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An Overview of the 1980 National Master Facility Inventory Survey of Nursing and Related Care Homes

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Introduction

In this report the 1980 National Master Facility Inventory Survey of nursing and related care homes is described. Statistics are presented on the numbers of homes, beds, residents, and employees, along with occupancy and turnover rates. These variables are categorized by such characteristics as ownership groups, bed size groups, and geographic regions. Additional topics covered in this report include survey procedures, problems encountered, editing procedures, and qualifications of the data.

The National Center for Health Statistics (NCHS) first conducted the National Master Facility Inventory (NMFI) Survey in 1963 and continued in 1967, 1969, 1971, 1973, 1976, and 1978. Prior to 1978, the inventory included hospitals, nursing and related care homes, and other types of inpatient health facilities including, for example, homes for the blind, deaf, mentally retarded, and emotionally disturbed.¹ The 1978 and 1980 NMFI surveys have data on only nursing and related care homes. Data for hospitals are now obtained directly from the American Hospital Association (AHA). For convenience, this report will use the terms "nursing and related care homes" and "nursing homes" interchangeably.

The NCHS definition of "nursing homes" has remained the same over the years of the NMFI surveys. The definition states basically that a home must maintain three or more inpatient beds, and, at a minimum, it must provide one or more personal care services (such as help with eating, walking, correspondence, shopping, dressing, bathing, or massage).

While this definition has remained constant, the coverage of the NMFI has not. Due to changes in collection coverage

starting in 1976 (see Technical notes), certain types of facilities have been added and others deleted. The most notable change in coverage for 1980 involved the addition of more than 2,500 adult foster care homes in Michigan and 1,000 newly added residential community care facilities in California. These homes may or may not have been in existence in prior years, but were only recently identified as meeting the minimum definitional requirements of NCHS for inclusion in the NMFI.

One other notable change occurred in the 1980 coverage. All identifiable hospital-based nursing homes and extended care facilities were excluded from the survey. Previous NMFI surveys included many of these; however, the inability to obtain data on all such facilities from all States resulted in the decision to drop them from the survey and use the AHA figures for these facilities.

Therefore, any comparisons made between the 1980 NMFI and prior NMFI's must be done with extreme caution. It is recommended that if comparisons are attempted they should be performed using only the larger homes (25 beds or more) because most of the additions, deletions, and definitional changes that occurred between NMFI surveys were in the smaller homes. In addition, the hospital-based nursing homes should be removed from the earlier counts when comparing those surveys with the 1980 Survey.

Discussion

Facility characteristics

In 1980 the NMFI identified 23,065 nursing homes in the United States. At the time of the survey there were 1,537,338 beds and 1,396,132 residents in these facilities. Included in these figures were 2,524 adult foster care homes (AFCH's) in Michigan that had never been included as part of the NMFI. These facilities had 18,824 beds and 15,709 residents. Excluded from the 1980 NMFI were hospital-based

¹National Center for Health Statistics, G. Strahan: Inpatient health facilities in the United States, 1978. *Vital and Health Statistics*. Series 14-No. 24. DPHS Pub. No. (PHS) 81-1819. Office of Health Research, Statistics, and Technology. Washington. U.S. Government Printing Office, Mar. 1981.

Table A. Number and percent distribution of nursing and related care homes and beds by bed size, type of ownership, and geographic region: United States, 1980

