhat likely . . . . .	10	14	9	9	11	10	9	17	10	10
Somewhat unlikely . . . . .	12	14	12	9	12	11	12	12	12	11
Very unlikely . . . . .	30	31	34	24	32	27	31	25	30	28
Definitely not possible . . . . .	21	20	23	19	20	21	22	13	21	21
Don't know . . . . .	24	18	19	35	22	27	24	24	24	26
7p. Having sex with a person who has AIDS?										
Very likely . . . . .	92	95	94	89	90	94	93	91	93	92
Somewhat likely . . . . .	5	4	5	7	7	4	6	3	5	5
Somewhat unlikely . . . . .	0	0	0	0	0	0	0	2	0	0
Very unlikely . . . . .	0	1	0	-	0	0	0	0	0	0
Definitely not possible . . . . .	-	-	-	-	-	-	-	-	-	-
Don't know . . . . .	2	0	1	4	2	2	1	3	1	2
8. Have you ever heard of a blood test for infection with the AIDS virus?										
Yes . . . . .	70	74	79	57	71	69	72	59	72	67
No . . . . .	26	23	19	36	26	26	25	33	25	28
Don't know . . . . .	4	2	2	7	3	4	3	8	3	5
9. Does this test tell whether a person has the disease AIDS?										
Yes . . . . .	41	44	44	34	38	43	42	33	42	38
No . . . . .	20	21	26	12	25	16	21	15	20	20
Don't know . . . . .	10	10	8	11	9	10	9	11	10	8
Never heard of test (no/don't know to q. 8) . . . . .	30	26	21	43	29	31	28	42	28	33
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 . . . . .	59	63	67	47	60	58	60	49	61	55
No . . . . .	4	5	5	2	5	3	4	3	4	4
Don't know . . . . .	7	7	7	8	7	8	7	6	7	8
Never heard of test (no/don't know to q. 8) . . . . .	30	26	21	43	29	31	28	42	28	33
11. Have you ever had your blood tested for infection with the AIDS virus?										
Yes . . . . .	5	8	5	2	5	5	4	8	4	6
Yes, in blood donation/transfusion . . . . .	2	3	3	1	3	2	3	1	3	2
No . . . . .	62	62	69	53	62	62	63	49	64	57
Don't know . . . . .	1	1	1	2	1	1	1	1	1	2
Never heard of test (no/don't know to q. 8) . . . . .	30	26	21	43	29	31	28	42	28	33
12a. Have you ever thought about having this blood test?										
Already had test . . . . .	8	12	9	3	9	7	8	9	7	8
Yes . . . . .	11	16	14	4	12	10	10	15	9	15
No . . . . .	50	45	55	49	49	51	52	31	54	42
Don't know . . . . .	0	0	-	-	-	0	0	-	0	-
Never heard of test (no/don't know to q. 8) . . . . .	31	27	22	44	30	33	30	45	30	35
12b. Do you plan to be tested in the next 12 months?										
Already had test . . . . .	8	12	9	3	9	7	8	9	7	8
Yes . . . . .	4	6	6	1	5	4	4	10	3	7
No . . . . .	5	7	6	2	6	4	5	2	4	6
Don't know . . . . .	2	3	2	1	1	2	2	3	2	2
Never heard of test or thought about having test (no/don't know to q. 8 or q. 12a) . . . . .	81	72	77	94	79	83	82	76	84	77

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, August 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		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
13. Where would you go to have a blood test for the AIDS virus infection? <sup>2</sup>										
Percent distribution <sup>1</sup>										
Nowhere/wouldn't take test . . . . .	-	-	-	-	-	-	-	-	-	-
AIDS clinic . . . . .	2	1	2	2	2	1	1	3	-	3
Other clinic . . . . .	26	28	28	17	27	25	25	33	23	30
Doctor/HMO . . . . .	52	49	52	60	53	50	52	57	57	46
Red Cross/blood bank . . . . .	3	4	2	4	4	2	3	-	3	3
Other . . . . .	10	7	11	11	9	11	10	5	8	12
Don't know . . . . .	7	11	4	8	5	10	8	1	9	6
14. Where would you go to find out where to have this blood test? <sup>2,4</sup>										
AIDS hot line . . . . .	9	5	23	-	9	9	10	-	-	22
AIDS clinic . . . . .	-	-	-	-	-	-	-	-	-	-
Other clinic . . . . .	16	16	-	51	44	-	18	-	21	9
Doctor/HMO . . . . .	26	19	11	100	34	22	30	-	18	38
Friends . . . . .	-	-	-	-	-	-	-	-	-	-
Public health department . . . . .	6	9	-	-	-	9	7	-	10	-
Other . . . . .	-	-	-	-	-	-	-	-	-	-
Nowhere . . . . .	-	-	-	-	-	-	-	-	-	-
Don't know . . . . .	49	50	67	-	28	61	41	100	60	32
15. Have you donated blood since 1985?										
Yes . . . . .	12	15	15	5	14	10	12	12	11	13
No . . . . .	88	85	85	94	86	90	88	88	89	86
Don't know . . . . .	0	-	0	1	0	0	0	-	0	0
16. Have you ever personally known anyone who had the blood test for the AIDS virus infection?										
Yes . . . . .	12	20	13	5	11	14	13	10	10	16
No . . . . .	87	79	86	94	88	86	87	88	89	82
Don't know . . . . .	1	1	1	1	1	1	1	2	1	1
17. What are the chances of someone you know getting the AIDS virus?										
High . . . . .	10	12	13	6	11	10	10	16	10	11
Medium . . . . .	18	25	20	11	19	18	19	18	18	18
Low . . . . .	34	35	36	30	37	31	35	23	35	32
None . . . . .	26	20	24	35	22	30	26	25	27	25
Refused . . . . .	0	1	0	-	0	-	0	-	-	0
Don't know . . . . .	11	7	7	19	11	11	10	19	10	13
18. What are your chances of getting the AIDS virus?										
High . . . . .	1	1	2	0	1	2	1	2	1	2
Medium . . . . .	4	4	5	3	4	4	4	3	4	5
Low . . . . .	30	38	33	20	34	27	30	31	28	34
None . . . . .	60	53	57	69	56	63	61	52	64	53
Refused . . . . .	0	0	0	0	0	0	0	0	0	0
Don't know . . . . .	5	4	3	8	5	5	4	11	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	1	3	2	2	2	5	1	4
Somewhat effective . . . . .	11	16	9	9	10	11	10	13	10	12
Not at all effective . . . . .	56	56	66	44	56	55	58	42	58	51
Don't know how effective . . . . .	21	17	16	30	19	24	21	23	21	22
Don't know method . . . . .	10	8	8	14	13	8	9	17	9	11
19b. Using a condom?										
Very effective . . . . .	34	39	37	28	34	35	35	31	32	39
Somewhat effective . . . . .	48	50	50	44	50	46	49	41	51	43
Not at all effective . . . . .	6	5	7	6	4	7	5	11	6	6
Don't know how effective . . . . .	8	3	5	15	7	8	8	10	8	9
Don't know method . . . . .	4	2	2	8	4	4	3	7	4	4
19c. Using a spermicidal jelly, foam, or cream?										
Very effective . . . . .	2	3	2	3	2	3	2	5	2	3
Somewhat effective . . . . .	13	17	10	12	13	13	12	17	12	14
Not at all effective . . . . .	54	55	64	42	53	55	56	43	56	50
Don't know how effective . . . . .	21	16	15	30	20	21	20	21	21	21
Don't know method . . . . .	10	9	8	13	12	8	9	14	9	12
19d. Being celibate, that is, not having sex at all?										
Very effective . . . . .	89	88	91	87	87	90	90	82	90	87
Somewhat effective . . . . .	5	8	4	4	6	4	5	6	5	5
Not at all effective . . . . .	1	2	2	1	1	1	1	3	1	2
Don't know how effective . . . . .	3	2	2	4	3	2	2	5	2	4
Don't know method . . . . .	2	1	1	4	3	2	2	4	2	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, August 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		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
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 <sup>1</sup>					
Very effective . . . . .	84	85	87	79	84	84	85	77	86	81
Somewhat effective . . . . .	9	10	9	9	9	10	9	11	8	11
Not at all effective . . . . .	1	2	1	1	2	1	1	2	1	2
Don't know how effective . . . . .	4	2	3	6	3	4	3	6	3	4
Don't know method . . . . .	2	1	1	5	3	2	2	3	2	2
20. Have you ever discussed AIDS with a friend or relative?										
Yes . . . . .	67	72	76	52	62	70	67	66	67	66
No . . . . .	33	27	24	47	37	29	33	33	33	34
Don't know . . . . .	0	1	0	1	1	0	0	1	0	1
21. When was the last time you discussed AIDS with a friend or relative?										
0-3 days ago . . . . .	20	22	23	16	20	20	20	24	20	21
4-7 days ago . . . . .	17	17	20	15	16	18	18	15	18	15
8-14 days ago . . . . .	7	9	8	5	7	8	7	6	7	7
15-31 days ago . . . . .	11	11	13	7	9	12	11	10	11	11
More than 31 days ago . . . . .	7	9	7	4	6	7	7	5	6	7
Never discussed (no/don't know to q. 20) . . . . .	35	30	25	49	39	31	34	36	34	36
Don't know . . . . .	3	2	3	4	3	3	3	3	3	3
24. Have you ever discussed AIDS with [any of your children age 10-17]?										
Yes . . . . .	12	1	29	3	10	15	12	14	16	7
No . . . . .	8	4	16	3	11	6	8	9	11	4
Don't know . . . . .	-	-	-	-	-	-	-	-	-	-
No children 10-17 years of age <sup>5</sup> . . . . .	79	95	55	94	79	80	79	77	74	89
25. Have your children had any instruction at school about AIDS?										
Yes . . . . .	7	0	17	3	7	8	7	8	9	4
No . . . . .	7	2	15	2	7	7	7	9	9	3
Don't know . . . . .	6	2	14	2	8	5	7	6	8	4
No children 10-17 years of age <sup>5</sup> . . . . .	79	95	55	94	79	80	79	77	74	89
26. Have you ever personally known anyone with the AIDS virus?										
Yes . . . . .	6	7	9	3	5	7	6	10	5	9
No . . . . .	92	92	90	96	94	91	93	88	94	90
Don't know . . . . .	1	1	2	1	1	1	1	2	1	2
27. Have you ever personally known anyone with AIDS?										
Yes . . . . .	6	7	9	4	5	8	6	11	5	9
No . . . . .	92	93	90	95	94	91	93	87	94	89
Don't know . . . . .	1	1	1	1	1	1	1	2	1	2
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 . . . . .	69	73	71	63	70	68	69	69	70	67
No . . . . .	20	17	19	24	18	22	19	20	19	22
Other . . . . .	4	4	4	4	5	3	4	3	4	4
Don't know . . . . .	7	6	6	9	7	8	7	8	7	7
29. Would you want to know the results of the blood test? <sup>6</sup>										
Yes . . . . .	97	96	97	99	97	97	98	96	97	97
No . . . . .	1	2	1	1	2	1	1	1	1	1
Don't know . . . . .	1	2	1	1	1	1	1	3	1	1

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

NOTE: Total, age, sex, and marital status include persons of other and unknown race not shown separately under race.



## 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, August 1987**

<i>Characteristic</i>	<i>Sample size</i>	<i>Estimated population in thousands</i>
All adults . . . . .	2,303	174,528
<i>Age</i>		
18-29 years . . . . .	556	47,583
30-49 years . . . . .	862	66,250
50 years and over . . . . .	885	60,695
<i>Sex</i>		
Male . . . . .	960	82,703
Female . . . . .	1,343	91,825
<i>Race</i>		
Black . . . . .	283	19,107
White . . . . .	1,951	150,008
<i>Marital status</i>		
Currently married . . . . .	1,241	110,746
Unmarried . . . . .	1,052	63,310

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 household. The estimates in this report are based on completed interviews with 2,303 persons, or about 81 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. 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, August 1987**

<i>Estimated percent</i>	<i>Total</i>	<i>Age</i>			<i>Sex</i>		<i>Race</i>		<i>Marital status</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>Married</i>	<i>Unmarried</i>
5 or 95 . . . . .	0.6	1.1	0.9	0.9	0.9	0.9	1.7	0.6	0.8	0.8
10 or 90 . . . . .	0.8	1.5	1.3	1.2	1.2	1.0	2.3	0.8	1.0	1.1
15 or 85 . . . . .	0.9	1.8	1.5	1.4	1.4	1.2	2.7	1.0	1.3	1.3
20 or 80 . . . . .	1.0	2.0	1.7	1.6	1.6	1.3	3.0	1.1	1.4	1.5
25 or 75 . . . . .	1.1	2.2	1.8	1.8	1.7	1.4	3.3	1.2	1.5	1.6
30 or 70 . . . . .	1.2	2.3	1.9	1.9	1.8	1.5	3.5	1.3	1.6	1.7
35 or 65 . . . . .	1.2	2.4	2.0	2.0	1.9	1.6	3.6	1.3	1.7	1.8
40 or 60 . . . . .	1.3	2.5	2.1	2.0	1.9	1.6	3.7	1.4	1.7	1.8
45 or 55 . . . . .	1.3	2.5	2.1	2.0	2.0	1.7	3.8	1.4	1.8	1.9
50 . . . . .	1.3	2.6	2.1	2.1	2.0	1.7	3.8	1.4	1.8	1.9

# Nursing and Related Care Homes as Reported From the 1986 Inventory of Long-Term Care Places

by Al Sirrocco, Division of Health Care Statistics

## Introduction

The 1986 Inventory of Long-Term Care Places (ILTCP) was a survey of two types of facilities: nursing and related care homes and facilities for the mentally retarded. This report deals only with nursing and related care homes.

As used in this survey, the term "nursing and related care homes" incorporates all nursing care homes including skilled nursing facilities and intermediate care facilities, as well as all residential care facilities including homes for the aged, personal care homes, and board and care homes. All of these facilities must maintain three beds or more.

The National Center for Health Statistics, in cooperation with the National Center for Health Services Research and the Health Care Financing Administration, employed the U.S. Bureau of the Census to conduct the 1986 ILTCP. The purpose of the survey was to provide a current sampling frame for two segments of the Institutional Population Component of the 1987 National Medical Expenditure Survey. The two segments were nursing and related care homes, and facilities for the mentally retarded. The National Medical Expenditure Survey was initiated by the National Center for Health Services Research in early 1987.

## History and background

The ILTCP had never been conducted prior to the 1986 survey. However, a similar survey, the National Master Facility Inventory (NMFI), had been conducted many times between 1967 and 1982 (NCHS, 1986). Although the nursing homes had been surveyed in each NMFI, the mental retardation (MR) facilities had not been surveyed since the 1976 NMFI (NCHS, 1980). The types of questions asked in the ILTCP were similar enough to the NMFI questions that a decision was made to use the ILTCP data as a means to update the NMFI.

In 1982, the University of Minnesota's Center for Residential and Community Services conducted a survey of MR facilities (Hill and Lakin, 1984). The file that resulted from that survey was used to create the MR mailing file for the 1986 ILTCP.

Descriptions of the creation of the mailing file and the survey procedures are given in the Technical notes.

## Classification of facilities

The information collected in the ILTCP initially was used to separate the nursing and related care homes from the MR facilities. Because many facilities served the aged and disabled as well as the mentally retarded, it was necessary to combine many items of information to classify these facilities. Basically, to qualify as an MR facility, a place had to be primarily MR oriented. Thus, a nursing home with a small MR wing would remain a nursing home.

Once a facility was classified as a nursing and related care home, it was subclassified into nursing home or residential facility. Homes certified as skilled nursing facilities (SNF's) or intermediate care facilities (ICF's) were classified as nursing homes. Uncertified facilities that were licensed as nursing homes or provided nursing care services were also classified as nursing homes. The remaining places were classified as residential facilities.

Because the ILTCP was designed to identify MR facilities as well as nursing and related care homes, it was able to separate the residential facilities serving only the mentally retarded from the residential facilities serving the aged and disabled. The NMFI surveys from 1978 through 1982 were not designed to make this distinction and, therefore, included among their residential facilities those that served only the mentally retarded. This was especially true in California and Michigan, which had a combined total of 7,228 residential facilities in the

1982 NMFI. Based on ILTCP edit checks, it appears that as many as one-third of these might have been MR residential facilities in 1982. The 1982 NMFI report (NCHS, 1986) mentioned the existence of these MR facilities, but had no estimate as to how many there were.

The 1985 National Nursing Home Survey (NNHS) estimated a total count of 19,100 nursing homes (NCHS, 1987). This estimate was also influenced by the California and Michigan residential facilities. The inability to identify and exclude the MR places from among these facilities led to the decision to exclude all 7,228 from the universe. The NNHS estimate of 4,700 uncertified facilities compared with the ILTCP count of 12,226 (residential facilities plus uncertified nursing homes) is a difference of about 7,500. The difference between the 1986 ILTCP total count of 26,380 (including hospital-based) and the 1985 NNHS total count of 19,100 (which included hospital-based) is about 7,300. Clearly, the exclusion of residential facilities from the 1985 NNHS is the main reason for the different counts.

## Discussion

Counting hospital-based facilities, there were 26,380 nursing and related care homes with 1,770,206 beds and 1,609,419 residents in 1986 (table 1). Because most of the previous NMFI surveys were unable to obtain complete counts of hospital-based facilities, these places were usually excluded from the data presented in NMFI reports. To make the 1986 data more comparable with the NMFI surveys, this report has removed the 734 hospital-based facilities from all but the first two tables.

Table 1 shows the total nursing home counts with the hospital-based facilities included, and table 2 shows the characteristics and distribution of the hospital-based facilities themselves. Using the figures from table 2, the following rates and percents can be generated. The occupancy rate for hospital-based facilities was 92 percent; they averaged 83 beds per facility, and 94 percent were certified as SNF's or ICF's. In addition, they were usually nonprofit (60 percent) or government owned (32 percent).

The remainder of this report will exclude hospital-based facilities, making the total counts 25,646 homes, 1,709,223 beds, and 1,553,253 residents. This count of homes was actually 203 less than the number of homes found in the 1982 NMFI survey. The main reason for this lies in the overcount of residential facilities in 1982, due to the presence of MR facilities primarily in California and Michigan, as mentioned earlier.

The differences in survey procedures and definitions make direct comparisons between the ILTCP and NMFI (NCHS, 1985, 1986) surveys very difficult. The removal of facilities with less than 25 beds reduces the impact of these differences and makes comparisons more meaningful. Further examination of the differences between the NMFI and ILTCP data is planned for a future Series 14 report on the ILTCP.

Table 3 separates the ILTCP facilities into nursing homes and residential facilities. To get a total count of all nursing homes, the SNF's, ICF's, and uncertified nursing homes were combined to form the nursing home category in table 3 and in the remaining tables.

There were 9,613 total homes with less than 25 beds, which represented about 37 percent of all homes (table 3). The table shows how these homes with less than 25 beds are distributed between the nursing homes and residential facilities. The 2,409 nursing homes in this bed size group represented less than 15 percent of its total, whereas the 7,204 corresponding residential facilities represented nearly 78 percent of its total.

The size difference between nursing homes and residential facilities is more apparent in table 4. The average bed size was 92 for nursing homes and 22 for residential facilities, and this big difference is found in each ownership group and each region. For nursing homes, the government-owned homes were the largest (126 beds), and the for-profit homes, the smallest (87 beds). For residential facilities, the nonprofit facilities were the largest (35 beds), and the for-profit homes, the smallest (20 beds).

Regionally the Northeast had the largest nursing homes (108 beds) and largest residential facilities (29 beds). The smallest nursing homes were in the West (72 beds), and the smallest residential facilities were in the Midwest (16 beds).

