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Getting Help From Others: The Effects of Demand and Supply

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Objectives. This article investigates whether the help with care needs that is received from others depends on the potential supply of family helpers.

Methods. Data from the first round of survey data collected in the National Health and Aging Trends Study are used to create measures of whether help is received, the number of helpers, and the hours of help received. Regression analysis is used to relate these outcomes to indicators of the demand for and supply of helpers.

Results. Analyses suggest limited evidence that the receipt of help is a supply-driven phenomenon. Although the measures of child–caregiver supply are not associated with a binary indicator of help received, caregiver-supply factors are associated with the number of helpers and the total hours of help received.

Discussion. Findings on the total number of helpers and total hours of care have implications for the division of care labor within families and between families and nonfamily members. Foreseeable trends in the demand for and the supply of help suggest further evolution in patterns of elders' receipt of help with care needs. Even if those with needs for care continue to have their needs addressed by one or more helpers, the number of helpers, and the aggregate amount of help they provide, is likely to undergo adjustment in response to changing family patterns.

Key Words: Disability—Division of care labor—Family composition—Informal care.

It is well known that family members, particularly spouses and children, continue to provide the majority of help received by older people with personal care needs (Wolff & Kasper, 2006). Both the receipt and the provision of informal care—generally treated as synonymous with unpaid care—are triggered by a family member's care needs. Indeed, past research indicates that care needs are the most important factor explaining an elderly parent's receipt of care and support (Silverstein, Gans, & Yang, 2006). Nevertheless, other factors also influence care provision and receipt, suggesting that there may be considerable variability in the level of care received, when holding constant the level of care needs.

An extensive literature documents differences across potential providers of parent care regarding whether and how intensively they engage in care provision. While gender differences are the most strongly established factor, with daughters much more likely than sons to be care providers, a number of other individual-level characteristics have been shown to influence care provision including marital status, educational attainment, wage rates and race (Couch, Daly, & Wolf, 1999; Henretta, Hill, Li, Soldo, & Wolf, 1997; Shuey & Hardy, 2003; Sloan, Picone, & Hoerger, 1997). Most of this research is individually based, focusing on a single member of a family network (Pillemer & Suitor, 2014), although some studies include controls for family context such as the number and gender mix of siblings. Studies that include data on all the offspring of an elderly parent may go farther, estimating the extent to which each child's care effort is influenced by and interacts with those of their siblings (Davey & Szinovacz, 2007; Henretta, Soldo, & Van Voorhis, 2011; Wolf, Freedman, & Soldo, 1997).

The latter studies, however, tend not to address the larger context of the elderly parent's overall pattern of care receipt, and the role of family composition in shaping that pattern. LaPlante, Harrington, and Kang (2002) showed how the total hours of personal assistance services received vary with the level of need and other demand factors such as race, age, and education. While their study did account for both formal and informal care, it did not include any controls for family composition; moreover, it treated the number of helpers as an explanatory variable rather than as an outcome of the care provision process. Miner (1995) and Pezzin and Schone (1999) did consider the effects of family composition on whether and how much informal care and formal care was received by an unmarried elderly parent. Neither study, however, directly addressed whether *any* care was received, nor the total number of care hours received.

This article investigates whether and how much help from others is received by those with care needs. The question I explore is how the overall pattern of help received depends on family characteristics associated with the potential supply of helpers. I examine three indicators of the pattern of help received: whether *any* help is received, the *number* of helpers, and the *total hours* of help received. I use data from

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wave one of the National Health and Aging Trends Study (NHATS), a data source that is especially well-suited to this task. The NHATS allows for a detailed representation of an older person's care needs, which I interpret as key factors in shaping the *demand* for assistance. Thus, I am able to investigate whether family composition—arguably the most important factor shaping the *supply* of helpers—exerts an influence on the overall pattern of help received net of the demand for care.

