Appropriate Placement of Nursing-Home Residents in Lower Levels of Care*

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DURING THE 1970S SEVERAL STUDIES REPORTED that substantial numbers of nursing-home residents either did not have the medical need or were not sufficiently disabled to warrant care in these settings (Williams et al. 1973; Congressional Budget Office 1977). Estimates of the number of residents who were receiving an inappropriate level of care ranged from 10 percent to 40 percent.

Long-term care has greatly changed since the 1970s in ways that are likely to affect these estimates: expansion of opportunities for care across the long-term-care continuum (e.g., adult day care, supportive housing, formal home care), greater use of preadmission screening and periodic inspections of care in nursing homes, and stricter regulatory requirements for nursing homes, to name a few (Miller 1992; Polich and Iversen 1987; Spohn, Bergthold, and Estes 1988).

The purpose of this article is threefold: first, to discuss why clinically inappropriate residents may continue to be placed in nursing homes;

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second, to update and improve estimates of the number of nursing-home residents who, based on clinical criteria, might be served in lower levels of care; and, third, to discuss other factors that should enter into estimates of appropriate placement and the reasons why the potential savings that these estimates suggest may be difficult to achieve.

Background

Alternatives to nursing homes for persons with chronic disabilities basically fall into two categories. The first is home care, where services are provided by either formal (paid) or informal (unpaid) caregivers, perhaps supplemented by adult day care, home-delivered meals, or other community-based services. The second includes supportive housing options, which we generically refer to as "personal care homes." Personal care homes are known by a variety of names (e.g., board and care, foster care, domiciliary care, congregate care, assisted living). Although their range of services varies greatly, at a minimum they provide room, meals, 24-hour protective oversight, and varying levels of personal assistance and other services. They generally do not provide substantial medical care, and they serve a less dysfunctional case mix than nursing homes, although some may mimic the level of care formerly provided by intermediate-care nursing homes (Wilson 1993). Compared with nursing homes, they generally employ fewer high-skilled staff but attempt to provide a more homelike environment.

It is commonly observed that disabled persons express strong preferences about receiving care in their homes and other community settings instead of nursing homes (Wiener, Illston, and Hanley 1994). Why, then, do we find persons in nursing homes who do not require the intensity of services provided by these facilities? The answer is that the distribution of residents in and across settings depends on the interaction of both demand and supply factors.

Although clinical need is an important influence on demand, other factors affect the number of light-care residents who end up in nursing homes. First, because there is no consensus on the best setting for any given clinical presentation, one clinician may place a person in a nursing home, whereas another may choose to place this same person in a lower level of care (Williams et al. 1973). Moreover, disabled persons, and

their families and physicians, may be ignorant of the full range of available care options.

A second reason is that many states regulate alternative settings, effectively reducing viable options. States often regulate the types of clients who can be treated and the services that can be provided in personal care homes. Other less common regulations restrict supply, requiring, for example, certificates of need for facilities providing lower levels of care and for home health agencies.

Public financing of long-term care that favors nursing homes over alternatives also has encouraged the demand for nursing-home care. Medicaid, the primary public program supporting persons needing long-term care, funds nursing-home care but limits support for care in lower-level settings. Moreover, eligibility requirements for nursing-home services are often more liberal than those applied to home- and community-based care (Congressional Research Service 1993). The main source of state support to residents of facilities providing lower levels of care, state supplements to Social Security Insurance (SSI), are generally insufficient to support adequate care for a substantially disabled population (Reschovsky and Ruchlin 1993). Medicaid nursing-home reimbursement methods may also affect appropriate placement. Stringent reimbursement systems and lack of adjustments for differences in case mix create incentives to admit less impaired, lower-cost residents.

Major changes that occurred in public policy and in the long-term-care marketplace during the 1980s and 1990s should have decreased the inappropriate placements in nursing homes that were seen during the 1970s. By the late 1980s, there were major expansions in public funding of paid home care, and the supply of providers has grown accordingly (Miller 1992). Because of problems in developing an inventory of personal care facilities, no reliable estimates of the supply of personal care beds and residents are available. Nevertheless, some research suggests that the supply of licensed personal care facilities increased in the 1980s and 1990s (Health Care Financing Administration 1994). Other research suggests that, when combined with unlicensed facilities, personal care homes have become a significant part of the long-term-care market (Hawes, Wildfire, and Lux 1993; Sirrocco 1994).

Not only have opportunities for care expanded outside of the nursing-home milieu, but increasingly states have also taken measures to ensure that nursing-home care is limited to those who need it. Most states now

have preadmission screening programs that apply to persons who would qualify for Medicaid benefits in a nursing home or who are likely to qualify for Medicaid within a certain time period after admission. Medicaid rules also require states to have periodic "inspections of care" in order to identify residents who no longer need the intensity of care provided in nursing homes. It should be noted, however, that lack of precision in the screening criteria in effect leads to many such individuals not being excluded (Polich and Iversen 1987). Moreover, these controls are not likely to be used if no suitable alternatives outside of the nursing home are available (Jackson, Eichorn, and Blackman 1992).

