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Changes in Use of Voluntary Workers in Nursing Homes: United States, 1985 and 1999

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Abstract

Objective—This report describes changes in the use of voluntary workers in nursing homes between 1985 and 1999. Statistics are presented on selected characteristics of nursing homes using voluntary workers and the services they perform. Factors that may contribute to the increased use of voluntary workers are also discussed.

Methods—The data presented in this report were collected from the 1985 and 1999 National Nursing Home Surveys (NNHS). NNHS is a part of the National Health Care Survey, which measures health care utilization across various types of providers. Conducted periodically since 1973, NNHS obtains information from a nationally representative sample of nursing home facilities based on interviews with administrators and staff. Sample data are weighted to produce annual national estimates.

Results—In 1999, 87 percent of all nursing homes reported using voluntary workers, up from 78 percent in 1985. In 1985, unpaid workers were most likely found in large nursing homes (100 beds or more). By 1999, about the same proportion of nursing homes, large and small, reported their use. In 1999, the Northeast region had the greatest proportion of nursing homes that used volunteers—93 percent. Chain-affiliated and independent facilities used volunteers with about the same frequency, and about the same percentage of nursing homes not certified by either Medicaid or Medicare used voluntary workers as did dually-certified facilities. However, in 1999, proportionately fewer proprietary (for-profit) nursing homes reported having volunteers (85 percent) than did nonproprietary facilities (93 percent).

Keywords: Voluntary workers • nursing home facility • long-term care • NNHS

Introduction

Data from the National Nursing Home Survey (NNHS) show an increase in the use of voluntary workers in nursing homes between 1985 and 1999. In 1999, 87 percent of all nursing homes reported using voluntary workers, up from 78 percent in 1985. (Only statistically significant differences between nursing home groups or time trends are noted in the text ($p<0.05$).) Clearly, use of volunteers in nursing homes today would not be as widespread if the services they perform did not both enhance the quality of life of the residents and provide invaluable assistance to paid health care workers and other ancillary staff employed in these facilities. (According to Independent Sector, a coalition of philanthropic organizations, the value of volunteer time was estimated at $16.54 an hour in 2002.) Volunteers perform a great variety of everyday jobs that allow staff to spend more time on direct resident care. Data from the 1999 NNHS indicate that nursing home volunteers provide assistance with general office, reception, visiting and general aide, mental health counseling, and a variety of other services (figure 1).

Using facility size, geographic region, facility location, affiliation, ownership, and certification status, this report describes nursing homes that exhibited the greatest change over time in their use of volunteers. In addition, the report discusses factors that may have influenced the increased use of volunteers.

Methods

Data source

NNHS is a national probability sample survey of nursing home facilities and the nursing home population.

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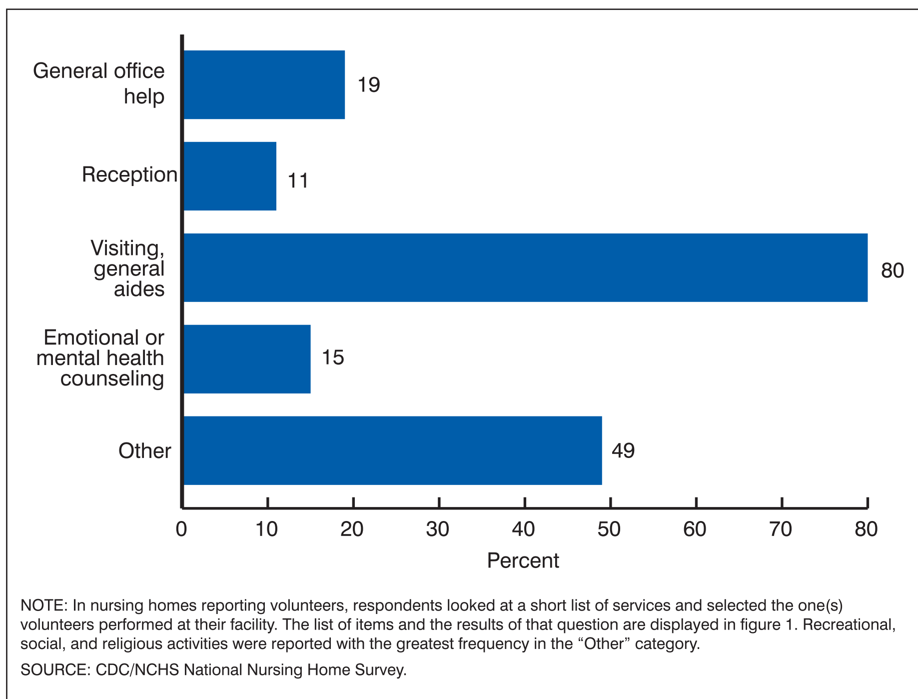