Table 4 also shows that within the nursing home category, the SNF's were the largest at 122 beds and had the highest occupancy rate (93 percent). The ICF's were next with an average of 77 beds and a 90-percent occupancy rate, followed by the uncertified homes with a 38-bed average and 86 percent occupancy. The averages and rates for the SNF's and ICF's were virtually unchanged from those reported in 1982.

The residential facilities had lower occupancy rates than the nursing homes (85 percent to 92 percent). For nursing homes, the lowest occupancy rate (86 percent) occurred in the smaller homes (under 25 beds), but for the residential facilities, the lowest rate (82 percent) was in the larger homes (200 beds or more). Table 4 shows that the highest occupancy rate for nursing homes and residential facilities occurred in the Northeast (95 and 88 percent, respectively).

The Midwest had more SNF's and more ICF's than any other region (table 5). Conversely, the West had fewer SNF's and ICF's than any other region. Just over one-third of the SNF's in the West had 100 beds or more, but in each of the other three regions two-thirds of the SNF's had 100 beds or more. Because fewer people 65 years and over lived in the West (5.2 million compared with the South's 9.9 million, the Midwest's 7.4 million, and the Northeast's 6.7 million), and because the West's population is more spread out, large facilities may not be needed.

Looking closer at the population figures, table 6 reveals that there were 51.7 nursing home beds and 6.9 residential facility beds per 1,000 population 65 years and over in 1986. Although the West had the lowest nursing home bed rate at 42.3, it was not that much lower than the South's rate of 46.9 or the Northeast's rate of 47.4. In fact, the West's SNF rate of 34.3 was considerably higher than the South's rate of 24.1. It was with the ICF's rate of 3.8 that the West fell behind. One reason for this low ICF rate is that several western States have virtually no ICF programs and therefore few ICF's.

The estimated number of residents 65 years and over that were in nursing homes was 1,249,000, and the number in residential facilities was 126,000 (table 7). In other words, 4.3 percent of the population 65 years and over resided in nursing

homes, and 0.4 percent resided in residential facilities. The nursing home rates ranged from a high of 5.6 percent in the Midwest to a low of 3.5 percent in the West. For residential facilities, the West had the highest rate at 0.8 percent.

The 1,249,000 nursing home residents that were 65 years and over represented 90.4 percent of all nursing home residents (table 8). By contrast, only 73.1 percent of persons in residential facilities were 65 years and over. The residential facilities displayed much more variation by ownership than did the nursing homes. In nonprofit residential facilities, almost 85 percent of the residents were 65 years and over, but in government-owned residential facilities only 55 percent were 65 years and over.

Table 9 shows the number of black and Hispanic residents in nursing homes and residential facilities in 1986. The 105,173 black residents in nursing homes represented 7.6 percent of the total nursing home population. The 28,101 Hispanic nursing home residents made up 2.0 percent of the total. Similarly, the black residents made up 7.8 percent and the Hispanic residents 2.6 percent of all persons in residential facilities.

More than half (55 percent) of the black nursing home residents were in the South, with the fewest (7.2 percent) in the West. The Hispanic residents were mostly in the West (41.7 percent) and the South (35.3 percent). The distribution of black and Hispanic nursing home residents in each of the ownership categories is shown in table 9.

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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. Number of nursing and related care homes (including hospital-based facilities), beds, and residents, by type of facility: United States, 1986**

<i>Type of facility</i>	<i>Facilities</i>	<i>Beds</i>	<i>Residents</i>
		Number	
All facilities.....	26,380	1,770,206	1,609,419
Nursing homes.....	16,388	1,507,392	1,380,777
Hospital-based facilities.....	734	60,983	56,166
Residential facilities.....	9,258	201,831	172,476

**Table 2. Number of hospital-based facilities, beds, and residents, by selected characteristics: United States, 1986**

<i>Characteristic</i>	<i>Facilities</i>	<i>Beds</i>	<i>Residents</i>
		Number	
Total homes.....	734	60,983	56,166
<b>Bed size</b>			
3-24 beds.....	106	1,741	1,511
25-99 beds.....	476	24,343	22,554
100-199 beds.....	91	11,732	10,779
200 beds or more.....	61	23,167	21,322
<b>Type of ownership</b>			
Profit.....	63	4,800	4,523
Nonprofit.....	437	31,747	29,195
Government.....	234	24,436	22,448
<b>Geographic region</b>			
Northeast.....	141	17,590	16,605
Midwest.....	254	18,975	17,347
South.....	164	13,763	12,834
West.....	175	10,655	9,380
<b>Certification</b>			
Skilled nursing facility.....	594	53,060	48,766
Intermediate care facility.....	98	5,235	4,960
Uncertified nursing home.....	42	2,688	2,440
Residential facility.....	-	-	-

Table 3. Number of homes and beds for nursing and related care homes by type of home and selected characteristics: United States, 1986

Characteristic	Total homes <sup>1</sup>		Nursing homes		Residential facilities	
	Homes	Beds	Homes	Beds	Homes	Beds
	Number					
Total homes .....	25,646	1,709,223	16,388	1,507,392	9,258	201,831
Bed size						
3-9 beds .....	5,918	32,619	1,340	7,154	4,578	25,465
10-24 beds .....	3,695	58,124	1,069	18,243	2,626	39,881
25-49 beds .....	3,135	115,469	2,061	77,839	1,074	37,630
50-74 beds .....	3,470	208,667	3,037	182,658	433	26,009
75-99 beds .....	2,526	221,647	2,335	205,384	191	16,263
100-199 beds .....	5,755	756,229	5,468	717,604	287	38,625
200-299 beds .....	858	198,215	804	186,066	54	12,149
300-499 beds .....	239	84,899	225	80,140	14	4,759
500 beds or more .....	50	33,354	49	32,304	1	1,050
Type of ownership						
Profit .....	20,223	1,235,413	12,336	1,078,952	7,887	156,461
Nonprofit .....	4,378	367,249	3,263	328,728	1,115	38,521
Government .....	1,045	106,561	789	99,712	256	6,849
Geographic region						
Northeast .....	4,863	373,841	2,948	317,505	1,915	56,336
Midwest .....	7,474	539,802	5,393	506,714	2,081	33,088
South .....	7,311	516,508	5,008	464,005	2,303	52,503
West .....	5,998	279,072	3,039	219,168	2,959	59,904
Certification						
Skilled nursing facility .....	8,045	984,113	8,045	984,113	-	-
Intermediate care facility .....	5,375	411,468	5,375	411,468	-	-
Uncertified nursing home .....	2,968	111,811	2,968	111,811	-	-
Residential facility .....	9,258	201,831	-	-	9,258	201,831

<sup>1</sup>Excludes hospital-based facilities.

Table 4. Average number of beds and percent occupancy rate of nursing and related care homes by type of home and selected characteristics: United States, 1986

Characteristic	Total homes <sup>1</sup>		Nursing homes		Residential facilities	
	Average bed size	Occupancy rate	Average bed size	Occupancy rate	Average bed size	Occupancy rate
	Number	Percent	Number	Percent	Number	Percent
Total homes .....	67	91	92	92	22	85
Bed size						
3-24 beds .....	9	85	11	86	9	85
25-99 beds .....	60	92	63	92	47	87
100-199 beds .....	131	91	131	92	135	85
200 beds or more .....	276	91	277	91	260	82
Type of ownership						
Profit .....	61	90	87	91	20	85
Nonprofit .....	84	92	101	92	35	87
Government .....	102	93	126	94	27	85
Geographic region						
Northeast .....	77	94	108	95	29	88
Midwest .....	72	91	94	91	16	84
South .....	71	90	93	90	23	86
West .....	47	89	72	91	20	83
Certification						
Skilled nursing facility .....	122	93	122	93	-	-
Intermediate care facility .....	77	90	77	90	-	-
Uncertified nursing home .....	38	86	38	86	-	-
Residential facility .....	22	85	-	-	22	85

<sup>1</sup>Excludes hospital-based facilities.

Table 5. Number and percent distribution of nursing and related care homes by geographic region and bed size, according to type of home and certification: United States, 1986

Geographic region and bed size	Total homes <sup>1</sup>	Nursing homes				Residential facilities
		Total	Skilled nursing facilities	Intermediate care facilities	Uncertified nursing homes	
United States .....	25,646	16,388	8,045	5,375	2,968	9,258
Number						
Northeast						
Total .....	4,863	2,948	1,859	647	442	1,915
Number						
Percent distribution						
Total .....	100.0	100.0	100.0	100.0	100.0	100.0
3-24 beds .....	35.1	13.3	1.8	18.7	53.8	68.7
25-99 beds .....	34.1	39.5	31.1	64.3	38.2	25.8
100-199 beds .....	23.1	35.5	50.0	14.7	5.2	3.9
200 beds or more.....	7.7	11.7	17.1	2.3	2.7	1.6
Midwest						
Total .....	7,474	5,393	2,397	2,228	768	2,081
Number						
Percent distribution						
Total .....	100.0	100.0	100.0	100.0	100.0	100.0
3-24 beds .....	31.2	10.1	1.2	8.7	41.8	86.0
25-99 beds .....	39.8	50.6	34.7	70.1	43.6	11.9
100-199 beds .....	23.6	32.0	50.4	19.0	12.1	1.8
200 beds or more.....	5.4	7.4	13.7	2.3	2.5	0.3
South						
Total .....	7,311	5,008	1,977	2,148	883	2,303
Number						
Percent distribution						
Total .....	100.0	100.0	100.0	100.0	100.0	100.0
3-24 beds .....	32.1	13.6	1.6	5.8	59.6	72.4
25-99 beds .....	36.1	41.4	32.2	55.1	28.9	24.4
100-199 beds .....	28.5	40.4	58.2	36.6	9.6	2.8
200 beds or more.....	3.2	4.6	7.9	2.5	1.9	0.4
West						
Total .....	5,998	3,039	1,812	352	875	2,959
Number						
Percent distribution						
Total .....	100.0	100.0	100.0	100.0	100.0	100.0
3-24 beds .....	53.7	26.1	2.3	25.3	75.5	82.2
25-99 beds .....	31.0	48.3	60.6	59.9	18.1	13.3
100-199 beds .....	13.1	22.1	32.0	13.6	5.3	3.8
200 beds or more.....	2.2	3.5	5.1	1.1	1.1	0.8

<sup>1</sup>Excludes hospital-based facilities.



**Table 6. Percent of nursing and related care home beds per 1,000 population 65 years and over by type of home, certification, and geographic region: United States, 1986**

Geographic region	Total homes <sup>1</sup>	Nursing homes				Residential facilities
		Total	Skilled nursing facilities	Intermediate care facilities	Uncertified nursing homes	
Beds per 1,000 population 65 years and over						
United States . . . . .	58.6	51.7	33.7	14.1	3.8	6.9
Northeast . . . . .	55.8	47.4	38.9	5.9	2.6	8.4
Midwest . . . . .	73.0	68.5	41.5	21.8	5.2	4.5
South . . . . .	52.2	46.9	24.1	19.3	3.4	5.3
West . . . . .	53.8	42.3	34.3	3.8	4.2	11.6

<sup>1</sup>Excludes hospital-based facilities.

**Table 7. Estimated number of the resident population 65 years and over, and number and percent of this population in nursing and related care homes, by type of home and geographic region: United States, 1986**

Geographic region	Total population 65 years and over	Estimated number of residents 65 years and over in—			
		Nursing homes <sup>1</sup>		Residential facilities <sup>1</sup>	
		Number in thousands	Percent	Number in thousands	Percent
United States . . . . .	29,173	1,249	4.3	126	0.4
Northeast . . . . .	6,698	279	4.2	34	0.5
Midwest . . . . .	7,394	415	5.6	19	0.3
South . . . . .	9,895	376	3.8	34	0.3
West . . . . .	5,184	179	3.5	39	0.8

<sup>1</sup>Excludes hospital-based facilities.

**Table 8. Percent distribution of residents in nursing and related care homes by type of facility and age of resident, according to type of ownership: United States, 1986**

Type of facility and age of resident	Total	Type of ownership		
		Profit	Nonprofit	Government
All homes <sup>1</sup>				
Total . . . . .	100.0	100.0	100.0	100.0
Under 65 years . . . . .	11.4	12.6	6.1	17.3
65 years and over . . . . .	88.6	87.4	93.9	82.7
Nursing homes <sup>1</sup>				
Total . . . . .	100.0	100.0	100.0	100.0
Under 65 years . . . . .	9.6	10.4	5.1	15.6
65 years and over . . . . .	90.4	89.6	94.9	84.4
Residential facilities <sup>1</sup>				
Total . . . . .	100.0	100.0	100.0	100.0
Under 65 years . . . . .	26.9	29.1	15.4	44.9
65 years and over . . . . .	73.1	70.9	84.6	55.1

<sup>1</sup>Excludes hospital-based facilities.

**Table 9. Number and percent distribution of all, black, and Hispanic residents in nursing and related care homes by type of home and geographic region, according to type of ownership: United States, 1986**

Type of facility and geographic region	All residents				Black residents				Hispanic residents			
	All types of ownership	Profit	Nonprofit	Government	All types of ownership	Profit	Nonprofit	Government	All types of ownership	Profit	Nonprofit	Government
<b>Number</b>												
Total .....	1,553,253	1,116,738	337,336	99,179	118,621	97,426	13,500	7,695	32,511	27,135	4,146	1,230
<b>Percent distribution</b>												
Total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Northeast .....	21.8	19.0	27.3	33.5	13.9	10.4	30.9	28.8	14.3	11.8	26.0	34.2
Midwest .....	33.5	30.2	41.3	41.9	24.0	25.1	22.3	13.4	8.7	8.2	10.9	14.8
South .....	30.2	34.4	20.1	19.2	55.0	56.8	40.6	56.7	35.3	37.1	28.4	14.2
West .....	14.5	16.3	11.3	5.4	7.2	7.8	6.1	1.2	41.7	42.9	34.6	36.8
<b>Number</b>												
Total .....	172,476	133,285	33,343	5,848	13,448	10,783	2,052	613	4,410	3,488	564	358
<b>Percent distribution</b>												
Total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Northeast .....	28.6	27.4	33.5	28.1	29.7	26.0	38.5	64.8	25.4	19.3	37.9	65.1
Midwest .....	16.2	13.6	21.4	46.4	12.8	12.9	12.4	10.9	4.3	3.9	8.7	2.0
South .....	26.3	26.9	26.4	13.0	46.6	49.1	41.3	20.9	16.1	15.5	14.4	24.3
West .....	28.9	32.1	18.6	12.5	10.9	12.0	7.8	3.4	54.2	61.3	39.0	8.7

<sup>1</sup>Excludes hospital-based facilities.

## References

Hill, B. K. and K. C. Lakin. 1984. *Classification of Residential Facilities for Mentally Retarded People*, Brief No. 24. Minneapolis: Center for Residential and Community Services, University of Minnesota.

National Center for Health Statistics, J. F. Sutton and A. Sirrocco. 1980. Inpatient health facilities as reported from the 1976 MFI survey. *Vital and Health Statistics*. Series 14, No. 23. DHEW Pub. No. (PHS) 80-1818. Office of Health Research, Statistics and Technology. Washington: U.S. Government Printing Office.

National Center for Health Statistics, A. Sirrocco. 1985. An overview of the 1982 National Master Facility Inventory Survey of nursing and related care homes. *Advance Data From Vital and Health Statistics*. No. 111. DHHS Pub. No. (PHS) 85-1250. Public Health Service, Hyattsville, Md.

National Center for Health Statistics, D. Roper. 1986. Nursing and related care homes as reported from the 1982 National Master Facility Inventory Survey. *Vital and Health Statistics*. Series 14, No. 32. DHHS Pub. No. (PHS) 86-1827. Public Health Service, Washington: U.S. Government Printing Office.

National Center for Health Statistics, G. Strahan. 1987. Nursing home characteristics, preliminary data from the 1985 National Nursing Home Survey. *Advance Data From Vital and Health Statistics*. No. 131. DHHS Pub. No. (PHS) 87-1250. Public Health Service, Hyattsville, Md.

## Technical notes

### Creation of the Inventory of Long-Term Care Places mailing file

The file was created by the Long-Term Care Statistics Branch (LTCSB) of the National Center for Health Statistics. The starting point for nursing and related care homes was the final data tape from the 1982 National Master Facility Inventory plus new facilities added through April 1984. The starting point for facilities for the mentally retarded was a 1982 study by the University of Minnesota's Center for Residential and Community Services (CRCS) (Hill and Lakin, 1984). There were approximately 26,000 nursing and related care homes and 15,000 mental retardation (MR) facilities on these two original files.

To update the files, letters were sent to over 200 State and national agencies in July 1985 asking them to send to LTCSB any and all listings that they maintained for nursing and related care homes, and MR facilities. In September, the LTCSB sent followup letters to those agencies that had not responded. These followup letters would very often name the specific types of facilities that each agency was known to license or regulate. Additional contacts were made to nonresponding agencies during October, November, and December.

The Minnesota CRCS file included places that were obtained through contacts with local area MR sources. Because of extremely tight time constraints, LTCSB was unable to contact all of these local area sources. The only ones contacted

were those sources that were located in States where the number of MR facilities reported by LTCSB sources was significantly lower than the number reported by CRCS.

As the listings and directories of facilities were received, they were manually matched against the 26,000 nursing homes or 15,000 MR facilities. Any facility that could not be found on these two original files was considered "new" and was assigned a unique identification number. This number, along with the new facility's name and address, was added to the appropriate nursing home or MR file.

### Mailout

The first questionnaire mailout was begun by the U.S. Bureau of the Census on February 14, 1986, and this was followed by a reminder letter a week later. On March 14, a second questionnaire mailout was sent to all nonresponding facilities, and on April 4 a third mailout was sent to the remaining nonrespondents.

By the end of the third mailout, nearly 3,300 questionnaires were returned by the U.S. Postal Service. These were reviewed to determine which ones would be eligible for the telephone and personal interview followup. As a result of this review, approximately 1,900 were declared out of scope and removed from the survey. About 1,400 cases were declared eligible for field followup. The field followup was completed in July, bringing the final overall response rate to 96 percent.

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

by Deborah A. Dawson, Ph.D., Marcie Cynamon, M.A.,  
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### 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 September, the second month of data collection with the AIDS questionnaire. Data for August 1987 have been published in NCHS *Advance Data From Vital and Health Statistics*, No. 146.

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.

This report presents provisional data 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 marital status. 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

There are signs that the U.S. public's knowledge about AIDS increased slightly between August and September 1987, especially in the areas of general information concerning the characteristics of the disease and its modes of transmission. The following highlights describe the September data, noting any topic areas where the results are significantly different from those obtained in August.

*Awareness of AIDS*—Virtually everyone (more than 99 percent) has heard of AIDS. More than three-fourths (77 percent) of adults last saw, heard, or read something about AIDS within 3 days of the NHIS interview, an increase from 74 percent in August.