The institutional bias in Medicaid also has weakened since the early 1980s. Beginning in 1981, Medicaid allowed states to fund home- and community-based care under waiver programs. Nearly all states now have these waiver programs, and funding has expanded rapidly since that time. In addition, some state Medicaid programs offer home- and community-based care services as part of an optional personal care benefit (Folkemer 1994).

A number of states have moved toward case-mix reimbursement systems to neutralize the incentive to select low-needs residents. Around 1990, the courts also began enforcing the Boren amendment, which requires states to set payment rates for nursing homes and hospitals that reasonably reflect cost. More than 30 lawsuits were filed against states by providers, most of which were resolved in their favor (Wade and Berg 1995). Thus, in recent years, reimbursement incentives to admit low-needs residents to nursing homes have diminished.

In the past decade, several states have tried to encourage the use of personal care homes as an alternative to nursing homes. Much attention has been directed to Oregon as a possible model for future policy. Oregon specifically treats home- and community-based care as a lower-cost alternative for some nursing-home residents. It uses a 1915(d) Medicaid waiver, which affords considerable latitude in using federal Medicaid funds to support community-based, long-term-care options, but at the expense of capping federal contributions. The state has encouraged the development of personal care homes—classified as residential care facilities, adult foster care homes, or assisted living facilities—to substitute for nursing homes. Some of these facilities provide extensive services—up to 16 hours per day of licensed nursing—equipping them to serve a very frail population and to provide medical and personal assistance services

akin to those formerly found in intermediate-care nursing facilities (ICFs). Oregon also actively supports home care services.

Other states are moving in the same direction as Oregon, although none has been as ambitious. For instance, Washington State has initiated an assisted living demonstration program, although its target population is less frail than that served by Oregon's program. Other states have taken steps to enhance the level of services provided in existing congregate settings.

Despite numerous changes in the long-term-care markets since the 1970s aimed at reducing the number of inappropriate placements in nursing homes, the perception that large numbers of residents remain who could be placed in lower-level settings still lingers. This impression, combined with the increase in lower-level care options and continuing pressures on state budgets by Medicaid nursing-home costs, has motivated policy makers to reduce inappropriate nursing-home placements.

The first step in doing so is to identify the size of this population, using clinical criteria. Because there is no clinical gold standard for nursing-home placement, we will provide three estimates, using 1987 nationally representative data. We have chosen to make estimates based on the criteria that states use to target persons for personal care homes. Two of our estimates are based on clinical criteria currently used for the assisted living programs in Oregon and Washington (Wilson 1992; Wilson and Deshane 1992). The use of these criteria in no way implies that we are advocating either approach. Rather, Oregon and Washington were chosen merely to approximate the extremes of practice across the states. The Oregon criteria create a high estimate of the number of clinically inappropriate nursing-home residents, in contrast to the low estimate represented in the Washington criteria. Because these estimates represent extremes, we provide an intermediate estimate as well. Of course, the ultimate validation of these clinical criteria would be a demonstration that outcomes for the persons they identify are at least the same in lower levels of care as the outcomes that would be found in nursing homes. Such validation, however, goes beyond the intent of this article and surpasses the capabilities of the data.

The estimates do not translate directly into estimates of the number of nursing-home residents who could or should be served in lower levels of care. Rather, these clinical criteria are but one of many considerations needed to form judgments about appropriate care settings. Other con-

siderations include the availability of alternative care settings and their ability to provide services; consumer preferences for the nonclinical benefits of less restrictive settings; and relative cost. In the final section, we will discuss a broader framework for making judgments about appropriate placement.

Methods

Data

We used the data from the Institutional Population Component of the National Medical Expenditure Survey (NMES–IPC) for this analysis. The NMES–IPC is a nationally representative survey of long-term-care facilities and residents that was conducted by the Agency for Health Care Policy and Research in 1987; it is the most recent nationally representative survey of nursing-home residents.

The NMES–IPC sample is drawn from an inventory of all licensed nursing- and personal-care homes with three or more beds. Facilities serving the mentally retarded, including intensive-care facilities, were also sampled but not included in this analysis. Moreover, only data from nursing and licensed personal care homes that serve primarily the frail elderly (n = 802) were used, and facilities primarily serving other populations (e.g., persons with chronic mental illness) were excluded. The IPC resident sample includes persons living in the sampled facilities as of January 1st (current residents) and persons who were admitted to sampled facilities during the course of the year (new admissions). Our analyses use the current resident sample only (n = 3,170). The analysis sample represents 21,643 nursing and personal care homes nationally, containing a total of 1,510,869 residents.

Information on facility characteristics and residents were gathered from facility administrators, staff, and other knowledgeable individuals. Identical information was collected on residents of licensed personal care homes and nursing homes (Edwards and Edwards 1989).

Although our analyses focus on residents of nursing homes, we also present information on residents of licensed personal care homes to serve as a frame of reference. The subsample of licensed personal care home residents is drawn from a sampling frame composed of state agency lists of licensed facilities. Because it was difficult to compile a complete and

accurate list of licensed facilities, the sampling frame was incomplete. Moreover, because the frame was limited to licensed facilities, for which state requirements vary, the sample does not fully represent all personal care homes and residents. Its inclusion in the NMES–IPC makes it a convenient comparison group.

