The Family as Provider of Long-Term Care: Efficiency, Equity, and Externalities
Douglas A. Wolf
J Aging Health 1999; 11; 360
DOI: 10.1177/089826439901100306

The online version of this article can be found at:
http://jah.sagepub.com/cgi/content/abstract/11/3/360
The Family as Provider of Long-Term Care: Efficiency, Equity, and Externalities

DOUGLAS A. WOLF, PhD
Center for Policy Research, Syracuse University

The passage of the baby-boom generation into old age raises the prospect of intense pressures on public programs benefiting the elderly, limiting any contemplated expansion of programs serving those needing sustained personal care. This necessitates consideration of comparative efficiency of alternative resources for elder care. I focus on two distinct aspects of such efficiency: productive—the relationship between inputs and outputs—and target—the coincidence of served and those viewed as needing services. I argue that for theoretical reasons family members, specifically children, may be more productive and efficient carers than paid helpers. Furthermore, even if no more efficient than formal providers, care provided by children reduces public expenditures on long-term care. In view of the value to society of children’s caregiving activities, if a collective program of long-term care insurance were to be adopted, it should be configured to target its financing and benefits according to family composition.

Recent growth in the use of community-based long-term care services (Bishop & Skwara, 1993; Welch, Wennberg, & Welch, 1996), combined with heightened sensitivity to pressures to control public spending, have generated interest in better understanding how these resources can be used more effectively and efficiently. During the late...
1980s and early 1990s, home health benefits were the fastest growing component of Medicare program costs. Whether home health care services produce net cost savings, compared to other venues for service provision, such as hospitals and nursing homes, remains in dispute. A substantial body of research suggests that home health care is no less costly than nursing home care (see, e.g., the review in Weissert, Cready, & Pawelak, 1988). However, Greene, Lovely, Miller, and Ondrich’s (1995) reanalysis of experimental data suggests that properly targeted home and community-based long-term care resources could reduce nursing home admissions and overall costs. Moreover, a recent meta-analysis concludes that home care produces significant reductions in hospital days (Hughes et al., 1997). Even if home health care is unambiguously more expensive than its alternatives, there is widespread agreement that older people prefer to remain in their own homes as long as possible. Therefore, there may well be substantial demand for these services even if they are comparatively costly.

Growth in the use of home care services raises concerns about the continued involvement of family members, especially children, in the provision of informal care to the elderly. Family members have been shown to be the principal sources of care among elders receiving any such care (Stone, Cafferata, & Sangl, 1987; see also the discussion of this literature, with additional citations, in Montgomery, 1999 [this issue]). These concerns are manifested in the form of a debate about the extent to which publicly provided care and assistance act as “substitutes” for informally provided care. Theoretically, if the price of formal services is reduced through public policy intervention, or if access to formal services is otherwise enhanced (for example, through policies that encourage growth in the supply of such services), then there should be increased use of such services, accompanied by a decrease in the use of alternative services. Evidence on the extent to which such substitution actually takes place is, however, mixed. An early study (Greene, 1983) presented evidence that formal services displace informal ones, yet several other early studies failed to produce similar results (Christianson, 1988; Hanley, Wiener, & Harris, 1991; Moscovice, Davidson, & McCaffrey, 1988). Some recent studies have, however, demonstrated a substitution of formal for informal care (Ettner, 1994; Long, 1995).
Impending demographic change will lend further urgency to issues concerning the relative roles of family and state in the care of the older population. It is well-known that as the baby-boom generation, whose fertility was well below that of its parents’ generation, passes through old age in the next century, the ability of the United States to sustain old-age support systems, such as Social Security and Medicare, at their present levels is called into doubt. This argument can be made with reference to the “old age dependency ratio,” typically calculated as a ratio of the number of older people (conventionally defined as persons 65 and older) to the number of working-age people (defined as persons age 20 through 64). Indeed, one apparent solution to this demographically derived “crisis” is to somehow increase fertility (or, alternatively, increase immigration), and arguments of this sort have been made in the scholarly literature (Burggraf, 1993; Demeney, 1987) and in the popular press (Wattenberg, 1997).