*Self-perceived knowledge*—Twenty percent of adults 18 years of age and over feel that they know a lot about AIDS compared to most people; 43 percent feel they know some; 28 percent feel they know a little; and 9 percent feel they know nothing about AIDS. As was the case in August, adults 50 years and over are more likely than younger

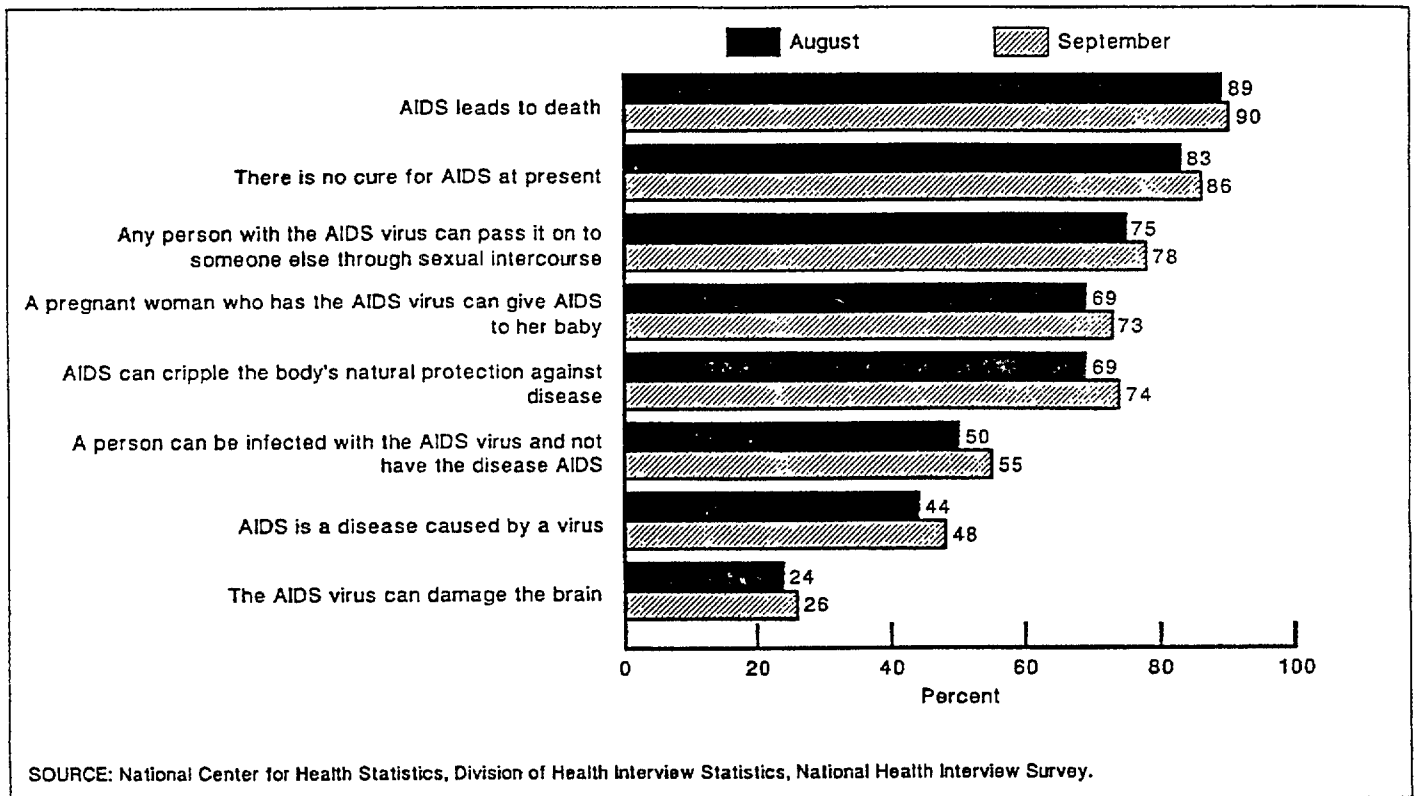


Figure 1. Provisional estimates of percent of adults 18 years of age and over who think selected statements about AIDS are definitely true: United States, August and September, 1987

adults to state that they know nothing about AIDS and less likely to think that they know a lot. Black individuals are more than twice as likely as white individuals to state that they know nothing about AIDS (20 percent compared to 8 percent).

**General knowledge**—Figure 1 shows the percents of adults answering “definitely true” to selected knowledge questions. For a number of these questions, there were small but statistically significant increases between August and September in the proportions of adults answering correctly. The majority of respondents (90 percent) continue to be certain that AIDS leads to death. Increased proportions think it is definitely true that there is no cure for AIDS at present (86 percent compared to 83 percent in August), that anyone with the AIDS virus can transmit it to other individuals through sexual intercourse (78 percent, up from 75 percent in August), and that a pregnant woman can transmit AIDS to her baby (73 percent, up from 69 percent). There also were increases between August and September in the percent of adults who think it is definitely true that AIDS can cripple the body’s natural protection against disease (74 percent compared to 69 percent), that a person can be infected with the AIDS virus and not have the disease AIDS (55 versus 50 percent), and that AIDS is caused by a virus (48 versus 44 percent). Another indication of improved public knowledge lies in the increased proportions of adults who think it is definitely false that AIDS is especially common in older people (69 percent in September compared to 65 percent in August), that you can tell if a person has AIDS just by looking at them (71

compared to 65 percent), and that there is a vaccine to prevent the AIDS virus (69 percent compared to 65 percent).

Despite these areas of improvement, there continues to be a great deal of uncertainty about the causes of AIDS and about the relationship between the AIDS virus and the disease AIDS. For the most part, the lowest levels of general knowledge are found among adults 50 years of age and over, confirming their own self-assessment that they know relatively little about the disease.

**Transmission of the AIDS virus**—Most Americans are aware of the ways in which the AIDS virus is most likely to be transmitted. More than 9 out of 10 adults say it is very likely that a person will get AIDS from having sex with a person who has AIDS (94 percent) or from sharing needles for drug use with someone who has AIDS (93 percent). The level of misinformation about modes of transmission, particularly from casual contact, continues to be high; however, there is some evidence of improvement in this area. Donating blood is still considered a likely way of getting the AIDS virus by one-fourth (26 percent) of adults, but the percent who think it is definitely not possible to transmit the virus by blood donation has increased from 18 to 21 percent. There also have been increases in the proportions of adults who think it is impossible to transmit the virus by working near someone with AIDS (21 percent in September compared to 18 percent in August), by shaking hands with or touching someone with AIDS (26 compared to 22 percent), by kissing on the cheek someone with AIDS (23 compared to 19 percent), and by attending

school with a child who has AIDS (24 compared to 20 percent).

Black adults continue to be more likely than white adults to perceive a threat of AIDS virus infection from many sources of casual contact. There are few differences by age, sex, and marital status in knowledge or misinformation about the transmission of AIDS.

*Blood test for the AIDS virus*—A number of questions were asked about blood tests for the AIDS virus. Overall, 72 percent of adults have heard of the blood test, about the same as in August (70 percent). Persons 30-49 years of age are most likely (82 percent) and persons 50 years of age and over least likely (57 percent) to have heard of the test. Although there is widespread awareness that a blood test for the AIDS virus is available, there appears to be some misunderstanding about the purpose of the test. Forty percent of adults (56 percent of those who have heard of the test) erroneously believe that the blood test results tell whether a person has the disease AIDS.

As was the case in August, 7 percent of respondents report having had their blood tested for the AIDS virus, including 2 percent who voluntarily said that they were tested because of a blood donation or transfusion. (On the other hand, about 12 percent report having given blood since January 1985, the approximate date when routine testing of donated blood began.) These provisional data indicate that adults under age 30 are almost four times as likely to have had the AIDS blood test as persons 50 years of age and over. In addition, 11 percent of all adults have thought about having the AIDS test, and 5 percent say they plan to be tested in the next 12 months. Thirteen percent of Americans age 18 years and over know someone who has had the AIDS blood test.

*Risk of getting AIDS*—Most adults believe that they (and the people that they know) are at little or no risk of AIDS infection. Nine in 10 feel that there is no chance (60 percent) or a low chance (31 percent) of getting AIDS themselves. More than 6 in 10 say that the chance of someone they know getting AIDS is low (38 percent, up from 34 percent in August) or nonexistent (26 percent). Seven percent of adults report personally knowing someone with the AIDS virus.

*AIDS prevention*—Almost 9 out of 10 Americans realize that both celibacy and restricting sexual activity to a monogamous relationship with a person who does not have the AIDS virus are very effective ways to avoid infection with the virus. One-third (33 percent) think that using condoms is a very effective way to avoid the virus, and an additional 49 percent consider this method somewhat effective. Fifty-nine percent of the adults in the United States think that using a diaphragm is not an effective way to avoid getting the AIDS virus, an increase over the August estimate of 56 percent. An equal proportion (59 percent compared to 54 percent in August) feel that using spermicides is ineffective in AIDS prevention.

*AIDS discussion and education*—Two-thirds of adults (68 percent) have discussed AIDS with friends or relatives. Persons age 50 and over are the least likely to have done so. Of adults with children between the ages of 10 and 17, 61 percent have talked with their children about AIDS (14 percent of all adults). Forty-two percent of those with children in this age range report that their children have received instruction about AIDS at school, an increase over the August estimate of 35 percent.

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#### 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 1987 National Health Interview Survey, by selected characteristics: United States, September 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	Total	Age			Sex		Race		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
Percent distribution <sup>1</sup>										
Total . . . . .	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 . . . . .	77	69	79	81	78	76	79	71	79	73
4-7 days ago . . . . .	13	16	13	10	12	13	13	15	13	13
8-14 days ago . . . . .	3	4	3	2	2	3	2	4	3	3
15-31 days ago . . . . .	3	5	3	2	3	3	3	4	2	4
More than 31 days ago . . . . .	2	3	1	1	2	2	1	3	1	3
Never heard of AIDS . . . . .	0	1	0	0	1	0	0	1	0	1
Don't know . . . . .	3	2	2	4	2	3	2	3	2	4
2. Compared to most people, how much would you say you know about AIDS?										
A lot . . . . .	20	22	26	13	23	18	21	13	20	21
Some . . . . .	43	49	47	33	40	45	43	37	44	40
Little . . . . .	28	25	23	35	27	28	27	30	28	28
Nothing . . . . .	9	4	4	19	10	9	8	20	8	11
Don't know . . . . .	0	-	-	0	0	0	0	0	0	0
3a. AIDS is a disease caused by a virus.										
Definitely true . . . . .	48	58	53	34	53	44	48	49	46	52
Probably true . . . . .	28	27	29	27	26	29	28	22	29	25
Probably false . . . . .	4	3	2	5	3	4	4	2	4	3
Definitely false . . . . .	4	3	4	6	4	5	4	6	5	3
Don't know . . . . .	17	9	12	28	15	18	16	21	17	17
3b. AIDS can cripple the body's natural protection against disease.										
Definitely true . . . . .	74	78	81	63	77	72	76	60	76	71
Probably true . . . . .	15	14	12	20	14	16	15	17	14	17
Probably false . . . . .	1	1	1	1	1	1	1	2	1	1
Definitely false . . . . .	1	2	1	1	1	1	1	3	1	1
Don't know . . . . .	9	5	5	15	8	9	7	19	8	9
3c. AIDS is especially common in older people.										
Definitely true . . . . .	0	1	0	1	0	1	0	3	0	1
Probably true . . . . .	1	2	1	1	1	1	1	3	1	2
Probably false . . . . .	21	25	18	21	20	22	21	19	20	24
Definitely false . . . . .	69	65	75	64	69	69	70	59	72	63
Don't know . . . . .	9	7	6	13	9	8	7	16	8	11
3d. The AIDS virus can damage the brain.										
Definitely true . . . . .	26	23	25	30	27	26	26	30	27	26
Probably true . . . . .	32	33	31	34	32	33	32	31	32	34
Probably false . . . . .	8	9	10	5	9	7	8	6	8	8
Definitely false . . . . .	6	7	9	2	7	5	6	4	6	5
Don't know . . . . .	27	27	25	30	26	28	27	29	28	26
3e. AIDS usually leads to heart disease.										
Definitely true . . . . .	7	6	6	9	7	7	7	10	7	7
Probably true . . . . .	22	20	21	24	20	23	21	27	21	22
Probably false . . . . .	18	21	22	12	21	16	19	13	18	18
Definitely false . . . . .	14	16	18	8	15	13	14	11	14	13
Don't know . . . . .	39	37	34	48	36	42	40	39	39	40
3f. AIDS leads to death.										
Definitely true . . . . .	90	92	91	89	88	92	91	89	90	91
Probably true . . . . .	8	7	7	8	9	6	8	7	8	7
Probably false . . . . .	0	0	0	0	0	0	0	-	0	0
Definitely false . . . . .	0	0	0	-	0	0	0	0	0	0
Don't know . . . . .	2	0	1	3	2	1	1	3	1	2
4a. Where do you get most of your information about AIDS? <sup>2</sup>										
Television . . . . .	82	81	80	86	82	83	82	86	83	81
Newspapers . . . . .	60	46	63	68	65	56	63	41	65	52
Magazines . . . . .	28	28	31	25	22	33	29	19	28	27
Radio . . . . .	8	6	9	9	10	6	8	8	9	6
Relatives and friends . . . . .	7	8	8	4	7	6	7	4	6	8
Brochures/fliers/pamphlets . . . . .	7	8	8	5	7	7	6	12	7	8
Doctor/HMO/clinic . . . . .	5	5	7	4	5	6	5	9	5	7
Other . . . . .	15	20	18	8	17	14	15	15	15	17
Don't know . . . . .	0	0	0	0	1	0	0	0	0	0
4b. Of the sources you just told me, from which one do you get the most information?										
Television . . . . .	56	60	51	58	55	57	55	66	56	55
Newspapers . . . . .	21	14	21	26	23	18	22	10	22	18
Magazines . . . . .	9	9	11	7	7	11	9	6	9	9
Brochures/fliers/pamphlets . . . . .	2	3	2	2	2	2	2	2	2	2
Doctor/HMO/clinic . . . . .	2	2	3	1	2	2	2	5	2	3
Other . . . . .	10	13	12	5	11	9	9	10	9	11
Don't know . . . . .	1	0	1	1	1	1	1	0	1	1

See footnotes at end of table



**Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1987 National Health Interview Survey, by selected characteristics: United States, September 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		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
5a. If you wanted more specific information about AIDS, where would you get it? <sup>2</sup>					Percent distribution <sup>1</sup>					
Doctor/HMO/clinic . . . . .	57	57	60	55	55	60	58	50	60	53
Public health department . . . . .	17	14	19	17	18	16	17	15	17	16
Library . . . . .	12	17	14	6	11	13	12	13	13	12
AIDS hot line . . . . .	8	10	8	5	7	8	8	8	6	10
Other . . . . .	26	28	29	21	28	24	25	30	25	28
Don't know . . . . .	12	10	8	19	13	12	12	12	12	13
5b. Which one source would you most likely use?										
Doctor/HMO/clinic . . . . .	46	46	46	48	44	48	47	42	48	43
Public health department . . . . .	12	10	13	13	14	11	13	10	12	12
Library . . . . .	8	12	10	4	7	9	8	10	8	8
AIDS hot line . . . . .	6	7	6	4	5	6	6	7	5	8
Other . . . . .	15	15	16	13	17	13	14	18	14	15
Don't know . . . . .	13	10	9	19	13	12	12	13	12	14
6a. A person can be infected with the AIDS virus and not have the disease AIDS.										
Definitely true . . . . .	55	54	63	45	53	56	57	40	57	50
Probably true . . . . .	25	23	23	27	27	23	25	24	24	25
Probably false . . . . .	3	5	3	3	4	3	3	7	3	4
Definitely false . . . . .	4	7	3	2	4	4	3	8	3	5
Don't know . . . . .	14	11	8	22	13	14	12	21	13	15
6b. You can tell if people have the AIDS virus just by looking at them.										
Definitely true . . . . .	1	1	1	1	1	1	1	1	1	1
Probably true . . . . .	4	5	2	5	3	5	4	5	3	5
Probably false . . . . .	15	13	15	17	16	15	15	16	15	15
Definitely false . . . . .	71	75	75	61	71	70	72	65	72	67
Don't know . . . . .	10	6	6	16	9	10	9	14	8	12
6c. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.										
Definitely true . . . . .	78	81	79	75	76	80	78	75	79	77
Probably true . . . . .	17	15	17	18	19	15	17	15	17	17
Probably false . . . . .	0	0	1	1	1	0	0	0	1	0
Definitely false . . . . .	1	1	1	0	1	1	1	2	0	1
Don't know . . . . .	4	3	3	7	4	4	3	8	4	5
6d. A pregnant woman who has the AIDS virus can give AIDS to her baby.										
Definitely true . . . . .	73	76	77	67	69	77	73	73	74	71
Probably true . . . . .	19	18	16	24	23	16	20	16	18	21
Probably false . . . . .	0	0	1	0	0	0	0	1	0	1
Definitely false . . . . .	0	0	0	0	0	0	0	1	0	0
Don't know . . . . .	7	6	6	9	8	6	7	9	7	7
6e. There is a vaccine available to the public that protects a person from getting the AIDS virus.										
Definitely true . . . . .	1	1	1	2	1	1	1	2	1	1
Probably true . . . . .	3	4	3	3	3	3	2	9	3	4
Probably false . . . . .	11	14	9	10	11	11	10	13	10	12
Definitely false . . . . .	69	70	77	60	72	67	72	51	71	66
Don't know . . . . .	15	12	10	25	13	18	14	25	15	16
6f. There is no cure for AIDS at present.										
Definitely true . . . . .	86	86	88	83	85	86	87	76	87	84
Probably true . . . . .	8	7	7	10	9	8	8	11	7	9
Probably false . . . . .	1	1	1	1	1	1	1	1	1	1
Definitely false . . . . .	2	2	2	1	2	2	1	4	1	2
Don't know . . . . .	4	3	3	5	4	4	3	8	4	4
7. How likely do you think it is that a person will get the AIDS virus from—										
7a. Receiving a blood transfusion?										
Very likely . . . . .	36	36	31	40	33	38	32	54	34	38
Somewhat likely . . . . .	32	31	32	33	30	33	33	29	32	31
Somewhat unlikely . . . . .	13	15	15	8	13	12	14	5	13	12
Very unlikely . . . . .	15	15	18	11	19	11	17	4	16	13
Definitely not possible . . . . .	1	1	1	0	1	1	1	1	0	1
Don't know . . . . .	4	3	3	7	4	4	4	7	4	4
7b. Donating or giving blood?										
Very likely . . . . .	10	10	9	11	10	10	8	24	9	11
Somewhat likely . . . . .	16	19	13	17	16	16	15	23	15	17
Somewhat unlikely . . . . .	13	14	11	13	13	13	13	13	12	14
Very unlikely . . . . .	34	35	38	30	35	33	36	21	36	31
Definitely not possible . . . . .	21	19	26	19	21	21	23	10	22	20
Don't know . . . . .	6	3	3	11	5	7	5	9	5	7

See footnotes at end of table.