We initially divided the NMES–IPC facility sample into nursing homes and personal care homes. Facilities classified as nursing homes had either to be Medicare or Medicaid certified, or to provide nursing and medical care by registered nurses (RNs) or licensed practical nurses (LPNs) around the clock, as indicated by the presence of more than four full-time RNs or LPNs on staff. One noncertified facility was classified as a nursing home. It had slightly less than four full-time nurses but offered a wide range of medically oriented services such as intravenous (IV) and physical therapy. A total of 709 facilities were classified as nursing homes and 93, as personal care homes. This results in samples of 2,830 nursing-home residents, representing 1,381,075 residents in nursing homes, and 387 residents in licensed personal care homes, representing 129,791 residents in licensed personal care homes.

Standard errors are adjusted for complex survey design using SUDAAN (Cox and Cohen 1985). Standard errors associated with the number or percent of residents in nursing homes who meet the criteria range from 2 percent to 6 percent of the estimates.

Defining Criteria

Three sets of criteria, labeled high, middle, and low, were defined to identify the nursing-home residents who are clinically appropriate for lower levels of care. The high criteria are so labeled because they identify the highest number of nursing-home residents as clinically appropriate for lower levels of care. Conversely, the low criteria are the most restrictive and identify the lowest number of nursing-home residents as appropriate for lower levels of care; the middle criteria identify an intermediate number. The high criteria are modeled after standards used in Oregon to identify persons suitable for assisted living facilities. Oregon takes a broad view of who is appropriate for this lower level of care. In general, it accepts residents who have no severe medical conditions or rehabilitation needs and can function socially; some behavior problems are allowed. Acceptable residents may need extensive personal care but are not totally bed- or chairbound (Wilson 1992). To approximate these criteria using the

NMES–IPC data, residents who had substantial medical or rehabilitation needs (as indicated by the Medicare payment of basic charges), who were comatose, who were bed- or chairfast, who hurt themselves or others, who could not communicate or understand others, or who had bedsores were deemed clinically appropriate for nursing-home care and unsuitable for lower levels of care.

The middle criteria add a single element to those in the high category: the fecally incontinent are not classified as appropriate for a lower level of care. We chose this additional requirement because fecal incontinence suggests a level of pathological or cognitive problems that would generally result in care demands too intensive for a personal care home. In addition, this condition is prevalent in the nursing-home population. More than half of nursing-home residents are incontinent, and the majority of these are incontinent of both urine and feces. Generally, persons do not suffer from fecal incontinence unless they are also urinary incontinent daily (Kane, Ouslander, and Abrass 1984).

Finally, the low criteria are modeled after the type of residents in the Washington State assisted-living program. Compared with Oregon, Washington assisted-living residents are less dysfunctional and have fewer behavioral problems (Wilson and Deshane 1992). In addition to the high and middle criteria, the low criteria further restrict residents who are urinary incontinent, require help with activities of daily living (ADLs) beyond bathing and dressing, are unable to avoid dangers, wander, or have hallucinations or delusions from being designated as appropriate for lower levels of care. Table 1 summarizes the construction of the three criteria.

Results

Table 2 compares the characteristics of nursing-home residents with licensed personal care home residents. Those residing in personal care homes have fewer ADL disabilities (1.1 on average, compared with 3.4) and are less likely to be incontinent of urine (14 percent versus 57 percent), incontinent of feces (10 percent versus 44 percent), or cognitively impaired (27 percent versus 46 percent).

The last column of table 2 also provides an indication of the relative importance of some of the specific components that go into the high, middle, and low criteria. For instance, 28 percent of nursing-home resi-

TABLE 1
Criteria for Clinically Appropriate Placement in Nursing Homes or Lower Levels of Care[a]

Patient characteristic	High	Middle	Low
Has substantial medical/rehabilitation needs[b]	NH	NH	NH
Is comatose	NH	NH	NH
Is bed- /chairfast	NH	NH	NH
Hurts self/others	NH	NH	NH
Cannot communicate	NH	NH	NH
Cannot understand conversation	NH	NH	NH
Has bedsores	NH	NH	NH
Is fecal incontinent	LLC	NH	NH
Is urinary incontinent	LLC	LLC	NH
Requires ADL help, beyond bathing and dressing	LLC	LLC	NH
Is unable to avoid dangers	LLC	LLC	NH
Wanders	LLC	LLC	NH
Has hallucinations/delusions	LLC	LLC	NH
Has none of the above characteristics	LLC	LLC	LLC

[a] To be classified as appropriate for lower levels of care (or clinically inappropriate for nursing-home care), residents cannot have any characteristic marked NH.
[b] Indicated by Medicare payment for basic charges.
Abbreviations: ADL, activities of daily living; NH, nursing home; LLC, lower levels of care.

dents have fewer than three ADLs. Also, less than half are continent. From this simple perspective, we see the large impact that a restrictive ADL or a continence criterion would have on estimates of the number of nursing-home residents who meet the criteria for a lower level of care.

