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5 Caring for the Elderly: The Role of Adult Children

Kathleen McGarry

5.1 Introduction

The soaring cost of medical care for the elderly has imposed a sizable burden on society. In 1992 average health care expenditures for those aged 65 or over were $9,125, compared to $2,349 for those under age 65 (American Federation of Aging Research and Alliance for Aging Research 1995). For the elderly, much of the cost results from long-term care. In 1989, 77 percent of Medicaid funding directed toward those aged 65 or over was spent on nursing homes or home health care.

Policymakers have devised various strategies to combat these growing expenditures. Governor Pataki of New York State has proposed drastic cuts in spending for home health care and housekeeping services, in an effort to balance the state's budget. President Clinton has taken the opposite approach, proposing expanded home services as a substitute for more expensive nursing homes (Lewin-VHI, Inc. 1993). To evaluate the potential impacts of such policies, we need a clear understanding of the use and provision of home health care.[1] Who are the preferred caregivers? How much substitution is there between formal and informal care? Will increasing the availability and affordability of home health care decrease more expensive nursing home admissions and therefore costs, or will the substitution away from unpaid care toward formal paid care be large enough to offset any savings?

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1. Throughout the paper I will use the terms "home health care" and "home care" interchangeably. In a strict sense home health care refers to medically related services while home care refers to housekeeping services.

Underlying these issues is the larger question of what drives transfers between family members. Much has been written about the magnitude of financial transfers made between generations (Gale and Scholz 1994; Kotlikoff and Summers 1981; McGarry and Schoeni 1997). Are the resources we observe flowing between parents and children given for altruistic reasons or are they made as part of an exchange? By considering the possibility that home care is provided in exchange for financial compensation, I will begin to address this issue.

This paper takes advantage of the new survey of the Asset and Health Dynamics among the Oldest Old (AHEAD) to document the current use of home health care by the population aged 70 or over. It expands on past work in this subject by exploring the role played by financial compensation from parents to children as a method of encouraging children to provide care, and by controlling more completely for factors such as income and wealth that may affect access to services.

In section 5.2 I describe the data in more detail, in particular pointing out the advantages of AHEAD in addressing these issues. Section 5.3 presents some descriptive statistics for the sample and for the measures of impairment I use in the remainder of the paper. Sections 5.4 and 5.5 analyze the receipt and provision of care in a multivariate framework. A final section concludes and offers directions for future research.

5.2 Data

AHEAD is a longitudinal survey of individuals born in 1923 or earlier and their spouses or partners. Baseline interviews were completed in the fall of 1993 when respondents were approximately 70 years old or older. The second wave of interviews is scheduled to be administered in the fall of 1995. Thus, at the time of this writing, only cross-sectional information is available.

AHEAD is unique in providing a large nationally representative sample of older Americans.[2] The survey contains detailed questions on income, assets, health, as well as a good deal of information on each of the respondent's children. The breadth of the survey allows for improvements over past studies of the provision of home health care. A respondent's financial resources can be carefully controlled for along with the presence or absence of health insurance. Thus it will be possible to examine how the choice of paid or unpaid care varies with the ability to pay. Similarly detailed health indicators allow for precise measurement of impairment. As described below, the survey collects information on limitations with respect to specific activities of daily living (ADLs) and instrumental activities of daily living (IADLs), as well as on the

2. Individuals in heavily black and Hispanic areas and residents of Florida were oversampled. Population comparisons therefore require weighting. With the exception of the regressions that control for race, the results reported in this paper are based on weighted observations.

existence of specific diseases, overall health measures, and service use. The information available on the number of children the respondent has, the child's geographic distance from the respondent, his employment status, family income or earnings, and the number of own children (grandchildren to the respondent) will help explain the choice of informal home care arrangements and the distribution of responsibility across siblings.

The entire sample consists of 8,224 individuals.[3] From this original sample I exclude 132 respondents for whom the interview is incomplete, bringing the sample size down to 8,092.[4] Many of these elderly have health problems: 35 percent report themselves to be in fair or poor health, 22 percent have been hospitalized in the past year, and 89 percent have been to the doctor in the past year, with the average number of office visits just over five.

Respondents are asked whether they are limited with respect to certain ADLs or IADLs, and whether they receive assistance with these tasks. In general, ADLs are personal care items while IADLs relate to housekeeping tasks. The six ADLs are walking across a room, dressing, bathing, eating, getting in or out of bed, and toileting. The five IADLs are preparing meals, grocery shopping, using the phone, taking medication, and managing money. The ADL questions are of the form

> Does anyone ever help you bathe or shower?
>
> Do you get that help most of the time, some of the time, or only occasionally?
>
> Do you have any difficulty bathing (even when someone helps you/without help)?
>
> Who most often helps you bathe?

Similar questions are asked with respect to the other ADLs. Individuals are coded as having an ADL limitation if they state that they get help, they use equipment (for walking and getting in or out of bed), they have difficulty with the task, or they do not do the activity for health reasons; 28.9 percent of respondents were limited with respect to at least one ADL.

The IADL questions are similar:

> Are you able to prepare hot meals without help?
>
> Is that because of a health problem?
>
> Without help do you have any difficulty preparing meals?
>
> Who most often helps you?
>
> Who else most often helps you?

Again respondents are coded as having difficulty with an IADL if they needed help or did not do the task because of a health problem; 29.3 percent of the

3. These results are based on the "post-alpha" release of AHEAD.

4. Although 783 of the respondents are below the age of 70, I include these individuals in the study in order to keep the sample sizes as large as possible.

sample have difficulty with at least one IADL. Forty percent have at least one ADL or IADL constraint. The proportion of individuals with various ADL and IADL limitations is shown in table 5.1. The most common ADL difficulty is in walking. Twenty-three percent of the entire sample have difficulty walking across the room without help or the use of equipment. Thirteen percent have difficulty dressing, and 12 percent have difficulty bathing. With respect IADLs, almost 18 percent have difficulty handling their finances, and nearly that proportion have problems with grocery shopping. I also report the proportion with various limitations conditional on having at least one ADL or IADL limitation (the "impaired sample"). Of those experiencing difficulty with at least one task, 58 percent have difficulty walking across the room, and 44 percent have difficulty with grocery shopping.

The means for variables used in the analysis are shown in table 5.2 for the full sample, and separately by whether the respondent has a limitation. The latter two groups differ in the expected ways. The impaired sample is older (with a mean age of 79 vs. 75 among the nonimpaired), more likely to be nonwhite (20 percent vs. 13 percent), less likely to be male, and in generally worse health. Fifty-six percent of the impaired sample report themselves to be in fair or poor health, compared to just 21 percent of the nonimpaired sample.

Those who require assistance are less well off in terms of both income and wealth. Their mean income is $19,073, compared to $26,299 for the healthier sample, and mean wealth is $136,379, compared to $214,787. Those who have limitations also have a greater number of children living within 10 miles, although the total number of children does not differ significantly. The impaired sample is less likely to be married and more likely to live with an individual who is not a spouse, probably because of their need for care. Surprisingly, 82 percent of the "healthy" sample have private health insurance (typically as a

Table 5.1 **Percentage of Sample with Various ADL and IADL Limitations**

Task	Percentage of Entire Sample	Percentage of Impaired Sample
ADLs		
Walking	23.1	57.9
Dressing	12.6	31.7
Bathing	11.8	29.7
Eating	5.1	12.8
In/out bed	9.3	23.2
Toileting	4.5	11.2
Any ADL	28.9	72.4
IADLs		
Preparing meals	9.1	22.9
Grocery shopping	17.5	43.9
Using telephone	5.1	12.7
Taking medication	4.8	11.9
Managing money	17.6	44.2
Any IADL	29.3	73.6

Table 5.2 Comparison of Means

Variable	All Respondents n = 8,092[a] Mean	S.E.	Need Assistance n = 3,261[a] Mean	S.E.	Do Not Need Assistance n = 4,831[a] Mean	S.E.
Demographic characteristics						
Age	76.67	0.070	79.08	0.117	75.07	0.079
Nonwhite	0.157	0.004	0.201	0.006	0.129	0.004
Male	0.368	0.005	0.343	0.008	0.384	0.006
Highest grade completed	10.93	0.038	9.84	0.065	11.65	0.044
Health measures						
Health excellent/very good	0.344	0.005	0.174	0.006	0.456	0.007
Health good	0.305	0.005	0.266	0.007	0.331	0.006
Health fair/poor	0.351	0.005	0.560	0.008	0.212	0.005
Number of ADL limitations	0.663	0.014	1.664	0.027	–	–
Number of IADL limitations	0.561	0.011	1.408	0.022	–	–
Number of nights in hospital	2.429	0.132	4.490	0.315	1.070	0.057
Prob. of living 10 yrs[b]	0.428	0.004	0.351	0.007	0.465	0.005
Prob. of entering nursing home (5 yrs)[b]	0.140	0.002	0.178	0.005	0.121	0.003
Access/affordability						
Wealth	183,536	3,846	136,379	5,741	214,787	5,106
Income	23,419	284	19,073	372	26,299	399
Medicare coverage	0.951	0.002	0.958	0.003	0.946	0.003
Medicaid coverage	0.091	0.003	0.151	0.006	0.051	0.003
Private insurance coverage	0.770	0.004	0.688	0.007	0.824	0.005
Number of children	2.72	0.022	2.75	0.036	2.70	0.027
Number of kids in 10 miles	0.869	0.012	0.929	0.020	0.830	0.015
Married	0.537	0.005	0.467	0.008	0.583	0.007
Live with others (incl. children)	0.203	0.004	0.264	0.007	0.162	0.005
Family linkages						
Prob. of leaving inheritance[b]	0.550	0.005	0.463	0.008	0.594	0.006
Child(ren) in will 0/1	0.530	0.005	0.465	0.008	0.573	0.007
Child(ren) on deed to home 0/1	0.099	0.003	0.114	0.005	0.089	0.004
Value of home	74,452	1,292	57,540	1,518	85,659	1,893
Child(ren) beneficiaries of life insurance 0/1	0.178	0.004	0.180	0.006	0.177	0.005
Face value of life insurance	757.6	101.8	523.8	55.8	912.6	166.3

(*continued*)

Table 5.2 (continued)

Variable	All Respondents $n = 8{,}092$[a] Mean	S.E.	Need Assistance $n = 3{,}261$[a] Mean	S.E.	Do Not Need Assistance $n = 4{,}831$[a] Mean	S.E.
Number of kids gave $5,000+ (past 10 yrs)	0.359	0.009	0.266	0.012	0.420	0.013
Trust for child(ren) 0/1	0.091	0.003	0.076	0.004	0.101	0.004
Value of trust	22,808	1,618	13,019	1,407	29,323	2,538
Number of kids gave transfer (last year)	0.378	0.009	0.289	0.012	0.436	0.012
Total value of transfers (last year)	1,304	101	1,028	92.5	1,486	157

Note: S.E. = standard error.