**Table 1. Provisional estimates of the percent of persons 18 years of age and over with selected AIDS knowledge and attitudes from the 1987 National Health Interview Survey, by selected characteristics: United States, September 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		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
Percent distribution <sup>1</sup>										
7c. Living near a hospital or home for AIDS patients?										
Very likely . . . . .	1	2	1	1	2	1	1	3	1	2
Somewhat likely . . . . .	5	5	5	4	5	5	4	7	5	5
Somewhat unlikely . . . . .	10	11	10	10	11	9	10	15	10	11
Very unlikely . . . . .	40	44	41	37	43	38	41	40	41	40
Definitely not possible . . . . .	36	34	38	36	33	39	38	25	37	35
Don't know . . . . .	7	4	5	11	6	7	6	10	7	7
7d. Working near someone with AIDS?										
Very likely . . . . .	3	3	3	4	3	4	3	7	3	3
Somewhat likely . . . . .	15	15	15	16	15	15	15	18	15	16
Somewhat unlikely . . . . .	16	17	16	13	17	15	15	15	16	14
Very unlikely . . . . .	36	38	38	33	39	34	37	31	37	36
Definitely not possible . . . . .	21	22	21	20	18	23	22	16	20	22
Don't know . . . . .	9	5	6	14	7	10	8	13	9	9
7e. Eating in a restaurant where the cook has AIDS?										
Very likely . . . . .	10	11	10	10	10	11	9	19	10	12
Somewhat likely . . . . .	26	26	24	28	27	25	27	20	27	24
Somewhat unlikely . . . . .	16	18	16	13	16	15	16	9	15	16
Very unlikely . . . . .	26	25	29	22	26	25	26	23	26	24
Definitely not possible . . . . .	11	12	12	10	10	12	11	10	11	11
Don't know . . . . .	11	8	9	16	11	12	10	20	11	12
7f. Kissing—with exchange of saliva—a person who has AIDS?										
Very likely . . . . .	35	36	33	36	36	34	34	45	35	35
Somewhat likely . . . . .	34	34	34	35	34	35	35	28	35	34
Somewhat unlikely . . . . .	10	11	12	7	12	9	10	8	9	11
Very unlikely . . . . .	9	10	11	7	9	9	9	6	9	8
Definitely not possible . . . . .	2	3	2	2	2	2	2	2	2	3
Don't know . . . . .	9	7	8	13	8	11	9	10	9	9
7g. Shaking hands with or touching someone who has AIDS?										
Very likely . . . . .	2	2	2	3	2	2	2	4	2	2
Somewhat likely . . . . .	11	11	11	11	12	10	11	14	11	11
Somewhat unlikely . . . . .	17	18	16	18	18	16	17	18	17	17
Very unlikely . . . . .	38	39	41	33	39	37	38	32	39	34
Definitely not possible . . . . .	26	27	27	23	24	27	26	20	25	28
Don't know . . . . .	6	4	4	11	5	7	6	11	6	8
7h. Sharing plates, forks, or glasses with someone who has AIDS?										
Very likely . . . . .	15	15	14	15	14	15	14	23	15	15
Somewhat likely . . . . .	32	33	31	33	33	31	32	30	33	31
Somewhat unlikely . . . . .	14	16	15	12	15	14	15	11	14	15
Very unlikely . . . . .	19	17	23	17	20	19	20	13	20	19
Definitely not possible . . . . .	10	10	11	9	8	11	10	8	10	10
Don't know . . . . .	10	8	7	14	9	10	9	14	9	10
7i. Using public toilets?										
Very likely . . . . .	9	11	7	11	7	11	8	17	9	10
Somewhat likely . . . . .	22	22	20	25	22	22	22	26	22	22
Somewhat unlikely . . . . .	16	18	17	12	17	15	16	12	15	16
Very unlikely . . . . .	27	24	32	23	30	24	28	20	28	24
Definitely not possible . . . . .	16	18	17	13	15	17	16	12	16	16
Don't know . . . . .	10	7	8	15	8	12	9	14	10	11
7j. Sharing needles for drug use with someone who has AIDS?										
Very likely . . . . .	93	95	94	89	92	93	93	87	93	93
Somewhat likely . . . . .	5	4	4	6	5	4	4	6	5	5
Somewhat unlikely . . . . .	0	0	—	0	—	0	0	—	0	0
Very unlikely . . . . .	0	0	0	1	0	0	0	0	0	0
Definitely not possible . . . . .	0	0	0	0	0	0	0	1	0	0
Don't know . . . . .	2	1	1	4	2	2	2	5	2	2
7k. Kissing on the cheek a person who has AIDS?										
Very likely . . . . .	4	3	4	5	4	4	3	9	4	3
Somewhat likely . . . . .	14	16	12	15	16	13	14	20	14	15
Somewhat unlikely . . . . .	19	21	20	17	21	18	19	19	19	21
Very unlikely . . . . .	33	32	35	31	34	32	34	24	34	29
Definitely not possible . . . . .	23	25	25	19	21	25	23	16	22	24
Don't know . . . . .	7	4	5	13	6	9	6	12	7	7
7l. Being coughed or sneezed on by someone who has AIDS?										
Very likely . . . . .	11	11	11	12	11	12	11	18	11	12
Somewhat likely . . . . .	29	29	24	34	30	28	29	27	29	29
Somewhat unlikely . . . . .	17	17	19	14	19	15	17	15	17	16
Very unlikely . . . . .	22	23	25	17	23	21	23	17	23	21
Definitely not possible . . . . .	10	11	11	8	9	11	10	9	9	11
Don't know . . . . .	12	9	9	16	10	13	11	15	12	11

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, September 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		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
Percent distribution <sup>1</sup>										
7m. Attending school with a child who has AIDS?										
Very likely . . . . .	2	2	2	3	2	2	2	5	2	3
Somewhat likely . . . . .	12	12	12	12	13	11	11	15	12	12
Somewhat unlikely . . . . .	17	17	18	15	17	17	16	17	17	16
Very unlikely . . . . .	36	37	38	33	39	34	38	30	37	35
Definitely not possible . . . . .	24	26	24	22	22	26	25	18	23	26
Don't know . . . . .	9	6	6	14	8	10	8	15	9	9
7n. Mosquitoes or other insects?										
Very likely . . . . .	10	13	9	9	11	9	9	18	9	12
Somewhat likely . . . . .	25	27	25	24	26	24	24	30	26	24
Somewhat unlikely . . . . .	12	15	13	9	13	12	12	11	12	12
Very unlikely . . . . .	21	20	22	18	22	19	22	11	21	19
Definitely not possible . . . . .	12	10	12	12	8	14	12	8	12	11
Don't know . . . . .	21	15	18	28	19	22	21	22	20	22
7o. Pets or animals?										
Very likely . . . . .	3	4	3	3	3	3	2	8	2	4
Somewhat likely . . . . .	10	13	8	11	11	9	10	14	11	10
Somewhat unlikely . . . . .	11	14	13	7	13	9	11	12	11	12
Very unlikely . . . . .	30	31	33	25	31	29	31	21	32	26
Definitely not possible . . . . .	23	21	26	23	21	26	24	17	24	22
Don't know . . . . .	22	18	18	31	21	24	21	27	20	26
7p. Having sex with a person who has AIDS?										
Very likely . . . . .	94	96	93	92	92	95	94	92	94	94
Somewhat likely . . . . .	4	3	5	3	5	3	4	3	4	4
Somewhat unlikely . . . . .	0	0	1	0	1	0	0	—	0	0
Very unlikely . . . . .	0	—	0	0	0	0	0	0	0	0
Definitely not possible . . . . .	0	0	0	—	0	0	0	0	0	0
Don't know . . . . .	2	1	1	4	2	2	1	5	2	2
8. Have you ever heard of a blood test for infection with the AIDS virus?										
Yes . . . . .	72	77	82	57	73	72	73	61	73	70
No . . . . .	25	21	16	38	24	25	24	35	24	27
Don't know . . . . .	3	2	2	5	3	3	3	5	3	3
9. Does this test tell whether a person has the disease AIDS?										
Yes . . . . .	40	44	43	33	40	40	40	39	40	40
No . . . . .	22	23	29	14	23	21	23	12	24	19
Don't know . . . . .	10	10	9	10	9	10	10	10	9	10
Never heard of test (no/don't know to q. 8) . . . . .	28	23	18	43	27	28	27	39	27	30
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	69	74	47	64	63	65	52	64	62
No . . . . .	3	3	3	2	3	3	3	4	3	3
Don't know . . . . .	6	6	5	7	5	6	6	4	6	5
Never heard of test (no/don't know to q. 8) . . . . .	28	23	18	43	28	29	27	39	27	30
11. Have you ever had your blood tested for infection with the AIDS virus?										
Yes . . . . .	5	7	5	2	6	4	4	8	4	6
Yes, in blood donation/transfusion . . . . .	2	3	3	1	3	2	2	2	2	3
No . . . . .	63	65	72	52	62	64	65	49	65	60
Don't know . . . . .	2	2	1	2	2	2	2	2	2	2
Never heard of test (no/don't know to q. 8) . . . . .	28	23	18	43	28	29	27	39	27	30
12a. Have you ever thought about having this blood test?										
Already had test . . . . .	7	10	9	3	9	6	7	10	6	9
Yes . . . . .	11	15	15	5	12	11	11	19	9	15
No . . . . .	53	52	57	48	52	54	55	31	57	46
Don't know . . . . .	—	—	—	—	—	—	—	—	—	—
Never heard of test (no/don't know to q. 8) . . . . .	29	23	19	44	28	29	27	40	28	30
12b. Do you plan to be tested in the next 12 months?										
Already had test . . . . .	7	10	9	3	9	6	7	10	6	9
Yes . . . . .	5	7	5	1	5	4	4	11	3	7
No . . . . .	5	5	6	2	5	5	5	3	4	5
Don't know . . . . .	2	3	3	1	2	3	2	4	2	3
Never heard of test or thought about having test (no/don't know to q. 8 or q. 12a) . . . . .	81	75	76	92	80	83	83	71	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, September 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		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
13. Where would you go to have a blood test for the AIDS virus infection? <sup>3</sup>					Percent distribution <sup>1</sup>					
Nowhere/wouldn't take test . . . . .	-	-	-	-	-	-	-	-	-	-
AIDS clinic . . . . .	3	4	3	2	5	1	2	5	1	5
Other clinic . . . . .	25	27	23	24	25	24	24	25	24	26
Doctor/HMO . . . . .	49	45	50	56	44	54	51	48	52	46
Red Cross/blood bank . . . . .	2	3	1	3	1	2	2	2	1	2
Other . . . . .	16	16	19	7	20	13	16	17	16	16
Don't know . . . . .	5	5	4	8	4	6	5	3	5	5
14. Where would you go to find out where to have this blood test? <sup>2,4</sup>										
AIDS hot line . . . . .	3	-	7	-	-	5	4	-	-	6
AIDS clinic . . . . .	-	-	-	-	-	-	-	-	-	-
Other clinic . . . . .	14	24	15	-	29	4	13	24	15	13
Doctor/HMO . . . . .	40	12	39	76	44	37	45	-	26	54
Friends . . . . .	-	-	-	-	-	-	-	-	-	-
Public health department . . . . .	17	10	33	-	9	23	11	76	14	20
Other . . . . .	6	10	7	-	-	10	4	-	-	13
Nowhere/wouldn't take test . . . . .	-	-	-	-	-	-	-	-	-	-
Don't know . . . . .	29	44	21	24	19	36	34	-	45	13
15. Have you donated blood since 1985?										
Yes . . . . .	12	16	14	5	15	9	12	8	11	13
No . . . . .	88	84	85	95	85	91	88	91	89	87
Don't know . . . . .	0	0	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 . . . . .	13	18	17	5	13	13	14	10	12	15
No . . . . .	85	81	82	93	85	85	85	87	86	83
Don't know . . . . .	1	1	1	2	1	2	1	2	1	2
17. What are the chances of someone you know getting the AIDS virus?										
High . . . . .	9	10	12	5	9	9	9	11	9	10
Medium . . . . .	17	23	17	11	17	16	16	20	15	19
Low . . . . .	38	38	43	32	42	35	40	24	41	33
None . . . . .	26	23	21	33	23	28	25	27	26	25
Refused . . . . .	0	-	0	-	0	-	0	-	0	-
Don't know . . . . .	11	6	7	19	9	12	10	18	10	13
18. What are your chances of getting the AIDS virus?										
High . . . . .	1	1	1	1	1	1	1	2	1	1
Medium . . . . .	4	4	4	3	4	4	4	4	4	4
Low . . . . .	31	36	36	21	35	27	31	27	29	34
None . . . . .	60	56	56	68	57	63	60	60	62	56
Refused . . . . .	0	0	0	-	0	0	0	-	0	0
Don't know . . . . .	4	2	3	7	4	5	4	8	4	5
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	1	2	2	2	1	5	2	2
Somewhat effective . . . . .	11	13	9	11	10	11	10	13	9	13
Not at all effective . . . . .	59	58	69	48	59	58	61	43	62	53
Don't know how effective . . . . .	21	18	16	29	20	21	21	25	21	21
Don't know method . . . . .	8	8	5	11	9	7	7	14	6	10
19b. Using a condom?										
Very effective . . . . .	33	37	35	27	33	33	34	27	33	33
Somewhat effective . . . . .	49	48	53	45	49	48	50	40	50	46
Not at all effective . . . . .	6	6	5	7	6	6	5	10	5	7
Don't know how effective . . . . .	9	6	5	17	9	9	8	16	9	9
Don't know method . . . . .	3	2	2	5	2	4	3	6	2	5
19c. Using a spermicidal jelly, foam, or cream?										
Very effective . . . . .	1	2	1	1	1	2	1	4	1	2
Somewhat effective . . . . .	12	12	13	11	12	13	12	16	11	14
Not at all effective . . . . .	59	61	67	47	59	58	61	44	61	53
Don't know how effective . . . . .	20	18	14	29	21	19	19	25	20	20
Don't know method . . . . .	8	7	5	11	7	8	7	12	6	10
19d. Being celibate, that is, not having sex at all?										
Very effective . . . . .	90	93	92	86	90	90	91	84	90	90
Somewhat effective . . . . .	4	3	4	5	4	4	4	5	4	4
Not at all effective . . . . .	1	1	1	1	1	1	1	2	1	1
Don't know how effective . . . . .	3	2	2	6	3	4	3	8	4	3
Don't know method . . . . .	1	0	1	2	1	2	1	2	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, September 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		Marital status	
		18-29 years	30-49 years	50 years and over	Male	Female	White	Black	Married	Unmarried
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 <sup>1</sup>					
Very effective . . . . .	85	87	90	79	86	85	87	77	87	83
Somewhat effective . . . . .	7	8	6	9	7	8	7	10	7	9
Not at all effective . . . . .	2	3	1	2	2	2	1	3	1	2
Don't know how effective . . . . .	4	2	3	7	4	5	3	8	4	4
Don't know method . . . . .	1	1	1	3	1	2	1	2	1	2
20. Have you ever discussed AIDS with a friend or relative?										
Yes . . . . .	68	77	77	52	64	72	69	67	68	68
No . . . . .	31	23	23	47	35	28	31	33	31	32
Don't know . . . . .	0	-	0	1	0	0	0	0	1	0
21. When was the last time you discussed AIDS with a friend or relative?										
0-3 days ago . . . . .	20	21	23	17	19	21	20	21	21	18
4-7 days ago . . . . .	18	19	22	13	18	18	18	18	18	18
8-14 days ago . . . . .	8	10	9	5	7	9	8	6	8	8
15-31 days ago . . . . .	11	15	12	6	11	11	11	8	11	11
More than 31 days ago . . . . .	7	9	7	5	6	7	7	7	6	8
Never discussed (no/don't know to q. 20) . . . . .	33	24	24	50	37	29	33	35	33	33
Don't know . . . . .	3	3	2	5	3	3	3	4	3	3
24. Have you ever discussed AIDS with [any of your children age 10-17]?										
Yes . . . . .	14	1	32	3	12	15	13	16	18	7
No . . . . .	9	2	19	3	12	6	8	14	11	5
Don't know . . . . .	-	-	-	-	-	-	-	-	-	-
No children 10-17 years of age <sup>5</sup> . . . . .	77	97	49	94	76	78	78	71	71	89
25. Have your children had any instruction at school about AIDS?										
Yes . . . . .	10	1	22	3	10	10	9	14	13	4
No . . . . .	5	1	12	1	5	6	6	4	7	3
Don't know . . . . .	8	1	17	2	9	6	7	10	9	5
No children 10-17 years of age <sup>5</sup> . . . . .	77	97	49	94	76	78	78	71	71	89
26. Have you ever personally known anyone with the AIDS virus?										
Yes . . . . .	7	7	9	4	7	7	7	9	6	8
No . . . . .	91	92	89	94	91	92	92	87	92	90
Don't know . . . . .	2	1	2	1	2	2	1	3	1	2
27. Have you ever personally known anyone with AIDS?										
Yes . . . . .	7	6	9	4	6	7	6	10	6	8
No . . . . .	92	93	89	95	92	92	92	88	93	90
Don't know . . . . .	1	1	2	1	1	1	1	2	1	2
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 . . . . .	71	74	74	66	73	69	72	67	73	69
No . . . . .	20	16	18	24	19	20	19	21	19	20
Other . . . . .	3	3	3	3	2	4	3	2	3	3
Don't know . . . . .	6	6	6	7	5	7	6	9	5	8
29. Would you want to know the results of the blood test? <sup>6</sup>										
Yes . . . . .	97	98	97	97	97	97	97	97	97	98
No . . . . .	2	2	2	2	2	2	2	3	2	1
Don't know . . . . .	1	1	1	1	1	1	1	1	1	1

<sup>1</sup>Excludes 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.  
<sup>2</sup>Multiple responses may sum to more than 100 percent.  
<sup>3</sup>Based on persons answering yes to question 12a.  
<sup>4</sup>Based on persons answering don't know to question 13.  
<sup>5</sup>Based on question 22, Do you have any children aged 10-17? Question 23 was, How many do you have?  
<sup>6</sup>Based on persons answering yes to question 28.

NOTE: Total, age, sex, and marital status include persons of other and unknown race not shown separately under race.

## 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

**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, September 1987**

<i>Characteristic</i>	<i>Sample size</i>	<i>Estimated population in thousands</i>
All adults . . . . .	3,097	174,528
<b>Age</b>		
18-29 years. . . . .	770	47,725
30-49 years. . . . .	1,196	66,109
50 years and over . . . . .	1,131	60,695
<b>Sex</b>		
Male . . . . .	1,273	82,703
Female . . . . .	1,343	91,825
<b>Race</b>		
White . . . . .	2,545	151,003
Black . . . . .	461	19,107
<b>Marital status</b>		
Currently married . . . . .	1,670	110,968
Unmarried . . . . .	1,423	63,102

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 household. The estimates in this report are based on completed interviews with 3,097 persons, or about 85 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, September 1987**

<i>Estimated percent</i>	<i>Total</i>	<i>Age</i>			<i>Sex</i>		<i>Race</i>		<i>Marital status</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>Married</i>	<i>Unmarried</i>
5 or 95 . . . . .	0.5	1.0	0.8	0.8	0.7	0.6	0.5	1.2	0.6	0.7
10 or 90 . . . . .	0.7	1.3	1.0	1.1	1.0	0.9	0.7	1.7	0.9	1.0
15 or 85 . . . . .	0.8	1.6	1.2	1.3	1.2	1.0	0.9	2.0	1.1	1.2
20 or 80 . . . . .	0.9	1.8	1.4	1.5	1.4	1.1	1.0	2.3	1.2	1.3
25 or 75 . . . . .	0.9	1.9	1.5	1.6	1.5	1.2	1.0	2.5	1.3	1.4
30 or 70 . . . . .	1.0	2.0	1.6	1.7	1.6	1.3	1.1	2.6	1.4	1.5
35 or 65 . . . . .	1.0	2.1	1.7	1.7	1.6	1.4	1.1	2.7	1.4	1.6
40 or 60 . . . . .	1.1	2.1	1.7	1.8	1.7	1.4	1.2	2.8	1.5	1.6
45 or 55 . . . . .	1.1	2.2	1.7	1.8	1.7	1.4	1.2	2.8	1.5	1.6
50 . . . . .	1.1	2.2	1.7	1.8	1.7	1.4	1.2	2.9	1.5	1.6

## **Aging in the Eighties, People Living Alone—Two Years Later**

### **Data from the 1984 and 1986 Longitudinal Study of Aging Interviews**

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#### **Introduction**

There is evidence that older people who live alone are more likely to become institutionalized than people who live with others (Branch and Jette, 1982), and that the risk is greater at older ages (Cohen, Tell, and Wallack, 1986). There is also evidence that people with strong social networks are more likely to survive and remain healthy than those without such social interaction (Berkman and Syme, 1979; House, Robins, and Metzner, 1982; Berkman, 1985; Seeman, Kaplan, Knudson et al, 1987). Data from the Supplement on Aging to the National Health Interview Survey showed that many of the people living alone in 1984 did have living children or siblings, had had recent contact with family or friends, or lived in housing without major barriers to movement (NCHS, 1986). If such factors do make it possible for people to remain in the community rather than becoming residents of nursing homes, identifying those factors will furnish guidelines for supporting the positive aspects and for identifying people at high risk of institutionalization and, perhaps, postponing or averting their institutionalization.