Figure 1. Percentage of nursing homes with voluntary workers by types of services provided: United States, 1999

NNHS was conducted in 1973–74, 1977, 1985, 1995, 1997, 1999, and most recently in 2004. All nursing homes included in this survey had at least three beds and were either certified by Medicare or Medicaid as a skilled nursing or intermediate care facility or had a State license to operate as a nursing home. Facilities in this universe were either freestanding or nursing care units of hospitals, retirement centers, or similar institutions where the unit maintained financial and resident records separate from those of the larger institution.

The 1999 NNHS sample design was a stratified, two-stage probability design. The first stage was the selection of facilities, and the second stage was the selection of residents and discharges for those facilities. The facility frame for the 1999 NNHS consisted of 18,400 nursing homes and was derived from files obtained from the Centers for Medicare & Medicaid Services (formerly the Health Care Financing Administration) and other national organizations. The 1999 sample consisted of 1,496 nursing homes selected from this universe, of which 23 were out of scope and 1,423 participated in the first stage by providing facility information, for a 97-percent response rate.

Data from the NNHS were obtained from personal interviews conducted with administrators and other nursing home staff who referred to facility and resident medical and other records as needed. No resident was interviewed directly.

NNHS provides demographic and health-related information about the resident and discharged nursing home population, staff providing the care, and characteristics of nursing home facilities. For more details (including additional information on survey procedures, definition of terms, and survey instruments) about the 1999 NNHS and for other years, see the NNHS Web site at http://www.cdc.gov/nchs/about/major/nnhsd/nnhsd.htm. Additional data from the survey are presented in NCHS publications and available in public-use electronic data sets.

Background

Between 1985 and 1999, nursing homes experienced profound changes. During this period the percentage of residents aged 85 years and over and those needing assistance with activities of daily living increased significantly (1–5). Driven by changes in reimbursement for acute care that began in 1983 (6,7), the number of short-stay postacute care patients increased significantly (3,4,8). The rate of discharge from nursing homes per 1,000 population increased by 80 percent between 1985 and 1999 (4). With the shift of postacute care patients from hospitals into skilled nursing units, nursing homes are providing more rehabilitative care (9–11).

These changes in the patient population paralleled other events in the health care delivery system that were designed to improve the quality of care provided in nursing homes and to contain health care spending. The 1987 Omnibus Budget Reconciliation Act (OBRA 87) contained sweeping nursing home reform legislation mandating that nursing facilities provide more than custodial care to residents. Major components of this legislation include providing services and nursing care that help residents attain or maintain their highest practicable level of function, prohibiting the indiscriminant use of chemical and physical restraints, and setting standards for training and education of caregiving staff. After enactment of OBRA 87, restorative and therapeutic services in nursing homes increased significantly, the use of chemical and physical restraints decreased, and only licensed nurses and certified nursing assistants are allowed to provide direct care to nursing home residents (12).

In 1997, the Balanced Budget Act (BBA 97) mandated a prospective payment system (PPS) to contain rising nursing home costs. This a case-mix system based on 44 resource utilization groups (RUGs) derived from the Minimum Data Set, a resident assessment instrument also mandated by OBRA 97 legislation. Facilities are reimbursed according to the RUGs classification, which takes into account the medical acuity and functional status assigned to each resident. Now, under the constraints of PPS, providers must operate more efficiently to stay in business (13).

In summary, nursing homes are providing care for older and more

functionally frail individuals and those needing postacute care and rehabilitation, and they are doing so under much stricter regulations. These regulations affect the type of care and services nursing homes provide, the type of direct staff they must employ, and the training their direct-care staff must have. Increases in the use of volunteer workers during this period may reflect nursing homes' efforts to adapt to changes in the resident population and to enable them to provide the additional services and care that new regulations require.