However, with respect to elder care, a subtler argument can also be made. The baby-bust fertility behavior exhibited by the baby-boom generation was not evenly distributed throughout that parental generation; some had no children (whereas others had several), and those who did have children had fewer, on average, than did their parents. The mathematically inevitable result is a lower average number of children per adult woman overall. But childless men and women are, unavoidably, precluded from receiving assistance from a child. The redistribution of access to family care, and the consequent growth in demand for care from other sources, such as publicly-funded programs, may induce a realignment of thinking about the proper role of each in the provision of elder care. Thus, in the context of already growing concern about rising public costs for elder care, the coming passage of the baby-boom generation into old age raises the prospect of far more intense pressures on all types of public programs benefiting the elderly, further constraining the scope of any contemplated expansion of programs serving those in need of sustained personal care. In such a context, issues of efficiency in the use of resources for elder care demand close attention.

This article focuses on two distinct aspects of efficiency in the context of long-term care services: productive efficiency and target efficiency. Productive efficiency concerns the analysis of outputs received per inputs devoted to production, taking into consideration
the value attached to outputs and the costs attached to inputs. If resources are being used efficiently, then any reallocation of resources that increases outputs obtained by one recipient necessarily entails a loss of outputs for some other recipient. An equivalent depiction of this efficiency condition is that a given set of outputs cannot be obtained at lower cost (see also the discussion in Bishop, 1999 [this issue]).

When analyzing efficiency, it is necessary to specify what is to be viewed as “output.” In the context of home care, a possible indicator of output is the delay or prevention of nursing home admission; another is “independence,” possibly measured as the ability to live without assistance from other persons (i.e., to conduct basic activities through self-care, with or without specialized assistive devices or equipment). Productive efficiency has received limited attention in the long-term care literature; for example, Greene et al. (1995) developed a framework for efficient allocation of community-care resources, taking as their productivity criterion the minimization of nursing home usage, and applied the model to data collected in the channeling demonstration. Their findings suggest that, contrary to widespread impression, the additional resources provided in the channeling demonstration could have been reallocated in such a way as to bring about a substantial reduction in nursing home usage.

A second form of efficiency is target efficiency, a concept found in the program evaluation literature (Rossi & Freeman, 1989). This concept pertains to the coincidence of persons served and persons judged to need services. The failure to deliver resources to their intended target and the delivery of resources to persons not viewed as in the target population are viewed as instances of target inefficiency, but they need not be viewed as equally undesirable. Clearly, the target efficiency of any public program depends on how the “target” population is defined. The demand for program resources can, in principle, be controlled through narrow targeting of the program or, in contrast, expanded through “universality” in the definition of the population served.

With respect to productive efficiency and target efficiency, society is faced with a trade-off between efficiency and equity. For example, if low-income people place a lower hourly value on their time than do high-income people, then efficient use of resources will entail greater time inputs among low- than among high-income people, an
allocation that many would view as inequitable from a moral or ethical perspective. Similarly, to control program costs, it may be necessary to define narrow eligibility criteria, and this in turn leads inevitably to worries that deserving individuals are unfairly excluded from the program, an inequitable result.

This article considers the role of family members, particularly children, as a source of care and assistance to those elders unable to live independently and care for themselves. It first addresses the productive efficiency of family members in the arena of long-term care, then goes on to suggest that long-term care resource flows—the financing and benefits associated with, for instance, a collective long-term care insurance program—be targeted, in part, by taking family composition into account.

The line of argument presented is, in brief, as follows. First, several theoretical considerations suggest that children are in some instances a more productive input into elder care than are paid helpers. Next, it is asserted that children may be, as well, a more efficient source of elder care than are publicly funded formal providers. At any rate, children’s caring activities may be viewed as a consequence of an efficient long-term care provision strategy adopted in families. Furthermore, even if the children are no more efficient than formal providers, the care provided by them clearly reduces public expenditures on long-term care, at least for care provided in institutional settings. And finally, in view of the value to society of children’s caregiving behavior, it is suggested that if a collective program of long-term care insurance were to be adopted, it should be configured so as to target its financing and its benefits according to family composition. The latter argument is closely related to past analyses that have characterized children as public goods, the production of which has a positive value to society. The arguments presented and the conclusions drawn from them, to a great extent, are speculative. Much further research would be necessary to generate supportive empirical evidence.

The Family and Long-Term Care

The first major question raised by this article concerns the comparative efficiency of family members as sources of home-based
long-term care. Although “family” plainly includes spouses, children, and any other type of relative, the emphasis here is mainly on the care provided by children. This restriction fits nicely with the intergenerational perspective typically brought to bear on analyses of population aging and its attendant fiscal and political pressures.