The Supplement on Aging had advantages over many other data sources in that there were many measures of functional health status in addition to measures of barriers in housing, contact with children, and recent social contacts. It also had a large national sample. The disadvantage was that there was no information about how these people fared as they grew older. That disadvantage has been partly overcome with the first reinterview of the oldest people 2 years later as part of the Longitudinal Study of Aging.

#### **The data**

In 1984 information on 16,148 people age 55 years and over was obtained through the Supplement on Aging to the

National Health Interview Survey (NCHS, 1987a). This supplement was designed to be the basis for a family of longitudinal studies that are known collectively as the Longitudinal Study of Aging.

The Longitudinal Study of Aging is a long-term collaborative project with the National Institute on Aging that involves matches with existing records, such as death certificates, for all of the people in the Supplement on Aging, and reinterviews with samples of people who were in the 1984 study (Fitti and Kovar, 1987; NCHS, 1987b). One part of the Longitudinal Study of Aging involved selecting a sample of 5,151 people who were age 70 years and over in 1984 to be reinterviewed in 1986.

There were 5,151 people selected for reinterview in 1986. The status of 92 percent was ascertained through the reinterview; 4,130 were still living, and 604 were deceased. Another 20 persons were identified as deceased through matching with the National Death Index for 1984 and 1985.

Information about the 1,921 people in the 1986 Longitudinal Study of Aging reinterview sample who had been living alone in 1984 is the basis of this report. The status of 91 percent, 1,743 persons, was ascertained in 1986 through the reinterview or the match with the National Death Index.

All estimates are national estimates for the population age 70 years and over who were living in the United States outside of institutions in 1984. A brief description of the study and the analytic methods are in the Technical notes; a full description of the study has been published (NCHS, 1987b).

#### **Living alone or with others**

In 1984 there were about 17 million people age 70 years and over living in the community in the United States—6 million were living alone and 11 million were living with

at least one other person (table A). Of the latter, 7 million were living with a spouse only and 4 million lived with other people. A sizable proportion of the last group was living with other people because of their health (Kovar and Harris, 1987). They were already having health problems and at high risk of death or institutionalization.

**Table A. Status in 1986 of people age 70 years and over living in communities in 1984, according to living arrangements in 1984: United States**

Status in 1986	Living arrangement in 1984				
	Total	Alone	With others		
			Total	Spouse only	All others
Population in thousands					
Total . . . . .	17,335	6,351	10,984	6,963	4,021
Percent distribution					
Total . . . . .	100.0	100.0	100.0	100.0	100.0
Alive . . . . .	88.2	89.8	87.3	89.0	84.3
In community . .	84.8	85.3	84.5	87.2	79.8
Alone . . . . .	34.0	77.8	9.2	8.1	11.1
With others . . .	50.8	7.4	75.3	79.1	68.8
In institution . .	3.4	4.6	2.8	1.8	4.5
Dead . . . . .	11.8	10.2	12.7	11.0	15.7

Although the people who were living alone were, on the average, older than those living with others in 1984, they were not more likely to have died within the 2 years. This is partly because the majority of the people living alone were women, and women, on the average, live longer than men. However, people who had been living alone were more likely to be in nursing homes 2 years later than people who had been living with others. Again, this may be partly because of being women; older women are more likely to be in nursing homes than older men (NCHS, 1987c).

Most of the older people had the same living arrangements in 1986 that they had had 2 years earlier. Of the people who had been living alone in 1984, 78 percent were still living alone 2 years later; of those who had been living with others, 75 percent were living with others 2 years later.

The data from the 1986 Longitudinal Study of Aging reinterview confirm earlier research. Although few people were in nursing homes 2 years later, the percent of those who had been living alone who were in nursing homes was higher than the percent of those who had been living with others. Moreover, when only people who were not receiving help with one or more Activities of Daily Living in 1984 are considered, the percent remained higher (3.7 versus 1.6 percent), although the difference is not statistically significant.

### People living alone

Of all the factors associated with entering a nursing home, age and functional status at the time of the original interview are the most powerful. The two are, of course, associated; people in their eighties are more likely to be in

poor health than people in their seventies. It is health status, however, not age per se, that leads to either death or institutionalization (Kovar, 1987).

People who are receiving help with one or more Activities of Daily Living (bathing, eating, dressing, transferring, walking, getting outside, using the toilet) are more likely to have died or become institutionalized 2 years later than those who were not receiving such help (Kovar, 1987). Only 7.5 percent of the people age 70 years and over living alone were receiving help with one or more Activities of Daily Living (ADL) in 1984 (table 1). Although only 10 percent of the people who had been living alone had died and only 5 percent had moved into nursing homes, 25 percent of the people living alone who had been receiving help with one or more ADL's had died and 16 percent were in nursing homes 2 years later (table B).

**Table B. Status in 1986 of people age 70 years and over living alone in 1984, according to help status in 1984: United States**

Status in 1986	Help status in 1984				
	Total	Help with—			No difficulty
		ADL <sup>1</sup>	IADL's <sup>2</sup>	Neither	
Population in thousands					
Total . . . . .	6,351	478	1,204	768	3,901
Percent distribution					
Total . . . . .	100.0	100.0	100.0	100.0	100.0
In community . . .	85.3	59.1	77.6	83.4	91.1
Alone . . . . .	77.8	52.0	67.4	80.5	83.7
With others . . .	7.4	7.1	10.2	2.9	7.5
In institution . . . .	4.6	15.9	7.9	5.9	1.9
Dead . . . . .	10.2	24.9	14.5	10.7	7.0

<sup>1</sup> ADL is Activity of Daily Living

<sup>2</sup> IADL is Instrumental Activity of Daily Living.

Therefore, it is important to determine whether barrier-free housing, frequency of seeing children, and contacts with family and friends are associated with receiving such help. Some of these measures were associated with functional status. People who needed to have their major living components on one floor or who needed a walk-in shower were significantly more likely than others to be receiving help with one or more ADL's (table 1). People who had at least one child who could be with them within 10 minutes or who saw or talked with at least one child daily were more likely to be receiving help than people who saw or talked with their children less frequently (table 2). People who had not gotten together or talked on the telephone with friends or neighbors or who had not gone to religious or social events were significantly more likely than those who had to be receiving help with one or more ADL's (table 3). In contrast, neither the housing characteristics shown in table 1 nor having had recent contact with relatives was significantly associated with receiving such help.

Therefore, associations between the social and environmental characteristics and survival or remaining in the community should be evaluated for people who were not already receiving help at the beginning of the study.



The data on status in 1986 for people who were living alone and who were not receiving help with any Activities of Daily Living in 1984 are shown in tables 4-6. Their status 2 years later was better than that of the total group. Only 9.0 percent of these people (rather than 10.2 percent) had died and 3.7 percent (rather than 4.6 percent) were in nursing homes 2 years later.

It is obvious from table 4 that the need for appropriate housing measures something different from the receipt of help. People needing appropriate housing were significantly more likely to have died or to be institutionalized 2 years later than people who did not have such a need. Having major living areas on one floor is not sufficient; the difference between those with and without a need for such facilities is significant even for people who had them.

The association between seeing at least one child daily and living with someone else 2 years later is statistically significant. None of the other associations in table 5 is statistically significant, although there is a suggestion that people without children or who do not live very close to at least one child are more likely to be in institutions rather than living with others 2 years later.

All of the associations between recent nonfamilial social contacts in 1984 and death 2 years later shown in table 6 are statistically significant. People who had had no contact with friends or neighbors within 2 weeks and who were still in the community 2 years later were also more likely to be living with others. However, recent contacts with relatives were not significantly associated with the older person's status 2 years later, and there were no statistically significant associations with institutionalization.

## Summary

Older people who had been living alone were more likely than those living with others to be in a nursing home 2 years later. However, there is evidence of a progression; people live alone, then with other people if others are available, then they may become nursing home residents.

Older people who die or who become residents of nursing homes do so not because they are old or because they have no family to provide care but because they are sick people. Regardless of whether people had been living alone or with others, people who had been receiving help with any Activity of Daily Living were more likely to be in a nursing home or to have died 2 years later.

Even when only people who had not been receiving help with any Activity of Daily Living in 1984 are considered, the data from the Longitudinal Study of Aging 1986 reinterview show that people who had had recent contact with friends or neighbors are more likely to be alive, and people with children whom they see daily are more likely to live with others 2 years later. Although the data are not in this report, they also suggest that people who had living brothers and sisters were more likely to survive the 2-year period.

There are multiple confounders in studying aging and remaining independent. It is not sufficient to study only physical or functional health, barriers to movement, availability of family, or social contacts. All of these may function as protection against institutionalization or early death. Many may be associated with other things not measured or have interrelationships with one another that were not measured. The study included no question, for example, asking why people had no living children. It is possible that they never had children because of their ill health early in life or that their children died early. It is possible that those without living siblings had had siblings who died prematurely. The survivors may share a genetic predisposition that would leave them alive but in poor health.

Many of the relationships are only suggestive. Most of the people who were age 70 years and over and living alone in 1984, 78 percent of the people whose status in 1986 was confirmed, were still living alone 2 years later. The major reason people were not still living alone was death. The second reason was that they were now living with others, usually children. Although people who had been living alone were more likely to be in nursing homes 2 years later than those who had been living with others, only 4.6 percent were in nursing homes in contrast with 85 percent who were still living in the community outside of nursing homes. More people who had been living alone were living with others 2 years later than were in nursing homes.

Two years is a very short period in which to observe change. Older people who are not already dependent are not highly likely to die or become institutionalized in that time. Most of the people had had no change in their living arrangements; they had been living alone in 1984 and were still living alone 2 years later. It will take a longer time period, with more opportunity for change to occur, to confirm relationships that these data suggest.

## References

- Berkman, L.E. 1985. The relationship of social networks and social support to morbidity and mortality. In *Social Support and Health*, edited by S. Cohen and S. L. Syme. Orlando, Fla. Academic Press.
- Berkman, L.E. and S.L. Syme. 1979. Social networks, host resistance, and mortality: A nine-year follow-up study of Alameda County residents. *Am. J. Epidemiol.* 109:186-204.
- Branch, L.G. and A.M. Jette. 1982. A prospective study of long-term care institutionalization among the aged. *Am. J. Pub. Health* 72(12):1373-1379.
- Cohen, M.A., E.J. Tell, and S.S. Wallack. 1986. The lifetime risks and costs of nursing home use among the elderly. *Medical Care* 24(12):1161-1172.
- Fitti, J.E. and M.G. Kovar. 1987. A multi-mode longitudinal study: The Longitudinal Study of Aging. *Proceedings of the Survey Research Section of the American Statistical Association.*
- House, J.S., C. Robbins, and H.L. Metzner. 1982. The association of social relationships and activities with mortality: prospective evidence from the Tecumseh Community Health Study. *Am. J. Epidemiol.* 116:123-140.
- Kovar, M.G. 1987. The Longitudinal Study of Aging: Some estimates of change among older Americans. *Proceedings of the 1987 Public Health Conference on Records and Statistics.* pp 397-98. DHHS Pub. No. (PHS) 88-1214. National Center for Health Statistics. Hyattsville, Md.
- Kovar, M.G. and T. Harris. 1987. Who will care for older people? *Proceedings of the Social Statistics Section of the American Statistical Association.*
- National Center for Health Statistics, M.G. Kovar and G.S. Poe. 1985. The design and procedures for the National Health Interview Survey. *Vital and Health Statistics.* Series 1 No. 18. DHHS Pub No. (PHS) 85-1320. Washington: U.S. Government Printing Office.
- National Center for Health Statistics, M.G. Kovar. 1986. Aging in the eighties, age 65 and older and living alone, contacts with family, friends, and neighbors. *Advance Data From Vital and Health Statistics.* No. 116. DHHS Pub. No. (PHS) 86-1250. Public Health Service. Hyattsville, Md.
- National Center for Health Statistics, J.E. Fitti and M.G. Kovar. 1987a. The Supplement on Aging to the 1984 National Health Interview Survey. *Vital and Health Statistics.* Series 1, No. 21. DHHS Pub. No. (PHS) 87-1323. Public Health Service. Washington: U.S. Government Printing Office.
- National Center for Health Statistics, M.G. Kovar and J.E. Fitti. 1987b. The Longitudinal Study of Aging: A description of the study. *Working Paper Series.* No. 31.
- National Center for Health Statistics, E. Hing. 1987c. Use of nursing homes by the elderly. *Advance Data From Vital and Health Statistics.* No. 135. DHHS Pub. No. (PHS) 87-1250. Public Health Service. Hyattsville, Md.
- Seeman, T.E., G.A. Kaplan, L. Knudsen et al. 1987. Social network ties and mortality among the elderly in the Alameda County Study. *Am. J. Epidemiol.* 126(4):714-723.

**Table 1. People who were 70 years and over and living alone by housing characteristics and whether they were receiving help with one or more Activities of Daily Living in 1984: United States**

Housing characteristics	Sample	Total	Whether receiving help		Percent
			No	Yes	
	Number	Population in thousands			
All people . . . . .	1,921	6,351	5,873	478	7.5
Steps to outside					
No . . . . .	408	1,365	1,265	99	7.3
Yes . . . . .	1,513	4,986	4,607	379	7.6
Levels inside					
One . . . . .	1,188	3,928	3,631	297	7.6
More than one . . . . .	733	2,423	2,242	181	7.5
Need bedroom, bathroom, kitchen on same floor					
Yes . . . . .	653	2,008	1,590	418	20.8
No . . . . .	1,268	4,343	4,282	60	1.4
Have bedroom, bathroom, kitchen on same floor					
Yes . . . . .	1,762	5,816	5,359	456	7.8
Needed . . . . .					
Needed <sup>1</sup> . . . . .	627	1,911	1,502	409	21.4
Not needed . . . . .	1,135	3,905	3,858	47	1.2
No . . . . .	159	535	513	22	4.1
Needed <sup>1</sup> . . . . .					
Needed . . . . .	26	97	89	9	8.8
Not needed . . . . .	133	438	425	13	3.1
Need walk-in shower					
Yes . . . . .	321	954	729	225	23.6
No . . . . .	1,600	5,397	5,144	253	4.7
Have walk-in shower					
Yes . . . . .	325	1,102	1,041	61	5.5
Needed <sup>1</sup> . . . . .					
Needed . . . . .	79	242	208	34	14.1
Not needed . . . . .	246	859	832	27	3.1
No . . . . .	1,596	5,249	4,832	417	7.9
Needed . . . . .					
Needed . . . . .	242	712	520	191	26.9
Not needed . . . . .	1,354	4,537	4,312	226	5.0

<sup>1</sup>Fewer than 100 sample persons

**Table 2. People who were 70 years and over and living alone by contacts with children and whether they were receiving help with one or more Activities of Daily Living in 1984: United States**

Contact with children	Sample	Total	Whether receiving help		Percent
			No	Yes	
	Number	Population in thousands			
All people . . . . .	1,921	6,351	5,873	478	7.5
No living children . . . . .	530	1,744	1,665	79	4.5
WITH LIVING CHILDREN					
Sex of children					
Sons only . . . . .	362	1,166	1,101	64	5.5
Daughters only . . . . .	326	1,112	1,017	95	8.5
Both . . . . .	702	2,327	2,087	241	10.3
Time for nearest child to get here					
Within 10 minutes . . . . .	406	1,338	1,159	179	13.4
10 minutes or more . . . . .	985	3,269	3,049	221	6.7
Frequency of seeing a child					
Daily . . . . .	376	1,209	1,041	167	13.8
2-6 times a week . . . . .	285	927	838	88	9.5
Weekly . . . . .	280	948	869	80	8.4
Less than weekly . . . . .	450	1,524	1,459	64	4.2
Frequency of talking with a child					
Daily . . . . .	564	1,832	1,594	237	13.0
2-6 times a week . . . . .	267	903	854	49	5.4
Weekly . . . . .	254	866	826	40	4.6
Less than weekly . . . . .	306	1,007	934	73	7.3
Frequency of seeing or talking with a child					
Daily . . . . .	680	2,188	1,917	271	12.4
2-6 times a week . . . . .	276	930	873	57	6.2
Weekly . . . . .	236	821	786	35	4.2
Less than weekly . . . . .	199	668	632	36	5.4

**Table 3. People who were 70 years and over and living alone by recent social contacts and whether they were receiving help with one or more Activities of Daily Living in 1984: United States**

Contacts within 2 weeks	Sample	Total	Whether receiving help		Percent
			No	Yes	
	Number	Population in thousands			
All people . . . . .	1,921	6,351	5,873	478	7.5
Got together with friends or neighbors					
Yes . . . . .	1,366	4,609	4,358	251	5.4
No . . . . .	555	1,742	1,515	227	13.0
Talked on telephone with friends or neighbors					
Yes . . . . .	1,606	5,323	4,984	339	6.4
No . . . . .	315	1,027	888	139	13.5
Got together with relatives					
Yes . . . . .	1,466	4,897	4,514	383	7.8
No . . . . .	455	1,454	1,358	95	6.6
Talked on telephone with relatives					
Yes . . . . .	1,650	5,462	5,060	402	7.4
No . . . . .	271	889	813	76	8.6
Went to church or synagogue					
Yes . . . . .	982	3,300	3,189	111	3.4
No . . . . .	939	3,051	2,684	367	12.0
Went to other group event					
Yes . . . . .	488	1,724	1,688	36	2.1
No . . . . .	1,433	4,627	4,185	442	9.6

**Table 4. Status in 1986 of people who were 70 years and over, living alone and not receiving help with Activities of Daily Living in 1984, according to housing characteristics in 1984: United States**

Housing characteristics in 1984	Status in 1986						
	Total	In community				Institution	Dead
		Total	Alone	With others	With others		
	Percent distribution						
All people . . . . .	100.0	87.3	79.9	7.5	3.7	9.0	
Steps to outside							
No . . . . .	100.0	85.8	79.3	6.5	4.9	9.3	
Yes . . . . .	100.0	87.8	80.0	7.7	3.3	8.9	
Levels inside							
One . . . . .	100.0	87.3	80.0	7.3	3.4	9.3	
More than one . . . . .	100.0	87.4	79.7	7.7	4.1	8.5	
Need bedroom, bathroom, kitchen on same floor							
Yes . . . . .	100.0	78.2	70.0	8.2	6.7	15.1	
No . . . . .	100.0	90.6	83.5	7.2	2.6	6.8	
Have bedroom, bathroom, kitchen on same floor							
Yes . . . . .	100.0	86.7	79.5	7.3	3.8	9.4	
Needed . . . . .	100.0	77.2	70.1	7.1	7.1	15.7	
Not needed . . . . .	100.0	90.4	83.0	7.3	2.6	7.1	
No . . . . .	100.0	93.6	84.2	9.4	1.8	4.6	
Needed <sup>1</sup> . . . . .	100.0	94.9	68.8	26.0	0.0	5.1	
Not needed . . . . .	100.0	93.3	87.6	5.7	2.2	4.5	
Need walk-in shower							
Yes . . . . .	100.0	75.2	65.3	9.9	6.3	18.6	
No . . . . .	100.0	89.0	81.9	7.1	3.3	7.7	
Have walk-in shower							
Yes . . . . .	100.0	86.9	76.4	10.4	4.0	9.1	
Needed <sup>1</sup> . . . . .	100.0	69.4	58.9	10.4	6.7	24.0	
Not needed . . . . .	100.0	91.2	80.7	10.4	3.4	5.5	
No . . . . .	100.0	87.4	80.6	6.8	3.6	9.0	
Needed . . . . .	100.0	77.5	67.9	9.6	6.1	16.4	
Not needed . . . . .	100.0	88.6	82.1	6.5	3.3	8.1	

<sup>1</sup>Based on fewer than 100 persons in the sample.

