

Characteristics of Registered Nurses in Nursing Homes

Preliminary Data From the 1985 National Nursing Home Survey

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Introduction

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

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

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

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

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

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

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

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

Demographic characteristics

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

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

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

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

Educational preparation

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

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

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

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

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

Employment characteristics

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

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

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

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

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

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

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

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

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

Facility characteristics

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

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

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

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

¹ Metropolitan statistical area.

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

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

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

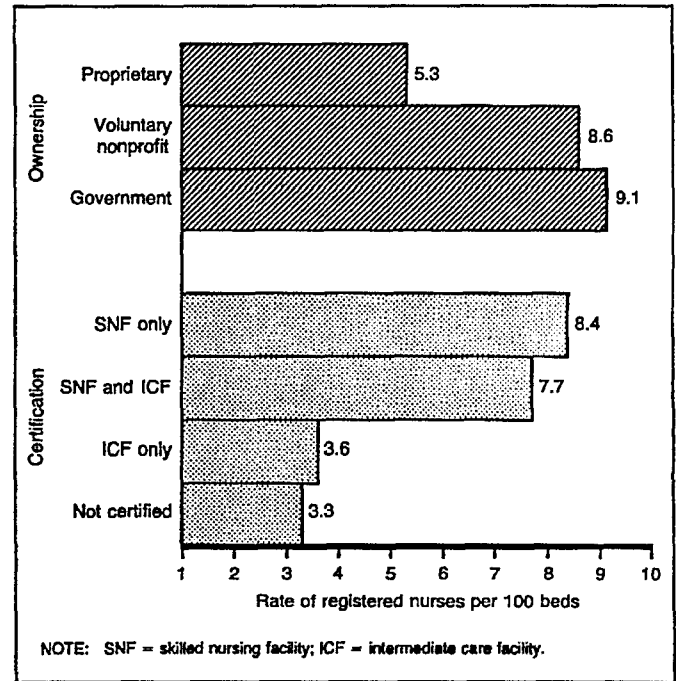


Figure 1. Rate of registered nurses working in nursing homes per 100 nursing home beds, by ownership and certification: United States, 1985

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

Summary

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

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

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Symbols

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

Technical notes

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

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

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

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

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

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

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

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

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

NOTE: A list of references follows the text.

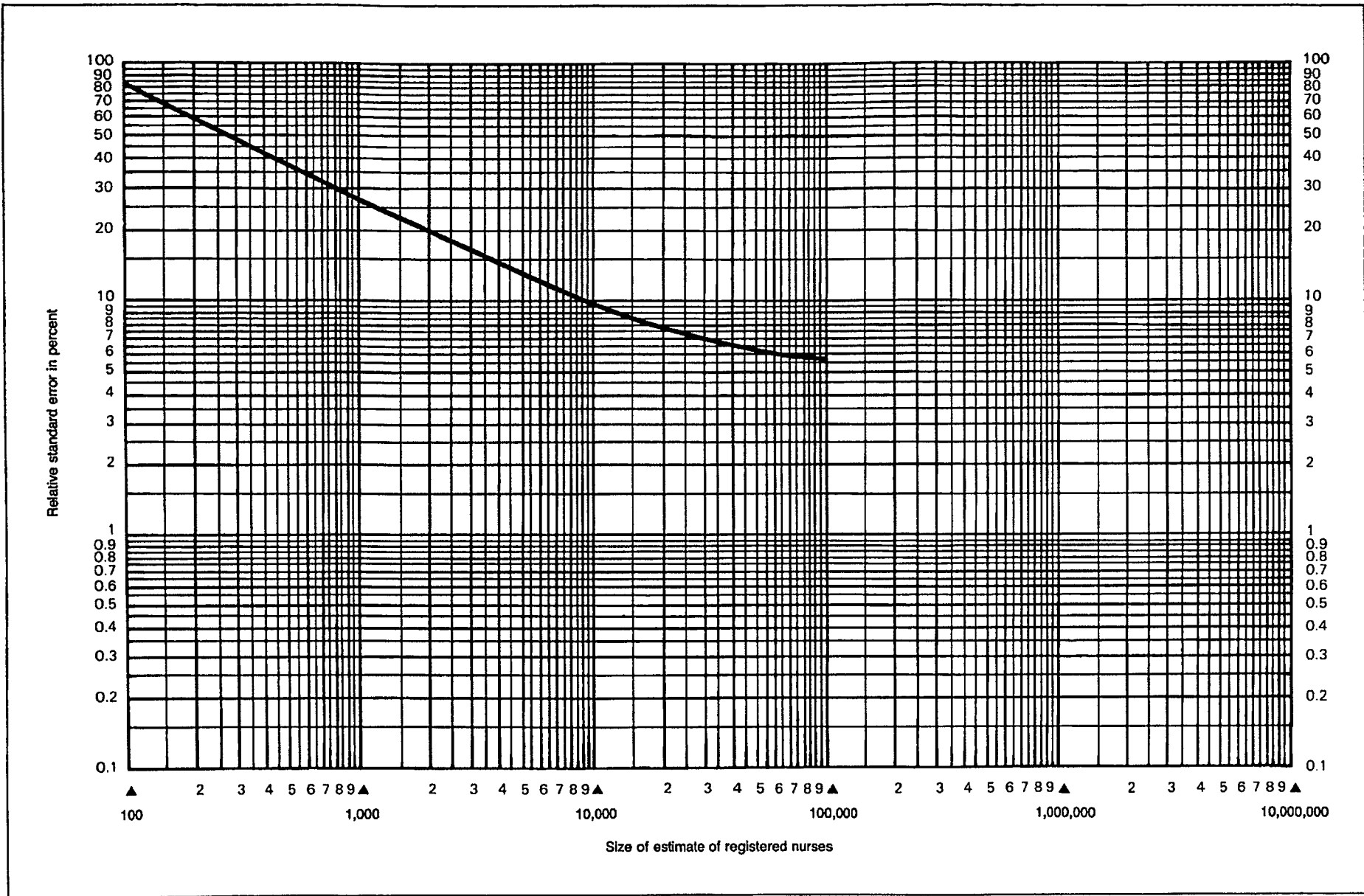


Figure I. Relative standard errors for estimated number of registered nurses working in nursing homes: United States, 1985

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