The productive efficiency of family members most readily can be analyzed using the abstract concept of the “household production function,” which captures the idea that varying quantities of alternative “inputs” (including the time of family members) can be used to produce varying quantities of one or more “outputs.” A discussion of the outputs potentially produced in households is provided by Burch and Matthews (1987), who include in their list of household “component goods” physical shelter, storage of property, domestic services, personal care, companionship, recreation and entertainment, privacy, independence or autonomy, power or authority, and economies of scale. It is clear that some trade-offs must be faced when alternative types of living arrangements are evaluated; for example, it is probably difficult to increase “companionship” or “personal care” without a concomitant decrease in “privacy,” “independence,” or “power.” Several articles have appeared in which the household production concept is used to analyze choices of different forms of living and care arrangements for the dependent elderly (e.g., Bishop, 1999 [this issue]; Ettner, 1994; Headen, 1993; Nocera & Zweifel, 1996; Pezzin, Kemper, & Reschovsky, 1996).

To evaluate efficiency, we must attach a “price” to each of the inputs used in household production. A common problem in the application of such models is the difficulty of measuring the price of inputs not traded in markets, for example, the time of unpaid caregivers. It is assumed that individuals value their time and, moreover, are able to judge the relative value of their time when spent in alternative activities. Policy interventions typically alter the relative prices of different inputs, including a potential caregiver’s time, into the production of caregiving. This alteration of relative prices may be direct, as when services are provided at no, or artificially low, cost; or, the alteration may be indirect, through the manipulation of the supply of resources (as in, for example, restricting the supply of nursing home beds). It is also necessary to attach a value, denominated in the same units as the input prices, to the outputs produced. Considering the intangible
nature of most of the outputs listed above, it is evident that quantitative assessment of efficiency is extremely difficult in the household setting.

As noted above, it is well-known that family members are a major source of the care and assistance received by the disabled elderly. Children are observed to assist elderly parents with all of the basic activities of daily living (ADLs), such as bathing, dressing, eating, and transfer, and, to a greater extent, with instrumental activities of daily living (IADLs), such as housework and meal preparation (Dwyer & Coward, 1991). Parent-child coresidence facilitates the provision of such informal personal care services (Soldo, Wolf, & Agree, 1990). In view of the importance of family members as providers of care, it is useful to consider whether the time of family members may be more productive—that is, there may be more “goods” produced, in total, per unit of input—than equivalent quantities of formal services, at least in certain tasks.

There are several reasons to believe that family care is more productive than its alternatives. First, considering each type of activity individually, a family member’s time may be more productive due to the idiosyncratic knowledge that a child acquires about his or her parent over a lifetime of familial interaction, knowledge not readily (or ever) ascertainable by nonfamily caregivers. The types of activities for which idiosyncratic knowledge is most likely to be possessed by a family member include such IADL tasks as money management, shopping, housework, and meal preparation. If formal services that might substitute for the family’s inputs are available only at a positive price, then differential productivity might favor the use of family inputs, even when the family’s inputs are viewed as “costly.”

A second reason for the comparative efficiency of family inputs into the production of long-term care is joint production. For example, a child’s time spent assisting a parent might produce, as a joint output, household goods or services consumed by that child or by other family members, whereas the same might not be true for the time inputs of a formal service provider. Meal preparation is an example of an activity with substantial potential for joint production: The extra time inputs to produce a meal for one’s parent (in addition to oneself) may be, in most cases, negligible. The same can be said of housework. Evidence of jointness in the production of long-term care and other household
outputs is implied by the existence of informal helpers of disabled elders reportedly spending 24 hours per day, 7 days per week, helping with ADL and IADL tasks (Wolf, Freedman, & Soldo, 1997). Such reports of nonstop caregiving are not credible, unless they are interpreted as reports of “standby” or “on-call” assistance. The amount of time truly devoted to elder care, in such situations—that is, the amount of time in which only elder care is being produced—is undoubtedly much less than 24 hours per day, 7 days a week.

Joint production is plainly facilitated by coresidence. The efficiency gains obtainable through joint production are not uniquely available to family members but are likely to be realized most readily by family members; one reason is that coresidence facilitates joint production, and family members are much more likely to coreside with their parent than is a formal service provider. A key implication of joint production of long-term care outputs and other household outputs is that, even if formal services are available at zero (or near-zero) price, family care may be less costly, as judged by the family members providing services.

