NURSING HOMES IN THE U.S.: FINDINGS FROM THE 1986 INVENTORY OF LONG-TERM CARE PLACES

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I. INTRODUCTION AND BACKGROUND

There is considerable interest among social scientists in health care use by the elderly. The elderly population is growing in size, both in absolute and relative numbers, and is expected to do so for some time. This implies that relatively more health care resources will be required to care for this segment of society. The elderly are also living longer, which places special demands on the delivery system to meet more needs related specifically to the biological processes of aging. Medical care inflation continues to exceed inflation in other sectors of the economy. Expenditures under Medicare and Medicaid--important sources of payment for the elderly--continue to grow. Increasing out-of-pocket expenditures are of particular concern to many elderly persons who lack significant sources of income.

An important source of health care for the elderly is the nursing home. Personal care and assistance, as well as medical care services, are provided to many debilitated persons who lack caregivers or cannot afford medically necessary services in a home setting. Nursing homes also serve as temporary quarters for increasing numbers of elderly who, after discharge from an acute care hospital, need rehabilitation or supportive services before returning home. But nursing home care is often very expensive. Nursing home care is frequently not well-covered by private insurance, and benefits under Medicare are very limited. Prolonged stays often impose considerable financial burdens on family members.

In order to more fully understand use of and expenditures on medical care by persons using nursing homes, the National Center for Health Services Research and Health Care Technology Assessment (NCHSR)--an agency of the U.S. Public Health Service--is sponsoring the 1987 National Medical Expenditure Survey (NMES). The purpose of NMES is to collect information on health care utilization and expenditures by the American public. The Institutional Population Component (IPC) will yield unbiased estimates of health care use and expenditures for persons who reside in nursing and personal care homes. In addition, similar estimates will be obtained for persons residing in facilities for the mentally retarded. The IPC is also designed to yield estimates on residents in facilities of different types: nursing homes with certification under the Medicare and Medicaid programs, and 3-15 bed and 16-or-more bed facilities for the mentally retarded (Mueller and Short, 1987). The household component of NMES is designed to produce unbiased national estimates for the civilian, noninstitutionalized population, and for various population subgroups of interest, including the elderly and functionally impaired.

The Inventory of Long Term Care Places (ILTCP) is a comprehensive inventory of nursing and personal care homes, and facilities for the mentally retarded. It was created to serve as a sampling frame for facilities participating in the IPC, and to provide data needed for stratification of the frame. Inventory data were collected in 1986, under the cosponsorship of NCHSR, the National Center for Health Statistics (NCHS), and the Health Care Financing

The purpose of this paper is summarize findings on nursing homes from the Inventory. Section II describes the methods used to compile the ILTCP. The universe of nursing homes (for 1986) is described in Section III. Facility characteristics are discussed, followed by some resident characteristics. Findings from the 1986 ILTCP are compared with characteristics of nursing homes in 1980.

II. METHODS

The primary steps in the creation of the Inventory were (1) the compilation of a comprehensive list of homes and facilities which contains the universe of places eligible for NMES, and (2) the collection of data to verify NMES eligibility and to assist in sample selection.

A. In-Scope Facilities

Nursing and personal care homes were considered in-scope for NMES and the ILTCP if they met certain criteria. All facilities certified for reimbursement under the Medicare and Medicaid programs were considered in-scope. These include facilities having beds which were certified under Medicare or Medicaid as skilled nursing facilities (SNFs), and places with beds certified under Medicaid as intermediate care facilities (ICFs). A non-certified facility was considered in-scope: if it had at least 3 beds set-up and staffed for residents; if it was licensed or officially recognized by the state as some type of nursing care facility; and if it routinely provided either nursing or medical care, or personal care assistance to its residents, where personal care assistance is assistance with eating, bathing, dressing, walking or getting about, or correspondence or shopping.[1]

Separate procedures were followed in compiling lists of nursing and personal care homes and facilities for the mentally retarded. The nursing home list was obtained by updating the 1982 National Master Facility Inventory (NMFI) list of nursing and related care homes.[2] The scope of the NMFI is broad enough to include nursing and personal care homes which meet the NMES criteria. The 1982 NMFI was updated during 1985-86 by personnel at NCHS. The updating process involved contacting all states and the District of Columbia for their most current listings. These were then compared with the NMFI entries, and the earlier list was expanded as necessary to include newer facilities. The list of facilities for the mentally retarded was obtained by updating the 1982 National Census of Residential Facilities (CRF).[3] The 1982 Census

is a census of facilities for the mentally retarded, compiled by the Center for Residential and Community Services at the University of Minnesota (under a grant from HCFA).