Characteristic	Homes		Beds	
	Number	Percent distribution	Number	Percent distribution
All homes.....	23,065	100.0	1,537,338	100.0
Bed size				
3-9 beds.....	5,492	23.8	29,238	1.9
10-24 beds.....	3,006	13.0	47,965	3.1
25-49 beds.....	3,030	13.1	112,093	7.3
50-74 beds.....	3,332	14.4	199,673	13.0
75-99 beds.....	2,375	10.3	208,995	13.6
100-199 beds.....	4,737	20.5	617,165	40.1
200-299 beds.....	766	3.3	177,581	11.6
300-499 beds.....	250	1.1	90,584	5.9
500 beds or more.....	77	0.3	54,044	3.5
Type of ownership				
Government.....	936	4.1	126,907	8.3
Proprietary.....	18,669	80.9	1,072,243	69.7
Nonprofit.....	3,460	15.0	338,188	22.0
Geographic region				
Northeast.....	3,762	16.3	322,530	21.0
North Central.....	8,252	35.8	521,661	33.9
South.....	5,306	23.0	420,762	27.4
West.....	5,745	24.9	272,385	17.7

nursing homes and extended care facilities, which, according to AHA, numbered 1,056 facilities and 76,024 beds in 1980.²

Half of all nursing homes had less than 50 beds (table A). Although the largest group (5,492) had less than 10 beds, the next largest group (4,737) had between 100 and 199 beds. By contrast, only 1,093 nursing homes had more than 199 beds. Over 40 percent of all nursing home beds are in homes having 100 to 199 beds.

As expected, the vast majority of nursing homes were operated for profit. Approximately 81 percent of the homes and 70 percent of the beds were proprietary. The average government-operated home, however, was nearly 2½ times bigger than the average for-profit home (table B). Even when Michigan AFCH's were excluded, the government-operated homes were still more than twice the size of the propriety homes. The nonprofit homes, with about a 98-bed average, were halfway between the two other ownership groups.

The North Central Region had by far more nursing homes and beds than any other region. Excluding the Michigan AFCH's the North Central Region would have had the highest average bed size, but when these were included it was a distant third behind the Northeast and South Regions (table B).

The number of nursing home beds per 1,000 population 65 years of age and over are shown by region in figure 1. The North Central Region had the highest such rate at 78.0 with the West a distant second at 63.4. The exclusion of Michigan

Table B. Average bed size of nursing and related care homes by type of ownership and geographic region, including and excluding Michigan's adult foster care homes (AFCH's): United States, 1980

Characteristic	Average bed size of all homes	Average bed size excluding Michigan's AFCH's
All homes.....	66.7	73.9
Type of ownership		
Government.....	135.6	135.6
Proprietary.....	57.4	65.2
Nonprofit.....	97.7	97.7
Geographic region		
Northeast.....	85.7	85.7
North Central.....	63.2	87.8
South.....	79.3	79.3
West.....	47.4	47.4

AFCH's would have little impact on this figure, reducing the rate of the North Central Region to 75.1.

There was moderate fluctuation in nursing home occupancy rates among bed size groups, ownership categories, and geographic regions (table C). A much wider fluctuation in the