A third argument supporting the notion that family care is economically efficient is more abstract: Family members may place a higher value on their own time used in the production of parental care than they do on an equivalent amount of time spent by a formal service provider in the same task. In other words, a child may take particular satisfaction in being a caregiver (more so for certain tasks, possibly, than for others), beyond the satisfaction produced by knowing that their parent is receiving help with a particular task. At the same time, the parent may derive more satisfaction from the help received from a child with selected tasks than the parent would derive from an equivalent amount of help from someone else. Against these positive outcomes any negative outputs must, of course, be weighed, including the stress widely attributed to caregiving (for an overview, see Biegel, 1995). Nonetheless, a given array of long-term care “outputs”—a potentially observable set of quantities—may provide greater “well-being”—an inherently unobservable outcome—when produced by family members rather than by alternate providers. As with the first two arguments, this type of effect is more likely to be associated with IADL than with ADL activities. In this latter case, the resource costs of family care may exceed those of formal care, but the gains in well-
being associated with family care cause it to be the preferred choice of inputs.

Finally, there may exist “lumpiness” in the formal care market—that is, institutional or organizational features that cause formal services to be available only in specified, discrete quantities—that are not present in the informal sector in which family care is produced, again favoring the comparative productivity of family care. A nursing home represents an extreme form of such lumpiness, because it provides comprehensive services on an uninterrupted basis, but formal providers of home care services may exhibit lumpiness as well. There are numerous factors limiting the flexibility of home care providers to supply services at precisely the times that may arise, and in precisely the quantities, for a person needing assistance with various personal care activities. These factors include the need to schedule visits, travel times and coordination problems, and possibly compensation practices. Such institutional features are arguably of lesser relevance to family caregivers, especially coresident ones, although the challenges of coordinating unpaid care provision with paid employment outside the home must not be overlooked. Rigidities in the service packages available from formal providers may lead to inefficient overconsumption of such services or, alternatively, the failure to obtain needed services among persons without informal alternatives.

Although family care, and care provided by children in particular, may be more productive than its formal alternatives, it does not follow directly that it is more efficient, once the prices of inputs and the values attached to outputs are evaluated. However, there are good reasons to believe that family care is also more efficient in many cases. The average “opportunity cost” of the care hours spent by family members, although difficult to measure, is certainly positive. Whether that average is higher or lower than the average cost of formal substitutes for it is uncertain, but it seems certain that there is a substantial percentage of family caregivers, the social costs of which are no larger than the social costs of the formal care necessary to substitute for their efforts. Furthermore, the jointness of family care strongly suggests that value-weighted outputs of family care compare favorably to the social value of formal care.

It also can be argued that the use of family care represents the outcome of an efficient self-insurance strategy adopted by families. Pauly
(1990) presents a theoretical model in which it is rational for someone not to purchase actuarially fair long-term care insurance, relying instead on care provided by children. Pollak (1995) argues, more broadly, that transaction costs—for example, the costs of overcoming information asymmetries, monitoring performance, and of specifying long-term contingent contracts—favor the family over either the private market or the state as a vehicle for insuring against many types of adverse outcomes. Pollak argues that family governance should “predominate . . . in sectors utilizing relatively simple technologies” (p. 155). Help with ADL and IADL tasks seems to fit well into this category. From the perspective of such theories, the observed use of family members to provide help with long-term care needs, even if relatively more costly than some formal alternatives, could nonetheless be viewed as the ex post realization of an ex ante efficient familial insurance strategy.

Targeting Long-Term Care Resources

The preceding section has argued that, at least for some types of services, time inputs from family members (specifically, children) are likely to be more efficient than any alternative source of services. That is, in some circumstances, family care may be globally efficient. Even when family care is less efficient than its alternatives, it is evident that whenever a family member provides a given service (however costly to the provider), public resources are saved. Thus, family care is always “efficient”—or, perhaps more appropriately, cost-effective—from the narrow perspective of the public budget, if it reduces demands on public funds.

Several studies have investigated the use of long-term care services by the disabled elderly, but few of these studies investigate the association between family composition and service use. Kemper (1992) shows that among disabled elders, having a spouse and having children is associated with significant decreases in the likelihood of using formal care and with significant increases in the likelihood of receiving “resident informal care.” Others have investigated the association between family composition and the likelihood of entering, or being discharged from, a nursing home. Whereas Spitze, Logan, and
Robinson (1992) found no effect of children on the probability of entering an institution, Dwyer, Barton, and Vogel (1994) found a significant negative effect among urban, but not rural, elders. Garber and MaCurdy (1990) found significant effects of the number of children on probabilities of entering and of leaving nursing homes. Freedman (1993) found that having children caused women, but not men, to leave nursing homes at higher rates than the childless.