The first two numerical rows of table 3 present the number and percent of current nursing-home residents who would be classified as transferable under alternative criteria. The table shows that 70 percent of current residents would be deemed appropriate for lower levels of care under the high criteria. This proportion would be reduced to 47 percent under the middle criteria (excluding persons with incontinence of feces), and to 15 percent under the low criteria (further excluding persons with more than bathing or dressing limitations, urinary incontinence, and hallucinations or delusions, as well as persons who wander or are unable to avoid dangers). Nursing-home residents reimbursed by Medicaid also meet the three criteria in approximately the same proportions.

TABLE 2
Characteristics of Residents in Licensed Personal Care and Nursing Homes

Characteristics	Personal care[c]		Nursing home[c]	
Under 65[a]	13	(2.8)	9	(0.8)
Female	70	(3.2)	74	(0.9)
Nonwhite	7	(2.6)	9	(0.8)
Number of ADLs	1.1*	(0.2)	3.4	(0.0)
Fewer than three	83*	(3.4)	28	(1.0)
Urinary incontinent	14*	(2.6)	57	(1.1)
Fecal incontinent	10*	(2.5)	44	(1.1)
Cognitive impairment	27*	(3.6)	46	(1.1)
Behavioral problems	40	(4.2)	48	(1.1)
Wandering	12	(2.6)	18	(0.9)
Violent	8	(2.0)	13	(0.7)
Mentally ill	32	(3.1)	28	(1.1)
Any Medicare	—		2	(0.3)
Income[b,*]				
<$5,000	35*	(4.7)	48	(1.1)
$5–$9,999	44	(3.4)	32	(0.9)
$10–$19,999	18	(3.4)	14	(0.7)
$20,000 or more	3	(1.4)	6	(0.5)

[a] All values are percents except numbers of ADLs.
[b] May not sum to 100 percent because of rounding.
[c] Standard errors in parentheses.
*$p < .05$ when comparing personal care and nursing-home residents.
Abbreviation: ADL, activity of daily living.

Subsequent rows of table 3 show the effect on the number of persons classified as appropriate for lower levels of care when single additional elements are added to the high and middle criteria, making them more restrictive. For example, if having no hallucinations or delusions was added to the high criteria, the percent of current nursing-home residents deemed appropriate for a lower level of care would fall from 70.3 percent to 53.3 percent.

The results presented in table 3 highlight the major impact of ADL criteria on these estimates. If persons were required not to have more than bathing or dressing limitations, along with the high or middle criteria, only about one-fourth of current residents would qualify for a

TABLE 3
Number of Nursing-Home Residents Deemed Appropriate for Lower Levels of Care under Alternative Clinical Criteria

Nursing-home residents	Clinical criteria[a]		
	High	Middle	Low
Current total	970,360 (70.3)[b,c]	655,956 (47.5)	214,042 (15.5)
With an additional criterion:			
Does not wander/avoids dangers	810,969 (58.7)	534,615 (40.5)	n/a
Has no hallucinations/delusions	736,098 (53.3)	493,666 (35.7)	n/a
Is fecal continent	655,956 (47.5)	n/a	n/a
Is urinary continent	593,388 (43.0)	516,786 (37.4)	n/a
Has bathing or dressing disabilities only	346,651 (25.1)	321,869 (23.3)	n/a

[a] For definition of high, middle and low, see text and table 1.
[b] Percent of total residents in parentheses: total number of residents = 1,381,075.
[c] For Medicaid residents the proportions are 70.0 for the high criteria, 45.9 for the middle criteria, and 14.3 for the low criteria.
Abbreviation: n/a, not applicable.

lower level of care. This restriction is the major reason that the low criteria include so few nursing-home residents.

The table also shows the importance of incontinence criteria, especially if ADL restrictions are not included. For example, if urinary incontinence was added to the high criteria, the number of current residents who would qualify would be reduced by about 280,000 persons (a reduction from 70 percent to 43 percent of nursing-home residents). However, when added to the middle criteria, the impact of this requirement is less because these criteria already exclude the fecally incontinent, reflecting the large number of nursing-home residents who are both fecal and urinary incontinent. The number excluded from this group by the urinary incontinence restriction is about 140,000 persons (a 10 percentage point reduction).

In table 4 the functional status of nursing-home residents classified as appropriate for lower levels of care under the middle and high criteria are compared with residents in licensed personal care homes. Nursing-home residents who meet the low criteria do not have the deficits included in this table and therefore would have a value of zero for all entries. Consequently, a column for the low criteria is not included in the table. The fact that some residents of personal care homes have these functional deficits indicates that, as a group, nursing-home residents who meet the low criteria are less dysfunctional than many persons who are currently placed in licensed personal care homes.

The table shows that residents who meet the high or middle criteria would be more dysfunctional than residents in licensed personal care homes. Persons meeting the high criteria are far more likely to have three or more ADL limitations and to be incontinent of urine or feces than residents of licensed personal care homes. These nursing-home residents are more likely to experience hallucinations or delusions. Nursing-home residents meeting the middle criteria are much more likely to have toileting, transfer, or feeding limitations, but are not significantly different on other measures.