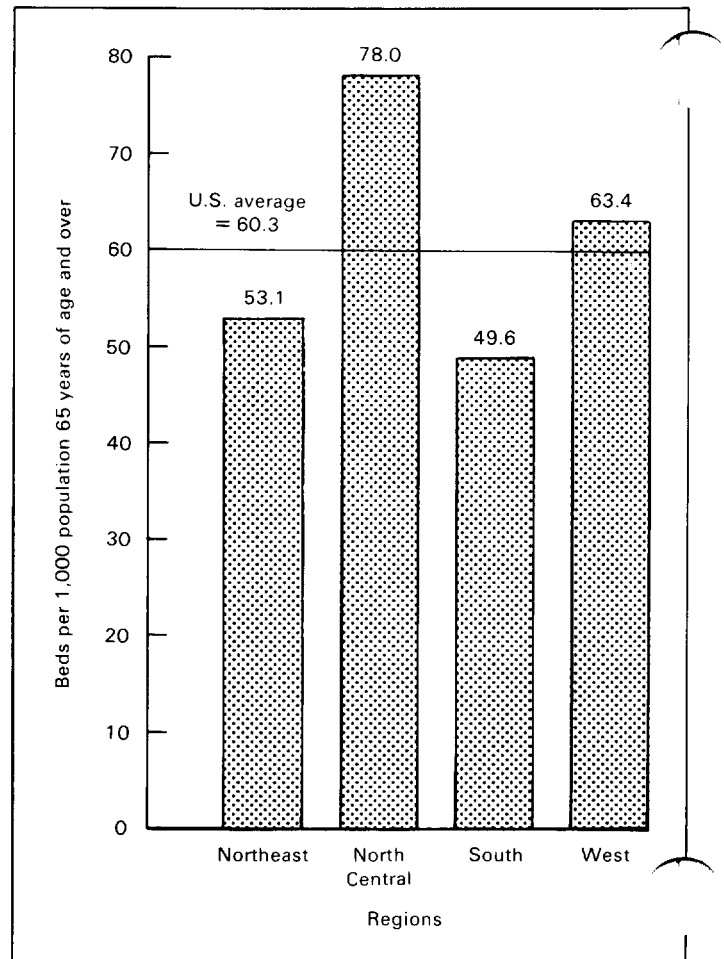


Figure 1. Beds in nursing and related care homes per 1,000 population 65 years of age and over by region: United States, 1980

²American Hospital Association: *Hospital Statistics*. 1981 edition. Data from the AHA 1980 Annual Survey.

Table C. Occupancy rate and number of admissions per 10 beds (turnover rate) for nursing and related care homes, by bed size, type of ownership, and geographic region: United States, 1980

Characteristic	Occupancy rate ¹	Number of admissions per 10 beds ²
All homes.....	90.8	7.6
Bed size		
3-9 beds.....	84.6	6.0
10-24 beds.....	89.1	5.8
25-49 beds.....	91.8	6.2
50-74 beds.....	92.3	7.1
75-99 beds.....	92.4	8.4
100-199 beds.....	91.1	8.5
200-299 beds.....	89.8	7.9
300-499 beds.....	87.9	5.3
500 beds or more.....	87.1	3.5
Type of ownership		
Government.....	91.3	4.4
Proprietary.....	91.4	8.6
Nonprofit.....	88.8	6.0
Geographic region		
Northeast.....	93.1	6.8
North Central.....	89.7	6.6
South.....	90.2	8.1
West.....	91.1	10.0

¹Number of residents divided by number of beds set up and staffed (expressed as a percent).
²Homes that did not report admissions were excluded—there were 6,648 such homes.

turnover rate (admissions per bed) was found among these three categories. The highest turnover rates among the bed size groups were 8.5 and 8.4 admissions per 10 beds in homes with 100 to 199 beds and 75 to 99 beds, respectively (table C). These rates were quite a bit higher than those for the two smallest bed size groups, and considerably higher than those for the two largest bed size groups.

The turnover rate for proprietary homes was nearly twice the rate for government-operated homes. The West Region had the highest turnover rate with every bed being turned over once during the year (10 admissions per 10 beds).

Employee data

In 1980, an estimated 952,600 full-time equivalent (FTE) employees worked in nursing homes. Of these, approximately 62,200 were registered nurses (RN's) and about 76,700 were licensed practical nurses (LPN's) (table D). Data on the numbers of these employees and their numbers per home and per 100 beds are provided and categorized by bed size, ownership type, and geographic region (table D). The NMFH surveys included in their counts only those nursing home employees who are on the staff payroll; they excluded those employed under contract. Because RN's and LPN's are sometimes employed under contract, they are somewhat undercounted.

As the bed-size groups get larger, the number of FTE employees per home also increases. This is not surprising, because the more beds there are in a home, the more employees are needed to staff them.