Table A. Number of nursing homes and percent change by selected facility characteristics: United States, 1985 and 1999

Characteristic	1985	1999	Percent increase or decrease
All facilities	19,100	18,000	[1]–6
Bed size			
Less than 100 beds	12,500	9,100	[1]–28
100 beds or more	6,500	9,000	[1]37
Average bed size per facility	85	109	[1]28
Geographic region			
Northeast	4,400	3,200	[1]–27
Midwest	5,600	6,000	7
South	6,100	6,000	–3
West	3,000	2,800	–4
Location of facility			
Metropolitan statistical area	11,600	11,000	–5
Not metropolitan statistical area	7,500	7,000	–7
Ownership			
Proprietary	14,300	12,000	[1]–16
Voluntary nonprofit	3,800	4,800	[1]26
Other	1,000	1,200	20
Affiliation			
Chain	7,900	10,800	[1]37
Independent or government	11,000	7,200	[1]–28

[1]Difference is significant ($p<0.05$).
SOURCE: CDC/NCHS, National Nursing Home Survey.

Findings

Changes in nursing homes

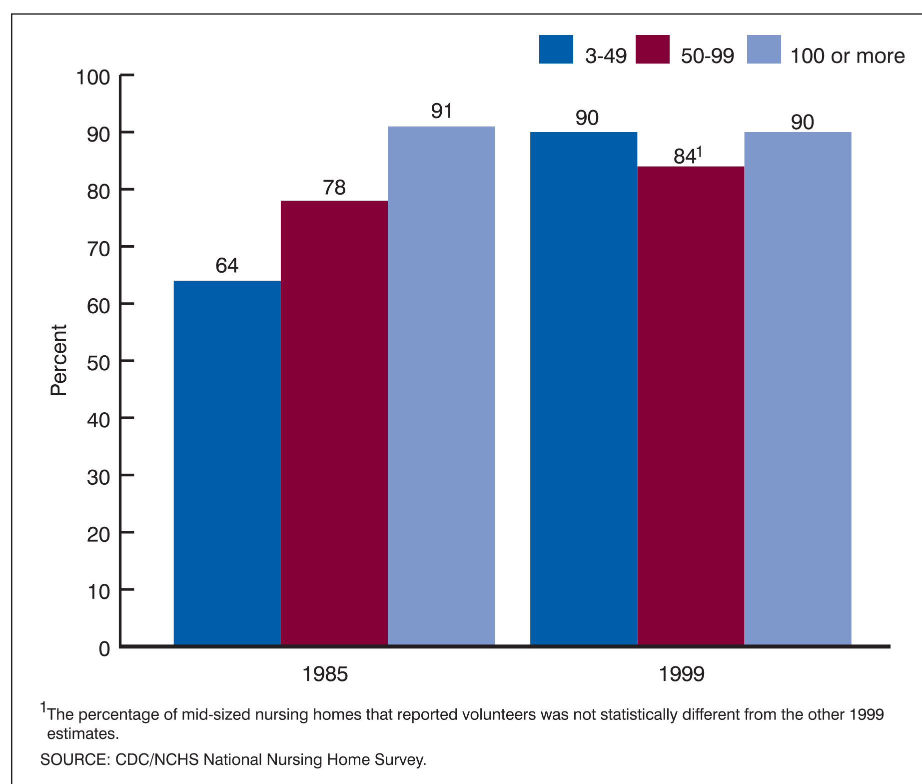
Although there were fewer nursing homes in 1999 than in 1985, facilities in 1999 tended to be larger, more belonged to a chain, and fewer were owned by for-profit organizations. During this period, the Northeast experienced the greatest decline with a net loss of about one-fourth of their nursing homes (table A).

Changes in the use of volunteers

In 1985, unpaid workers were most likely found in large nursing homes (100 beds or more). Over 90 percent of those homes made use of voluntary workers compared with about two-thirds of small nursing homes (less than 50 beds) and 78 percent of mid-sized homes (50–99 beds). By 1999, about the same proportion of nursing homes, large and small, reported using unpaid workers (figure 2).

Between 1985 and 1999, the Northeast exhibited the greatest growth (a 37-percent increase) in the use of volunteer workers. In 1999, this region had the greatest proportion of nursing homes reporting volunteers (93 percent) compared with about 85 to 88 percent for the other geographic regions of the country (figure 3). Also in 1999, the Northeast had proportionately more facilities with 100 beds or more (69 percent of their nursing homes) than did other parts of the country (14).

Between 1985 and 1999, use of voluntary workers rose in nursing homes located in metropolitan statistical areas (MSAs), from 75 to 88 percent. However, over this same period, nursing homes located outside of MSAs did not experience a significant change in the proportion that used volunteers. The



[1]The percentage of mid-sized nursing homes that reported volunteers was not statistically different from the other 1999 estimates.
SOURCE: CDC/NCHS National Nursing Home Survey.