[a]Number of observations for some variables differs due to missing values.

[b]Means calculated over nonmissing observations.

supplement to Medicare), compared to 69 percent of the impaired sample. This difference could indicate that access to health insurance has a protective effect, or perhaps that the decision to purchase insurance is influenced by affordability rather than by adverse selection (Hurd and McGarry 1997).[5]

The degree of impairment differs along income and wealth lines, perhaps indicating a lifetime history of illness that may have hindered labor market performance. As shown in table 5.3, 44 percent of those in the lowest income quartile had at least one ADL limitation, and the mean number of ADL limitations was 1.11 for this group. In the highest income quartile, 18 percent of the population had at least one ADL limitation, and the mean number of such limitations was 0.38. The results are similar for the number of IADL limitations, and for a stratification by wealth rather than income. The respondents in the lowest quartiles are more than twice as likely to face difficulties with daily tasks as respondents in the highest quartiles.

5.3 Characteristics of the Impaired Population

The analyses in the remainder of the paper are restricted to the sample of 3,261 individuals with one or more ADL or IADL limitation.

5. The sample of impaired elderly appears similar to other data sets. See, e.g., Ettner (1994), Soldo, Wolf, and Agree (1990), and Stone, Cafferata, and Sangl (1987), all of whom use the National Long-Term Care Survey (NLTCS), and Mutchler and Bullers (1994), who use the 1984 Survey of Income and Program Participation (SIPP). In contrast to the NLTCS, AHEAD collects data on all children and household members, thus providing information on *potential* caregivers. AHEAD also provides a substantially larger sample of needy respondents, more detailed information on potential caregivers, and more extensive health information than does SIPP.

Table 5.3 ADL and IADL Limitations by Income and Wealth Quartiles

Limitation	Quartile			
	Lowest	2nd	3rd	4th
	By Income			
ADLs				
Percentage with any	43.99	32.66	22.76	18.10
Mean number	1.11	0.73	0.51	0.38
IADLs				
Percentage with any	44.63	31.78	23.05	19.85
Mean number	0.93	0.61	0.42	0.33
	By Wealth			
ADLs				
Percentage with any	44.67	31.89	23.31	18.33
Mean number	1.15	0.71	0.46	0.40
IADLs				
Percentage with any	44.67	31.26	23.14	20.00
Mean number	1.01	0.56	0.40	0.32
Number of observations[a]	1,988	2,054	2,026	2,024

[a]Quartiles do not each contain 25 percent due to lumping of observations.

Table 5.4 Distribution of ADL and IADL Limitations (percent of sample)

Number of ADL Limitations	Number of IADL Limitations						
	0	1	2	3	4	5	Total
0	–	21.69	4.01	0.97	0.56	0.38	27.59
1	18.37	9.27	2.73	1.47	0.49	0.33	32.67
2	5.46	4.90	2.48	1.06	0.73	0.50	15.12
3	1.73	2.85	2.32	1.26	0.67	0.43	9.25
4	0.57	1.61	1.32	1.14	0.59	0.84	6.06
5	0.26	0.57	1.09	0.94	0.64	0.87	4.36
6	0.02	0.24	0.42	0.63	0.94	2.69	4.94
Total	26.41	41.12	14.38	7.46	4.61	6.03	100

Note: Calculations based on a sample of 3,261 observations with at least one ADL or IADL limitation. Numbers may not sum to 100 percent due to rounding.

5.3.1 Limitations

Many respondents suffer from multiple problems. The distribution for the total number of ADL and IADL limitations for this impaired sample is shown in table 5.4. The Clinton health care proposal classified individuals as disabled if they suffered three or more ADL limitations (Lewin-VHI, Inc. 1993). One-quarter of the individuals in my subsample (or 10 percent of the entire survey population) would be so classified. Eighteen percent have difficulty with three or more IADLs. Fully 5 percent of this restricted sample have difficulty with

all ADLs, and 6 percent have difficulty with all IADLs. Close to 3 percent of the sample have difficulty with all given activities.

As one would expect, the existence of various ADL and IADL limitations is positively correlated (table 5.5). The largest correlation is between the IADLs of using a phone and managing money at 0.56. Among the ADLs, the largest correlation is between dressing and bathing at 0.48. The correlations typically range from 0.25 to 0.45, and all but the correlation between getting in or out of bed and managing money are significant at the 1 percent level. The latter is significant at the 1.4 percent level.

Difficulties with the various tasks are not equally restrictive. Needing a cane to cross the room is less of a burden than being unable to bathe without help. Similarly, difficulty managing money may be less limiting than difficulty preparing meals or using a telephone. As is apparent from table 5.5, the correlations between walking or managing money and the other variables are less strong than some of the other correlations. For example, the correlations between having difficulty dressing and difficulty with the other ADLs are all larger than those between walking and the same ADLs.

5.3.2 Caregivers

When looking at who provides the care, the results from AHEAD should be interpreted with some caution. With respect to ADL limitations, respondents are asked who "*most often*" helps them walk, dress, and so forth, so that only the primary caregiver is obtained for each task. If, for example, two children share the caregiving chores, information is only obtained on the one who helps most often with each particular task. While the questions are asked with respect to each ADL, it is generally the case that the same person helps "most often" with each task with which the respondent needs assistance. This result

Table 5.5 **Correlations between Limitations**

	ADLs						IADLs				
Task	Walk	Dress	Bath	Eat	Bed	Toilet	Meals	Shop	Phone	Med	Money
Walking	1.00	0.24	0.28	0.20	0.32	0.22	0.18	0.20	0.07	0.10	−0.16
Dressing		1.00	0.48	0.37	0.41	0.40	0.35	0.29	0.22	0.30	0.05
Bathing			1.00	0.38	0.41	0.38	0.29	0.38	0.25	0.33	0.11
Eating				1.00	0.32	0.39	0.22	0.29	0.37	0.41	0.21
Bed					1.00	0.43	0.30	0.27	0.21	0.24	0.04
Toileting						1.00	0.05	0.25	0.26	0.31	0.12
Meals							1.00	0.48	0.42	0.45	0.24
Shopping								1.00	0.27	0.32	0.16
Phone									1.00	0.56	0.26
Medicine										1.00	0.33
Money											1.00

Notes: Calculations based on 3,261 observations with at least one ADL or IADL limitation. Correlations are all significant at the 1 percent level except Money*Bed, which is significant at the 1.4 percent level.

is to be expected. It would be difficult to imagine a case in which one individual helped the respondent get out of bed and a second individual stood by to help with dressing or toileting. In fact, of those who receive help with at least one ADL, 84 percent report help from just one caregiver. The questions are also problematic in that information on a helper is only obtained if the respondent receives help "most of the time," and not if she receives help either "some of the time" or "only occasionally." In the analyses that follow, approximately 5 percent of the sample receive care, but the source of the care is not obtained. The sequence of questions for IADL limitations is similar, but up to two helpers are obtained for each limitation.

Hours of care provided by each caregiver are also obtained from the respondent. The total amount of time can be derived from two questions in the AHEAD survey, although the calculation requires some assumptions. For each individual who is listed as providing assistance with an ADL or IADL limitation, respondents are asked

> How often in the last month did HELPER n help you? (Every day, several times a week, about once a week, less than once a week, or not at all)

Those who responded every day, several times a week, or about once a week were asked to report a number of hours per day. Total number of hours per week (or per month) can therefore be calculated. I use the straightforward imputation supplied by the AHEAD staff. For those who helped every day, the reported number of hours per day was multiplied by seven. Those who helped "several times a week" were assumed to help 3.5 days, and the number of hours was multiplied by 3.5. "About once a week" was assumed to mean exactly once a week. Those who helped less than once a week, and for whom there is therefore no information on hours, were assumed to provide exactly one hour of care per week. Finally, those who did not help in the past month were assigned zero hours of care. I did not impute a value if the respondent could not give an answer to either the question about number of days or the question about number of hours of help.[6]

Fortunately, the majority of those in need do receive care. Of the 3,261 respondents with at least one ADL or IADL limitation, 61 percent (weighted) received assistance from a caregiver of some sort. Table 5.6 shows the breakdown of helpers by the relationship of the caregiver. Twenty-seven percent of caregivers are spouses, and approximately 32 percent are children (20.5 percent are non-coresident children and 11.3 coresident). Grandchildren and children-in-law together make up 6.5 percent of all caregivers. Other relatives account for 5.3 percent, and live-in help, either paid or unpaid, represents 8 percent of the caregivers. Other individuals make up 12.5 percent of caregiv-

6. See Wolf, Freedman, and Soldo (1995) for a similar imputation that assigns values to these missing data points.

Table 5.6 **Distribution of Helper Relationships by Marital Status of Recipient (percent of helpers)**

Relationship	Marital Status of Recipient		
	All	Married	Single
Spouse	27.0	67.2	–
Child, non-coresident	20.5	12.2	25.9
Child, coresident	11.3	3.9	16.2
Child-in-law, non-coresident	2.4	0.9	3.4
Child-in-law, coresident	1.6	0.4	2.4
Grandchild	2.5	0.6	3.8
Other relative	5.3	3.4	6.6
Live-in helper, paid	1.0	0.0	1.6
Live-in helper, not paid	7.0	1.5	10.6
Other person, paid	6.0	3.0	7.9
Other person, not paid	6.5	2.3	9.2
Organization, paid	6.3	3.0	8.5
Organization, not paid	2.5	1.1	3.5
Total[a]	100.0	100.0	100.0
Number of observations	2,721	1,088	1,633

[a]Columns may not sum to 100 percent due to rounding.

ers, divided evenly between paid and unpaid persons. Organizations constitute the remaining 9 percent, the majority of whom are paid for their services.