Information on the comparative public costs of elder care is shown in Table 1, which uses data from the 1989 National Long Term Care Survey (NLTCS; Manton, Corder, & Stallard, 1993). This table considers only disabled NLTCS respondents, that is, persons with one or more ADL or IADL limitations that have lasted, or are expected to last, for 3 or more months. Disabled respondents are classified according to gender, marital status, and the presence or absence of living children. In each group, nursing home stays that are fully or partly reimbursed by either Medicare or Medicaid are tabulated, with approximate weekly dollar costs attached to those nursing home stays, based on state-level average Medicaid skilled nursing facility per diem payment data (Buchanan, Madel, & Persons, 1991); persons not in nursing homes and nursing home residents whose stay is not reimbursed under either program are coded as zeros in the table. For all combinations of gender and marital status shown, with the exception of unmarried men, the childless generate taxpayer costs significantly higher than elders with living children. It should be noted that when a similar exercise is carried out using Medicare- or Medicaid-reimbursed home care, rather than nursing home care, there are no significant differences between the childless and parents in cost-weighted usage. The latter finding is, however, unsurprising in view of the fact that a substantial amount of reimbursed home health services are targeted on persons with informal caregivers; that is, family care substitutes for public nursing home dollars but complements public home care dollars (for further discussion of the targeting of home care according to the presence of informal caregivers, see Robert Kane, 1999 [this issue]).

The evidence presented in Table 1 uses cross-sectional data and, therefore, can be viewed as merely suggestive. A more compelling argument could be made if it were to be shown that the lifetime public costs of long-term care for the childless exceeded those for parents;
Table 1
Costs of Medicare- and Medicaid-Reimbursed Nursing Home Stays, by Marital Status, Gender, and Childlessness:
Disabled Respondents to 1989 National Long Term Care Survey

<table>
<thead>
<tr>
<th></th>
<th>Married</th>
<th></th>
<th>Unmarried</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All (n = 4,872)</td>
<td>All (n = 1,622)</td>
<td>Female (n = 738)</td>
<td>Male (n = 884)</td>
</tr>
<tr>
<td>Weekly nursing home costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Childless</td>
<td>$99.93</td>
<td>$66.38</td>
<td>$73.15</td>
<td>$59.84</td>
</tr>
<tr>
<td>Parents</td>
<td>$61.96</td>
<td>$24.97</td>
<td>$25.98</td>
<td>$24.16</td>
</tr>
<tr>
<td>t statistic for difference</td>
<td>6.98*</td>
<td>5.20*</td>
<td>4.03*</td>
<td>3.28*</td>
</tr>
</tbody>
</table>

*p < .001.
however, the data necessary to make such a determination are not presently available. Nonetheless, from this evidence one can draw the conclusion that the childless elderly impose a cost—that is, they impose a negative externality—on the rest of society with respect to long-term care services. Equivalently parents, through their childbearing, produce benefits—they produce positive externalities—for the rest of society.

Whether the childless impose a net cost on society is, of course, a much harder question to answer. A rigorous accounting of net long-term care costs would require calculation of lifetime contributions (in the form of earmarked and general-revenue tax payments) and lifetime service usage. Lifetime earnings, asset accumulation, possibly age at retirement, and other relevant factors are, possibly, related to family size. There may also be associations between family size and health or disability status (and, hence, use of long-term care services). There are offsetting effects as well; in particular, the childless support through their tax payments the costs of educating others’ children. Yet the childless also derive benefits from their educational investments, among which are the tax contributions that finance our pay-as-you-go Social Security benefits. Folbre (1994) also argues that children provide positive fiscal externalities to society at large, including the childless. Existing data do not permit direct calculation of all the quantities necessary to determine the net lifetime social costs of remaining childless. Pending the production of such figures, my claim that childlessness imposes net long-term care costs on society remains an assertion that finds some support in cross-sectional evidence.