**Table 5. Status in 1986 of people who were 70 years and over, living alone, and not receiving help with Activities of Daily Living in 1984, according to contacts with children in 1984: United States**

Contacts with children in 1984	Status in 1986					
	In community					
	Total	Total	Alone	With others	Institution	Dead
	Percent distribution					
All people . . . . .	100.0	87.3	79.9	7.5	3.7	9.0
No living children . . . . .	100.0	87.2	81.6	5.6	4.0	8.8
<b>WITH LIVING CHILDREN</b>						
Sex of children						
Sons only . . . . .	100.0	89.6	83.6	6.0	3.6	6.9
Daughters only . . . . .	100.0	88.8	82.8	6.0	2.9	8.3
Both . . . . .	100.0	85.5	75.0	10.4	3.8	10.7
Time for nearest child to get here						
Within 10 minutes . . . . .	100.0	88.3	78.6	9.7	2.7	9.0
10 minutes or more . . . . .	100.0	87.0	79.4	7.6	3.8	9.2
Frequency of seeing a child						
Daily . . . . .	100.0	87.9	76.8	11.1	2.8	9.3
2-6 times a week . . . . .	100.0	86.2	78.5	7.7	5.4	8.4
Weekly . . . . .	100.0	83.5	74.9	8.7	3.7	12.7
Less than weekly . . . . .	100.0	89.9	83.7	6.2	2.9	7.2
Frequency of talking with a child						
Daily . . . . .	100.0	84.4	74.8	9.6	3.9	11.7
2-6 times a week . . . . .	100.0	91.0	85.2	5.8	3.9	5.1
Weekly . . . . .	100.0	91.6	83.5	8.0	2.3	6.1
Less than weekly . . . . .	100.0	85.3	77.2	8.1	3.7	11.1
Frequency of seeing or talking with a child						
Daily . . . . .	100.0	85.2	75.3	9.9	4.2	10.7
2-6 times a week . . . . .	100.0	90.2	82.2	8.0	3.5	6.3
Weekly . . . . .	100.0	89.4	82.5	6.9	3.3	7.3
Less than weekly . . . . .	100.0	87.4	82.3	5.1	2.1	10.5

**Table 6. Status in 1986 of people who were 70 years and over, living alone and not receiving help with Activities of Daily Living in 1984, according to recent social contacts in 1984: United States**

Contacts within 2 weeks in 1984	Status in 1986					
	In community					
	Total	Total	Alone	With others	Institution	Dead
	Percent distribution					
All people . . . . .	100.0	87.3	79.9	7.5	3.7	9.0
Got together with friends or neighbors						
Yes . . . . .	100.0	89.3	82.9	6.5	3.2	7.5
No . . . . .	100.0	81.5	71.2	10.3	5.1	13.4
Talked on telephone with friends or neighbors						
Yes . . . . .	100.0	88.7	82.0	6.7	3.3	7.9
No . . . . .	100.0	78.8	67.0	11.8	5.5	15.6
Got together with relatives						
Yes . . . . .	100.0	88.0	79.8	8.2	3.4	8.6
No . . . . .	100.0	85.0	80.1	5.0	4.6	10.4
Talked on telephone with relatives						
Yes . . . . .	100.0	87.9	80.3	7.6	3.5	8.6
No . . . . .	100.0	83.2	76.6	6.6	4.8	12.0
Went to church or synagogue						
Yes . . . . .	100.0	91.9	84.2	7.6	3.1	5.1
No . . . . .	100.0	81.9	74.6	7.2	4.4	13.8
Went to other group event						
Yes . . . . .	100.0	93.6	87.4	6.2	1.7	4.7
No . . . . .	100.0	84.7	76.7	8.0	4.5	10.8

## Technical notes

The National Health Interview Survey is the large continuing survey of the National Center for Health Statistics that is used to collect information about the health status of people living outside of institutions in the United States. Each year through 1984 (the sample size and design were changed in 1985) people in about 42,000 households were interviewed in the household by U.S. Bureau of the Census Interviewers (NCHS, 1985).

The National Health Interview Survey uses a basic questionnaire to collect information about everyone living in the households selected in the sample and supplements, which are usually added for 1 year, to collect information on special topics or about special populations.

In 1984 the supplement was designed to obtain information about people age 55 years and over living in households. This supplement, the Supplement on Aging, has been described and the questionnaire has been published (NCHS, 1987a). Its importance in the present context is that it was also designed to be the basis for longitudinal studies. The name, address, and telephone number of someone not living in the household was obtained along with permission to link information from the survey with other existing files of data. The longitudinal studies based on the Supplement on Aging are known collectively as the Longitudinal Study of Aging (LSOA).

The first Longitudinal Study of Aging sample was selected to be reinterviewed in 1986. The focus was on the oldest-old and their changes in functional status and living arrangements. Therefore, only people who had been age 70 years and over in 1984 were selected for this reinterview sample (table I).

**Table I. Selection of the 1986 Longitudinal Study of Aging interview sample from the Supplement on Aging sample**

Age and race	SOA	LSOA	
	Number	Number	Percent
Total . . . . .	7,541	5,151	68.3
Age in 1984			
70-79 years . . . . .	5,446	3,061	56.2
80 years and over . . . . .	2,095	2,090	99.8
Race			
White . . . . .	6,891	4,535	65.8
All other . . . . .	650	616	94.8
Black . . . . .	563	560	99.5
Other . . . . .	87	56	64.4

Selection was in three stages. First, all households with a person age 80 and over were selected. Everyone age 80 years and over in these households and their relatives age 70 years and over were included. Second, all households with a black person age 70 years and over were selected. All black persons and their relatives age 70 years and older in

these households were included. Finally, the remaining households with a person age 70-79 years were randomly sorted and one-half the households were selected. If there was more than one person age 70-79 in a household that was selected, all were included. Because the sample was selected from the Supplement on Aging file before final editing, five people who would have been selected from the final edited file were not included in the 1986 Longitudinal Study of Aging reinterview sample.

The 1986 Longitudinal Study of Aging reinterviews were also conducted by the U.S. Bureau of the Census. However, data were collected by Computer Assisted Telephone Interviewing (CATI) rather than personal interviews in the household. If there was no telephone number for either the sample person or a contact person, or if there was no response to repeated telephone calls, a questionnaire with a postage-paid return envelope addressed to the U.S. Bureau of the Census was mailed.

Of the 5,151 people selected for reinterview, the status of 92.3 percent was ascertained through the 1986 reinterview (table II). Almost all of the 7.7 percent of the people whose status was not ascertained were not located by the U.S. Bureau of the Census interviewers. A few were located but could not be interviewed because they were unable to speak on the telephone due to illness or hearing or language difficulties.

**Table II. Interview status of people in the Longitudinal Study of Aging 1986 interview sample, according to living arrangements in 1984**

Interview status in 1986	Status in 1984		
	Total	Alone	With others
Number in sample			
Total sample . . . . .	5,151	1,921	3,230
Percent distribution			
Total . . . . .	100.0	100.0	100.0
Ascertained			
In community . . . . .	76.5	75.6	76.9
Alone . . . . .	31.0	68.3	8.8
With others . . . . .	45.4	7.3	68.1
In institution . . . . .	3.7	4.9	3.0
Dead . . . . .	12.1	10.1	13.3
Not ascertained			
Not located . . . . .	7.5	9.1	6.5
Other reason . . . . .	0.2	0.2	0.2

Three-quarters of the people who were in the 1984 sample and who were still alive in 1986 answered the questions for themselves (table III). Of the people still living in the community in 1986, 79 percent answered all questions for themselves. Almost all the other respondents were residents of the sample person's household when they answered the questions. Except for people who were residents of nursing homes in 1986, very little information was obtained from contact persons.

Table III. Respondents to the 1986 Longitudinal Study of Aging interviews

Status in 1986	With interview	Total	Respondent		
			Self	Proxy	
				In same house	Contact person
Number	Percent distribution				
Total . . . . .	4,718	100.0	65.7	30.4	3.9
Alive . . . . .	4,114	100.0	75.4	20.2	4.4
In community . . . . .	3,938	100.0	78.7	18.4	2.9
Alone . . . . .	1,597	100.0	88.4	8.3	3.3
With others . . . . .	2,341	100.0	72.1	25.3	2.6
In institution . . . . .	176	100.0	0	60.8	39.2
Dead . . . . .	604	100.0	0	100.0	0

NOTE: An additional 20 persons were located through matching with the National Death Index. They are not included in this table.

The Longitudinal Study of Aging has been described (Fitti and Kovar, 1987) and a description of the study, which includes a written version of the Computer Assisted Telephone Interviewing questionnaire, is available from the National Center for Health Statistics and the Government Printing Office (NCHS, 1987b).

### Analytic methods

The Longitudinal Study of Aging 1986 reinterview is designed to produce national estimates for people who were age 70 years and over and living in the community in 1984. The weights were recalculated to take the subsampling into account. All data in this report are national estimates for people who were age 70 years and over and living in households in the United States in 1984.

The percent distributions that show the individual's status in 1986 (tables 4-6) are based only on people whose status was ascertained in 1986. This is equivalent to assum-

NOTE: A list of references follows the text.

ing that the people who were not located were the same as those who were. That assumption is not valid for many purposes. People who were not located in 1986 were more likely to be living alone (46 versus 37 percent) and less likely to have a telephone (87 versus 99 percent) than those whose status was ascertained. However, because the purpose of this report is to describe people who had been living alone, the first difference does not bias the data. The second one could, but there were so few people who did not have telephones themselves or give the name of a contact person with a telephone that the difference should not have much effect on the estimates.

Because the sample of people living alone is relatively small, 1,921 persons, differences that appear to be large may not be statistically significant. The average weight for the Longitudinal Study of Aging sample is 3,365. For example, the population estimate of 1.7 million people who had not gotten together with friends or neighbors within 2 weeks of the 1984 interview is based on 555 people in the sample.

For general purposes, sampling errors for estimates shown in this report can be estimated by using the formula

$$\text{Variance} = pq/n$$

where  $p$  = proportion of people with the characteristic

$$q = (1-p)$$

= proportion of people without the characteristic

$n$  = number of people in the sample

and then taking the square root of the variance. The sample numbers are given in tables 1-3.

This approximation can be used for data in this report because the impact of the clustering due to the complex sample design is negligible for older people living alone. The approximation is not necessarily appropriate for other data from the Longitudinal Study of Aging. It may not be appropriate for people living with others because the subsampling procedure was designed to collect information about all persons age 70 years and over in every household that was selected for the Longitudinal Study of Aging 1986 reinterview sample.

## AIDS Knowledge and Attitudes for October 1987

### Provisional Data From the National Health Interview Survey

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and Joseph E. Fitti, M.S.P.H., 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 October, the third month of data collection with the AIDS questionnaire. Data for August and September 1987 have been published in *Advance Data From Vital and Health Statistics* Nos. 146 and 148. This report updates the earlier reports and for the first time describes educational differences in AIDS knowledge and attitudes.

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.

This report presents provisional data for October 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

##### Changes in knowledge

The most notable changes in knowledge between September and October 1987 were in the proportions of adults



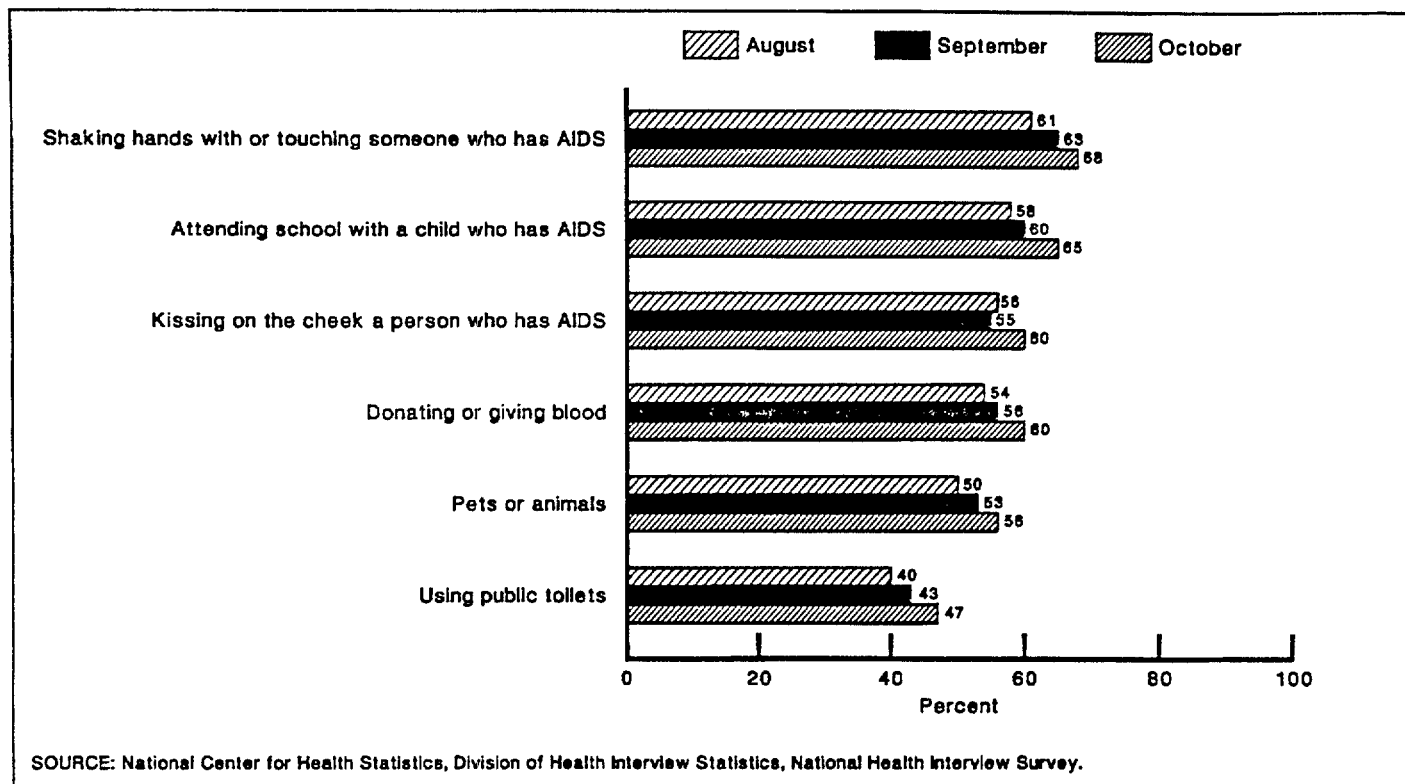


Figure 1. Provisional estimates of percent of adults who think it is very unlikely or definitely not possible to get AIDS or the AIDS virus infection from various conjectured modes of transmission: United States, August-October, 1987

who thought that it is very unlikely or definitely not possible to get AIDS or the AIDS virus through various modes of casual contact. As shown in figure 1, these changes represent the continuation of a trend that began with the August AIDS data. While all of these differences between September and October are statistically significant, some of the differences in proportions between August and September are not.

In October, 68 percent of Americans 18 years of age and over realized that it is very unlikely or impossible to get AIDS by shaking hands with someone who has AIDS, compared to 63 percent in September and 61 percent in August. The proportion of adults thinking it very unlikely or impossible to get AIDS by attending school with a child who has AIDS increased from 58 percent in August to 60 percent in September and 65 percent in October.

There were also increases in the proportions of adults thinking it very unlikely or definitely not possible to get AIDS or the AIDS virus by kissing on the cheek a person with AIDS (60 percent in October compared to 56 percent in August and 55 percent in September), donating or giving blood (54 percent in August, 56 percent in September, and 60 percent in October), and using public toilets (40, 43, and 47 percent, respectively). Smaller but statistically significant changes were observed for a number of the other forms of casual contact as well.

Following a number of statistically significant changes in the level of knowledge about other aspects of AIDS and the AIDS virus between the months of August and September 1987, there were few changes between September and

October. In October, 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, 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 who thought it definitely false that an AIDS vaccine is available to the public increased slightly from 69 percent in September to 71 percent in October.

#### Differences by education

There are striking differences in AIDS knowledge according to level of education. Data from the National Health Interview Survey of AIDS Knowledge and Attitudes show that adults who have completed 12 or more years of school know more about virtually all aspects of AIDS than do individuals with less than 12 years of school completed. For many items, there also is a statistically significant difference in knowledge between persons with 12 years of school completed and those who have completed more than 12 years of school. The following highlights describe some of the differences by education as observed in the October data from the NHIS AIDS survey. All differences cited in the subsequent text are statistically significant.

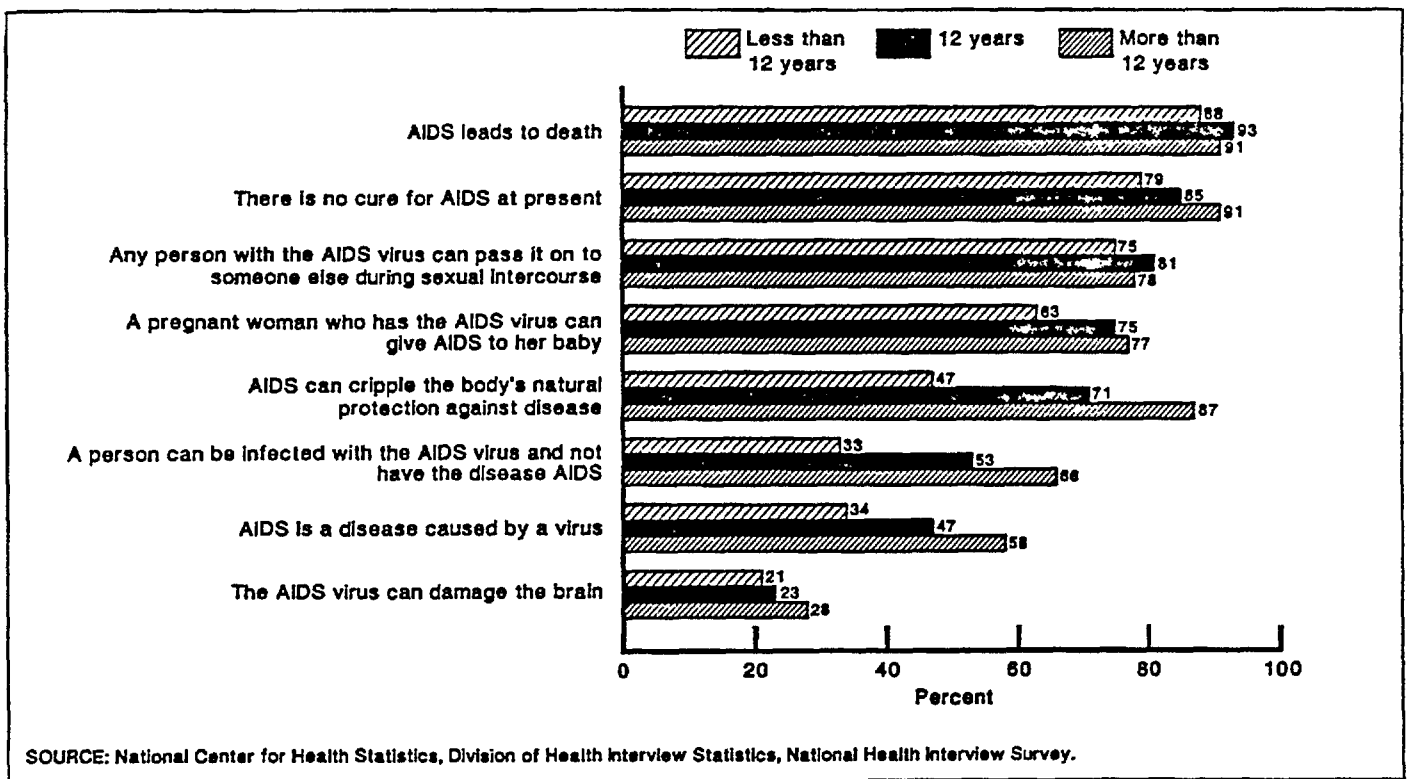


Figure 2. Provisional estimates of percent of persons 18 years of age and over who think selected statements about AIDS are definitely true, by education: United States, October 1987

*Awareness of AIDS*—While virtually everyone, regardless of education, has heard of AIDS, the more highly educated adults reported having last heard about the disease more recently than those with less education. Sixty-eight percent of adults with less than 12 years of school completed last saw, heard, or read about AIDS in the 3 days preceding the NHIS interview, compared to 75 percent of those with 12 years and 79 percent of those with more than 12 years of school completed.