The combined Inventory listing contained over 56,700 potential nursing homes and facilities for the mentally retarded. It is important to note, however, that the updating process was inexact and consequently is a source of some error. One problem is that some facilities were listed more than once. This was often caused by minor differences in facility names and/or addresses. (Some duplicates were identified during data collection, but some remain hidden in the Inventory.) Another problem is that a complete listing of hospital-based, skilled nursing facilities was not available when the mailing lists were compiled. Thus, there is some under-coverage of these facilities in the Inventory. For this reason, this analysis focuses only on non-hospital-based, or free-standing nursing homes.

B. Field Work and Data Processing

Field work was conducted by the U.S. Bureau of the Census. After compilation of facility listings, ILTCP data were collected using a self-enumeration mail survey instrument. All facilities on the listings were mailed the questionnaire in February, 1986. A reminder letter was sent to all facilities. Four weeks after the initial mailout, nonresponding facilities were mailed a second copy of the questionnaire. A third (and final) mailout to nonresponding places occurred three weeks later.

Nonresponding facilities and facilities which failed to respond to certain key questions were recontacted using special procedures. Most follow-ups were conducted by telephone. An abbreviated ILTCP questionnaire was used. Some personal interviews were conducted at facilities which could not or would not consent to a telephone interview and were located in areas specially designated by the Census Bureau as primary sampling areas. Field work was completed in July, 1986.

The Census Bureau was responsible for processing data from the field. Returned questionnaires were subject to visual edits, and data items were coded and keyed according to written specifications. Keying was verified for all records. Final status codes were assigned to all facility records, based on completed field activities. Data tapes were delivered to the cosponsoring government agencies in September, 1986.

III. FINDINGS

Computerized algorithms developed to determine facility eligibility for NMES were applied to the inventory data base (Potter et al., 1987). In-scope facilities were grouped into three mutually exclusive classes: nursing homes, facilities for the mentally retarded, and places which fit both definitions. Tables 1 through 5 summarize findings on places which were either nursing homes or homes which also met the criteria for serving the mentally retarded.

It is estimated that there were 24,366 non-hospital-based nursing homes in the U.S. in 1986. Table 1 displays final dispositions of these places based on Census Bureau field operations. Ninety-seven percent completed either the mail questionnaire or cooperated in either a telephone or in-person follow-up interview. No data were obtained from the remaining 3 percent (727 places) which were initially believed to be nursing homes based on prior information from the NMFI or on information obtained during the updating process. Of this group, 37 percent (266) couldn't be contacted.

A. Facility Characteristics

In Table 2, the nursing home industry is characterized by various measures of size. Numbers of beds and residents were available or could be imputed for 23,771 places.[4] Those nonresponding homes without measures of size--595 places--are deleted from the remainder of this analysis.

Free-standing nursing homes in the U.S. had over 1.7 million beds in 1986, and an occupancy rate (number of residents per bed) of over 91 percent. An estimated 10,826 homes (46 percent of responding places) had between 3 and 50 beds. These small homes, however, accounted for only 11 percent of the nation's bed supply and 10 percent of residents. In contrast, only 5 percent of nursing homes had 200 or more beds; these had about 22 percent of beds and residents.

It is interesting to contrast the nursing home sector in 1986 with the industry in 1980 (NCHS, 1983). There were 23,065 non-hospital-based nursing and related care homes in 1980. Thus, between 1980 and 1986, the number of homes increased by 6 percent (24,366 nursing homes in 1986 from Table 1). During the same time period, the number of beds and the number of residents increased by 13 percent (1,396,132 residents in 1980), suggesting that industry growth favored larger facilities. Indeed, this is reflected in changes in the distribution of homes by bed size over time. There was no change in the relative number of homes (14.4 percent) in the 50-74 bed size category. However, the relative number of smaller facilities fell from 50 percent (11,528) in 1980 to 46 percent (10,826) in 1986; the total number of beds in homes of this size fell by 4 percent. In contrast, the relative number of facilities with at least 75 beds grew from 36 percent (8,205) to 40 percent (9,525) of the industry total, and bed supply increased by 17 percent.[5]

In Table 3, data describe the geographic distribution of nursing home beds. Nationwide, there were approximately 62 beds per 1,000 persons at risk of needing long-term care, measured by persons of age 65 and over. Relative bed supply was greatest in the Midwest, where there were 76.9 beds per 1,000 persons at risk. The South region--the region with the greatest concentration of elderly--had only 55.3 beds per 1,000 elderly.

Comparisons between the ILTCP and NMFI reveal little change in the number of beds per elderly, nationwide. The number of beds per 1,000 elderly in 1980 was 60.2 (NCHS, 1983). In 1980, the Midwest also had the greatest relative number of beds (78.0). Since 1980, the greatest relative changes have occurred in the South and West regions. The number of beds per 1,000 elderly

increased from 49.9 to 55.3 in the South. In the West, relative bed supply decreased from 69.2 to 56.5 beds.