We also applied our placement criteria to current residents of personal care homes. Although not included in table 4, we find that 9 percent of

TABLE 4
Functional Status by Clinical Criteria and Residents' Functional Status

Functional status	Personal care residents[a]	Nursing-home residents: clinical criteria[a,b]	
		High	Middle
Has deficits in toileting, transfer, or feeding	17*,**	64	50
Is urinary incontinent	14*	39	18
Is fecal incontinent	10*	32	0[c]
Wanders/does not avoid dangers	12	16	15
Has hallucinations/delusions	16*	24	20

[a] All numbers are in percent.
[b] Low criteria are not shown because values are zero percent for all entries in table.
[c] Fecal continence is required in the middle criteria.
*$p < .05$ when comparing personal care with nursing-home residents meeting the high criteria; **$p < .05$ when comparing personal care with nursing-home residents meeting the middle criteria.

licensed personal care residents would be too disabled to meet the high criteria for appropriate placement in lower levels of care, 17 percent would not meet the middle criteria, and 40 percent would not meet the low criteria.

The large number of personal care residents who fail to meet the low placement criteria may indicate that this set of criteria is too restrictive (assuming that persons in licensed personal care homes are appropriately placed). Alternatively, these numbers might suggest that some persons in personal care homes are not placed appropriately. One should not read too much into these numbers, however. Because services can be augmented to care appropriately for persons in a low-level setting (for example, residents could be receiving separately provided home health services), it is not possible to judge the appropriateness of the placement of these persons in personal care homes based only on this limited information. Furthermore, the assisted living literature stresses the importance of allowing disabled persons (or their families) to have a voice in care decisions, even if it involves assuming some level of personal risk (Wilson 1992). The analysis does identify cases for whom enhanced services should be targeted or for whom nursing-home care should be considered.

Stability of Criteria

There is concern not only about the mix of nursing-home residents who could be served appropriately in lower levels of care, but also about the stability of potentially transferable persons. If persons are expected to decline quickly or have fluctuating needs, it may not be advisable to place them in lower levels of care. Although there is no clinical standard for determining when instability ought to affect the placement decision, a demonstration of instability in the population we have identified as clinically appropriate for lower levels of care would indicate that our estimates are too high. Data on instability, however, do not permit a precise calculation of the degree to which the estimates should be reduced.

Our analyses are based on all nursing-home residents at a single point at the beginning of 1987. The NMES–IPC sample is reassessed one year later, which allows a limited view of the stability of nursing-home residents. Moreover, because placement decisions would be based on *ex ante* clinical assessments of resident trajectories, and we can only observe *ex post* outcomes using these data, our data therefore are only suggestive.

Indicators of stability include mortality and hospital utilization measured over one year. The percent of survivors experiencing increases in ADL limitations and the percent no longer meeting the placement criteria after one year are also presented. The last measure is approximate because we lack end-of-year measures on bedsores and the two communication measures, but these exclusions are not likely to affect estimates substantially. Although instability implies both improvement and decline, we focus on declines in medical condition and function because they are more relevant for evaluating the adequacy of the criteria.

Mortality increases as criteria become more liberal in identifying persons as appropriate for lower levels of care. In the high group, 19 percent died, compared with 11 percent in the low group. Hospitalization rates are roughly equivalent across the three groups, however. In contrast to the mortality results, the next two indicators, which are applied to one-year survivors only, appear to suggest that those in the low group are least stable. Among low group survivors, 45 percent experienced an increase in ADL needs, compared with 35 and 32 percent among middle- or high-group survivors, respectively. Similarly, 38 percent of low group survivors fail to meet the low criteria after one year, compared with 22 and 10 percent of middle and high group survivors who no longer meet their respective criteria. Because exclusion of decedents attenuates these differences, the last row of table 5 provides the percentage of each group who either died or no longer meet clinical placement criteria after one year. Although differences are not as dramatic, members of the low group are still shown to be least stable. In part, the greater instability of the low group can be explained by the fact these persons have the greatest potential for decline, whereas those in the middle and high groups have started out with a greater range of disabilities and behavioral problems.

Stability measures for personal care home residents are also shown in table 5. Personal care home residents had significantly lower mortality rates than those in the high group, and, among survivors, they had a significantly lower likelihood of experiencing an increase in ADLs than members of the low group (30 percent versus 45 percent). When comparing residents in both settings who met the criteria at the beginning of the year, nursing-home residents were less likely to meet the criteria at the end of the year. Otherwise, differences in stability measures between the personal care and nursing-home groups were insignificant. These data suggest that the population in nursing homes identified as clinically

TABLE 5
Indicators of Health and Functional Stability: Percent of Nursing-Home Residents Who Meet Placement Criteria and Licensed Personal Care Home Residents