Conceptual Framework

A natural framework for studying variations in informal care provision is the economic theory of the allocation of time (Becker, 1965). According to this theory, which is widely used to analyze the supply of labor for paid employment, personal characteristics—notably, one's potential market wage rate—as well as family and economic circumstances influence decisions about whether and how much to devote time to alternative uses including parent care. Time spent providing care is jointly chosen along with other potential uses of time including household production, paid employment, and leisure (Kimmel & Connelly, 2007). Gender can play a role in time allocation decisions if, for example, women's employment opportunities and potential wage rates differ systematically from those of men. Marital status also plays a role in time allocation decisions: a married person may face greater demands for time devoted to activities such as household production, and for time spent with a spouse or children, compared to an unmarried person. On the other hand, married people may have more access to financial support from means other than their own paid employment, potentially freeing up time that would be spent in the labor market to be used for other activities such as parent care. The time-allocation framework has been widely used in empirical research on informal caregiving (Couch et al., 1999; Ettner, 1996; Lilly, Laporte, & Coyte, 2007; Ruhm, 1996; Sarkisian & Gerstel, 2004).

Economic theories of time use recognize the role of norms, preferences, and motivations, but traditionally have little to say about the origins of these factors. Theories aimed at explaining women's overrepresentation among caregivers, and more generally women's roles as "kinkeepers" (Rosenthal, 1985), have drawn on social-structural, psychological, and institutional factors in the formation of norms and motivations (England, Folbre, & Leana, 2012). Theories of intergenerational solidarity and social capital have also been used to explain these gender differences (Silverstein et al., 2006). Thus, a standard time-allocation framework, expanded to encompass the gender-specific pathways through which motives to supply informal care are developed, provides a rationale for characterizing one's pool of potential family caregivers along both gender and marital-status dimensions.

It must be acknowledged that while family caregiver supply factors may contribute to variations in the amount of care received, they may have little or no effect on whether *any* care is received, if nonfamily resources are able to compensate for an inadequate supply of family care to meet an elderly parent's needs, or to meet the needs of an elder with no family care resources at all. Cantor (1979) proposed a "hierarchical-compensatory" model in which nonkin—neighbors and friends—provide support for care needs in the absence of family members able or willing to do so. Barker (2002) points out that nonkin caregivers are often motivated by their awareness of unmet care needs. Thus, the absence of an adequate supply of family caregivers need not imply a failure to receive help when it is demanded.

Method

Sample

The NHATS sample is drawn from a list of Medicare beneficiaries, and thus is representative of the population of people 65 and older. More information about the study can be found on its website (http://www.nhats.org/scripts/aboutNHATS.htm). The present analysis is limited to those not in nursing homes (but does include those living in assisted living facilities) and with complete baseline interviews. Sample persons (SPs) with a spouse or partner are also excluded from the analysis, because a spouse, when present, is typically the main (and often the only) source of informal care among those with care needs, rendering largely irrelevant the size and composition of the pool of potential caregivers. Together, these restrictions produce an analysis sample of 3,811 SPs. For about 10% of these SPs the data were provided by a proxy respondent.

Measures

Amount and type of informal care.—I use three measures of the receipt of help in this study. The first, *any helper*, is a binary indicator of whether the SP receives help from at least one person, including paid in-home or facility-based helpers. The second is a count of the total *number of helpers*, including child helpers, other family and nonfamily helpers, and professional helpers. In all cases, someone is counted as a helper only if they help with a mobility activity (going outside, getting around inside, and getting in and out of bed), a self-care activity (eating, bathing, using the toilet, and dressing), or with selected routine tasks (doing laundry, shopping, meal preparation, money management, and medication management). For the latter tasks, people are counted as helpers only if the SP reports that help is received for reasons having to do with the SP's health or functioning. Professional helpers include those coded as a "paid aide, housekeeper, or employee" as well as those coded as staff at the SP's residence.

The final care outcome I analyze is the total number of hours of help received during the most recent month. All the hours of help recorded for each person coded as a helper are

counted in this total, including hours spent on tasks (such as providing transportation) that are not included among the household tasks listed above. However, hours of help provided by facility staff (who do appear in the count of *professional* helpers) are not recorded in the interview. The measurement of helper hours, including imputation of a few otherwise-missing values, uses the methods and computer program found in Freedman, Spillman, & Kasper (2014).