Figure 2. Percentage of nursing homes with voluntary workers by bed size: United States, 1985 and 1999

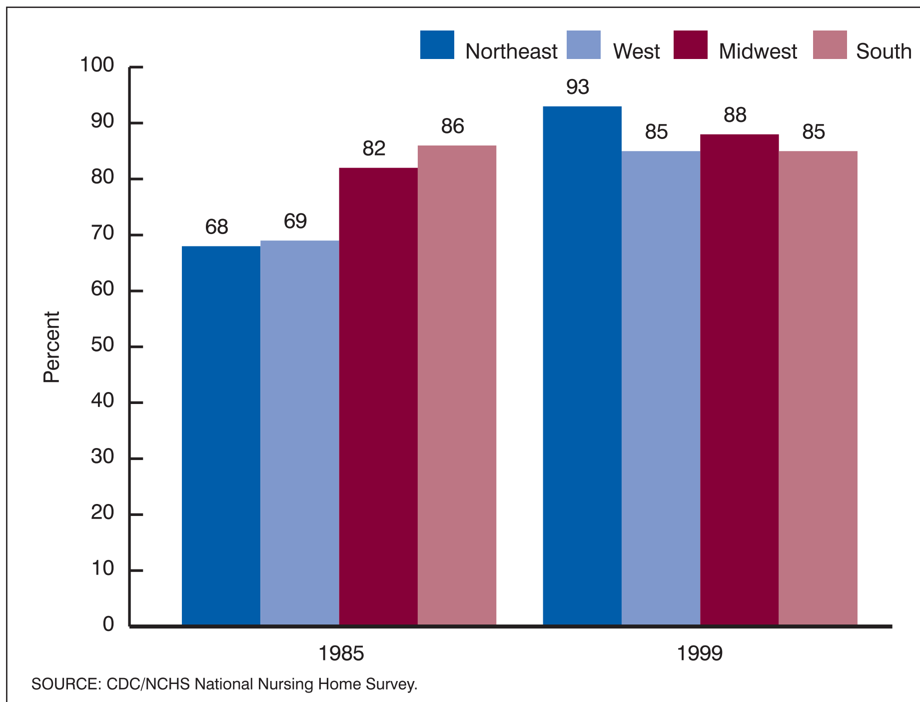


Figure 3. Percentage of nursing homes with voluntary workers by geographic region: United States, 1985 and 1999

percentages of MSA and non-MSA facilities that reported volunteer workers for 1985 and 1999 are not statistically different (figure 4).

To investigate whether nursing staff size was associated with use of voluntary workers, estimates are also presented by three staffing-level and bed-size groups. In 1985, for nursing homes with fewer than 50 full-time equivalent (FTE) nursing staff, the use of voluntary workers increased as bed size increased. In facilities with smaller nursing staffs, 64 percent with fewer than 50 beds had voluntary workers compared with 87 percent (about one-third more) of facilities with 100 beds or more. This pattern, however, is not found in homes with nursing staffs of 50 employees or more; for these homes, about the same percentage reported using voluntary workers regardless of bed size.

By 1999, the proportion of nursing homes using voluntary workers were about the same for the nursing staff-size and bed-size groups shown. This finding further highlights the widespread presence of volunteer workers in nursing homes, even among those with more robust staffing to bed-size ratios (table B).

In 1985, chain-affiliated nursing homes—which tend to be larger—were more likely to use voluntary workers (83 percent) than were independent nursing homes (74 percent). This difference disappeared by 1999 (figure 5). Over this time period, chain-affiliated and independent facilities alike saw an increase in the proportion of their nursing homes with 100 beds or more. However, although the increase for chains was modest—from 48 to 55 percent—the percentage of independent homes of this bed-size