This distribution varies by several factors. Respondents who are not married (table 5.6) obviously do not receive care from a spouse. For these individuals, children shoulder much of the burden, comprising 42 percent of the caregivers for those who are unmarried, compared to only 16 percent for the married sample. The number of coresident children or children-in-law providing care increases dramatically among those who are unmarried, as does the proportion of live-in helpers. The "other person" category and the proportion of organizations are also substantially more important among unmarried individuals.

The choice of caregiver also varies by the type of limitation. In table 5.7, the distribution of caregivers who help with ADL limitations is shown separately from the distribution of those who help with IADL limitations. An individual can provide help with each type of task and can therefore be included in each column. Those helping with ADLs are far more likely to be paid helpers than are those helping with IADLs. Almost 30 percent of ADL helpers are paid, compared with just 11 percent of IADL helpers. Spouses are equally likely to perform both types of help, as are coresident children, while non-coresident children are represented more heavily among IADL caregivers than among ADL providers. As one would expect given the types of activities involved, it is apparently difficult or costly for non-coresident individuals to assist with ADLs.

Table 5.7 **Distribution of Helper Relationships by Type of Help Provided (percent of helpers)**

Relationship	Type of Help[a]		
	All	ADL	IADL
Spouse	27.0	29.5	28.5
Child, non-coresident	20.5	7.4	20.4
Child, coresident	11.3	13.7	12.4
Child-in-law, non-coresident	2.4	1.2	2.4
Child-in-law, coresident	1.6	2.1	1.8
Grandchild	2.5	0.5	2.6
Other relative	5.3	2.8	4.8
Live-in helper, paid	1.0	2.6	1.1
Live-in helper, not paid	7.0	8.5	7.8
Other person, paid	6.0	12.7	5.2
Other person, not paid	6.5	2.2	6.4
Organization, paid	6.3	13.6	4.4
Organization, not paid	2.5	3.3	2.1
Total[b]	100.0	100.0	100.0
Number of observations	2,721	753	2,346

[a]A helper may be in both columns.

[b]Columns may not sum to 100 percent due to rounding.

Table 5.8 shows that the number of hours provided varies substantially with the type of caregiver. Spouses work almost "full time" at 35 hours per week (among those with positive hours). Help from children differs greatly by whether the child coresides with the parent. Non-coresident children provide an average of 8.5 hours per week, and coresident children, 38.4 hours. The largest average number of hours is provided by paid live-in helpers, who apparently supply help almost around the clock, averaging 114 hours in a week.

As demonstrated in table 5.9, the individual providing the care is substantially more likely to be female than male, regardless of the relationship between the caregiver and the recipient. This difference is well documented in other studies. For example, Coward and Dwyer (1990) find that daughters are three times more likely to provide care to parents than are sons. My differences are less dramatic, but still striking. An even larger sex difference exists among children-in-law who provide care. Here daughters-in-law often provide care for their husbands' parents whereas sons-in-law scarcely ever care for their spouses' parents. Over 80 percent of the children-in-law who provide care are female (for additional evidence and discussion, see Stoller, Forster, and Duniho 1992).

The results in table 5.9 are consistent with the widely held belief that daughters are more likely to provide care than are sons. In my sample, the probability that a daughter of an impaired parent provides care is 0.14 compared with 0.06 for a son (not shown). Even among those children providing care, daughters

Table 5.8 **Mean Number of Hours of Help by Relationship of Helper**

Relationship	Mean Hours	Standard Error
Spouse	34.9	1.71
Child, non-coresident	8.5	0.58
Child, coresident	38.4	2.71
Child-in-law, non-coresident	6.0	0.79
Child-in-law, coresident	22.4	4.67
Grandchild	6.1	0.97
Other relative	12.8	1.80
Live-in helper, paid	114.2	12.23
Live-in helper, not paid	35.6	3.22
Other person, paid	31.3	2.75
Other person, not paid	7.5	1.37
Organization, paid	16.5	1.84
Organization, not paid	6.6	0.84

Table 5.9 **Percentage of Helpers Who Are Female by Relationship of Helper**

Relationship	Percentage Female	Relationship	Percentage Female
Spouse	64.5	Other relative	73.1
Child, non-coresident	70.6	Live-in helper, paid	94.9
Child, coresident	67.9	Live-in helper, not paid	69.5
Child-in-law, non-coresident	81.4	Other person, paid	68.4
Child-in-law, coresident	80.7	Other person, not paid	63.3
Grandchild	76.1		

provide a greater number of hours than do sons, 16.5 hours per week versus 11.8 hours.

Because men earn more than women in the labor market, it may be more efficient for sons to work additional hours and provide *financial* assistance rather than their time to an elderly parent. However, differences in the provision of financial assistance by the sex of the child are small. Only 1.09 percent of daughters in the sample made a cash transfer to their impaired parents in the last year (as reported by the parents), compared with 1.07 percent of sons. The amounts given by daughters, however, are somewhat lower than those by sons. Over positive values the mean amount of the transfer was $2,119 for daughters and $3,345 for sons. However, because only 74 daughters and 71 sons gave transfers, it is impossible to draw any significant conclusions from these numbers. In the following section I explore gender differences in caregiving in a multivariate context.

While almost two-thirds of the sample who need assistance do receive help, a substantial portion of those with one or more ADL or IADL limitations re-

ceive no help.[7] One would hope that those who do not receive assistance are less severely impaired than their counterparts who do receive care. Table 5.10 demonstrates the difference in the means for these two groups: those with ADL or IADL limitations who receive care and those with limitations who do not.

In fact, it does appear that those not receiving care are less impaired. They are younger and more schooled, both characteristics that are positively correlated with health. They have significantly fewer ADL and IADL limitations, are less likely to report their health status as fair or poor, and on average spent fewer nights in a hospital. Those who are not helped have greater income and more wealth. They are also significantly more likely to be married.

5.3.3 Motivation for the Provision of Care

Why do children provide care to a parent? One broad model holds that transfers between family members are exchange based (for a discussion of the theories of transfers, see Cox 1987; Altonji, Hayashi, and Kotlikoff 1994). Thus children are perhaps providing assistance to their parents in exchange for financial help or the promise of an inheritance (Bernheim, Shleifer, and Summers 1985). However, the simple correlations provide little support for this theory. The higher the probability with which an individual expects to leave an inheritance, the lower the probability of that individual's receiving help from children. The correlation is -0.21 and is significantly different from zero at the 1 percent level. Similarly, the correlation between wealth (or the potential size of the estate) and the probability of receiving care from children is also negative, -0.12, and significantly different from zero at the 1 percent level. The transfer of cash ($5,000 or more) in the past 10 years to children is also negatively related to the probability of help from a child, and the relationship is significantly different from zero. There is no significant relationship between these variables and the probability of receiving paid help.

Wealthier parents, even those with at least one ADL or IADL limitation, are likely to be in better health and therefore need less care than do poorer parents. Thus the simple correlations confound a number of factors. Below I control for many of these components of the decision simultaneously.

5.4 Care Provided to Elderly Individuals

Which needy elderly receive help and which must manage on their own depends on a number of factors that must be controlled for simultaneously. Certainly, the availability of kin to provide care, and the existence of financial resources to purchase care, will influence whether care is received as well as the type of care. Similarly, the severity of the limitation will influence care. In this section I examine the relationship between numerous observable characteristics of the respondent and her family and whether care is received, whether

7. In table 5.10, 2,149 out of the 3,261 respondents, or 66 percent, receive care. If these numbers are scaled by sample weights, the fraction receiving care falls slightly, to 61 percent.