Indicators of the need for care.—Crucial to the goal of this study are measures of the need for help—that is, care demand—that are not themselves influenced by actual help received, that is, not influenced by caregiver supply. Moreover, it is important that any measures of need can be accurately reported by either the SPs themselves or by their proxy respondents (who are, in some cases, the SP's helper). Although proxy reports of an older person's health and care needs are often characterized as biased in comparison with self-reported data, the existing literature on this measurement issue is actually quite mixed, with several studies finding high levels of agreement between self- and proxy reports for a variety of measures of care needs (Long, Sudha, & Mutran, 1998; Lyons, Zarit, Sayer, & Whitlach, 2002; Picavet & van den Bos, 1996; Santos-Eggimann, Zobel, & Bérod, 1999). Given findings such as these, I have retained all cases in which data are reported by proxies, but do not control for the use of a proxy respondent because that variable is not an intrinsic measure of care needs, yet strongly predicts the receipt of help.

NHATS contains an unusually rich set of measures of health and functioning, from which I selected a set of need indicators that collectively encompass physical, cognitive, and sensory domains. Based on a combination of proxy reports and SP cognitive test results, SPs are classified as *probable dementia* or *possible dementia* cases using procedures spelled out in Kasper, Freedman, and Spillman (2013). NHATS provides measures of the presence of several chronic diseases and conditions; I use indicators of *diabetes*, *stroke*, chronic *back or neck pain*, all of which have been shown to be major factors in late-life disability (Freedman, Schoeni, Martin, & Cornman, 2007), *balance problems*, which are known to contribute to mobility impairments (Brown & Flood, 2013), and of *problems chewing or swallowing*, the latter an indicator of a possible need for help with eating. SPs are coded as having *hearing problems* if they either are reported to be deaf (in response to a question about use of hearing aids) or unable to use the telephone (even with their hearing aid if any), and as having *vision problems* if they are either reported to be blind (in response to a question about the use of glasses) or are unable to read newspaper print (even with any vision aid employed). Finally, I include a set of five physical capacity measures: whether the SP is *unable to walk three blocks*, is *unable to carry a 10 pound object*, is *unable to bend over*, is *unable to reach over his or her head*, or is *unable to grasp a small object*.

Indicators of the potential supply of helpers.—Because this analysis is limited to SPs that are neither married nor partnered, children are expected to be the main source of any help received. I use counts of living children categorized by gender and marital status (i.e., *number of married daughters*, *number of unmarried daughters*, *number of married sons*, and *number of unmarried sons*). I also include variables that measure the *number of stepdaughters* and the *number of stepsons*.

Additional control variables.—In addition to the main analytic variables just described, the analysis includes controls of standard and previously established correlates of the level and intensity of assistance received from helpers, including *age*, *female* gender, whether the SP is *divorced*, and two indicators of race and ethnicity (*Black* and *Hispanic*).

The presence of missing values on one or more of the explanatory variables used in this analysis reduces the effective sample from 3,811 to 3,726, a loss of 2.3% of potential cases. This loss is small enough to suggest that any biases introduced through the use of complete-case analysis are negligible.

Statistical Analysis

I present descriptive statistics on all analytic variables as well as three sets of regression results. I used logistic regression for the binary outcome *any helpers*, and censored (at zero) regressions (i.e., Tobit) for the hours-of-help outcome. The count of helpers is both strongly skewed and relatively concentrated at zero. For this outcome I used zero-inflated Poisson regression, or ZIP (Winkelmann, 2003). In the ZIP model the expected value of the outcome can be represented as

$$E[Y \mid X] = \text{logit}(XB_1) \times XB_2.$$

The first term on the right hand side of this expression represents the probability that the outcome is positive, while the second term is the mean of the Poisson distribution for the outcome, given that it is positive. X is the array of explanatory variables, while B_1 and B_2 are the two sets of regression coefficients that correspond to the two parts of the model. For simplicity's sake, I present all regression results in the form of "marginal effects," that is, the change in the expected value of the outcome variable when an explanatory variable changes from zero to one (for dummy-variable regressors), or the slope of the expected-value expression per unit change in the explanatory variable (for continuous regressors). For each marginal-effect calculation, all other explanatory variables are kept at their (weighted) sample mean value. All analyses are weighted using analytic sample weights documented in Montaquila, Freedman, Spillman, & Kasper (2012), and standard errors reflect the complex sample design employed in NHATS.