The idea that childbearing has social cost consequences is not new. Lee (1990) presents an analysis of the externalities to childbearing in the United States. His analysis is based on a highly stylized depiction of the macro economy and of demographic forces. Lee’s analysis represents the age profile of consumption and production and economic flows in the private and public sectors of the economy. Public goods, a pervasive feature of our society, are taken into account. Lee’s analysis produces a finding, based on data for 1985, that the value to society of the marginal child born is more than $100,000. That is, it is worth more than $100,000 to have another child born in the United States, holding all economic and demographic relationships and lifetime patterns constant. Even more striking figures are presented in the recent
National Academy of Sciences (NAS) report, *The New Americans* (Smith & Edmonston, 1997). The NAS report indicates that the present value of the net fiscal impact of a newborn, taking into account that newborn’s expected future descendants and their respective net fiscal impacts, ranges from $92,000, if the newborn ends up with less than a high school education, to $245,000 for someone who will ultimately achieve a greater than high school education. The NAS figures reflect lifetime profiles of taxes paid and publicly financed benefits received. England and Folbre (in press) argue that such calculations understate the social net benefits of children, because they omit intangible positive externalities, such as the “network of relationships and climate of trust and reciprocity that is sometimes termed ‘social capital.’” These arguments do not imply that society would be better off if every woman had another child: Diminishing returns must, at some point, begin to have their effect. However, in stark contrast to a view undoubtedly held by many people, increased fertility, at least within some range, may be beneficial rather than costly to society.

As noted above, some argue that one way to ameliorate the old-age dependency crisis is to somehow raise fertility. As Ben Wattenberg (1997), writing in *The New York Times Magazine*, states, “If Americans had more babies, wouldn’t that help ease the crunch of entitlement spending? Sure” (p. 30). With respect to such income support programs as Social Security, the beneficial effects of increased fertility do not depend on who has the additional children. This is because a pay-as-you-go retirement income program collects anonymous dollars from workers and distributes them to retirees. The additional child born into such a system will pay taxes that benefit all members of society in proportion to the retirement benefits they collect. However, with respect to long-term care the situation is different. Under the prevailing set of prices and productive relationships, a child born to an otherwise childless adult is more valuable to society than one born to an adult with children, because that first-born child moves her parent out of the ranks of relatively costly childless into the ranks of the relatively less expensive parents.

Several arguments converge to suggest that we should consider targeting long-term care services and their financing with respect to family size—or, for simplicity’s sake, with respect to the number of children. The logic leading to this suggestion is as follows. First, there
exists a trade-off between family care and publicly funded elder care; if less family care is provided, public costs will rise. Second, family care can only be provided by family members; more specifically, the unique efficiency and well-being gains discussed earlier are only realized (or are realized most fully) when the children providing elder care are one’s own children. Third, consequently, disabled elderly with children save some public long-term care funds (or, equivalently, disabled elderly without children add to public long-term care costs). Fourth, if, therefore, the costs of publicly funded long-term care are borne collectively, then families with children are in some sense “paying” for long-term care twice: Parents, by producing children, are “buying” informal long-term care insurance, while they and their children, through their tax payments, are helping to pay the premiums for the collective long-term care insurance whose benefits will be claimed by the childless elderly. Therefore, target efficiency, as well as a type of familial equity, is served by aligning the financing and benefits of publicly provided long-term care services along family lines, whereas productive efficiency is served by maintaining the role of family members in the production of long-term care.

One obvious question is whether it is even admissible to base taxation or eligibility for benefits on family composition. In this regard, it can be noted that in some ways we already do. The federal income tax system includes deductions for dependent children. These are uniform per-child deductions, despite the possibility of returns to scale in household production, and thus they represent an implicit subsidy to larger families. Also, numerous benefit programs base their benefits on family size. At the same time, we typically do not adjust taxes or benefits explicitly according to attributes that might differentially affect lifetime net claims of public resources, such as education and health behaviors. Accordingly, it seems admissible to suggest an “average cost” approach to adjusting tax burdens, or program benefits, according to the presence or absence of children.

How might we go about taking family composition into account when targeting long-term care benefits and their financing? There have been many calls for a universal publicly financed long-term care insurance program. Norton and Newhouse (1994), for example, propose a public long-term care insurance program with eligibility dependent solely on ADL dependency or need for constant supervision.
Bishop (1984) discusses the desirability of making long-term care services contingent on the “presence of family and appropriateness of living situation, . . . [a policy that] while more complex to administer, will be more efficient in distributing well-being across various future uncertain states” (p. 64). Yet, she goes on to outline a “prototype” national long-term care insurance plan in which the targeting of eligibility with respect to family situation is not present.

One difficulty to be faced in the design of a family based long-term care targeting scheme is the fact that the decisions of persons in two generations underlie the beneficial consequences of family based long-term care. The net cost advantages of childbearing to society at large are due partly to the decisions of parents to have those children and partly to the decisions of children to provide care to their parents. Any system of family based long-term care targeting should avoid upsetting the processes that lead to these beneficial outcomes.