Table 3 also demonstrates that the availability of nursing home beds per person at risk varies considerably across the states (Swan and Harrington, 1985). South Atlantic states (Delaware, the District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia) had only 49.1 beds per 1,000 persons at risk, in contrast to 84.2 beds in the West North Central states of the Midwest (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota). The 1980 NMFI data suggest, however, that interstate differences have narrowed within the South, West, and Northeast. Relative bed supply in the South in 1980 ranged from 39.1 beds per 1,000 elderly in the South Atlantic states, to 68.8 beds in the West South Central States. In 1986, corresponding bed availability measures were 49.1 and 73.6 beds, respectively.

The Medicaid and Medicare programs are significant sources of payment for residents of nursing homes. Nursing home charges are reimbursed under Medicaid and Medicare only for eligible residents who occupy beds which are certified under the appropriate program. Although certain Medicaid reimbursement criteria vary from state to state, federal Medicaid regulations recognize bed certification at the skilled nursing facility (SNF) and intermediate care facility (ICF) levels. The Medicare program provides reimbursement only for care provided at the SNF level. The distributions of nursing homes, beds, and residents by facility certification status appear in Table 4. Facilities with some SNF beds are classified as providing some skilled nursing care, even though the facility may also have had ICF beds. Thirty-nine percent of facilities were certified as skilled under Medicare or Medicaid. Beds (both certified and not certified) in these facilities account for approximately 63 percent of beds in the industry. In contrast, 34 percent of homes lacked certified beds, but these housed only 11 percent of the industry's residents.

B. Resident Characteristics

The Inventory mail questionnaire provided a means of obtaining some sensitive information on resident composition which is of interest from a public policy perspective. Little data on race and ethnicity of nursing home residents are available. The ILTCP questionnaire asked respondents to approximate the number of residents ("who stayed last night") who were Black, and the number who were of Hispanic origin or ancestry. National estimates appear in Table 5. Both Blacks and Hispanics appear to be under-represented in nursing homes. In 1980, 11.7 percent of the U.S. population were Black, and 6.4 percent were Hispanic (U.S. Bureau of the Census, 1985). Based on those nursing homes responding to the ILTCP, only 8.3 percent of residents in a "typical" facility were Black, and only 2.4 percent were Hispanic.

Respondents were also asked about the nursing home's composition by age of residents, and the number of mentally retarded residents. Seventeen percent of nursing home residents in 1986 (point-in-time) were less than 65 years of age. In the typical facility, 8.9 percent were identified as mentally retarded.

NOTES

The views expressed in this paper are those of the authors', and no official endorsement by the Department of Health and Human Services or the National Center for Health Services Research and Health Care Technology Assessment is intended or should be inferred.

1. A facility was considered in-scope as a facility for the mentally retarded if it was certified under Medicaid as an intermediate care facility for the mentally retarded (ICF-MR). A non-certified facility was in-scope: if it had at least 3 beds set-up and staffed for residents; if it was licensed or officially recognized by a state as providing care to mentally retarded persons who were not all related to the caregivers; and if either 24-hour supervision was provided, or if nursing, medical care, or personal assistance (as defined for nursing homes) was routinely provided to residents. Some places identified by the Inventory meet definitions of both nursing homes and facilities for the mentally retarded. These places are represented as nursing homes in this report.

2. See NCHS (1983) for a more detailed summary of the updating process. The 1980 NMFI was updated for the 1982 NMFI, which was updated for the 1985 National Nursing Home Survey (NCHS), which was updated again for the ILTCP.

3. In general, listed facilities are defined as "formally state licensed or contracted" living quarters "which provided 24-hour, 7 days-a-week responsibility for room, board and supervision of mentally retarded persons as of June 30, 1982" (Hauber et al., 1982, p. 3). The scope of the Census is broad enough to include facilities considered in scope for NMES. NCHS applied updating procedures to the CRF which were similar to those used to update the NMFI list of nursing homes: states and relevant associations were contacted for their listings during 1985-86, and those places not appearing on the 1982 Census were added to form a more recent depiction of the universe.

4. The item response rate for bedsize was over 95 percent for all places initially classified as nursing homes. Secondary sources were used whenever possible to avoid missing bed size information (1.6 percent of places). Finally, a median value imputation approach was used for some places. Medians were obtained after classifying facilities (with known bed size) by type of ownership and certification status (see Potter, et al., 1987). The number of residents was imputed for 640 nursing homes. Separate multiple regression equations were estimated for homes with 3-9, 10-49, 50-99, 100-299, and 300 or more beds. The number of residents was regressed against the number of beds, the number of beds squared, and categorical variables indicating whether a

facility was a SNF and region. These models were used to predict residents for nonrespondents. Results are available from the authors.