Results

Sample Characteristics

Means (expressed as percentages for all dummy variables) for all analysis variables are shown in the first column of Table 1. About one-third of the population of unmarried or unpartnered individuals has one or more helpers, and the average hours of help received in the month preceding the interview was 44 (including the zeros associated with the two-thirds that had no helpers). For this population, the average number of helpers is less than one, but having multiple helpers is not uncommon. About three quarters of the population represented by this sample is female. Indicators of a need for help range in prevalence from about 4% (for hearing problems) to 44% (for back or neck pain). The average number of living children is about 2.5, evenly split between daughters and sons; about 65% of the children are married.

Regression Results

The remaining columns of Table 1 show estimated marginal effects of the explanatory variables on the three helper outcomes. The variables representing need factors are most strongly and most consistently associated with all three care outcomes, with the largest effect in all cases the indicator of probable dementia: this condition raises the chances of having any helpers by nearly 20 percentage points, increases the expected number of helpers by almost 0.6, and adds almost 55 hr per month to the unconditional (on receipt) hours of help. Other consistently strong predictors of the care outcomes are balance problems, problems chewing or swallowing, vision problems, and the inability to walk three blocks, carry a heavy object, bend over, or reach over one's head.

In contrast with these results concerning need—that is, demand—factors, there is little evidence that family composition is associated with any receipt of help, with the exception of a rather surprising positive effect of the number of stepsons. However, the number of daughters, whether married or unmarried, and the number of married sons, contributes positively to the number of helpers. Also, each additional unmarried daughter adds nearly 4 hr to the expected number of helper hours, and each additional unmarried son adds slightly more than 3 hr to this total.

Discussion

I find limited evidence suggesting that the receipt of help is at least partly a supply-driven phenomenon. Although

Table 1. Results of Descriptive and Multivariate Analyses

		Marginal effecta on		
Variable	Mean (%)	Any helpers	No. of helpers	Hours of help
Whether any helpers	32.4%			
No. of helpers	0.64			
Hours of help	44.09			
Female	74.3%	0.031	0.053	2.382
Age	77.39	0.015***	0.009***	0.934***
Divorced	28.5%	–0.012	–0.027	–4.633
Black	11.9%	–0.006	0.057	10.169**
Hispanic	7.4%	0.041	–0.003	11.492*
Probable dementia	13.9%	0.199***	0.578***	54.821***
Possible dementia	13.1%	0.071***	0.140***	13.181**
Diabetes	25.5%	0.043***	0.041	7.618**
Stroke	12.1%	0.070***	0.054	9.238*
Back or neck pain	44.0%	–0.001	–0.019	1.242
Balance problems	35.9%	0.076***	0.180***	14.194***
Problems chewing/swallowing	10.6%	0.046*	0.167**	11.876**
Hearing problems	4.0%	0.030	0.019	8.743
Vision problems	6.3%	0.095***	0.302***	14.955**
Unable to walk 3 blocks	37.3%	0.138***	0.354***	28.938***
Unable to carry 10 pound object	27.6%	0.122***	0.396***	25.298***
Unable to bend over	28.6%	0.047**	0.126***	6.022*
Unable to reach over head	18.6%	0.048***	0.140***	8.242**
Unable to grasp small object	6.6%	0.001	0.005	–2.024
No. of married daughters	0.82	0.008	0.056***	1.403
No. of unmarried daughters	0.47	0.015	0.060***	3.782**
No. of married sons	0.85	–0.003	0.033*	0.661
No. of unmarried sons	0.46	0.006	–0.004	3.247**
No. of stepdaughters	0.07	–0.003	0.078	3.461
No. of stepsons	0.06	0.027*	–0.012	3.149

[a]Change in Pr[any helpers = 1], expected number of helpers, and expected care hours, respectively, per unit change in explanatory variable.
*$p < .05$; **$p < .01$; ***$p < .001$.

children have been shown in numerous studies to be a leading source of care for unmarried elders, none of the measures of child–caregiver supply used here are associated with the binary *any helpers* outcome. The barely significant (p = .045) number of stepsons finding could be dismissed as a fluke—only 6% of the SPs in this sample have stepchildren of either gender, and stepchildren constitute only 4.4% of all children recorded in the sample—but should be investigated more fully.