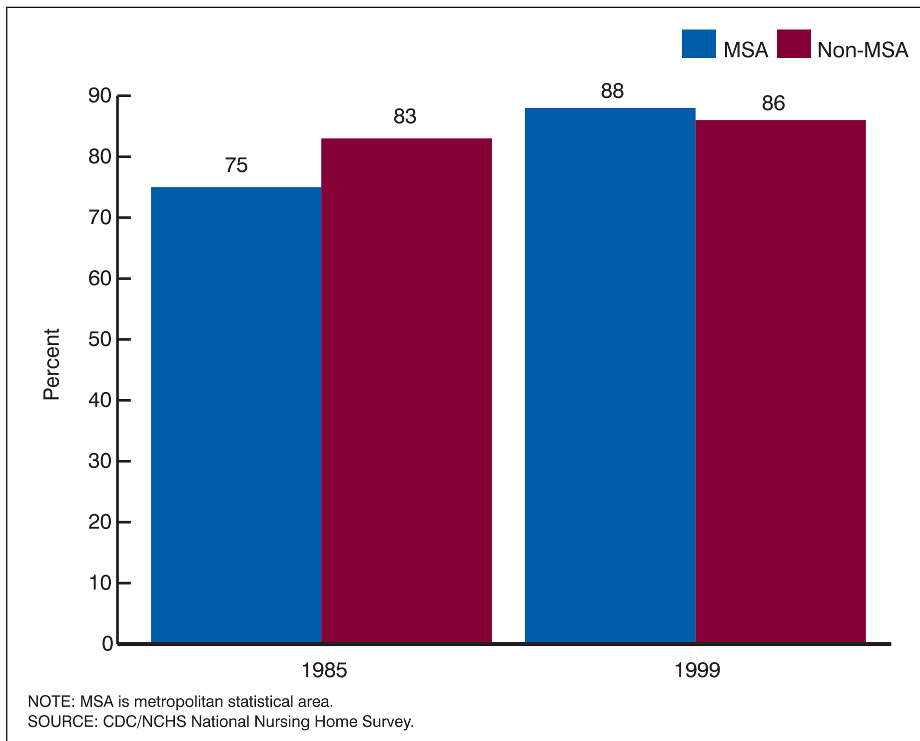


Figure 4. Percentage of nursing homes with voluntary workers by metropolitan statistical area: United States, 1985 and 1999

Table B. Percentage of nursing homes with voluntary workers by size of nursing staff and number of beds: United States, 1985 and 1999

Nursing staff and bed size	1985	1999
Less than 50 nurses		
Fewer than 50 beds	64	90
50–99 beds	78	84
100 or more beds	87	86
50–74 nurses		
Fewer than 125 beds	91	88
125–174 beds	91	88
175 or more beds	93	90
75 or more nurses		
Fewer than 150 beds	89	93
150–199 beds	92	92
200 or more beds	94	90

NOTE: Nursing staff includes RNs, LPNs, and nurses aides or orderlies.

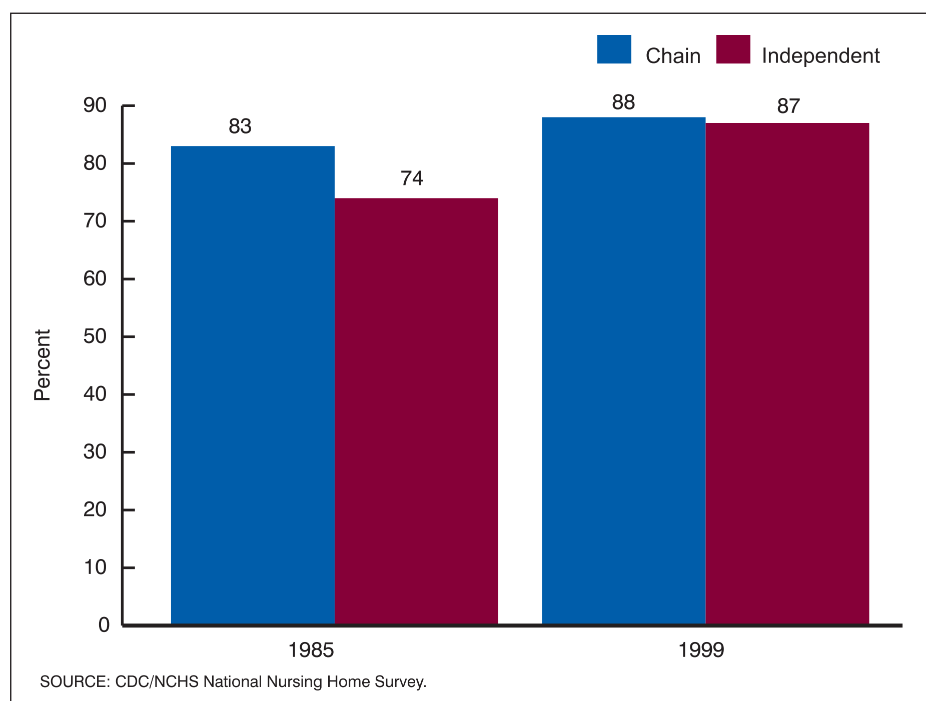


Figure 5. Percentage of nursing homes with voluntary workers by affiliation: United States, 1985 and 1999

almost doubled—from 23 to 43 percent (data not shown) (3).