Table 5.10 Comparison of Means

Variable	Impaired Respondents $n = 3{,}261$[a] Mean	S.E.	Helped $n = 2{,}149$[a] Mean	S.E.	Not Helped $n = 1{,}112$[a] Mean	S.E.
Demographic characteristics						
Age	79.08	0.11	80.25	0.15	76.85	0.18
Nonwhite	0.201	0.006	0.226	0.008	0.153	0.010
Male	0.343	0.008	0.349	0.009	0.331	0.013
Highest grade completed	9.84	0.065	9.36	0.082	10.75	0.098
Health measures						
Health excellent/very good	0.174	0.006	0.133	0.007	0.250	0.012
Health good	0.266	0.007	0.237	0.008	0.320	0.013
Health fair/poor	0.560	0.008	0.628	0.009	0.430	0.014
Number of ADL limitations	1.664	0.027	2.070	0.036	0.891	0.023
Number of IADL limitations	1.408	0.022	1.909	0.028	0.660	0.013
Number of nights in hospital	4.49	0.315	5.64	0.468	2.31	0.180
Prob. of living 10 yrs[b]	0.351	0.007	0.327	0.010	0.383	0.011
Prob. of entering nursing home (5 yrs)[b]	0.178	0.005	0.177	0.007	0.180	0.008
Access/affordability						
Wealth	136,379	5,741	119,032	7,994	169,362	6,601
Income	19,073	372	17,252	435	22,537	686
Own home	0.7493	0.0044	0.6589	0.0076	0.8091	0.0052
Medicaid coverage	0.151	0.006	0.186	0.008	0.085	0.008
Private insurance coverage	0.688	0.007	0.640	0.009	0.778	0.011
Number of children	2.75	0.036	2.82	0.046	2.62	0.056
Number of kids in 10 miles	0.929	0.020	0.994	0.025	0.805	0.030
Married	0.467	0.008	0.446	0.010	0.507	0.014
Live with others (incl. children)	0.264	0.007	0.315	0.009	0.166	0.010
Family linkages						
Prob. of leaving inheritance[b]	0.463	0.008	0.412	0.011	0.445	0.012
Child(ren) in will 0/1	0.465	0.008	0.431	0.010	0.530	0.014
Child(ren) on deed to home 0/1	0.114	0.005	0.122	0.006	0.101	0.008
Value of home	57,540	1,518	49,773	1,892	72,309	2,490
Child(ren) beneficiaries of life insurance 0/1	0.180	0.006	0.177	0.007	0.186	0.011
Face value of life insurance	523.8	55.8	549.0	77.4	475.7	66.4
Number of kids gave $5,000+ (past 10 yrs)	0.266	0.012	0.230	0.014	0.335	0.024
Trust for child(ren) 0/1	0.076	0.004	0.063	0.005	0.100	0.008
Value of trust	13,019	1,407	9,739	1,514	19,346	2,918
Number of kids gave transfer (last year)	0.289	0.012	0.260	0.015	0.345	0.021
Total value of transfers (last year)	1,028	92.5	871	100	1,327	189.5

Note: S.E. = standard error.

[a]Number of observations for some variables differs due to missing values.

[b]Means calculated over nonmissing observations.

care is purchased, and whether care is received from a non-coresident child. Section 5.5 looks at the decision from the caregivers' point of view and examines which children are likely to provide care.

Other researchers have limited their samples to unmarried individuals under the assumption that married people are cared for almost exclusively by a spouse. As shown in table 5.5, this assumption is not entirely consistent with the data. Certainly, a spouse is the most likely caregiver, but married individuals also receive help from children, as well as paid care.[8] Furthermore, because almost half (47 percent) of the sample is married, eliminating these individuals excludes a large part of the sample. I therefore include all individuals in the regressions, regardless of marital status. I control for the difference in the set of potential caregivers by including variables for marital status and the number of children. I also allow marital status to be interacted with sex to allow for differential effects for male and female respondents.[9]

5.4.1 Receipt of Care

I look first at the question of who among those with a limitation receives care. The comparison of means showed that healthier individuals were less likely to receive assistance. Here I estimate a probit model that controls for a number of factors.[10] Included in the equation as right-hand–side variables are several controls for health: the respondent's self-assessed health status (excellent or very good, good [omitted], fair or poor), her age, number of ADL limitations, number of IADL limitations, number of nights spent in a hospital in the past year, the respondent's self-reported probability of living approximately 10 more years, and the reported probability of entering a nursing home in the next five years.[11]

I control for the availability of informal care by including the respondent's marital status, number of children, and number of daughters (because daughters appear to be more likely to provide care). I also include the number of children who live within 10 miles of the parent, and whether there are individuals other than a spouse present in the home. A spouse is likely to be a primary

8. It is likely that care from children is underestimated because the survey design tends to capture only the primary caregiver.

9. Estimating the model separately by marital status resulted in small changes in several coefficients. These changes do not alter the conclusions or provide any insight into the decision process. I therefore present the regression estimates based on the entire sample.

10. Results for a linear probability model are similar and are reported in an earlier version of the paper.

11. AHEAD queries respondents about an array of diseases. The various illnesses are quite prevalent: 55 percent of the sample have high blood pressure, 35 percent have had a heart attack or have a heart condition, and 20 percent have had a stroke. If dummy variables indicating the presence of each of the noted conditions (high blood pressure, diabetes, cancer, lung disease, heart disease, stroke, broken hip, and surgical replacement of any joint) are included in the regressions, they are jointly significant at the 5 percent level, but not at the 1 percent level. The coefficients on the remaining variables are not altered by the inclusion of disease measures. Surprisingly, even the indicators of excellent or poor health are largely unchanged. To simplify the discussion I do not include the disease controls here.

source of care, yet husbands may provide a different level of care than do wives. I therefore include an interaction of sex and marital status, allowing married women to have a different probability of receiving care than married men. Similarly, I interact marital status with race to allow for differential effects.

To proxy the affordability of paid care, I include income and wealth (in quartiles), the existence of a private insurance policy,[12] and whether the respondent was eligible for Medicaid.

To examine the importance of exchange, I include numerous measures that could serve as avenues of exchange: The number of children to whom the respondent gave $5,000 or more in the past 10 years, the number of children receiving cash assistance in the past year, and whether a child's name is on the deed to the parent's home. I also include the total amount of cash transferred to all children during the past year, and the value of the home if the parent has put a child's name on the deed. If parents are holding resources until their death in order to motivate attentive behavior in children, they may do so through wills, life insurance, and trusts. I include variables for whether the respondent names a child in her will, whether she has established a trust, the value of the trust, whether a child is listed as a beneficiary on a life insurance policy, and the face value of those policies. The larger the possible inheritance, the more the children ought to want to please their parents, if bequests are made strategically. Similarly, I include a variable indicating whether the parent owns a home.[13]

Finally, demographic characteristics are included: age, race, sex, and schooling level of the respondent.

The estimated coefficients are reported in table 5.11 along with the derivatives evaluated at the means of the right-hand–side variables. Significance levels are indicated by superscripts on the coefficient estimates. The results provide strong evidence that assistance is determined in large part by need. Older respondents, those with a greater number of ADL or IADL difficulties, and those with more nights in a hospital are all significantly more likely to get help, with significance determined at the 5 percent level. Those in excellent health are significantly less likely to receive assistance. The effects, in most cases, are large. Each additional IADL difficulty increases the probability of assistance by almost 20 percentage points. The effect of ADL limitations is smaller; each increases the probability by only 6.4 percent. The difference between the effect of ADL limitations and IADL limitations on the probability of receiving help is perhaps due to the difficulty of providing help with personal care relative to housekeeping chores.

12. Ninety-six percent of the sample had Medicare coverage, so for the majority of respondents this insurance is a supplement to Medicare.

13. While these variables are certainly plausible means of exchange, they likely also measure the degree of closeness of the family. Future work taking advantage of the multiple observations within a family will attempt to disentangle the two explanations.

Table 5.11 Probit Estimates for the Probability of Receiving Care and Type of Care

	Probability of Receiving Care		Probability of Paying for Care		Probability of Care from Children	
Variable	Coeff.	Deriv.[a]	Coeff.	Deriv.[a]	Coeff.	Deriv.[a]
Demographic characteristics						
Age	0.0023**	0.0036	0.0131*	0.0020	0.0147*	0.0038
Nonwhite	−0.1163	−0.0186	−0.1363	−0.0211	−0.3348**	−0.0864
Male	−0.1258	−0.0202	0.0452	0.0069	−0.3738**	−0.0965
Highest grade	0.0045	0.0007	0.0052	0.0008	−0.0219*	−0.0057
Highest grade missing	−0.1521	−0.0244	0.2943	0.0452	−0.0416	−0.0107
Health measures						
Health excellent/very good	−0.1858*	−0.0298	0.1474	0.0226	−0.0757	−0.0195
Health good (omitted)						
Health fair/poor	0.0726	0.0116	0.0994	0.0153	0.1679	0.0433
Number of ADLs	0.4014**	0.0643	0.1912**	0.0294	0.0004	0.001
Number of IADLs	1.2369**	0.1982	0.1896**	0.0291	0.1446**	0.0373
Number of nights in hospital	0.0093*	0.0015	0.0018	0.0003	−0.0004	−0.0001
Prob. of living 10 yrs	−0.0025	−0.0004	−0.1293	−0.0199	0.0167	0.0043
Prob. missing	0.1400	0.0224	0.1056	0.0162	−0.0437	−0.0113
Prob. of entering nursing home (5 yrs)	−0.3824**	−0.0613	0.1648	0.0253	0.1061	0.0274
Prob. missing	−0.2729**	−0.0437	−0.1153	−0.0177	−0.0582	−0.0150
Access/affordability						
Wealth						
1st wealth quartile (lowest)	0.1951	0.0313	−0.2500	−0.0384	0.2691	0.0695
2nd wealth quartile	0.2885**	0.0429	−0.1177	−0.0181	0.2295	0.0592
3rd wealth quartile	0.2504**	0.0401	−0.2084	−0.0320	0.1520	0.0392
4th wealth quartile (omitted)						
Income						
1st income quartile (lowest)	0.0555	0.0089	−0.1657	−0.0255	−0.1090	−0.0281
2nd income quartile	−0.0236	−0.0038	−0.1356	−0.0208	−0.0531	−0.0137
3rd income quartile	−0.0791	−0.0127	−0.0530	−0.0081	−0.0327	−0.0084
4th income quartile (omitted)						
Own home	−0.1917+	−0.0307	−0.3070*	−0.0472	0.1065	0.0275
Medicaid coverage	0.1247	0.0200	0.3203**	0.0492	0.0389	0.0100
Private insurance coverage	−0.0804	−0.0129	0.0101	0.0016	−0.0601	−0.0155
Number of children	0.0119	0.0019	0.0044	0.0007	0.0118	0.0030
Number of girls	−0.0335	−0.0054	−0.0657	−0.0101	0.0376	0.0097
Number of kids in 10 miles	0.0581+	0.0093	−0.6389	−0.0028	0.3354**	0.0866
Married	0.3996**	0.0640	−1.3455**	−0.2067	−1.2915**	−0.3334
Female*Married	−0.4681**	−0.0750	0.5996**	0.0921	0.1860	0.0480
Nonwhite*Married	0.1325	0.0212	0.4796*	0.0737	0.6718**	0.1734
Live with others	0.1493+	0.0239	−0.6389**	−0.0982	−1.0302**	−0.2659