Stability indicators	Nursing-home residents: clinical criteria			Personal care home residents
	High	Middle	Low	
Died	19	15	11	13*
Hospitalized[a]	27	27	26	31
Increase in number of ADLs[b]	32	35	45	30**
Too disabled at end of year to meet criteria[b,c,*]	12 (7)	25 (12)	42 (26)	n/a
Died or too disabled at end of year to meet criteria[c,***]	29 (20)	37 (23)	48 (33)	n/a

[a] Adjusted for differential mortality.
[b] Number of persons at end of year as percent of survivors.
[c] Numbers in parentheses are the proportion of residents in personal care homes who meet criteria at beginning of the year but no longer meet them at the end of the year.
*$p < .05$ when comparing personal care with high; **$p < .05$ when comparing personal care with middle; ***$p < .05$ when comparing personal care with nursing-home residents for all criteria.
Abbreviation: n/a, not applicable.

appropriate for lower levels of care are somewhat more unstable than the population in licensed personal care homes.

Updating Estimates

The estimates we have presented are based on data for 1987. Evidence suggests that during the early and mid-1980s, the case mix of residents in nursing homes increased. Sicker and more dysfunctional residents entered nursing homes because of the introduction of preadmission screening, the aging of the population, the growth in the home care market, and the impact of prospective payment on hospitals (Kosecoff et al. 1990; Sager, Leventhal, and Easterling 1987; Shaughnessey and Kramer 1990). Anecdotal evidence suggests that this trend may have continued after 1987, perhaps influenced by clarification of Medicare guidelines. Rough estimates, based on the most recent Medicare program data (Health Care Financing Administration 1995, 228) and on an extrapola-

tion of the total number of nursing-home residents using the NMES-IPC and the 1991 National Provider Inventory (Sirrocco 1994), suggests that, by 1992, 6 percent of nursing-home residents were supported by Medicare, up from 2 percent in 1987. To the extent that the growing proportion of postacute residents has displaced lower-needs custodial residents, the proportion of nursing-home residents appropriate for lower levels of care at present may be somewhat lower than our results would imply.

Discussion

We have presented three very different estimates of how many nursing-home residents, based on their clinical and functional needs, may be appropriately treated at lower levels of care. We made three separate estimates because of the lack of generally accepted standards to define clinically appropriate care for lower-level settings. On the basis of two of the estimates, substantial numbers of nursing-home residents met the clinical criteria for a lower level of care. To a large extent, the variation depended on whether nursing-home residents with ADL limitations or incontinence were considered clinically appropriate for lower-level settings.

Clinical criteria are not the only factors to be considered, however: the possibly increased health risk associated with less intensive care, the additional benefits that derive from less restrictive environments, and cost must also be taken into account. Lower levels of care can accommodate persons with a wide range of functional needs, depending on the services provided and the levels of resources committed. Personal care homes and providers of home care generally serve a more functional and medically stable population than nursing homes, use fewer professional staff, and do not offer as many specialized medical services.

Referral to a lower level of care implies that access to a more intensive set of clinical resources like those found in a typical nursing home is not necessary. By their nature, facilities or agencies that provide a lower level of care cannot offer the same level of clinical services. For example, because fewer professional staff are used in personal care homes, these facilities may be less able to engage in preventive and restorative activities and less equipped to deal with medical emergencies. In addition, some

risks may inhere in the administering of medicine by nonprofessional staff, even with specific training, rather than by nurses. Unfortunately, the relation between need, risk, and clinical resources has not been well studied. Comprehensive studies of outcomes from alternative mixes of staffing, clinical resources, and resident acuity are needed to aid clinicians in matching clients needs to appropriate settings and to guide clients and families in assessing risk.

Mistakes are made in two ways: some persons are receiving care at too high a level and paying too high a price for it, while others are taking too many risks in lower levels of care and are not being sufficiently compensated by lower prices or improvements in other attributes. In any case, before large numbers of persons are transferred or diverted from nursing homes into lower levels of care, there should be some assurance that an adequate supply of lower-level settings, equipped with the clinical resources to care for them, is firmly in place.

Other important considerations in making placement decisions are the nonclinical benefits that lower levels of care provide (e.g., a more homelike environment). Long-term-care arrangements offer disabled persons not only access to personal and medical care, but also a range of residential, social, and other services that contribute to quality of life. Under budget constraints, tradeoffs inevitably have to be made between the quality of personal and medical care and the quality of life. The appropriate setting from the client's or families' point of view depends on the relative values they place on all services that are provided, not just clinical services. Persons with identical disabilities may value quality of care and quality of life differently, leading them to choose different care settings.

Residents and their families are also unsure of their ability to evaluate the aspects of care settings that affect quality of life and care and to decide what they are willing to pay for. Armed with complete information about quality and risk, there would be no problem, but, lacking this resource, consumers may be unable to make informed choices; therefore advice from clinicians and others assumes great importance.

The existence of nonclinical benefits suggests that there may be individuals who, although meeting the clinical criteria for nursing-home care, would be willing to accept the additional clinical risk of placement in a lower-level setting because they value nonclinical benefits. Thus, even though clinical recommendations would consign them to nursing-

home care, lower-level placement would still be more appropriate. To the extent that this occurs, the number of persons who could be appropriately placed in a lower level of care would exceed our estimates.