Table D. Number of full-time equivalent (FTE) employees in nursing and related care homes that reported full-time employees, number of FTE employees per home, and number of FTE employees per 100 residents, by bed size, type of ownership, and geographic region: United States, 1980

Characteristic	Estimated number of all FTE employees ^{1,2}			FTE RN's ^{1,3}			FTE LPN's ^{1,3}		
	Total	Per home	Per 100 beds	Total	Per home	Per 100 beds	Total	Per home	Per 100 beds
All homes.....	952,600	41.4	62.1	62,200	2.7	4.0	76,700	3.3	5.0
Bed size									
3-9 beds.....	9,900	1.8	33.9	48	0.0	0.2	35	0.0	0.1
10-24 beds.....	24,500	8.2	51.1	900	0.3	1.8	1,300	0.4	2.7
25-49 beds.....	65,000	21.5	58.0	3,800	1.2	3.4	5,200	1.7	4.6
50-74 beds.....	123,200	37.0	61.7	7,100	2.1	3.5	9,900	3.0	5.0
75-99 beds.....	133,900	56.4	64.1	8,500	3.6	4.1	11,500	4.9	5.5
100-199 beds.....	384,300	81.2	62.3	26,800	5.7	4.4	32,500	6.9	5.3
200-299 beds.....	111,900	146.1	63.0	7,900	10.3	4.4	9,300	12.2	5.2
300-499 beds.....	55,900	223.6	61.7	4,100	16.5	4.5	3,800	15.1	4.2
500 beds or more.....	44,000	571.4	81.4	3,100	40.4	5.7	3,200	41.6	5.9
Type of ownership									
Government.....	104,200	111.3	82.1	6,500	7.0	5.1	8,600	9.2	6.8
Proprietary.....	623,200	33.4	58.1	39,400	2.1	3.7	52,400	2.8	4.9
Nonprofit.....	225,200	65.1	66.6	16,200	4.7	4.8	15,700	4.5	4.6
Geographic region									
Northeast.....	230,100	61.2	71.3	22,600	6.0	7.0	18,500	4.9	5.7
North Central.....	306,300	37.1	58.7	18,500	2.2	3.5	21,600	2.6	4.1
South.....	252,700	47.6	60.1	11,100	2.1	2.6	25,700	4.8	6.1
West.....	163,500	28.5	60.0	10,000	1.7	3.7	10,900	1.9	4.0

¹FTE = full-time equivalents = full-time employees + ½ part-time employees.

²See Technical notes for explanation of estimation procedures.

³FTE RN's and LPN's were actual counts but have been rounded to nearest hundred except when total was less than 100.

When the rates per 100 beds for all employees are compared by bed-size groups, a somewhat different picture appears. Whereas the largest group (500 beds or more) has a rate almost 2½ times as large as the smallest group (3 to 9 beds), the six bed-size groups starting with 25 beds and ending with 499 beds have relatively small variations in rates.

The rates per 100 beds for both RN's and LPN's had similar patterns. Their most substantial increases occurred from the first (smallest) bed-size group to the second, from the second to the third, and from the next-to-the-largest bed-size group to the largest.

In terms of ownership, the government-operated homes had the highest rates for both FTE employees per home and FTE employees per 100 beds. This was true for RN's and LPN's as well as for total employees.

These high rates can be understood by reviewing data presented earlier. Specifically, the government-operated homes averaged nearly 136 beds per home—far more than the other two ownership types. Because large nursing homes have more total employees, RN's, and LPN's than do small homes, the government-operated homes would be expected to have the highest employee-per-home rates. Conversely, because proprietary homes tend to be small and because smaller homes have fewer employees, the proprietary homes had very low rates of FTE employees per home. The government homes also had the highest rates of FTE employees per 100 beds for all three employee groups. Proprietary homes had the lowest rates for all employees and for RN's, but for LPN's the rate was slightly higher than the rate for nonprofit homes.

At the regional level, the Northeast had substantially higher FTE employee-per-bed rates than the other regions for all employees and for RN's. The Northeast was second to the South, however, in FTE LPN's per bed.