(*continued*)

Table 5.11 (continued)

Variable	Probability of Receiving Care		Probability of Paying for Care		Probability of Care from Children	
	Coeff.	Deriv.[a]	Coeff.	Deriv.[a]	Coeff.	Deriv.[a]
Measures of exchange						
Prob. of leaving inheritance	−0.0380	−0.0061	0.3660**	0.0563	−0.1608	−0.0415
Prob. missing	0.0876	0.0140	0.2045	0.0314	0.2035	0.0525
Child(ren) in will 0/1	−0.0835	−0.0134	−0.0421	−0.0065	0.1248	0.0322
Child(ren) on deed to home 0/1	0.0287	0.0046	0.2992	0.0460	0.2147+	0.0554
Value of home ($100,000)	0.0343	0.0055	0.0081	−0.0012	−0.0705	−0.0182
Child(ren) beneficiaries of life insurance 0/1	−0.0875	−0.0140	−0.2592*	−0.0398	0.1511	0.0390
Face value of life insurance ($10,000)	0.0468	0.0075	−0.0412	−0.0063	0.138	0.0356
Number of kids gave $5,000+ (past 10 yrs)	0.0523	0.0084	−0.0805	−0.0124	−0.0013	−0.0003
Trust for child(ren) 0/1	0.1549	0.0248	0.0939	0.0144	−0.5686	−0.1468
Value of trust (million $)	−0.4737	−0.0759	−0.5251	−0.0807	1.257	0.3245
Number of kids gave transfer (last year)	−0.0029	−0.0005	0.0775	0.0119	−0.0058	−0.0015
Value of transfer ($10,000)	−0.0223	−0.0036	−0.3311+	−0.0509	−0.2262+	−0.0687
Proxy respondent	0.1676	0.0268	−0.2474+	0.0380	−0.1270	−0.0328
Intercept	−3.0003**	−0.4806	−2.1008**	−0.3228	−1.7697**	−0.4568
Mean of dependent variable	0.66		0.18		0.30	
Number of observations	3,115		1,893		1,750	

[a]Derivatives are evaluated at the means of the right-hand-side variables.

+Significant at the 10 percent level.

*Significant at the 5 percent level.

**Significant at the 1 percent level.

Respondents could report a high probability of entering a nursing home for two reasons. They might believe that their health is deteriorating quickly and they will require the intensive care provided by such a facility. Alternatively, they may have found it difficult to obtain acceptable home care. Thus the correlation between the probability of care and the probability of entering a nursing home could be either positive, if poor health is the motivation, or negative, if entrance into a nursing home is due to lack of available alternatives. In the regression the coefficient on potential nursing home admission is negative and significant at the 1 percent level, indicating that those who expect to enter a nursing home are currently less likely to be receiving care, everything else held constant.

Other measures of informal care also play important roles in whether care is received, although the effects are not as strong. Being married increases the

probability of receiving care by 6.4 percentage points, though, as hypothesized, the effect for married women is significantly lower. Married women have a 7.5 percentage point lower probability of receiving care than do married men, so the net effect of marriage for women is almost zero. There is no significant difference in the effect of marital status between whites and nonwhites, though nonwhites are 2 percentage points (insignificant) less likely to get help.[14]

Those living with someone in addition to or other than a spouse are only 2 percentage points more likely to get care than those who do not have additional household members. Each additional child who lives within a 10-mile radius of the parent increases the probability of receiving care by only 0.9 percent. Surprisingly, additional children (either males or females) do not significantly affect the probability of receiving care.[15]

The proxies for the affordability of professional care do not have a significant impact on whether an individual *receives* care. Income, health insurance, and Medicaid coverage are all insignificant predictors of the receipt of care. The effect of wealth is nonlinear, with those in the middle quartiles being more likely to receive care than those in the highest quartile.

None of the variables that proxy avenues of exchange is a significant predictor of care received. The probability of leaving an inheritance, naming children in a will or as beneficiaries of life insurance policies, making cash transfers to children, either currently or in the past, establishing a trust fund, and the value of these transfers and future transfers are all insignificant predictors of assistance, and the magnitudes of the effects are small relative to the impact of health measures. Thus it appears that, regardless of family structure or wealth, those who most need care are most likely to receive it. Financial status has almost no effect on the probability, whereas health measures have strong predictive power.

5.4.2 Purchase of Care

I now explore the source of care. In the first comparison I look at the choice of paid versus unpaid care. Of those who receive assistance, 18 percent pay for at least some of the time. I again estimate a probit model for the 66 percent of the impaired sample who receive some sort of care. The results are reported in the second two columns of table 5.11. I am most interested in determining whether paid care is chosen if individuals can afford it or, conversely, whether those with resources are instead making transfers to children as a means of

14. Belgrave and Bradsher (1994) using the Longitudinal Study of Aging find that 85 percent of whites and only 76 percent of African Americans with an ADL limitation got help, though the percentages receiving help with IADL limitations were similar. Because I combine those with difficulties with ADLs and IADLs I obtain a "average" estimate.

15. The number of living brothers and sisters of the respondent did not significantly affect the probability of receiving care, and these variables were excluded from the estimation presented here.

encouraging children to provide care. If those with money choose to "pay" children rather than make formal caregiving arrangements, it would suggest that children are the preferred caregivers.

The measures of need are less strong predictors of the decision to purchase care than of whether care of any kind is received. Self-assessed health status is not a significant predictor of the purchase of help. Older individuals are more likely to pay for care, but the effect is small with an additional year worth 0.2 percentage points on a base of 18 percent. The number of ADL and IADL limitations, however, remain among the strongest predictors. Each additional limitation increases the probability of paid care by 2.94 percentage points for ADLs and 2.91 for IADLs. Table 5.7 showed that children provided help with IADL limitations while paid caregivers were used more frequently to assist with ADLs. In the probit estimates there is a small difference between the two types of limitations in the probability of receiving paid care, with ADL difficulties having a larger effect, although the difference is statistically insignificant.

The presence of another individual in the home, whether a spouse or other person, significantly decreases the probability of paid care. Married individuals have a 21 percentage point lower probability of paying for care. The importance of marital status is significantly attenuated for both females and for nonwhites. Respondents who live with an additional household member (other than a spouse) have a 10 percentage point lower probability of purchasing care. Based on an average probability of paying for care of 18 percent these represent large changes. As shown earlier, those with greater ADL needs were more likely to rely on live-in companions or paid care than to rely on children. Consistent with those results, the number of children, the number of daughters, and the number of children living within 10 miles all have little explanatory power in this equation.

The dummy variable indicating Medicaid coverage has a large positive effect on the probability of paying for services. Because Medicaid pays for home health care and housekeeping services, such coverage often makes home care costless to the recipient. The change in the probability of paid care associated with Medicaid coverage is 5 percentage points. Individuals in lower income quartiles also have a lower probability of paid care as expected, although the point estimates are not significantly different from zero.

As with the receipt of care, there is little evidence of exchange in the decision to pay for care. An exchange model would predict that paid care would be less likely and help from a child more likely in response to the existence of an inheritance—a possible payment for services from the child. However, those with a higher probability of leaving an inheritance have a 6 percentage point greater probability of paying for care. This relationship is probably the result of an association between the probability of leaving a bequest and financial well-being, and this in turn is associated with the decision to purchase formal care. When a child is the beneficiary of a life insurance policy, the likelihood

of paid care decreases by 4 percentage points. Additional dollars transferred to the children also decrease the probability of paid care, although the effect is small. A transfer of an additional $10,000 decreases the probability of paid care by 5 percentage points. Whether a transfer is made, however, has no effect on the probability.

Thus, whereas the receipt of care is determined in large part by need, the use of paid assistance is driven by affordability, as measured by insurance status, and the availability of substitutes to paid care to assist with ADLs. A live-in caregiver can substitute for paid help, but non-coresident children, even those who live nearby, cannot.

5.4.3 Care from Children

If a respondent lives with either a spouse or child, the likelihood that this individual provides care is high. For non-coresident children, however, the decision is more interesting. Thus, in addition to the decision to purchase paid care, I explore the "choice" to receive help from non-coresident children. I estimate a probit model with the left-hand–side variable equal to one if the respondent receives any care from a non-coresident child and zero if she does not. The covariates are identical to the previous regressions. The estimates and derivatives are reported in the final two columns of table 5.11.

As is the case with the probability of paying for care, older respondents are more likely to get help from children. This result, in both cases, is likely due to the decreased availability of a spouse, siblings, and friends with old age. Again, self-reported health measures do not significantly affect the decision. Interestingly, consistent with table 5.7, help from children is strongly related to the number of IADL limitations—each limitation increases the probability by 4 percentage points on a base of 30—but is not at all affected by the number of ADL difficulties. Thus again there is evidence that children help with housekeeping tasks rather than with personal care.

Being married and living with other individuals have the largest effects on receiving help from a non-coresident child. A spouse decreases the probability by almost 33 percentage points, and the presence of others in the household decreases the probability by 27 percentage points. On a base of 30 percent these are large changes. In this case, there is not a significantly different effect of marital status for women. For nonwhites, however, the effect of marriage is attenuated by 17 percentage points. The coefficient on the linear term for race is large and negatively related to receiving help from a child, as is the dummy variable indicating that the respondent is male. Nonwhites are 9 percentage points less likely to get care from a child, while men are 10 percentage points less likely.

Neither the absolute number of children nor the number of daughters has a significant effect, but the presence of children within a 10-mile radius increases the probability of help from a child by 9 percentage points. The implication is that only nearby children are able to provide assistance.

Neither insurance nor income affect the probability of care.