*Self-perceived knowledge*—Nine percent of adults with less than 12 years of education felt that they know a lot about AIDS, compared to 16 and 33 percent, respectively, of persons with 12 and more than 12 years of education. The proportion of individuals who stated that they know “some” about AIDS increases with education as well, from 26 percent for those with less than 12 years of school completed to 48 percent for those with more than 12 years. More than one-fourth (26 percent) of adults with less than 12 years of education said that they know nothing about AIDS, compared to 7 percent of those with 12 years and 2 percent of those with more than 12 years of education.

*General knowledge*—Figure 2 shows the percents of adults answering “definitely true” to selected knowledge questions. In most cases, these proportions increase directly with education.

The largest differences by education are on statements that describe the cause of AIDS and the ways in which the disease affects the immune system. Thirty-four percent of adults with less than 12 years of school completed thought that it is definitely true that AIDS is caused by a virus,

compared to 47 percent of those with 12 years and 58 percent of those with more than 12 years of school completed. Likewise, the proportion of adults who thought that it is definitely true that AIDS can cripple the body's natural protection against disease varies from 47 percent (less than 12 years of school) to 87 percent (more than 12 years of school), and the proportion who thought it definitely true that a person can be infected with the AIDS virus and not have the disease AIDS varies from 33 to 66 percent, respectively. The percent of adults who stated that it is definitely false that “you can tell if people have the AIDS virus just by looking at them” also increases sharply with education, from 56 percent of persons with less than 12 years of education to 69 and 81 percent, respectively, of those with 12 and more than 12 years.

*Transmission of the AIDS virus*—As shown in figure 3, the probability of thinking that it is very unlikely or definitely not possible to get AIDS or the AIDS virus through casual contact with someone who has AIDS increases with education. Even among adults with more than 12 years of education, though, the level of accurate information about the risk of AIDS virus transmission is low. For instance, less than half (47 percent) of adults with more than 12 years of schooling realized that it is very unlikely or impossible to get AIDS from public toilets, and only 16 percent thought that it is very unlikely or impossible to get AIDS from kissing with exchange of saliva a person who has AIDS. Among persons with less education, the comparable proportions are even smaller.

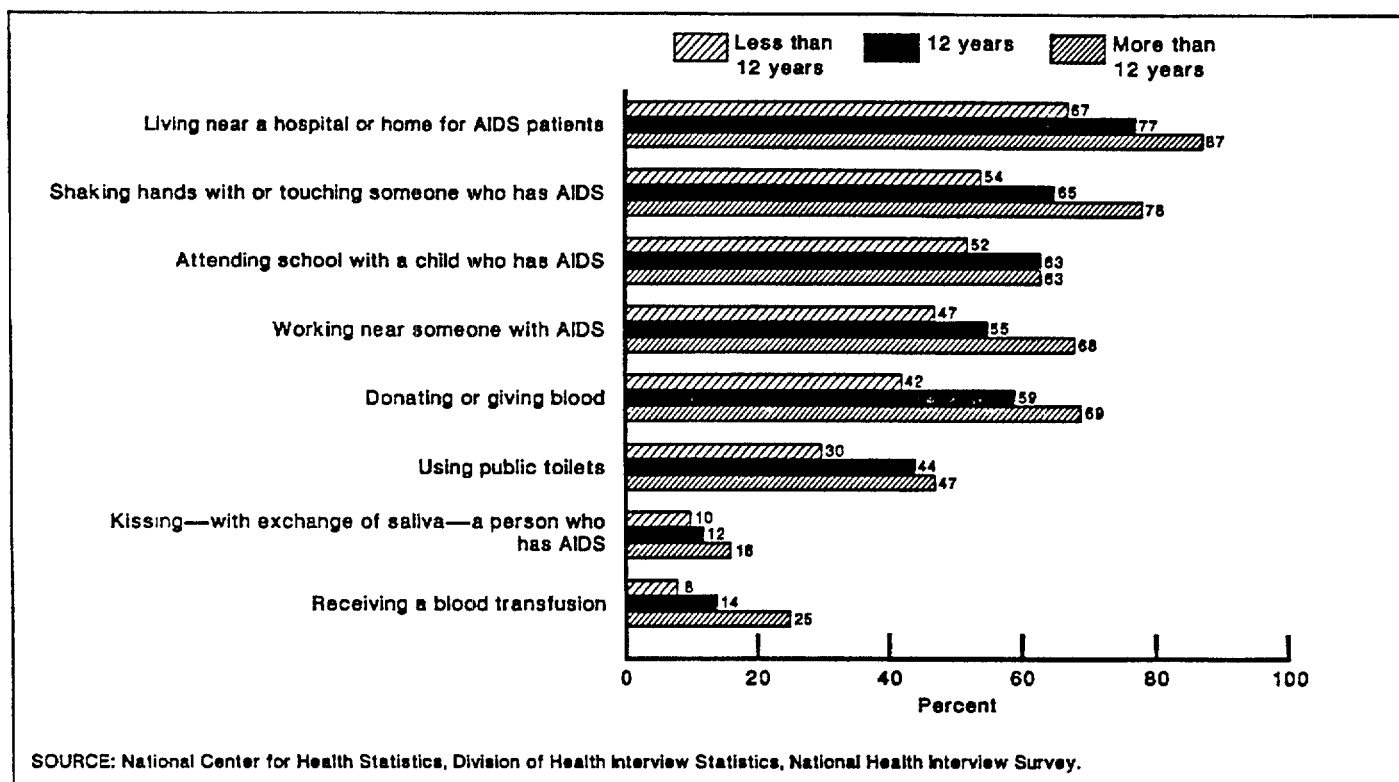


Figure 3. Provisional estimates of percent of persons 18 years of age and over who think it is very unlikely or definitely not possible to get AIDS or the AIDS virus infection from various conjectured modes of transmission, by education: United States, October 1987

In preparing figure 3, the categories "very unlikely" and "definitely not possible" were grouped for purposes of consistent presentation. Both responses are not necessarily correct for all items shown in figure 3. For some items, many AIDS researchers would argue that the only correct answer is "definitely not possible." As is evident in table 1, the proportions of adults who thought it definitely not possible to transmit AIDS via casual contact also increase with education.

**Blood test for the AIDS virus**—Fifty percent of all adults with less than 12 years of school completed have heard of a blood test for the AIDS virus. For persons with more education, the proportion is higher: 72 percent for individuals with 12 years of school completed and 77 percent for those with more than 12 years. The proportion of adults who realized that a positive blood test means that a person can spread the AIDS virus through sexual intercourse is 44 percent for persons with less than 12 years of education and 63 and 67 percent, respectively, for those with 12 and more than 12 years.

Regardless of education, few people have had an AIDS blood test: 4 percent of those with less than 12 years of school completed, 6 percent of those with 12 years, and 7 percent of those with more than 12 years of school completed. The proportion of adults who have thought about having the AIDS blood test increases with education, from 8 percent to 14 percent.

**Risk of getting AIDS**—Adults who have completed less than 12 years of school are less likely than their more well-educated peers to acknowledge the possibility that they or someone they know might get the AIDS virus. The

proportion of adults who stated that there is no chance that someone they know will get the AIDS virus decreases from 36 percent of individuals with less than 12 years of education to 26 percent of those with more than 12 years, and the proportion stating that there is no chance of getting the AIDS virus themselves decreases from 70 percent (less than 12 years) to 62 percent (more than 12 years).

**AIDS prevention**—Adults who have completed 12 years of school were more likely than either those with more or less education to state that the following methods are very effective in preventing transmission of the AIDS virus: using a condom (considered very effective by 34 percent of persons with 12 years of school completed), being celibate (93 percent), and maintaining a monogamous relationship with a person who does not have the AIDS virus (86 percent). For adults with less than 12 years of school completed, the respective proportions considering these methods very effective are 24, 84, and 77 percent; for those with more than 12 years of education, the proportions are 29, 89, and 84 percent.

**AIDS discussion and education**—The likelihood of having discussed AIDS with friends, relatives, or children increases with education. Less than half (49 percent) of all individuals with less than 12 years of school reported having discussed AIDS with a friend or relative, compared to two-thirds (66 percent) of those with 12 years of school and nearly three-fourths (72 percent) of those with more than 12 years of school. Similarly, the proportion of adults who have discussed AIDS with their children 10-17 years old increases from 50 percent of those with less than 12 years of education to 66 percent of those with more than 12 years.

**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, October 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 <sup>1</sup>											
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	68	76	79	79	71	76	71	68	75	79
4-7 days ago . . . . .	14	18	15	11	12	16	15	13	15	14	14
8-14 days ago . . . . .	3	5	4	2	2	4	3	3	2	4	3
15-31 days ago . . . . .	3	6	2	2	3	3	3	5	4	3	3
More than 31 days ago . . . . .	2	2	2	1	1	2	1	4	2	1	1
Never heard of AIDS . . . . .	0	0	0	1	0	0	0	1	2	0	-
Don't know . . . . .	2	1	1	5	2	2	2	3	7	2	1
2. Compared to most people, how much would you say you know about AIDS?											
A lot . . . . .	21	22	27	14	22	21	22	13	9	16	33
Some . . . . .	42	49	46	33	41	44	43	37	26	45	48
Little . . . . .	27	25	23	34	27	27	26	33	39	31	17
Nothing . . . . .	9	4	4	20	10	9	8	16	26	7	2
Don't know . . . . .	0	-	0	0	-	0	0	0	0	-	-
3a. AIDS is a disease caused by a virus.											
Definitely true . . . . .	48	58	55	34	53	44	49	46	34	47	58
Probably true . . . . .	26	26	27	24	25	27	26	22	21	27	27
Probably false . . . . .	3	3	3	4	3	4	3	4	4	4	3
Definitely false . . . . .	4	4	4	6	3	5	4	6	6	5	3
Don't know . . . . .	18	9	12	32	16	20	17	22	36	17	10
3b. AIDS can cripple the body's natural protection against disease.											
Definitely true . . . . .	72	78	78	61	73	71	75	57	47	71	87
Probably true . . . . .	17	13	15	21	17	17	16	23	26	18	10
Probably false . . . . .	1	1	1	0	1	1	0	1	1	1	0
Definitely false . . . . .	1	1	1	2	2	1	1	2	1	1	1
Don't know . . . . .	9	7	4	16	8	10	8	17	24	8	2
3c. AIDS is especially common in older people.											
Definitely true . . . . .	0	0	0	1	0	0	0	1	1	1	0
Probably true . . . . .	1	2	1	2	1	1	1	3	3	1	1
Probably false . . . . .	20	24	17	19	22	17	20	15	17	19	21
Definitely false . . . . .	70	67	76	66	67	73	71	67	59	72	74
Don't know . . . . .	9	7	6	13	10	8	7	15	21	7	4
3d. The AIDS virus can damage the brain.											
Definitely true . . . . .	24	24	27	21	25	24	23	31	21	23	28
Probably true . . . . .	31	31	29	34	32	31	31	31	32	32	30
Probably false . . . . .	9	12	11	4	9	9	10	6	4	8	12
Definitely false . . . . .	6	7	7	3	5	6	6	3	3	6	8
Don't know . . . . .	30	26	26	37	29	31	30	29	40	31	23
3e. AIDS usually leads to heart disease.											
Definitely true . . . . .	7	7	6	8	7	7	6	12	8	7	6
Probably true . . . . .	21	20	21	22	19	22	20	26	23	21	20
Probably false . . . . .	18	22	21	11	20	16	19	9	9	16	24
Definitely false . . . . .	14	15	18	10	15	13	14	11	7	14	18
Don't know . . . . .	40	36	35	50	39	42	40	43	53	43	31
3f. AIDS leads to death.											
Definitely true . . . . .	91	91	93	90	89	93	91	90	88	93	91
Probably true . . . . .	7	8	7	7	9	6	7	9	8	6	8
Probably false . . . . .	0	0	0	0	0	0	0	-	-	0	0
Definitely false . . . . .	0	0	0	0	0	0	0	-	1	0	0
Don't know . . . . .	1	1	1	2	2	1	1	2	3	1	0
4a. Where do you get most of your information about AIDS? <sup>2</sup>											
Television . . . . .	82	82	81	84	81	83	82	86	88	83	78
Newspapers . . . . .	61	53	64	64	66	56	63	51	49	61	68
Magazines . . . . .	29	30	32	26	26	32	31	22	18	28	37
Radio . . . . .	10	8	11	9	11	8	10	9	10	8	11
Relatives and friends . . . . .	8	12	9	5	8	8	8	9	8	9	8
Brochures/fliers/pamphlets . . . . .	7	7	8	4	7	7	6	9	4	6	9
Doctor/HMO/clinic . . . . .	5	5	6	4	5	5	5	6	4	4	7
Other . . . . .	15	17	20	9	13	18	15	18	9	11	24
Don't know . . . . .	1	0	0	1	1	0	0	0	2	0	0
4b. Of the sources you just told me, from which one do you get the most information?											
Television . . . . .	56	59	51	58	55	56	55	66	71	59	45
Newspapers . . . . .	21	16	21	25	24	19	22	14	15	23	23
Magazines . . . . .	9	10	11	7	9	10	9	7	4	8	14
Brochures/fliers/pamphlets . . . . .	1	2	2	1	2	1	1	2	1	1	2
Doctor/HMO/clinic . . . . .	2	2	2	1	1	2	1	2	1	1	2
Other . . . . .	10	11	12	6	9	11	10	9	6	8	14
Don't know . . . . .	1	0	1	2	1	1	1	0	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, October 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]