Between 1985 and 1999, the use of voluntary workers increased for both proprietary and nonproprietary nursing homes—by about 13 and 8 percent, respectively. However, for both years, proprietary nursing homes were less likely to report voluntary workers than other types of nursing homes. In 1999, for example, about 93 percent of nonproprietary nursing homes had voluntary workers compared with 85 percent of proprietary nursing homes (figure 6).

In addition to less use of voluntary workers, proprietary homes also tend to have fewer FTE nursing staff. Specifically, proprietary nursing homes in 1999 had 57 FTE nursing staff per 100 current residents compared with 63 FTE nursing staff for nonproprietary nursing homes. Proprietary nursing homes also tend to be larger. For example, in 1999, about 53 percent of proprietary nursing homes had 100 beds or more compared with 43 percent of nonproprietary places.

Some differences in the kinds of services volunteers performed were also noted between proprietary facilities and other types of nursing homes. For example, proprietary facilities were far less likely to use volunteer workers as receptionists and for general office work (figure 7).

In 1985, about two-thirds of noncertified nursing homes used voluntary workers compared with about 85 percent of nursing homes that were dually certified by Medicare and Medicaid. The majority of noncertified facilities (72 percent) were also small (less than 50 beds), unlike certified places where only 20 percent had less than 50 beds. In 1999, about the same percentage of nursing homes that were not certified by either Medicaid or Medicare used voluntary workers as did dually-certified facilities. Use of voluntary workers in Medicaid-only and dually-certified nursing homes remained constant between 1985 and 1999 (figure 8).

Summary and Conclusions

Between 1985 and 1999, the use of voluntary workers in U.S. nursing homes increased from 78 to 87 percent of all homes. Furthermore, in 1999, about the same proportion of nursing homes in each bed-size category used volunteer workers. In 1985, volunteers were most likely found in large (100 beds or more) nursing homes—90 percent. The greater use of voluntary workers in large nursing homes probably resulted from a number of

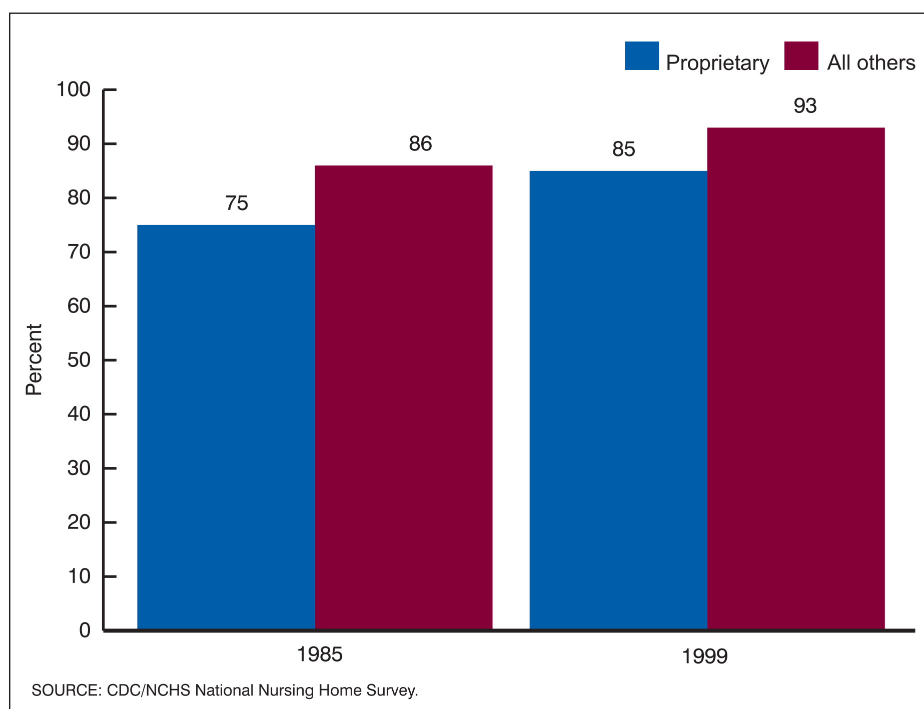


Figure 6. Percentage of nursing homes with voluntary workers by type of ownership: United States, 1985 and 1999