The estimates give little evidence of an exchange motive. The probability of leaving an inheritance, the amount of bequeathable wealth, naming children in a will, and naming children as beneficiaries of a life insurance policy all have no effect on the probability of receiving help from non-coresident children. In fact, wealth operates in the opposite direction: poor parents are more likely to get help from children, although the effects are not significant. Naming a child on the deed to a home increases the probability of help, but cash transfers operate in the opposite direction. Each additional $10,000 given is associated with a 7 percentage point lower probability of receiving assistance. Other indicators of cash transfers are also negatively related to time assistance even after controlling for health.

5.4.4 Summary of Care Received

The results from the three regressions reported in table 5.11 describe a consistent story of the receipt of care. Whether an elderly individual gets care is a function of need. Those with more limitations are more likely to receive assistance, while income and wealth measures are unimportant. The choice of the type of care is also strongly dependent on need. Help with ADLs requires a live-in companion or professional assistance, while non-coresident children provide help with the housekeeping-type services captured in the measure of IADL limitations.

Assuming that difficulty with household chores precedes difficulty with personal care, these results suggest a possible progression of caregiving services as an individual's health worsens. In the absence of a spouse, an elderly woman may first rely on children to help with tasks such as shopping. As her condition deteriorates and she begins to experience difficulty with personal care needs, she may seek to live with a child or, alternatively, purchase professional care if she can afford to do so. In the panel, this type of progression can be observed, and it presents a logical method of verifying this hypothesis.

Surprisingly, despite the intriguing theoretical work that has been done on exchange motives for transfers, there appears to be little support for this hypothesis with respect to observed transfers both to and from the impaired elderly.

5.5 The Child's Perspective

If care is to come from children, a decision must be made about which child will provide the care. In this section I examine the caregiving decision from the point of view of the child, looking for patterns associated with which child provides the care.

As discussed in section 5.3, in simple comparisons, daughters appear to be more likely to provide care than are sons. However, there are a number of other factors involved. For example, the majority of the sample of elderly impaired individuals is female (66 percent), particularly those who are unmarried. Indi-

viduals may prefer to be cared for by a same-sex child, thus increasing the responsibilities of daughters. Or, alternatively, if parents must "buy help" by financially compensating a child in order to receive care, the price of a daughter's time may be less than that of a son's due to differences in market wage rates for men and women. In the following regression analysis I control for as many of these factors as possible. All information used in the analyses is reported by the respondent; the respondent's children were not interviewed.

For children who live with the respondent, AHEAD obtains earnings information that is included in the estimated equations. For the majority of children (those who do not coreside with the respondent), I do not have earnings data, but rather family income. I use this variable to proxy the value of the child's time. I also include the usual predictors of wages: age, sex, schooling, and part-time/full-time status. The opportunity cost of time is positively related to age, being male, schooling, and full-time status. Rather than predict wage rates using information from other data sets, I include these regressors directly and estimate a reduced-form equation. I also include a dummy variable for whether the child is over age 65.[16] Also important for the opportunity cost of the child's time is whether he has his own children.[17] I therefore include a dummy variable equal to one if the respondent's child has at least one child of his own. In addition to measures of family income, I include a measure of the child's income relative to that of the parent.[18]

To capture the possibility of exchange, I include variables similar to those in table 5.11: whether the child is a beneficiary of a life insurance policy, whether his name is on the deed to the parent's house, whether he is named in the respondent's will, and the probability with which the respondent expects to leave an inheritance. I also include the value of the respondent's bequeathable wealth (in quartiles), representing the value of the potential inheritance (as well as the respondent's ability to pay for professional care), the value of the life insurance policy, and the equity in the home for which the child's name is on the deed. Finally, I include variables indicating whether the child received a cash transfer of $500 or more in the past year, or of $5,000 or more in the past 10 years. If transfers were made in the past year, I include the amount of these transfers.[19]

To allow for the possibility that a well-off child may substitute cash assistance for time help (McGarry and Schoeni 1995), I include a dummy variable for whether the child made a transfer to the parent in the past year, and a variable indicating the amount.

16. Similar variables for the child's spouse (spouse's age, schooling, and work status) were not significantly different from zero and are not included in the results presented here.

17. While children make different demands on a parent at different ages, the survey does not obtain the ages of these grandchildren.

18. This variable is based on a question in AHEAD that asked respondents whether their children were better off, the same, or worse off financially than they themselves were. It is not obtained by comparing reported measures of family income.

19. The actual amount transferred over the previous 10 years is not obtained.

If there are social norms about who is responsible for caring for parents, then birth order and the number of brothers and sisters a given child has may affect the probability that he provides care. I include separate dummy variables indicating the oldest and the youngest child and allow these variables to differ by the sex of the child. I also control for the number of sisters a particular child has interacted with the child's sex, whether someone is an only child, and, finally, the total number of children in the family.

Included also are characteristics of the respondent. Her age, race, sex, whether the child and the respondent are of the same sex, the respondent's income and wealth, marital status,[20] and insurance status (Medicaid and/or private insurance).

The means of these variables are presented in table 5.12 for the entire sample of 9,056 children, and separately by whether the child provides care.[21] From the comparison of means we see that those who provide assistance are less likely to be married or to be male. They are older on average and less likely to work, both of which likely indicate the availability of time. The largest differences are with respect to living arrangements. Children who provide care are much more likely to live with their parents or to live within 10 miles of their parents. Children who provide help are also less well off financially than their siblings. In addition to providing time help, these caregiving children are more likely to have provided cash assistance to their parents, despite the fact that their average incomes are lower.

The decision of a child to provide care ought to be influenced by the amount of care provided by his siblings. However, Wolf et al. (1995) do not find a significant effect of siblings' hours on one's own supply of time help. Future work will explore this relationship in the AHEAD data.

In the multivariate analysis (table 5.13) the variables that proxy the opportunity cost of the child's time do not have an effect on the probability of providing assistance. The magnitude of the child's earnings if he lives at home, or his family income if he does not, are not significantly different from zero, nor is the child's sex (exclusive of family composition), his schooling, his work status, or whether he has children of his own.

The measures of exchange offer some explanatory power, although the results are far from conclusive. Being the beneficiary of a life insurance policy

20. If a child has two living parents, he may be faced with the situation of providing care to both. Certainly, there are returns to scale. It does not seem possible to help one's mother with grocery shopping and not provide the same care to a father. I therefore experimented with including indicators of whether the child helps the second parent and the number of hours spent helping the second parent. Adding these variables improved the fit of the regression but did not alter the estimated values of other coefficients. Because fewer than 1 percent of children belong to a family in which both parents need care, I exclude these variables from the final analysis. However, because the limitations of the second parent may also prevent that parent from assisting his spouse, I do include the number of ADL or IADL limitations experienced by the second parent.

21. Children-in-law were deleted from the sample. Four percent of caregivers are children-in-law. The regression results are substantially unchanged if all children-in-law (those who provide care and those who do not) are included in the sample, and appropriate control variables are added.

Table 5.12 Comparison of Means for Children of Respondents

	All $n = 9{,}056$[a]		Help $n = 921$[a]		Do Not Help $n = 8{,}135$[a]	
Variable	Mean	S.E.	Mean	S.E.	Mean	S.E.
Opportunity cost						
Age	48.38	0.09	52.45	0.30	47.91	0.10
Male	0.488	0.005	0.312	0.014	0.508	0.005
Schooling	12.26	0.037	12.03	0.103	12.28	0.039
Married	0.687	0.004	0.581	0.015	0.699	0.005
Children 0/1 (grandchildren)	0.831	0.004	0.823	0.011	0.832	0.004
Employed[b]	0.727	0.004	0.578	0.015	0.745	0.004
Employed part time	0.085	0.003	0.097	0.009	0.084	0.003
Earnings[b] (coresident only)	25,541	873	27,916	1,436	23,685	1,084
Income measures[b] (non-coresident)						
Less than $20,000	0.144	0.003	0.180	0.014	0.141	0.004
$20,000–$30,000	0.115	0.003	0.132	0.012	0.113	0.003
$30,000–$50,000	0.204	0.004	0.190	0.014	0.205	0.004
More than $50,000	0.183	0.004	0.127	0.012	0.188	0.004
Less than $30,000	0.025	0.002	0.038	0.007	0.025	0.002
More than $30,000	0.050	0.002	0.038	0.007	0.051	0.002
Less than $50,000	0.044	0.002	0.045	0.008	0.044	0.002
Income unknown	0.235	0.004	0.252	0.016	0.234	0.004
Better off than parents	0.539	0.005	0.588	0.018	0.535	0.005
Same as parents	0.210	0.004	0.251	0.016	0.207	0.004
Worse off than parents	0.167	0.004	0.100	0.011	0.172	0.004
Relative income missing	0.084	0.003	0.061	0.009	0.086	0.003
Measures of exchange						
Child in will 0/1	0.272	0.004	0.132	0.010	0.288	0.005
Child on deed to home 0/1	0.060	0.002	0.128	0.010	0.052	0.002
Child beneficiary of life insurance 0/1	0.118	0.003	0.255	0.013	0.103	0.003
Face value of life insurance	319.0	25.3	622.3	141.9	284.6	23.1
Child got $5,000+ in past 10 yrs 0/1	0.096	0.003	0.075	0.008	0.098	0.003
Transfer last year	0.104	0.003	0.088	0.008	0.106	0.003
Value of transfer	376.4	25.1	186.8	40.8	397.9	27.6
Gave parents financial assistance	0.016	0.001	0.039	0.006	0.014	0.001
Amount of assistance	44.15	5.64	121.83	24.17	35.35	5.65
Accessibility/availability						
Lives within 10 miles of parents	0.416	0.005	0.808	0.012	0.371	0.005
Lives with parents	0.079	0.003	0.344	0.014	0.049	0.002
Child owns home	0.678	0.004	0.518	0.015	0.697	0.005

Note: S.E. = standard error.