Although the Northeast had fewer nursing homes than any other region, it had the highest number of FTE RN's—more than the South and West Regions combined. This is dramatically shown where the number of FTE RN's per home is 6.0 in the Northeast but only 2.2 or less in the other three regions (table D).

A possible explanation for this could be in the types and sizes of the nursing homes within regions. The certification data collected in the survey were incomplete (see Technical notes), but according to the information that was available the Northeast had many more large skilled nursing facilities (SNF's) than the South and West Regions did. In SNF homes with 200 or more beds, the Northeast had 295, compared with the South's 113 and the West's 64. Of the SNF homes with 500 beds or more, the Northeast had 37, the South 4, and the West none.

Because SNF's are required to (1) provide skilled nursing care and (2) maintain 24-hour coverage by RN's, they would be expected to have more RN's than noncertified homes. Results from the 1977 National Nursing Home Survey tended to substantiate this with the finding that of the 66,900 estimated FTE RN's employed in nursing homes at that time, 53,000 (79 percent) were in homes classified as SNF's.³ The Northeast, with many more large SNF's, could therefore be expected to have many more RN's also.

³National Center for Health Statistics, A. Sirrocco: Employees in nursing homes in the United States, 1977 National Nursing Home Survey. *Vital and Health Statistics*. Series 14-No. 25. DHHS Pub. No. (PHS) 81-1820. Office of Health Research, Statistics, and Technology. Washington, U.S. Government Printing Office, Feb. 1981.

Technical notes

Although the 1980 National Master Facility Inventory (NMFI) Survey was a universe rather than a sample survey and, as such, is not subject to sampling error, it is subject to other types of errors. One type of error was questionnaire-item nonresponse.

All the NMFI Surveys (of nonhospitals) through 1973 were conducted directly by the National Center for Health Statistics (NCHS) with the assistance of the U.S. Bureau of the Census. From 1976 through 1980 the Cooperative Health Statistics System (CHSS) was active. This system decentralized the responsibility for collecting data from the Federal to the State level. In 1976, 16 States within CHSS collected some or all the NMFI data. In 1978 there were 26 States, and in 1980 there were 38 States collecting NMFI data. In each of these years NCHS surveyed in the non-CHSS States.

The agency within the CHSS States that collected the NMFI data for NCHS was usually the licensing agency. Because their surveys are tied into licensing laws, there were differences in definitions, scope, and timing of the surveys among the CHSS States. However, NCHS included personal care homes, homes for the aged, rest homes, and the like, some States did not license these types of homes and did not survey them.

Data on nursing and related care homes may have biases due to the following:

- Data from nursing homes surveyed in the 1978 NMFI were substituted in 1980 for Alaska and South Dakota.
- 1978 data were substituted for 48 nursing homes in Indiana and 96 homes in Connecticut.
- Because neither 1980 nor 1978 data were available for approximately 200 residential care homes in New York, these homes were excluded from the figures in this report.
- Number of beds and type of ownership were the only data reported by the 3,013 residential community care facilities in California. The number of residents was imputed by multiplying beds by 0.90—the average occupancy rate in nursing and related care homes. Admissions, discharges, inpatient days of care, and employees were not imputed; therefore, these homes were not included in tables showing these variables.
- The only information available for the 2,524 Michigan adult foster care homes (AFCH's) was number of beds. The number of residents was imputed by multiplying beds by 0.90. Based on existing knowledge of the AFCH's, these homes were assigned an ownership category of proprietary. No other data were imputed, so these homes were excluded from tables showing any variables other than beds, residents, and ownership.
- Estimates were obtained for full-time equivalent (FTE) total employees in the 5,888 homes for which data on full-time total employees were not provided by the home. To get these estimates, full-time employee averages were computed for each bed-size and ownership group in the 17,177 homes that did report full-time employees. These averages were then applied to the 5,888 homes with corresponding bed-size and ownership groups, and the resulting estimates were added to the known FTE data in the 17,177 homes.

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