Whereas concerns about clinical and functional needs, the capabilities of settings to provide quality care, and nonclinical benefits relate to the appropriateness of different care settings, they must be weighed against the relative costs of those settings when making placement decisions. Costs should include all related costs: not only the direct costs of purchasing long-term-care services, but also the nonmonetary and opportunity costs (e.g., loss of employment income) incurred by the resident and informal caregivers and other related health care costs like physician visits and hospitalizations. For example, although the direct cost of a personal care home may be less than a nursing home, if placement in a personal care home is likely to result in added physician and hospital expenses, these need to be taken into account. Thus, the assumption that lower levels of care are less costly than nursing homes for individuals meeting specified clinical criteria may not be true for every individual when all the costs are tallied.

Despite these caveats, our results suggest that, at a conservative estimate, approximately 15 percent of nursing-home residents could be diverted to lower levels of care. These residents need help with less than three ADLs, are continent, do not exhibit serious behavior problems, and do not have substantial rehabilitation or medical needs. These nursing-home residents could be accommodated in lower levels of care without major changes in personnel or services. In addition, residents with more serious behavior problems who otherwise meet these criteria probably could also be targeted if services were provided for their special needs. Many persons with behavior problems of comparable severity are already being treated in personal care homes. Diversion of larger numbers of nursing-home residents, however, would involve greater investments in professional staff and services to assure a high quality of care.

Policy Implications

This analysis indicates that in 1987 a large population remained in nursing homes that potentially met clinical criteria for placement in lower levels of care. Although this population can be identified, it is difficult to design policies to encourage the use of lower levels of care and thus to exploit this potential. For example, one suggested approach is to expand

public subsidies of long-term care to lower-level care settings. This policy, however, may not result in public savings for two reasons: First, lower levels of care may not necessarily be less costly for all persons. Although studies comparing the average expenditures for care in nursing homes with those in lower levels of care have found the latter substantially less expensive, the costs for persons with the same level of needs have not been examined (Kane and Wilson 1993; U.S. General Accounting Office 1994; Wilson and DeShane 1992). Because these settings generally serve persons with very different functional and medical needs, the question of whether costs differ for persons with the same needs remains (Manard et al. 1992).

Second, public costs may not decline when subsidies are expanded to lower levels of care because of the demand that may be induced by the reduction in relative price of these settings. This induced demand could swamp any cost savings that would result from diverting persons away from nursing homes. The cost savings would depend on the ability to target benefits tightly to those who would be diverted from nursing homes. The experience from home care demonstrations showed that the costs of expanding public support of home care were not offset by a reduction in the use of nursing homes and other medical services, largely because of imprecise targeting (Kemper, Applebaum, and Harrigan 1987).

Another approach to encourage lower levels of care would be to make preadmission screening criteria for nursing-home admission more stringent. Ideally, the accuracy of screening would be improved, but this has turned out to be difficult when dealing with the nursing-home population (Jackson et al. 1992). Because these screens do not target well, more stringent nursing-home admission criteria will deny access not only to persons identified as appropriate for lower levels of care but also to many persons who should receive nursing-home care. Public savings from more stringent screens, consequently, may be offset by increased acute and other costs incurred by persons who were inappropriately denied nursing-home care. In addition, for persons without sufficient financial and informal care resources, more stringent criteria for admissions to nursing homes may reduce access to long-term care in general, unless public financing was expanded to cover lower levels of care.

Regulatory policies can also be used to encourage the use of lower levels of care. The artificial regulatory or statutory delineations that define different levels of care are made partly to sort people with different

levels of need into appropriate settings. These legal delineations also facilitate the regulation of quality, allowing regulators to specify both minimum and maximum inputs or services.

As we discussed, one concern of consumers of long-term care is the difficulty of assessing quality. Regulation of quality in personal care homes and home care has been much less extensive than in nursing homes, a fact that may discourage consumers from using these lower-level care settings. There is disagreement about how much quality regulation of lower levels of care there should be. Generally, nursing-home regulations have focused on technical care, and only recently has there been an attempt to regulate quality of life. Lower levels of care provide fewer technical services but also less restrictive living environments. The quality standards needed for lower-level settings may differ from those required for nursing homes, and they probably should emphasize quality of life rather than technical care. The amount of oversight needed should be evaluated by determining if the welfare gains from regulation are large enough to compensate for the resulting welfare loss from the increased cost of regulations and the reduction in consumer options. Maintaining the right balance between regulations designed to reduce consumer risks and the market forces that create an adequate supply of lower level care may be difficult.

Our findings indicate that, based on clinical criteria, there may be a large number of nursing-home residents who could be cared for in lower-level settings. This suggests that the potential for cost savings achieved by transferring or diverting persons needing long-term care from nursing homes to lower-level settings may be great, but does not mean that those savings can be easily obtained.

References

Congressional Budget Office. 1977. *Long-Term Care for the Elderly and Disabled.* Washington, D.C.: Government Printing Office.