[a]Number of observations for some variables differs due to missing values.

[b]Statistics calculated over valid observations (coresident or non-coresident child).

Table 5.13 Probit Estimates of Probability of Providing Care

Variable	Probability of Providing Care	
	Coefficient	Derivative[a]
Opportunity cost		
Age	0.0086*	0.0008
Age > 65	−0.1279	−0.0122
Male	0.0033	0.0203
Schooling	0.0014	0.0003
Married	−0.0497	−0.0047
Married*Female	0.1386	0.0132
Children 0/1 (grandchildren)	−0.0330	−0.0031
Employed	−0.1173	−0.0112
Employed*Female	0.0653	0.0062
Employed part time	0.1136	0.0108
Employment missing	−0.2731	−0.0261
Earnings (coresident only; $10,000)	0.0266	0.0025
Income measures (non-coresident)		
Less than $20,000	0.1394	0.0133
$20,000–$30,000	0.1084	0.0103
$30,000–$50,000	0.1014	0.0097
More than $50,000 (omitted)		
Less than $30,000	0.1287	0.0123
More than $30,000	0.1966	0.0188
Less than $50,000	−0.0870	−0.0083
Income unknown	0.1545	0.0147
Better off than parents	−0.0699	−0.0067
Same as parents (omitted)		
Worse off than parents	−0.1612+	−0.0154
Relative income missing	−0.1399	−0.0133
Measures of exchange		
Child in will 0/1	−0.0072	−0.0007
Child on deed to home 0/1	0.3888**	0.0371
Value of home ($100,000)	−0.0577	0.0055
Child beneficiary on life insurance 0/1	0.3014**	0.0288
Face value of life insurance ($10,000)	0.0409	0.0039
Child got $5,000+ in past 10 yrs 0/1	0.1765	0.0168
Transfer last year	0.0532	0.0051
Value of transfer ($10,000)	−0.2492	−0.0238
Gave parents financial assistance	0.2082	0.0199
Amount of assistance ($10,000)	0.497	0.0474
Prob. of inheritance	−0.0319	−0.0030
Prob. missing	0.0473	0.0045
Living arrangements		
Lives within 10 miles of parents	0.8052**	0.0768
Lives with parents	0.7448**	0.0711
Child owns home	0.0940	0.0090

Table 5.13 (continued)

Variable	Probability of Providing Care	
	Coefficient	Derivative[a]
Family composition		
Number of sisters*Male	−0.5831**	−0.0556
Number of sisters*Female	0.0585	0.0056
Oldest*Male	0.2773**	0.0265
Oldest*Female	−0.0399	−0.0038
Youngest*Male	0.2569*	0.0245
Youngest*Female	0.1593*	0.0152
Only child	0.1614	0.0154
Parent's characteristics		
Number of children	−0.0344**	−0.0033
Wealth		
1st wealth quartile (lowest)	0.2288+	0.0218
2nd wealth quartile	0.2491*	0.0238
3rd wealth quartile	0.1085	0.0104
4th wealth quartile (omitted)		
Income		
1st income quartile (lowest)	0.1968	0.0188
2nd income quartile	0.2502	0.0239
3rd income quartile	0.1395	0.0133
4th income quartile (omitted)		
Own home	−0.0002	−0.0000
Medicaid coverage	0.0710	0.0068
Private insurance coverage	−0.0350	−0.0033
Age	0.0093+	0.0009
Nonwhite	0.0008	0.0001
Sex	−0.1052	−0.0100
Parent and child same sex	0.0029	0.0003
Married	−0.5635**	−0.0538
Female*Married	0.2475*	0.0236
Number of ADLs	0.0074	0.0007
Number of IADLs	0.2053**	0.0196
Number of spouse's ADLs	−0.1646+	−0.0157
Proxy respondent	−0.1214	−0.0116
Intercept	−3.4795**	−0.3320
Mean of dependent variable	0.085	
Number of observations	7,907	

[a]Derivatives are evaluated at the means of the right-hand-side variables.

+Significant at the 10 percent level.

*Significant at the 5 percent level.

**Significant at the 1 percent level.

and being listed on the deed to a home increase the probability of helping by 3 and 4 percentage points, respectively. Other factors that could be associated with exchange are all insignificant predictors of assistance. Past transfers are positively related to help, whereas the value of current transfers is negatively related. Wealth operates in the opposite direction from that predicted by the strategic bequest motive. A child is 2 to 2.5 percentage points more likely to provide assistance if his parent is in the lowest two wealth quartiles than if she is in the highest quartile.

As expected, a child is less likely to provide care to a married respondent, since the spouse in this case is likely the primary caregiver.

There is no evidence that children substitute between providing time and cash assistance. In fact, the more financial assistance the child gives, the more likely he is to give time assistance as well. Giving any cash assistance increases the probability of providing time assistance by 2 percentage points. Each additional $1,000 of cash transferred to a parent further increases the probability of a transfer of time by 0.5 percentage points.

Despite the lack of significance of many of these economic variables, the gender composition of the family and the number of siblings has a strong effect. Sons begin with a 2 percentage point (insignificant) greater probability of helping a parent. For each sister, a son's probability of helping is reduced by 5.6 percentage points. Female siblings, however, increase a daughter's probability of helping, although the effect is small relative to that for sons and not significantly different from zero. Additional siblings of any sex lower the probability of helping by a small but significant amount, as there is likely some substitution between children. Oldest children of either sex are no more likely to provide assistance than are middle children, but the youngest child is more likely than children elsewhere in the family to provide care, regardless of sex. If the child is the youngest and male the magnitude of the effect is 2.5 percentage points, compared to 1.5 if the youngest child is female. Children who are the same sex as the needy parent are more likely to provide care, although the effect is small. This difference too works in the direction of more care being provided by daughters than sons because approximately 66 percent of the impaired elderly are female.

Because of the number of family composition variables, I present some comparisons for sample families in table 5.14. I compare the marginal probabilities of helping for siblings in families with three children. The calculations make use of the following variables: male, number of sisters interacted with the child's sex, oldest interacted with sex, and youngest interacted with sex. All other variables are assumed constant. Using these coefficients it is possible to compare the marginal probability of a child's helping in different families. For example, compare two particular families, one in which the order of the children is girl, boy, girl (GBG) and the other which is the reverse, boy, girl, boy (BGB). The probability of the middle son's helping in the first family (GBG) is 10 percentage points lower than the probability of the middle daughter's

Table 5.14 **Marginal Probability of Providing Help to Parent by Gender of Siblings**

Family Composition	First Child	Second Child	Third Child
GGG	0.0055	0.0085	0.0384
GGB	0.0013	0.0042	−0.0857
GBG	0.0013	−0.1086	0.0342
GBB	−0.0029	−0.0571	−0.0342
BGG	−0.0921	0.0042	0.0342
BGB	−0.0406	0.0	−0.0342
BBG	−0.0406	−0.0571	0.0299
BBB	0.0109	−0.0056	0.0173

Notes: G = girl, B = boy. Calculations are based on the estimated coefficients: 0.0203*(Male) − 0.0556*(Male*Num sisters) + 0.0056*(Female*Num sisters) + 0.0256*(Oldest*Male) − 0.0038*(Oldest*Female) + 0.0245*(Youngest*Male) + 0.0152*(Youngest*Female). Other variables are held constant.

helping in the second family. If the family is GGB the probability that the youngest child provides care is just over 11 percentage points lower than if the family is BBG. Different family structures yield similar results. The differences are large given that the mean probability of providing help is 8.5 percent.

Despite allowing for differences in the opportunity cost of time, the preference of respondents for same-sex helpers, and the possibility that cash transfers by children substitute for time transfers, males continue to provide significantly less assistance to infirmed parents. The lack of care from sons is strongly related to whether they have sisters. Male-only children are no less likely to provide care than are female-only children. I interpret this result to mean that, while parents will not go uncared for in the absence of daughters, if there are daughters in the family, they will bear the burden of caring for parents. Thus it is daughters, rather than elderly parents, who should be concerned about this result.

5.6 Conclusion

This paper has provided a descriptive analysis of the caregiving environment faced by the disabled and impaired elderly. The results are encouraging in that the strongest predictor of receiving care is need. Approximately two-thirds of those with limitations receive assistance. Those who are not receiving care are on average better off in several dimensions, including having greater financial resources and better health. In many ways the type of caregiving relationship depends on the recipient's needs. Children, including non-coresident children, provide assistance with housekeeping tasks, while coresident individuals (spouses, children, and others) help with personal care needs.

An important caveat, however, is that the information reported by the re-

spondent is largely subjective. Needing assistance with a task is likely related to the availability of help. If no help is available, an individual may manage to complete the task, while if help is readily available (e.g., from a spouse), a small amount of difficulty may deter the respondent from attempting the activity on her own.

One discouraging finding of this study is the paucity of assistance provided by children. Only 10 percent of children provide time help to their parents (8.5 percent of non-coresident children). For children who do not live near a parent or whose hours are taken up with work and other responsibilities, the provision of cash assistance would be a logical substitute. However, fewer than 2 percent of children are reported to have made cash transfers to their impaired parents. Even more surprising, cash transfers are *positively* correlated with the provision of time assistance. Thus it is not the case that children who are unable to spend time helping a parent compensate with financial assistance.

These results too should be interpreted with a degree of caution. Because of the structure of the survey, only the primary caregiver is likely to be named. Thus, if children are secondary caregivers (perhaps second to a spouse), they may be omitted. Additionally, financial assistance from children is reported by the parent. Although it is unlikely that the parent would intentionally misrepresent such assistance, she may forget or may not fully value gifts in kind. It is also possible that a parent is uninformed about financial assistance from a child, for example, if a child pays bills without the parent's knowledge. Evidence of underreporting of transfers can be found by examining data from the Health and Retirement Survey (HRS). The HRS is based on a sample of individuals born between 1931 and 1941. HRS respondents are therefore approximately the same age as many of the children of AHEAD respondents. Approximately 9 percent of HRS respondents reportedly gave $500 or more to a parent or parent-in-law in the past year (McGarry and Schoeni 1997), while AHEAD respondents reported that just over 1 percent of their children gave them financial assistance. While the results from the two surveys would not be expected to compare perfectly, the large differences between the two samples are suspicious, and perhaps due to failing memories or different valuation of noncash gifts.