A possible direction of policy development is the enactment of an earmarked tax to create a “long-term care trust fund” analogous to existing Social Security and Medicare trust funds. It might be possible for the funds so collected to have the characteristics of defined-benefit and defined-contribution old-age long-term care benefits. That is, persons who have made greater contributions would be eligible for greater benefits, but there would be a minimum level of benefits provided to anyone who has made any contribution (or on whose behalf a contribution has been made). Alternatively, we might attempt to equate average per-capita lifetime contributions to the fund (through payment of the earmarked tax) with the actuarial lifetime costs of long-term care services, with eligibility dependent on surpassing a threshold of lifetime contributions analogous to Social Security benefits. If the latter approach were financed by a new payroll tax, substantial redistribution could conceivably take place, because low-earning individuals would contribute less over their lifetime, and high-earning individuals more, than the average cost of the long-term care benefit.

Targeting of program benefits and financing could be achieved by allowing parents to, in effect, “opt out” of the system in part or in full. In particular, parents could be allowed an optional deduction from their long-term care tax, with the maximum amount of deduction depending on the number of children they have produced. If taken, the deduction would have the consequence of reducing the parent’s
contributions to the public long-term care trust fund and simultaneously diminishing or even eliminating their ultimate eligibility for benefits. Parents would, therefore, be faced with a choice: They could invest in the production of children who are prepared to provide for the parent’s ultimate, and uncertain, long-term care needs; or they could establish eligibility for benefits through the public program. The childless, in contrast, would have no choice but to participate in the public program. Parents who conclude that familial self-insurance for long-term care needs is rational would be free to pursue that strategy.

The program provisions just outlined appropriately place the full burden of enforcing an implicit familial contract on parents. This may put some elderly parents in the unenviable position of having qualified for reduced (or no) public long-term care benefits yet being faced with children unwilling to provide them with the anticipated family based long-term care services. The public program could be structured to address these concerns. Parents who voluntarily forego the optional per-child long-term care tax deductions would accumulate credits toward publicly funded long-term care services. These credits could have the character of a “defined contribution” plan, that is, a cash value. The credits either could be used to increase the level of publicly funded long-term care services to which the parent is entitled or could be transferred to the child who provides services (possibly in the form of an long-term care defined contribution credit on the child’s behalf). In this way, the public program would provide a mechanism for increasing the well-being of a child who provides informal long-term care services to his or her parent.

Finally, any serious attempt to design a program in which taxation and benefit determination depended on family composition—in particular, the number of children—must recognize that some childlessness is involuntary, that adoption might not be possible for all seeking it, or that some people would develop needs for long-term care services, having opted for familial long-term care insurance, but nevertheless find themselves unexpectedly without children able to provide the necessary services. Assuming that such circumstances are rare (and admitting the difficulty of determining their existence), it should be possible to include a “fail-safe” benefit provision that covers these situations, although adding little to overall program costs.
Demographic Pressures on Public Long-Term Care Expenditures

The notion that public program benefits, and the taxes levied to finance them, might be tied to the raising of children may seem alien, and even unacceptable, even to people who are nonetheless happy to claim dependents’ exemptions in the calculation of federal income tax obligations. However, in the coming decades demographic change may encourage such rethinking of the basis of social policy. As already noted, the baby boom/baby bust cycle does more than change the dependency ratio, an aggregate index. It is also accompanied by a redistribution of the claims on familial resources for long-term care and other family based transfers and exchanges. Table 2 presents data that foreshadow the redistribution of family size in coming cohorts of the elderly. The table shows time-series data on the average number of children ever born to women by age 40-44, which is a reasonably accurate indicator of completed family size. According to the table, women currently at the low end of the “oldest-old” age category—women born in 1905-1909, the survivors among whom reached age 85-89 in 1995—had, on average, about 2.2 children, yet 20% remained childless. In the coming years, women entering this age