<i>AIDS knowledge or attitude</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>
5a. If you wanted more specific information about AIDS, where would you get it? <sup>2</sup>					Percent distribution <sup>1</sup>						
Doctor/HMO/clinic . . . . .	57	58	56	57	54	59	58	51	55	60	55
Public health department . . . . .	18	17	21	17	19	17	18	20	11	19	21
Library . . . . .	11	14	13	6	11	11	11	9	5	11	14
AIDS hot line . . . . .	8	10	10	5	7	10	8	11	7	7	10
Other . . . . .	28	32	31	20	29	27	27	31	16	24	37
Don't know . . . . .	12	9	9	18	12	11	12	12	21	13	6
5b. Which one source would you most likely use?											
Doctor/HMO/clinic . . . . .	46	42	46	50	44	48	47	41	50	48	42
Public health department . . . . .	13	13	15	12	15	12	13	15	9	15	14
Library . . . . .	8	11	8	5	7	8	7	8	5	8	9
AIDS hot line . . . . .	6	7	7	4	5	7	6	8	5	5	7
Other . . . . .	15	18	15	11	16	13	14	16	11	11	21
Don't know . . . . .	12	9	9	18	13	12	12	12	21	13	6
6a. A person can be infected with the AIDS virus and not have the disease AIDS.											
Definitely true . . . . .	54	56	62	44	52	56	56	41	33	53	66
Probably true . . . . .	26	25	24	30	29	23	26	26	29	28	23
Probably false . . . . .	3	4	3	2	4	3	3	6	4	3	3
Definitely false . . . . .	4	6	3	2	4	4	3	7	5	4	3
Don't know . . . . .	13	8	8	22	12	15	12	22	30	13	5
6b. You can tell if people have the AIDS virus just by looking at them.											
Definitely true . . . . .	1	1	1	1	2	1	1	3	2	1	1
Probably true . . . . .	4	5	3	3	4	4	3	4	5	4	3
Probably false . . . . .	15	16	14	16	17	14	16	16	17	17	13
Definitely false . . . . .	71	73	77	63	69	73	72	63	56	69	81
Don't know . . . . .	9	4	5	16	9	9	8	14	20	8	3
6c. Any person with the AIDS virus can pass it on to someone else during sexual intercourse.											
Definitely true . . . . .	79	81	80	75	75	82	78	83	75	81	78
Probably true . . . . .	16	15	15	16	18	14	16	12	17	14	16
Probably false . . . . .	1	1	1	1	2	1	1	0	1	1	2
Definitely false . . . . .	1	0	1	0	1	0	1	0	0	0	1
Don't know . . . . .	4	3	3	7	5	4	4	5	7	4	2
6d. A pregnant woman who has the AIDS virus can give AIDS to her baby.											
Definitely true . . . . .	73	77	75	69	69	77	74	70	63	75	77
Probably true . . . . .	19	19	19	20	22	17	19	22	24	18	18
Probably false . . . . .	0	—	1	0	0	0	0	0	1	0	0
Definitely false . . . . .	0	—	0	0	0	0	0	0	0	0	0
Don't know . . . . .	7	5	5	10	8	5	7	8	12	6	4
6e. There is a vaccine available to the public that protects a person from getting the AIDS virus.											
Definitely true . . . . .	1	2	2	1	2	1	1	3	1	1	2
Probably true . . . . .	3	3	3	3	3	3	2	7	6	2	2
Probably false . . . . .	10	12	7	10	11	8	10	8	8	11	8
Definitely false . . . . .	71	73	78	61	71	70	73	61	51	70	82
Don't know . . . . .	15	10	11	25	13	18	14	22	33	15	7
6f. There is no cure for AIDS at present.											
Definitely true . . . . .	86	85	88	84	84	87	87	81	79	85	91
Probably true . . . . .	8	8	6	9	9	6	7	10	10	8	6
Probably false . . . . .	1	1	1	1	1	1	1	2	1	1	1
Definitely false . . . . .	2	2	2	1	2	2	2	2	2	3	1
Don't know . . . . .	4	3	2	6	4	4	3	6	9	3	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	34	31	37	31	36	32	45	45	35	27
Somewhat likely . . . . .	31	31	31	32	29	34	31	32	29	35	29
Somewhat unlikely . . . . .	13	16	16	8	16	11	14	8	7	12	17
Very unlikely . . . . .	16	15	18	14	19	13	17	6	6	13	24
Definitely not possible . . . . .	1	1	2	1	1	1	1	2	2	1	1
Don't know . . . . .	4	3	2	8	4	4	4	7	9	4	1
7b. Donating or giving blood?											
Very likely . . . . .	8	8	6	10	8	8	7	16	14	8	5
Somewhat likely . . . . .	14	15	13	14	13	15	12	25	19	15	10
Somewhat unlikely . . . . .	12	12	13	12	12	13	13	11	11	12	14
Very unlikely . . . . .	35	39	36	30	38	32	37	22	24	34	40
Definitely not possible . . . . .	25	22	28	24	25	25	26	16	18	25	29
Don't know . . . . .	6	4	3	11	5	7	5	10	14	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, October 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	Male	Female	White	Black	Less than 12 years	12 years	More than 12 years
		50 years and over								
Percent distribution <sup>1</sup>										
7c. Living near a hospital or home for AIDS patients?										
Very likely . . . . .	1	2	1	1	1	1	3	2	1	1
Somewhat likely . . . . .	4	6	3	3	5	4	8	5	4	3
Somewhat unlikely . . . . .	9	8	11	9	10	9	14	10	11	8
Very unlikely . . . . .	36	40	35	35	38	35	37	32	33	39
Definitely not possible . . . . .	42	40	46	41	40	44	44	31	34	48
Don't know . . . . .	6	4	5	10	6	7	5	12	16	2
7d. Working near someone with AIDS?										
Very likely . . . . .	3	4	3	3	4	3	7	4	4	3
Somewhat likely . . . . .	14	16	13	15	13	15	13	22	16	12
Somewhat unlikely . . . . .	15	15	17	15	16	15	16	13	14	15
Very unlikely . . . . .	33	35	33	31	33	32	34	26	27	39
Definitely not possible . . . . .	26	26	28	24	26	26	27	20	21	29
Don't know . . . . .	8	4	7	13	8	8	8	12	19	3
7e. Eating in a restaurant where the cook has AIDS?										
Very likely . . . . .	9	10	9	10	9	10	8	17	11	6
Somewhat likely . . . . .	24	23	24	25	25	22	23	26	27	21
Somewhat unlikely . . . . .	16	18	14	16	16	16	16	12	12	18
Very unlikely . . . . .	26	25	29	22	26	25	27	19	19	33
Definitely not possible . . . . .	14	16	14	11	12	15	14	12	12	14
Don't know . . . . .	12	8	10	16	11	12	12	13	19	7
7f. Kissing—with exchange of saliva—a person who has AIDS?										
Very likely . . . . .	30	27	30	32	28	31	29	36	32	26
Somewhat likely . . . . .	38	38	39	36	39	37	38	40	36	39
Somewhat unlikely . . . . .	10	13	9	10	10	11	11	3	7	10
Very unlikely . . . . .	10	11	12	7	12	9	11	7	8	9
Definitely not possible . . . . .	3	4	3	2	3	3	3	3	3	3
Don't know . . . . .	9	6	8	12	9	9	8	10	15	6
7g. Shaking hands with or touching someone who has AIDS?										
Very likely . . . . .	2	3	2	3	2	2	2	3	3	1
Somewhat likely . . . . .	8	8	8	8	7	8	7	12	9	6
Somewhat unlikely . . . . .	16	14	15	16	17	14	15	20	18	13
Very unlikely . . . . .	39	39	40	37	41	37	41	32	29	46
Definitely not possible . . . . .	29	33	30	25	27	31	29	23	25	32
Don't know . . . . .	7	2	5	11	6	7	6	10	16	2
7h. Sharing plates, forks, or glasses with someone who has AIDS?										
Very likely . . . . .	13	13	12	14	12	14	12	19	16	10
Somewhat likely . . . . .	31	30	33	31	32	31	31	33	32	29
Somewhat unlikely . . . . .	15	16	14	14	14	16	16	10	11	14
Very unlikely . . . . .	21	21	23	18	24	18	22	15	15	27
Definitely not possible . . . . .	11	13	10	9	10	11	11	9	9	11
Don't know . . . . .	10	6	8	14	8	11	9	13	17	6
7i. Using public toilets?										
Very likely . . . . .	8	8	7	8	6	9	7	13	11	9
Somewhat likely . . . . .	20	19	19	22	20	20	19	25	28	16
Somewhat unlikely . . . . .	14	15	15	13	14	14	15	13	10	16
Very unlikely . . . . .	29	30	33	24	32	26	31	19	16	29
Definitely not possible . . . . .	18	20	18	17	18	18	19	12	13	17
Don't know . . . . .	11	8	8	17	10	12	10	16	21	12
7j. Sharing needles for drug use with someone who has AIDS?										
Very likely . . . . .	93	94	95	89	92	93	93	90	86	93
Somewhat likely . . . . .	4	3	4	6	5	4	4	6	8	4
Somewhat unlikely . . . . .	0	0	0	0	1	0	0	0	0	0
Very unlikely . . . . .	0	0	0	0	0	0	0	1	1	0
Definitely not possible . . . . .	0	0	—	0	—	0	0	—	0	—
Don't know . . . . .	2	1	1	4	2	2	2	3	5	3
7k. Kissing on the cheek a person who has AIDS?										
Very likely . . . . .	3	3	3	3	3	3	2	7	4	3
Somewhat likely . . . . .	11	11	10	11	12	10	10	17	15	13
Somewhat unlikely . . . . .	18	18	18	18	19	17	17	22	17	19
Very unlikely . . . . .	35	33	37	33	37	33	37	23	24	33
Definitely not possible . . . . .	25	30	27	21	23	28	26	22	23	28
Don't know . . . . .	8	5	5	13	7	8	7	9	17	7
7l. Being coughed or sneezed on by someone who has AIDS?										
Very likely . . . . .	9	9	9	10	9	10	9	14	13	13
Somewhat likely . . . . .	29	24	29	32	28	29	28	35	35	25
Somewhat unlikely . . . . .	17	19	18	14	17	17	18	13	11	17
Very unlikely . . . . .	23	25	26	18	25	21	24	14	14	16
Definitely not possible . . . . .	12	16	11	8	11	12	12	11	7	12
Don't know . . . . .	11	7	8	17	10	11	10	14	19	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, October 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 <sup>1</sup>											
7m. Attending school with a child who has AIDS?											
Very likely . . . . .	2	2	2	2	2	2	2	2	2	2	2
Somewhat likely . . . . .	9	10	9	10	10	9	9	10	10	11	11
Somewhat unlikely . . . . .	14	14	16	13	15	14	14	19	16	14	17
Very unlikely . . . . .	37	39	38	33	41	33	38	33	29	35	30
Definitely not possible . . . . .	28	31	28	25	25	31	29	23	23	28	32
Don't know . . . . .	9	4	7	17	8	10	9	13	20	10	7
7n. Mosquitoes or other insects?											
Very likely . . . . .	8	9	8	8	8	8	7	15	11	10	10
Somewhat likely . . . . .	26	27	25	25	26	25	26	25	32	25	31
Somewhat unlikely . . . . .	10	13	10	7	11	9	10	7	6	11	11
Very unlikely . . . . .	21	21	22	19	22	20	22	16	13	19	15
Definitely not possible . . . . .	14	14	16	13	14	15	15	12	8	14	14
Don't know . . . . .	21	16	19	28	19	23	21	25	29	21	20
7o. Pets or animals?											
Very likely . . . . .	3	3	2	2	3	2	2	8	5	2	2
Somewhat likely . . . . .	10	11	9	8	9	10	8	16	12	11	11
Somewhat unlikely . . . . .	8	11	8	8	9	8	8	8	8	8	13
Very unlikely . . . . .	30	32	32	26	33	27	31	22	22	29	24
Definitely not possible . . . . .	27	27	27	25	25	28	27	20	19	26	26
Don't know . . . . .	23	17	22	30	21	25	23	26	34	23	24
7p. Having sex with a person who has AIDS?											
Very likely . . . . .	93	94	94	91	91	95	93	92	91	95	90
Somewhat likely . . . . .	5	5	5	6	7	4	5	6	5	4	6
Somewhat unlikely . . . . .	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	—	1	0	—
Don't know . . . . .	1	1	1	3	2	1	1	2	3	1	3
8. Have you ever heard of a blood test for infection with the AIDS virus?											
Yes . . . . .	73	81	81	58	74	72	75	58	50	72	77
No . . . . .	24	18	18	36	23	25	22	40	45	24	18
Don't know . . . . .	3	2	2	6	3	3	3	1	4	4	4
9. Does this test tell whether a person has the disease AIDS?											
Yes . . . . .	39	45	41	32	38	41	40	37	31	43	43
No . . . . .	23	25	29	16	27	20	25	11	8	18	25
Don't know . . . . .	10	10	10	10	9	11	10	10	11	11	9
Never heard of test (no/don't know to q. 8) . . . . .	27	19	19	42	26	28	25	42	50	28	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 . . . . .	64	72	71	48	65	62	66	51	44	63	67
No . . . . .	3	4	4	2	4	3	4	2	2	3	5
Don't know . . . . .	6	5	5	8	5	6	6	6	4	6	6
Never heard of test (no/don't know to q. 8) . . . . .	27	19	19	42	26	28	25	42	50	28	23
11. Have you ever had your blood tested for infection with the AIDS virus?											
Yes . . . . .	6	8	6	3	7	4	5	9	4	6	7
Yes, in blood donation/transfusion . . . . .	3	3	3	1	3	2	3	1	1	1	5
No . . . . .	63	67	69	52	63	63	65	48	43	63	64
Don't know . . . . .	2	2	2	2	2	2	2	1	2	2	1
Never heard of test (no/don't know to q. 8) . . . . .	27	19	19	42	26	28	25	42	50	28	23
12a. Have you ever thought about having this blood test?											
Already had test . . . . .	8	12	10	4	10	7	8	10	5	7	12
Yes . . . . .	11	16	13	4	10	11	10	15	8	10	14
No . . . . .	53	53	58	49	53	54	56	33	38	54	51
Don't know . . . . .	—	—	—	—	—	—	—	—	—	—	—
Never heard of test (no/don't know to q. 8) . . . . .	27	20	20	42	26	29	25	42	50	28	23
12b. Do you plan to be tested in the next 12 months?											
Already had test . . . . .	8	12	10	4	11	7	8	10	5	7	12
Yes . . . . .	4	6	5	1	3	4	3	9	3	4	4
No . . . . .	5	7	6	2	5	5	5	4	2	4	7
Don't know . . . . .	2	3	2	1	2	2	2	2	2	2	3
Never heard of test or thought about having test (no/don't know to q. 8 or q. 12a) . . . . .	81	73	77	92	79	82	82	76	88	83	74

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, October 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 <sup>1</sup>											
13. Where would you go to have a blood test for the AIDS virus infection? <sup>3</sup>											
Nowhere/wouldn't take test . . . . .	0	—	—	1	—	0	0	—	—	—	—
AIDS clinic . . . . .	3	3	3	3	4	3	3	3	2	4	3
Other clinic . . . . .	25	28	25	19	24	26	24	37	22	30	29
Doctor/HMO . . . . .	46	46	47	44	41	50	47	36	46	43	43
Red Cross/blood bank . . . . .	3	2	3	3	2	3	3	—	2	3	—
Other . . . . .	16	15	16	19	20	13	15	21	18	13	19
Don't know . . . . .	7	6	6	11	9	5	8	3	9	8	6
14. Where would you go to find out where to have this blood test? <sup>2,4</sup>											
AIDS hot line . . . . .	2	—	5	—	—	8	3	—	—	—	—
AIDS clinic . . . . .	—	—	—	—	—	—	—	—	—	—	—
Other clinic . . . . .	16	43	—	—	20	8	18	—	—	31	—
Doctor/HMO . . . . .	37	36	31	56	22	70	32	100	43	39	21
Friends . . . . .	—	—	—	—	—	—	—	—	—	—	—
Public health department . . . . .	12	10	18	—	12	12	12	25	7	19	—
Other . . . . .	12	14	16	—	11	15	13	—	12	11	24
Nowhere/wouldn't take test . . . . .	5	7	5	—	8	—	6	—	12	—	099
Don't know . . . . .	18	—	24	44	27	—	20	—	32	—	55
15. Have you donated blood since 1985?											
Yes . . . . .	12	18	15	5	16	9	13	9	4	12	14
No . . . . .	87	82	84	95	84	91	87	91	96	88	86
Don't know . . . . .	0	—	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 . . . . .	14	18	19	6	13	15	15	9	7	10	17
No . . . . .	85	81	81	93	86	84	84	89	91	89	83
Don't know . . . . .	1	1	1	1	1	1	1	2	2	1	1
17. What are the chances of someone you know getting the AIDS virus?											
High . . . . .	9	13	11	5	9	9	9	10	7	8	9
Medium . . . . .	15	21	18	8	17	14	15	15	10	16	18
Low . . . . .	38	40	41	33	41	35	40	24	24	38	35
None . . . . .	27	21	22	37	23	29	25	32	36	28	26
Refused . . . . .	0	0	—	0	0	0	0	—	—	0	0
Don't know . . . . .	11	5	9	18	10	12	10	19	22	10	11
18. What are your chances of getting the AIDS virus?											
High . . . . .	1	1	1	1	1	1	1	0	1	1	—
Medium . . . . .	3	5	3	1	4	2	3	3	2	3	4
Low . . . . .	30	37	34	19	32	28	31	25	18	30	30
None . . . . .	62	54	58	73	60	64	62	65	70	63	62
Refused . . . . .	0	0	—	—	0	—	0	—	—	—	0
Don't know . . . . .	4	3	3	6	4	4	3	7	9	4	4
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	1	2	2	2	5	2	2	3
Somewhat effective . . . . .	13	14	11	13	12	13	12	16	14	12	10
Not at all effective . . . . .	58	61	65	47	57	59	61	41	40	57	59
Don't know how effective . . . . .	21	18	17	28	21	21	21	26	30	23	19
Don't know method . . . . .	6	5	4	10	8	5	5	12	14	6	9
19b. Using a condom?											
Very effective . . . . .	33	41	34	26	35	31	33	33	24	34	29
Somewhat effective . . . . .	51	49	54	50	51	51	52	46	46	50	53
Not at all effective . . . . .	5	4	5	5	4	6	5	6	6	6	7
Don't know how effective . . . . .	9	5	6	15	8	10	8	11	18	9	8
Don't know method . . . . .	2	1	1	5	2	2	2	4	7	1	3
19c. Using a spermicidal jelly, foam, or cream?											
Very effective . . . . .	1	2	2	1	2	1	1	3	2	2	2
Somewhat effective . . . . .	14	15	14	13	14	14	14	16	11	14	14
Not at all effective . . . . .	56	61	62	46	53	59	58	46	43	56	57
Don't know how effective . . . . .	22	17	18	30	23	20	21	27	31	22	18
Don't know method . . . . .	7	5	4	10	8	5	6	8	14	6	9
19d. Being celibate, that is, not having sex at all?											
Very effective . . . . .	92	94	94	88	91	93	93	90	84	93	89
Somewhat effective . . . . .	3	4	3	4	3	4	3	4	4	4	3
Not at all effective . . . . .	1	1	1	1	1	0	1	1	1	1	0
Don't know how effective . . . . .	3	2	1	5	3	2	2	3	6	2	6
Don't know method . . . . .	1	0	1	3	2	1	1	2	5	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, October 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 <sup>1</sup>										
Very effective . . . . .	86	88	89	82	87	86	88	79	77	86	84
Somewhat effective . . . . .	8	8	8	8	8	8	7	13	9	9	8
Not at all effective . . . . .	1	1	1	1	1	1	1	1	1	1	1
Don't know how effective . . . . .	3	2	1	6	3	3	3	4	7	3	5
Don't know method . . . . .	2	0	1	3	2	2	1	3	6	1	3
20. Have you ever discussed AIDS with a friend or relative?	67	75	75	51	63	70	67	65	49	66	72
Yes . . . . .	33	24	25	48	37	29	32	35	50	34	27
No . . . . .	0	1	0	1	1	0	0	0	1	0	1
Don't know . . . . .											
21. When was the last time you discussed AIDS with a friend or relative?											
0-3 days ago . . . . .	16	17	18	13	13	19	15	22	13	16	13
4-7 days ago . . . . .	18	19	21	14	19	17	19	14	14	18	19
8-14 days ago . . . . .	8	9	10	5	7	9	8	7	6	8	10
15-31 days ago . . . . .	13	16	14	8	13	13	13	11	7	13	13
More than 31 days ago . . . . .	8	10	8	5	6	9	8	7	4	7	11
Never discussed (no/don't know to q. 20) . . . . .	35	26	26	51	38	31	34	36	53	35	31
Don't know . . . . .	3	2	2	4	3	3	3	3	3	3	4
24. Have you ever discussed AIDS with [any of your children age 10-17]? <sup>2</sup>	63	31	65	57	50	74	64	60	50	62	66
Yes . . . . .	37	69	35	43	50	26	36	40	50	38	34
No . . . . .	0	-	0	-	1	-	0	-	-	-	-
Don't know . . . . .											
25. Have your children had any instruction at school about AIDS? <sup>3</sup>	45	23	46	47	42	48	46	44	43	41	50
Yes . . . . .	22	41	21	26	20	23	22	19	20	23	18
No . . . . .	33	36	33	27	38	28	32	37	38	36	31
Don't know . . . . .											
26. Have you ever personally known anyone with the AIDS virus?	7	7	10	5	8	7	8	6	4	4	7
Yes . . . . .	91	92	89	94	91	92	91	92	94	95	91
No . . . . .	1	1	2	1	2	1	1	2	2	1	2
Don't know . . . . .											
27. Have you ever personally known anyone with AIDS?	8	7	10	5	8	7	8	6	4	5	6
Yes . . . . .	91	92	88	94	91	92	91	92	94	95	93
No . . . . .	1	1	1	1	1	1	1	2	2	1	1
Don't know . . . . .											
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?	70	72	75	63	72	68	71	69	62	70	70
Yes . . . . .	21	19	18	24	19	22	20	21	25	20	22
No . . . . .	2	2	2	3	2	2	3	1	2	2	2
Other . . . . .	7	7	5	10	6	8	7	9	11	7	6
Don't know . . . . .											
29. Would you want to know the results of the blood test? <sup>4</sup>	97	98	97	97	97	98	97	97	97	98	96
Yes . . . . .	2	2	2	1	2	2	2	2	2	2	2
No . . . . .	1	0	1	1	1	1	1	0	2	0	2
Don't know . . . . .											

<sup>1</sup>Excludes 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.

<sup>2</sup>Multiple responses may sum to more than 100 percent.

<sup>3</sup>Based on persons answering yes to question 12a.

<sup>4</sup>Based on persons answering don't know to question 13.

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

<sup>6</sup>Based 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-

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 household. The estimates in this report are based on completed interviews with 3,350 persons, or about 86 percent of eligible respondents.

**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, October 1987**

Characteristic	Sample size	Estimated population in thousands
All adults . . . . .	3,350	174,528
<b>Age</b>		
18-29 years. . . . .	877	47,725
30-49 years. . . . .	1,235	66,109
50 years and over . . . . .	1,238	60,695
<b>Sex</b>		
Male . . . . .	1,385	82,703
Female . . . . .	1,965	91,825
<b>Race</b>		
White . . . . .	2,754	151,003
Black . . . . .	495	19,107
<b>Education</b>		
Less than 12 years . . . . .	750	41,503
12 years. . . . .	1,292	66,475
More than 12 years. . . . .	1,276	62,363

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, October 1987**

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	0.9	0.8	0.8	0.7	0.6	0.5	1.2	1.0	0.7	0.7
10 or 90 . . . . .	0.6	1.2	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	1.6	1.4	1.4	1.3	1.1	0.9	2.2	1.8	1.4	1.4
25 or 75 . . . . .	0.9	1.8	1.5	1.5	1.4	1.2	1.0	2.4	2.0	1.5	1.5
30 or 70 . . . . .	1.0	1.9	1.6	1.6	1.5	1.3	1.1	2.5	2.1	1.6	1.6
35 or 65 . . . . .	1.0	2.0	1.7	1.7	1.6	1.3	1.1	2.6	2.2	1.6	1.6
40 or 60 . . . . .	1.0	2.0	1.7	1.7	1.6	1.3	1.1	2.7	2.2	1.7	1.7
45 or 55 . . . . .	1.0	2.0	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	1.6	1.4	1.2	2.8	2.3	1.7	1.7

\*U.S. Government Printing Office: 1995 — 386-952/20004

### Symbols

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

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