A number of issues have been raised that need to be addressed in future work. The different patterns observed with respect to who provides help with ADLs and IADLs suggest that disaggregated measures of need should be examined. A more difficult problem is raised by the number of simultaneous decisions being made. If a great deal of care is required by an elderly parent, shared living arrangements may be the most efficient alternative other than a nursing home. The child with whom the parent lives will likely assume a large responsibility, not only for the physical care of the parent but also for her financial well-being. This decision needs to be investigated. Similarly, the number of hours supplied to a parent by one sibling ought to affect the hours provided by the others. No attempt is made in this paper to model simultaneously

the decisions of all the respondent's offspring. This task too remains for future work.

References

Altonji, Joseph G., Fumio Hayashi, and Laurence Kotlikoff. 1994. Parental altruism and inter vivos transfers: Theory and evidence. Evanston, Ill.: Northwestern University, February. Mimeograph.

American Federation of Aging Research and Alliance for Aging Research. 1995. Putting aging on hold: Delaying the diseases of old age. New York: American Federation of Aging Research.

Belgrave, Linda Liska, and Julia E. Bradsher. 1994. Health as a factor in institutionalization disparities between African Americans and whites. *Research on Aging* 16 (2): 115–41.

Bernheim, Douglas B., Andrei Shleifer, and Lawrence H. Summers. 1985. The strategic bequest motive. *Journal of Political Economy* 93 (6): 1045–76.

Coward, Raymond T., and Jeffrey Dwyer. 1990. The association of gender, sibling network composition, and patterns of parent care by adult children. *Research on Aging* 12 (2): 158–81.

Cox, Donald. 1987. Motives for private income transfers. *Journal of Political Economy* 95 (3): 509–46.

Ettner, Susan. 1994. The effect of the Medicaid home health care benefit on long-term care choices of the elderly. *Economic Inquiry* 32 (1): 103–27.

Gale, William, and John Karl Scholz. 1994. Intergenerational transfers and the accumulation of wealth. *Journal of Economic Perspectives* 8 (4): 145–60.

Hurd, Michael D., and Kathleen McGarry. 1997. Medical insurance and the use of health care services by the elderly. *Journal of Health Economics* 16 (2): 129–54.

Kotlikoff, Laurence, and Lawrence Summers. 1981. The role of intergenerational transfers in aggregate capital accumulation. *Journal of Political Economy* 89 (4): 706–32.

Lewin-VHI, Inc. 1993. The financial impact of the Health Security Act. December. Mimeograph.

McGarry, Kathleen, and Robert Schoeni. 1995. Transfer behavior: Measurement and the redistribution of resources within the family. *Journal of Human Resources* 30: S184–S226.

———. 1997. Transfer behavior within the family: Results from the Asset and Health Dynamics Survey. *Journal of Gerontology* 52B: 82–92.

Mutchler, Jan, and Susan Bullers. 1994. Gender differences in formal care use in later life. *Research on Aging* 16 (3): 235–50.

Soldo, Beth, Douglas Wolf, and Emily Agree. 1990. Family, households, and care arrangements of frail older women: A structural analysis. *Journal of Gerontology* 45 (6): S238–S249.

Stoller, Eleanor Palo, Lorna Earl Forster, and Tamara Sutin Duniho. 1992. Systems of parent care within sibling networks. *Research on Aging* 14 (1): 28–49.

Stone, Robyn, Gail Lee Cafferata, and Judith Sangl. 1987. Caregivers of the frail elderly: A national profile. *Gerontologist* 27 (5): 616–26.

Wolf, Douglas, Vicki Freedman, and Beth Soldo. 1995. The division of family labor: Care for elderly parents. Syracuse, N.Y.: Syracuse University, Center for Policy Research, March. Mimeograph.

Comment James P. Smith

This paper continues the excellent recent work Kathleen McGarry has been conducting on intergenerational transfers using the newly released data from the Health and Retirement Survey and the survey of Asset and Health Dynamics among the Oldest Old. In her prior work, she demonstrated that the characteristics of children matter (including their incomes) in the direction and magnitude of money transfers across generations. In this paper, she extends that work into much more difficult terrain—the provision of home care for the increasingly frail elderly. This is a more difficult problem in part because parents' health status must be explicitly incorporated into the analysis since the provision of care is often conditioned on some negative health outcome. Bringing health conditions into the model raises a number of analytical issues not the least of which is the endogeneity of health. McGarry largely sidesteps these issues and provides instead an excellent descriptive summary of the primary patterns of exchange in her data. Given that we currently know so little about what the basic facts are about these exchanges between adult children and their impaired parents, this descriptive approach is a very useful and necessary first step. In light of her largely descriptive but important goals, the paper can be judged a success.

But still we want more. There are two analytical models estimated in the paper. The first (summarized in table 5.11) estimates the probability of receiving home care and the type of that care in a sample of parents with at least one ADL or IADL limitation. The second model (table 5.13) estimates the probability of providing home care to parents in a sample of adult children. Let me discuss each in turn.

The first question asked is what determines the provision of home care and the type of such care to elderly parents with at least one functional limitation. The first thing you notice about table 5.11 is that it sure contains a lot of estimated coefficients (there are in fact 129). While it will not win an award for the most coefficients estimated in one table by an economist (I might even be in the running for that award), it may be odds-on favorite if the criterion is the number of statistically insignificant coefficients relative to estimated coefficients. Using conventional statistical standards, I count only 31 statistically significant coefficients among the 129. My strongest suggestion is that a more parsimonious model may be preferable, especially when so many of the variables are attempting to measure the same thing.

While there are plenty of variables in this model, on closer inspection there are really only three concepts being proxied—(1) the health status of parents, (2) their command over resources (e.g., income and wealth), and (3) the nature of the relationship between parents and their adult children. This trichotomy

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serves as a useful device for summarizing the principal conclusions of the paper.

The evidence on the first concept is quite easy to summarize. Parents who receive help are much more likely to be sick. On average, they are in poor health and are beset with all sorts of ADL and IADL problems. While it is quite useful to document the nature of this association between parents' need for help and the care they receive, it certainly does not come as a surprise and may even border on a tautology.

Unfortunately, the evidence on the second concept is just as easy to summarize. In sharp contrast to health status, in this case the simplest summary statement is that income appears not to matter much in the provision of care for elderly persons. At first and even second blush, the absence of any role for such a core economic variable as income is disturbing, especially in a paper by an economist at an economics conference. But the absence of any significant effect may simply be a result of the way the analysis has been set up. In order to be included in the sample for this analysis, the parent had to have at least one ADL or IADL limitation. But it is through this conditioning statement that income is most likely to operate. In recent work (Kington and Smith 1997), I have shown that income strongly influences (negatively) the number of functional limitations and does so in a highly nonlinear way. In essence, increases in household income decrease the probability of being included in McGarry's analytical sample.

There is in fact a silent selection mechanism at work in all McGarry's empirical models that makes it difficult to interpret her results. Although she does not model this selection process, it is nothing more than the standard sample selection model where the probability of sample inclusion is estimated and included as a covariate. Since income reduces the probability of sample inclusion, high-income households who remain in the sample must have some unobservable factor that leads the parents to be sicker than expected. This selection-induced correlation between income and parents' health biases all variables in McGarry's analysis. This selection contamination is even more problematic in the analyses in the third and fifth columns of table 5.11. For example, in the third column, a person is included only if he had an ADL and received some sort of care. These remaining observations are clearly sickly, and many of them probably had long histories of illness.

The final concept underlying her model attempts to capture the nature of the relationship between parents and children. These variables are the most theoretically oriented as they are meant to capture some salient motives for exchange that appear in the economic literature. The basic idea is to see whether strategic bequest motives can be isolated where children attempt to manipulate their frail parents' future inheritance by providing some help now. McGarry makes the somewhat strong claim that her results reject the notion of exchange. In the empirical execution of her idea, it becomes quite difficult to interpret her results because there are so many similar empirical proxies

competing to measure the same concept. For example, her empirical proxies include the probability of leaving an inheritance, the number of children who received $5,000 or more in the past 10 years, the number of children who received cash assistance in the past year, whether children are mentioned in the will, whether they are the beneficiaries of life insurance, whether they have a deed to the parents' home, whether a trust has been established, and so on. Given this feverous competition, it may not be so surprising that there is not one clear-cut winner.

The paper finishes with an alternative analysis that examines these exchanges from the child's point of view (table 5.13). The issue here is not whether parents receive care but whether a particular child supplies home care. In this analysis, the characteristics of children—other than their sex and number—apparently do not matter all that much. Among the factors that do not matter are children's incomes. The only "exchange" variables that enter significantly into the model are whether the child was named on a deed to a home and whether the child is the beneficiary of a life insurance policy. Once again, any confidence that one is onto something is tempered by the absence of statistical significance for all the other exchange variables.

While this is a useful start on an analysis of home care from the children's point of view, I would like to suggest a somewhat different modeling strategy. The reason for my suggestion is a strong conviction that family effects are dominant for outcomes measuring care for parents. Some families are very close and caring, and, unfortunately, other families are not. Many children in the former families will join in the care of their elderly parents, while none of them may in the latter. Unless these family differences are controlled for (say, through family fixed effects), it will simply be very difficult to isolate substitution possibilities among family members.

Reference

Kington, Raynard, and James P. Smith. 1997. Socioeconomic status and racial and ethnic differences in functional status associated with chronic disease. *American Journal of Public Health* 87:805–10.