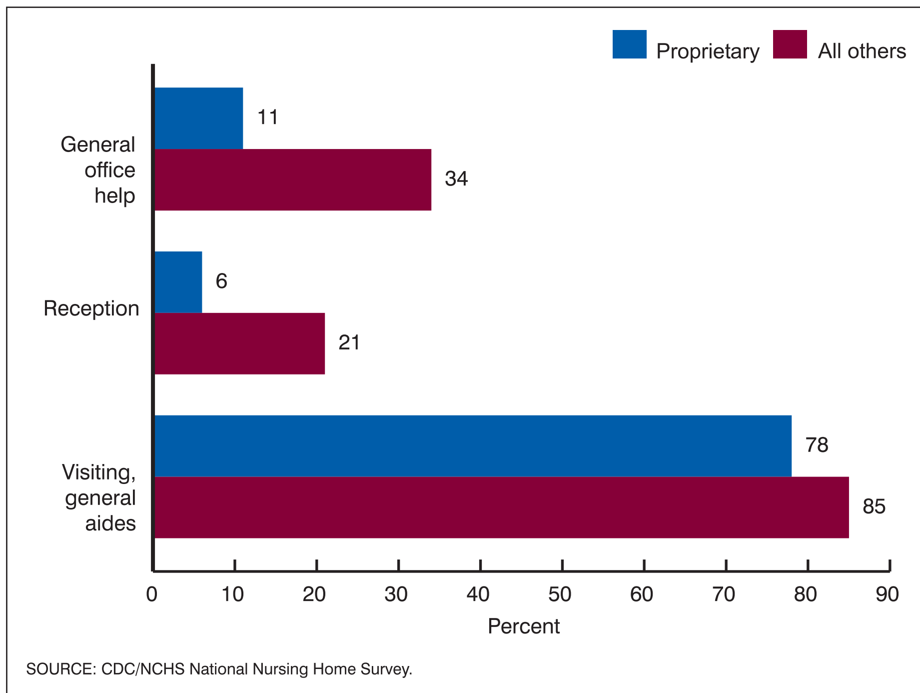


Figure 7. Percentage of nursing homes with voluntary workers by selected services provided and type of ownership: United States, 1985 and 1999

factors. Large facilities are more likely to be located in more populated areas and have more local visibility; as a result, they receive broader support from a variety of community volunteer groups. The additional amenities and services often found in larger nursing homes may also contribute to the greater reliance on volunteer workers to support such activities and services.

The greater use of volunteers in 1985 in smaller-staffed (less than 50 nurse FTEs) but larger facilities may reflect more reliance on voluntary workers to perform certain tasks and services that nursing assistants commonly do in other facilities. The increased use of voluntary workers to perform unskilled but necessary tasks gives nursing staff more time to attend to residents' more demanding health care needs. However, enactment of the Federal Nursing Home Reform Act (part of OBRA) in 1987 enforced strict guidelines on the use of volunteer workers. This reform act created a set of national minimum standards of care and rights for people living in certified nursing facilities. For example, it allowed only certified nursing assistants (CNAs) to help nursing home residents perform activities of daily living. Although the use of voluntary workers increased, at the same time there were new restrictions on the types of activities they could perform.

In 1999, the Northeast region, where nursing homes tend to be larger, had the greatest proportion of nursing homes reporting the use of volunteers—93 percent. In 1999, both chain-affiliated and independent nursing homes reported using these workers with about the same frequency; and the proportion of nursing homes that reported using voluntary workers was similar in MSAs than non-MSAs. Likewise, in 1999, about the same percentage of nursing homes not certified by either Medicaid or Medicare used voluntary workers as did dually-certified facilities.

However, in 1999, proportionately fewer proprietary nursing homes used volunteer workers (85 percent) than did nonproprietary facilities (93 percent). At the same time, proprietary nursing homes had proportionately fewer FTE nursing staff. Although the percentage of nursing homes using volunteers increased for both proprietary and nonproprietary facilities during 1985–99, proprietary homes, which had fewer paid FTEs, had a lower use of volunteers. These data also indicate that proprietary and nonproprietary homes use volunteers differently. How proprietary facilities manage essential caregiving tasks with fewer paid staff merits further study.