However, for the other two outcomes, caregiver-supply factors are more relevant: having more unmarried daughters, more married daughters, and more married sons each implies an increase in the number of helpers, while the number of unmarried daughters and the number of unmarried sons is positively related to the total hours of help received. This does not, however, suggest either that all care needs are met, or that anyone gets more help than they need. It does, however, suggest a need for caution in equating the amount of help received with the demand for care.

The lack of significance for the child–caregiver supply variables in the *any helpers* regression can be interpreted as support for the hierarchical-compensatory model, in which nonkin effectively overcome the lack of family caregivers to meet an elderly person's care needs. The findings concerning caregiver-supply factors in the total number of helpers and total hours of care regressions do, however, have implications for the division of care labor within families and between families and nonfamily members. Having a larger pool of potential family caregivers appears to suggest a more effective meeting of care needs, judging by the hours-of-care results. This increase in total care hours is, however, shared across a greater number of helpers. This could, in turn, imply a more equitable division of care among siblings. Some past studies have shown that the care effort expended by one member of a "sibship" depends on the number of people in the sibship as well as the characteristics of individual siblings, especially their gender and marital status (Tolkacheva, van Groenou, & van Tilburg, 2010; Wolf et al., 1997). Nuances such as these are indicative of nonlinearities in, and interactions among, the several indicators of family size and composition used in this study. I have overlooked these elements of the model, because they are more properly addressed in a child-level rather than a parent-level analysis.

The interpretation of the present findings as an indication of the importance of supply factors rests on an assumption that the variables measuring potential helper supply are uncorrelated with unmeasured elements of the need for care. An omitted-variables problem cannot, of course, be conclusively ruled out; however, in view of the facts that numerous reasonably "objective" indicators of need are included, and that these indicators incorporate cognitive and sensory as well as physiological conditions and problems, the potential for the family size variables included here to be correlated with unmeasured aspects of a need for care seems small.

Another measurement issue is raised by my use of categorical need variables to explain variations in both counts of helpers and hours of help, each of which might be sensitive to more subtle variations in care needs than the binary indicators of need can represent. Thus, for example, those in the *probable dementia* category are found to receive about 55 more hours of help, on average, than those with no apparent dementia, yet unmeasured aspects of the severity of cognitive loss are likely to be associated with variations in the intensity of care needs and hours of care received. Measures of physical capacity based on performance tests—in particular, tests of walking speed, rising from a chair, balance, grip strength, and peak airflow—are included in NHATS (Kasper, Freedman, & Niefeld, 2013). Such measures would surely provide more refined indicators of care needs than the binary variables used here. However, these measures are missing for anywhere from 6% (for the balance test) to nearly 8% (for the peak airflow test) of my analytic sample, levels considerably higher than for the self-reported albeit simpler physical capacity measures I have used. For that reason, the performance test results were not used here; imputation of test scores for these performance tests is possible, and should be undertaken in future research, but was beyond the scope of the present study.

Looking ahead, recent research has documented a doubling of childlessness among American women from 1980 to 2000 (Hayford, 2013). This change will translate into shrinkage of the pool of potential helpers among those 65 and older starting soon after 2020. Other research indicates that recent cohorts of older adults have higher levels of limitations than do earlier cohorts (Lin et al., 2012; Seeman, Merkin, Crimmins, & Karlamangla, 2010), and that younger age groups—those between 40 and 64 years old—have exhibited upward trends in the need for help with everyday tasks from 1997 through 2010 (Martin & Schoeni, 2014). Together, these trends in the demand for and the supply of help suggest continuing evolution in the patterns of assistance used by elders with care needs. Even if those with needs for care continue to have their needs addressed by one or more helpers, the number of helpers, and the aggregate amount of help they provide, is likely to undergo adjustment in response to changing family patterns. This, in turn, suggests that the division of parent care within families, and more generally the allocation of elder care effort between families, other private provides, and though publicly funded programs, will continue to be an important social policy issue.

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