Table 2
Indicators of Family Size by Birth Cohort

<table>
<thead>
<tr>
<th>Years of Birth</th>
<th>Year Age 40-44</th>
<th>Year Age 85-89</th>
<th>Average Number of Children Ever Born</th>
<th>Percent Childless</th>
</tr>
</thead>
<tbody>
<tr>
<td>1895-1899</td>
<td>1940</td>
<td>1985</td>
<td>2.801</td>
<td>19.8a</td>
</tr>
<tr>
<td>1905-1909</td>
<td>1950</td>
<td>1995</td>
<td>2.170</td>
<td>20.0</td>
</tr>
<tr>
<td>1925-1929</td>
<td>1970</td>
<td>2015</td>
<td>2.927</td>
<td>8.6</td>
</tr>
<tr>
<td>1930-1934</td>
<td>1975</td>
<td>2020</td>
<td>3.143</td>
<td>7.0</td>
</tr>
<tr>
<td>1935-1939</td>
<td>1980</td>
<td>2025</td>
<td>2.988</td>
<td>10.1</td>
</tr>
<tr>
<td>1940-1944</td>
<td>1985</td>
<td>2030</td>
<td>2.447</td>
<td>11.4</td>
</tr>
<tr>
<td>1945-1949</td>
<td>1990</td>
<td>2035</td>
<td>2.045</td>
<td>16.0</td>
</tr>
</tbody>
</table>


a. “Native White” and “Black” only (omits “foreign-born White” and “other”).
group will have successively greater numbers of children, on average, and comparatively few will be childless. As the baby boomers begin to reach the oldest-old group, however, average numbers of children will fall to historically low levels, whereas the percentage childless will return to their present high levels.

These demographic trends suggest the possibility of the following scenario: Notwithstanding present budgetary pressures to the contrary, steps might be taken in the near term to expand publicly provided long-term care services. The impacts of any such programmatic developments would be dampened by the evolving trends, shown in Table 2, toward greater familial “wealth” on the part of the elderly, a resource that continues to serve as the principal source of elder care. With liberalized long-term care benefit structures in place, the reversal of demographic trends that will take place after 2020 will place the public system under unprecedented pressures, raising the possibility of more abrupt, and presumably more divisive, policy developments in midcentury.

**Conclusion**

This article has attempted to link two otherwise unconnected notions of efficiency in the provision of long-term care for the elderly—productive efficiency, a concept that refers to the volume of long-term care outputs produced by a given infusion of inputs, and target efficiency, a concept that refers to the coincidence of resources provided and people’s needs for resources. The phenomenon linking these two aspects of efficiency is the role of family members, particularly children, in the provision of long-term care.

Among commentators on the impending old age “crisis” and the potential solutions to it, it is not uncommon to see the issues framed in terms of intergenerational conflict. Callahan (1996b), for example, writes that the “fundamental issue [raised by high health care costs in old age] . . . is the issue of intergenerational responsibility. What is reasonable to ask of young people in supporting health care for old people?” (p. 7). Elsewhere, Callahan (1996a) states that it is “nowhere appropriate to blame the elderly for this demographic situation,” as though the changed age structure of the population results exclusively
from “public health advances and medical progress” (p. 664). This viewpoint, however, overlooks the extent to which demographic change is the result of choices individually made, choices to have or not to have children of one’s own. The collective consequences of millions of individual decisions to have children in and around the 1950s were the baby boom, whereas the collective consequences of millions of individual decisions in the 1970s and 1980s to have no children helped shape the subsequent “baby bust.” Those baby-bust parents (or nonparents) are not now elderly, but they will, in time, be so. The elder care cost implications of these demographic swings are classic examples of unintended externalities, of collective consequences not consciously chosen by numerous individual decision makers (Schelling, 1973). I am not suggesting that we must, in contrast to Callahan’s statement, “blame” the elderly for the demographic situation of today or tomorrow. But, it might make sense to try to align the full costs and benefits—including externalities—of individual actions at the individual level. Family based targeting of the financing, and possibly of the benefits, of collective long-term care service provision may be a logical consequence of this point of view. Conflict over resources, whether the conflict be drawn along familial (or “reproductive”) lines or across age groups, is unpleasant. Conflict across groups, defined by their child rearing behavior, may, in fact, be less unpleasant than age-based conflict: Parents are, after all, parents their whole lives, whereas the young ultimately will be old (and all of the old were once young). In any event, conflict seems inevitable and seems certain to grow only more intense the more we defer its engagement.

NOTES

1. Grundy (1996) has pointed out that conventional calculations of dependency ratios typically understate economic dependency, in view of less-than-full economic participation of the “working-age” population. This “inactivity” among the working-age population is not likely to be offset by economic activity (and, therefore, lack of “dependency”) among those older than 65 years.

2. An admitted weakness of this scheme is that the number of children is not entirely determined by individual decisions. To some extent childlessness is involuntary (although remediable through adoption).
REFERENCES


Greene, V. L. (1983). Substitution between formally and informally provided care for the impaired elderly in the community. Medical Care, 21(6), 609-619.