From these results, it is unmistakable that the majority of

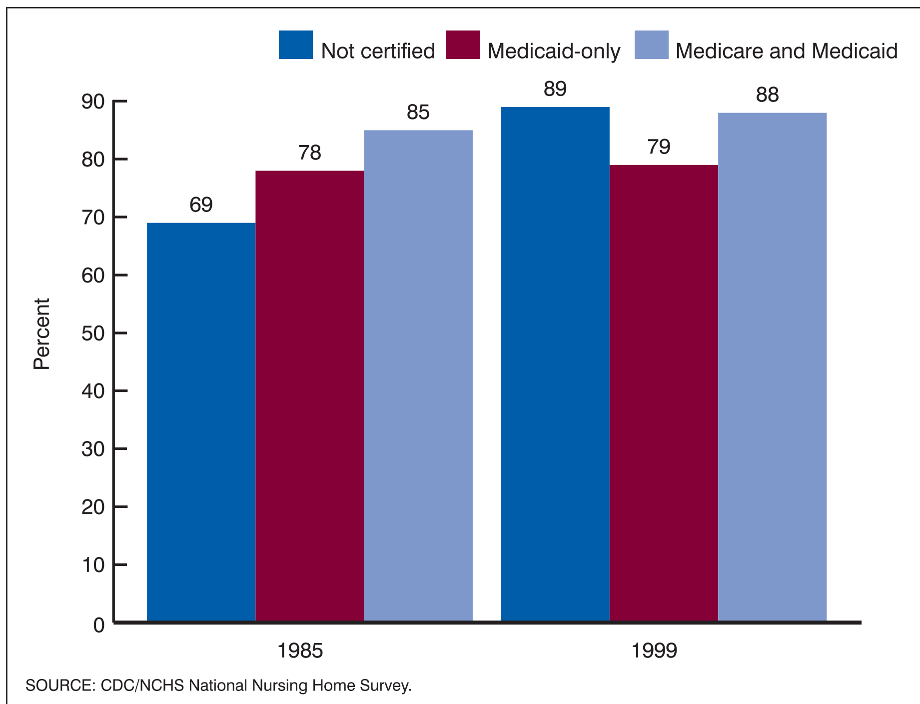


Figure 8. Percentage of nursing homes with voluntary workers by certification: United States, 1985 and 1999

nursing homes depend on volunteer workers and that these volunteers contribute to the well-being of residents. These data lack details about the types of activities volunteers routinely perform and some other indicators of their participation levels in these facilities. To help fill these data gaps, the 2004 NNHS collected a more detailed description of the kinds of services volunteer workers provide in nursing homes. In addition, the 2004 NHHS included several new items to help characterize participation levels of volunteer workers in nursing homes.

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Technical Notes

Estimation procedure

Estimates presented in this report were derived by a multistage estimation procedure that produces essentially unbiased national estimates and has three principal components. The first component, inflation by the reciprocals of the probabilities of sample selection, is the basic inflation weight. This component consists of the inverse of the probability of selecting the facility. The second component is an adjustment for nonresponse, which brings estimates based only on the responding cases up to the level that would have been achieved if all eligible cases had responded. The third component, ratio adjustment to fixed totals, adjusts for over- or undersampling of facilities reported in the sampling frame.

Reliability of estimates

The standard errors (SEs) used in this report were approximated using SUDAAN software. SUDAAN computes SEs by using a first-order Taylor approximation of the deviation of estimates from their expected values. Although exact SEs were used in tests of significance in this report, SEs for estimates presented may be estimated by using the general formula:

$$SE(X) = X \bullet RSE(X)$$

where X is the estimate and RSE(X) is the relative standard error (RSE) of the estimate.

The relative standard error (RSE(X)) may be estimated using the following general formula:

$$RSE(X) = \sqrt{A + \frac{B}{X}}$$

where X is the estimate and A and B are the appropriate coefficients from table I.

To approximate the relative standard error (RSE(p)) and the standard error (SE(p)) of a percentage $p(0<1)$, the appropriate values of parameter B (from table I) are used in the following equations:

$$RSE(p) = \sqrt{\frac{B \bullet (1-p)}{p \bullet Y}}$$

and

$$SE(p) = p \bullet RSE(p)$$

where $p = 1 \bullet X/Y$, X is the numerator of the estimated percentage, and Y is the denominator of the estimated percentage.

The approximation of the RSE or the SE of a percentage is valid only when one of the following conditions is

Table I. Parameters used to compute relative standard errors by type of estimate

Type of estimate	Parameter A	Parameter B
1999 NNHS[1] facilities	0.001496	9.399143
1985 NNHS[1] facilities	–0.001748	50.7162

[1]NNHS is the National Nursing Home Survey.

satisfied: the RSE of the denominator is 5 percent or less or the RSEs of the numerator and the denominator are both 10 percent or less.

Tests of significance

Statistical tests performed to assess significance of differences in the estimates were two-tailed with no adjustments for multiple comparisons.

The test statistic used to determine statistical significance of differences between two percentages was:

$$Z = \frac{|X_a - X_b|}{\sqrt{S_a^2 + S_b^2}}$$

where X_a and X_b are the two percentages being compared, and S_a and S_b are the SEs of the percentages. The critical value used for two-sided tests at the 0.05 level of significance was 1.96.

Suggested citation

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