Congressional Research Service. 1993. *Medicaid Source Book: Background Data and Analysis.* Report for the Subcommittee on Health and the Environment of the Committee on Energy and Commerce, U.S. House of Representatives. Washington, D.C.: Government Printing Office.

Cox, B., and S. Cohen. 1985. *Methodological Issues for Health Care Surveys: Statistics.* Textbook and Monograph Series (vol. 61). New York: Dekker.

Edwards, W., and B. Edwards. 1989. *Questionnaires and Data Collection Methods for the Institutional Population Component.* DHHS pub. no. (PHS) 89-3440. Rockville, Md.: National Center for Health Services Research and Health Care Technology Assessment.

Folkemer, D. 1994. *State Use of Home and Community-Based Services for the Aged under Medicaid: Waiver Programs, Personal Care, Frail Elderly Service and Home Health Services.* AARP Public Policy Institute pub. no. 9405. Washington, D.C.: American Association of Retired Persons.

Hawes, C., J.B. Wildfire, and L.J. Lux. 1993. *The Regulation of Board and Care Homes: Results of a Survey in the 50 States and the District of Columbia.* Washington, D.C.: American Association of Retired Persons.

Health Care Financing Administration. 1994. *State Data Book on Long-Term Care Program and Market Characteristics.* Washington, D.C.: Government Printing Office.

———. 1995. *Health Care Financing Review: Medicare and Medicaid Statistical Supplement.*

Jackson, M.E., A. Eichorn, and D. Blackman. 1992. Efficacy of Nursing Home Preadmission Screening. *Gerontologist* 32(1):51–7.

Kane, R., J. Ouslander, and I. Abrass. 1984. *Essentials of Clinical Geriatrics.* New York: McGraw-Hill.

Kane, R.A., and K.B. Wilson. 1993. *Assisted Living in the United States: A New Paradigm for Residential Care.* Washington, D.C.: American Association of Retired Persons.

Kemper, P., R. Applebaum, and M. Harrigan. 1987. Community Care Demonstrations: What Have We Learned? *Health Care Financing Review* 8(4):87–100.

Kosecoff, J., K.L. Kahn, et al. 1990. Prospective Payment System and Impairment at Discharge: The 'Quicker-and-Sicker' Story Revisited. *Journal of the American Medical Association* 264:1980–3.

Manard, B., W. Altman, N. Bray, L. Kane, and A. Zeuschner. 1992. *Policy Synthesis on Assisted Living for the Frail Elderly.* Report to the Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. Fairfax, Va.: Lewin-VHI.

Miller, N.A. 1992. Medicaid 2176 Home and Community-Based Care Waivers: The First Ten Years. *Health Affairs* 11(4):162–71.

Polich, C.L., and L.H. Iversen. 1987. State Preadmission Screening Programs for Controlling Utilization of Long-Term Care. *Health Care Financing Review* 9(1):43–9.

Reschovsky, J.D., and H.S. Ruchlin. 1993. Quality of Board and Care Homes Serving Low Income Elderly. *Journal of Applied Gerontology* 12:225–45.

Sager, M.A., E.A. Leventhal, and D.V. Easterling. 1987. The Impact of Medicare's Prospective Payment System on Wisconsin Nursing Homes. *Journal of the American Medical Association* 257:1762–6.

Shaughnessey, P.W., and A.M. Kramer. 1990. The Increased Needs of Patients in Nursing Homes and Patients Receiving Home Health Care. *New England Journal of Medicine* 332:21–7.

Sirrocco, A. 1994. Nursing Homes and Board and Care Homes. Data from the 1991 National Health Provider Inventory. *Advance Data from Vital and Health Statistics* no. 244. Hyattsville, Md.: National Center for Health Statistics.

Spohn, P.H., L. Bergthold, and C.L. Estes. 1988. From Cottages to Condos: The Expansion of the Home Health Care Industry under Medicare. *Home Health Care Services Quarterly* 8(4):25–55.

U.S. General Accounting Office. 1994. *Medicaid Long-Term Care: Successful State Efforts to Expand Home Services While Limiting Costs.* Report no. GAO/HEHS-94-167. Washington, D.C.

Wade, M., and S. Berg. 1995. Causes of Medicaid Expenditure Growth. *Health Care Financing Review* 16(3):11–25.

Wiener, J.M., L.H. Illston, and R.J. Hanley. 1994. *Sharing the Burden.* Washington, D.C.: Brookings Institution.

Williams, T.F., J.G. Hill, M.E. Fairbanks, and K.G. Knox. 1973. Appropriate Placement of the Chronically Ill and Aged: A Successful Approach to Evaluation. *Journal of the American Medical Association* 226:1332–5.

Wilson, K.B. 1992. Management Philosophy: A Critical Element in Implementing Assisted Living. *Supportive Housing Options* 1(1): 1,11–12.

———. 1993. Developing a Viable Model of Assisted Living. In *Advances in Long Term Care*, eds. P. Katz, R.L. Kane, and M. Mazey. New York: Springer.

Wilson, K.B., and M.R. DeShane. 1992. *Implementation of Assisted Living in the State of Washington.* Portland, Or.: Concepts in Community Living.

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