5. This discussion of changes in the distribution of homes by size over time ignores the 595 ILTCP nonrespondents of Table 2 for whom bed size and resident data are unavailable. Forty-one percent of this group could not be contacted, and no follow-ups were completed with an additional 47 percent. No secondary data on these places were available from a prior NMFI. It is very likely that these places are small, but inclusion would not significantly alter the depiction of these trends irrespective of their sizes.

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Table 1: Final Status Disposition of ILTCP Nursing Homes: Number and Percent Distribution.

Final Facility Status	Number	Percent
Complete interview	710	2.9
Partial interview	22,929	94.1
Refusal	113	0.5
Unable to contact	266	1.1
Other no interview	164	0.7
No follow-up attempted	184	0.8
Total	24,366	100.0

Source: Authors' tabulations of ILTCP data, NCHSR.

Table 2: Number and Percent Distribution of Nursing Homes, Beds, and Residents, by Bed Size of Home, 1986.

	Nursing Homes		Beds		Residents	
Bed Size	Number	Percent	Number	Percent	Number	Percent
3-9	4,980	20.9	27,761	1.6	22,799	1.4
10-24	2,962	12.5	46,575	2.7	40,139	2.5
25-49	2,884	12.1	107,006	6.2	96,118	6.1
50-74	3,420	14.4	205,453	11.9	189,924	12.0
75-99	2,542	10.7	223,187	12.9	205,680	13.0
100-199	5,751	24.2	755,417	43.6	689,455	43.7
200-299	865	3.6	199,629	11.5	182,522	11.6
300 or more	367	1.5	166,123	9.6	150,208	9.5
Total	23,771	100.0	1,731,151	100.0	1,576,845	100.0
Nonresponding Homes*	595	--	--	--	--	--

Note: *Includes only those nonresponding facilities for which the number of beds were not available and could not be imputed.
Source: Authors' tabulations of ILTCP data, NCHSR.

Table 3: Number and Percent Distributions of Persons 65 Years of Age and Older, and Nursing Home Beds, by Geographic Region.

Region	Persons Age 65 and Older*		Nursing Home Beds		Beds Per 1,000 Elderly
	Number	Percent	Number	Percent	
	Thousands				
Northeast	6,515	23.2	378,811	21.9	58.1
New England	1,650	5.9	116,458	6.7	70.6
Mid Atlantic	4,865	17.4	262,353	15.2	53.9
Midwest	7,223	25.8	555,745	32.1	76.9
East N. Central	4,892	17.4	359,497	20.8	73.5
West N. Central	2,331	8.3	196,248	11.3	84.2
South	9,414	33.6	520,397	30.1	55.3
South Atlantic	4,943	17.6	227,875	13.2	49.1
East S. Central	1,787	6.4	95,019	5.5	53.2
West S. Central	2,684	9.6	197,503	11.4	73.6
West	4,888	17.4	276,198	16.0	56.5
Mountain	1,250	4.5	61,601	3.6	49.3
Pacific	3,638	13.0	214,597	12.4	59.0
Total	28,040	100.0	1,731,151	100.0	61.7

Note: *For year 1984.
Sources: Persons 65 and over from U.S. Bureau of the Census, Statistical Abstract of the United States, 1986 (106th edition), Washington. U.S. Government Printing Office, 1985, Table 29. Remainder are from authors' tabulations of ILTCP data, NCHSR.

Table 4: Number and Percent Distributions of Nursing Homes, Beds, and Residents by Facility Certification Status, 1986.*

Certification	Nursing Homes		Beds		Residents	
	Number	Percent	Number	Percent	Number	Percent
Medicare or Medicaid/some skilled nursing	9,339	39.3	1,081,756	62.5	1,003,863	63.7
Medicaid/some intermediate care	6,336	26.7	446,012	25.8	401,906	25.5
Not certified	8,090	34.0	203,294	11.7	170,998	10.9
Total	23,765	100.0	1,731,062	100.0	1,576,767	100.0

Note: *Excludes six facilities with certification status unknown.
Source: Authors' tabulations using ILTCP data, NCHSR.

Table 5: Characteristics of Nursing Home Residents: Number and Facility Composition, 1986.

Characteristic	Number of Residents	Percent of Facility Residents	Number (Percent*) of Facilities Responding
Blacks	124,302	8.3	22,974 (96.6)
Hispanics	34,207	2.4	22,619 (95.2)
Age ≤ 64 years	199,876	17.2	22,726 (95.6)
Mentally retarded	79,022	8.9	20,522 (86.3)

Note: *Percents are computed relative to the number of responding facilities in Table 2 (23,771).
Source: Authors' tabulations of ILTCP data, NCHSR.