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Gender Patterns of Eldercare in China

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Abstract

Using the baseline wave of the China Health and Retirement Longitudinal Study (CHARLS), collected from 2011 to 2012, this study finds that among those age 60 and above, women are 7.6 percent more likely than men to have care needs and 29.3 percent more likely than men to have unmet needs; and that most of the gender gap in unmet needs is explained by the existence and health status of a spouse. Further analysis reveals a sharp gender division in patterns of family care in China. While men are more likely to receive care from their wives, women are primarily cared for by their children. Marital status and spouse health also affect provision of care, with infirm women who have healthy husbands less likely to receive care than infirm men with healthy wives. The findings have important implications for designing gender-sensitive policies in eldercare.

Keywords

Eldercare; instrumental care; intergenerational support; gender roles; China; CHARLS

INTRODUCTION

Within the next two years, the worldwide population over age 65 will outnumber those age 5 and below for the first time in history (He, Goodkind, and Kowal 2016). Behind this stark milestone in the process of global aging lie the changes in China's age structure, which is one of the fastest aging societies in the world. The share of people ages 65 and older is projected to increase from under 10 percent of the total population in 2015 to 28 percent in 2050 (United Nations, Department of Economic and Social Affairs, Population Division 2015). This rapid demographic transition is likely to place stress on China's ability to take care of its elderly.

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Traditionally, in China, provision of care for the elderly is typically viewed as a family responsibility. Recognizing this, parents make sure that they have enough children and that they adequately invest in their human capital, so that when they reach old age, children may be able to compensate their parents through both economic support and provision of any needed instrumental care. Such an implicit contract may be based on altruistic or economic motives and replaceable by public social security transfers when a dwindling family leads to unmet needs among the elderly (Becker 1974; Cox 1987). With a strong tradition of family support, China's government has minimized its involvement in elderly support. However, with the decline in family size and out-migration of the younger generation, China's elderly are at greater risk of lacking care and support when needed.

In China's family-based eldercare regime, elderly women may be particularly disadvantaged in obtaining needed care. This follows from the fact that women tend to outlive their husbands: women have a longer life expectancy than men, they are typically married to men older than themselves, and China's older men have consumed more alcohol and tobacco over their lives and thus tend to have a higher rate of related health problems contributing to mortality. As they tend to outlive their husbands, elderly women in need of care must rely more on support from adult children than spouses to provide needed care. Thus, if children are less aware of their parents' needs, or feel less obliged to provide care, or are simply less able to do so, then women are more likely to have unmet needs.

Failure to meet care needs may have serious consequences for elderly well-being. The onset of difficulties with physical mobility, for example, is easier to delay and to counteract with availability of a care provider. If an elderly person starts to develop difficulties with walking, then walking with assistance may be advisable to maintain and even to rebuild muscle control. In the absence of a care provider, there is danger that even minor mobility problems will more quickly deteriorate.

To better understand the challenges posed by likely unmet care needs for future elderly, we examine determinants of access to care among current elderly, with special attention to gender differences. To do this, we rely on the baseline wave of the China Health and Retirement Longitudinal Study (CHARLS), a nationally representative survey of people ages 45 and above first conducted in 2011 (with subsequent waves in 2013 and 2015). We have three objectives. First, we describe patterns of both care needs and care provision; second, we analyze factors associated with unmet care needs; third, we examine in greater detail the patterns of care provision within the family.

We find that although women have greater needs for care, the most important factor associated with whether their needs are met is the presence or lack of a spouse and, when married, the health status of the spouse. Men are more likely to be cared for by a spouse, while women are more likely to receive care from an adult child. When there is a spouse present, infirm women with a healthy husband are far less likely to receive care than infirm men with a healthy wife. Lower levels of care provision by men for their wives suggest some unwillingness or inability of older men to care for wives who require assistance, and potentially, an erroneous belief among children that their father is able and willing to care for a mother who requires assistance.

This study contributes to a small but growing literature on care provision in China. Earlier research has emphasized the continued importance of the family as a source of care provision for both young children and the elderly (Shang and Wu 2011) and has noted that a heavier burden is placed on women as both care providers and income earners (Cook and Dong 2011). Where earlier research employing small samples has noted the likelihood that women may face greater care needs (Zhan and Montgomery 2003), this study makes use of an extraordinary survey with information on nonresident family members and measures of elderly disability to document both care needs and receipt of care. In addition to the risk that women may lack care because they are more likely to be widowed, the study highlights a further source of concern: with children living at greater distances from the home, infirm women with healthy husbands are also at a greater risk than infirm men of not receiving care.

ELDERCARE ARRANGEMENTS IN CHINA

As in much of the developing world, support for the elderly in China, whether financial or in the form of instrumental or long-term care, is primarily the responsibility of the family. These traditional patterns of elderly support are frequently attributed to cultural norms rooted in a tradition of filial piety (Chen and Adamchak 1999), which relies on enforcement through social pressure – if an adult child failed to support an elderly parent, then his or her reputation may be impugned by fellow villagers.

The Chinese government has sought to strengthen the role of the family in elderly support. The primacy of informal family support mechanisms was codified into China's laws from early on in the history of the People's Republic. The Marriage Law of 1950 and the Constitution of 1954 both stipulated that care for the elderly is the responsibility of Chinese families, and that it is a criminal offence for an adult child to refuse to perform her or his duty to support an aging parent (Fang, Wang, and Song 1992; World Bank 1994).

In the post–economic reform period, the family-based support system is further undermined. Under the household responsibility system, land is contracted to individual farming households, but ownership remained in the hands of the village collective, and all household members have the same rights to the land. A fundamental change occurred with massive out-migration of the younger generation. In the early 1990s, China's rural residents started to move to urban areas and from western regions to the east coast in unprecedented numbers (Rozelle, Taylor, and de Brauw 1999). Social pressure that was implicit in the previously tight-knit village society was substantially loosened, which had a direct consequence on the family. Thus, those who live and work outside the villages may feel greater freedom in deciding whether to help elderly parents. While the return migration of adult children is more likely when parents are infirm and there are no family members in the community available to provide care (Giles and Mu 2007), migrant children may not know of a parent's care needs until their physical incapacitation is quite severe. Physical distance not only makes it more difficult to provide care, but migrant children who have less frequent contact with parents may not understand the seriousness of their parents' care needs, particularly if parents do not want to be responsible for drawing children away from more lucrative employment opportunities.

In response to well-publicized cases of elderly neglect, the government enacted the Elderly Rights Protection Law in 1996 and reiterated that supporting and caring for elderly parents is a non-evadable responsibility of adult children. At the same time, the media displayed growing reference to China's Confucian cultural heritage, which emphasized the importance of relying on the family for elderly support (White 1998). Amendments to the Marriage Law in 2001 further reinforced this responsibility and provided elderly parents with the right to sue children for support if they failed to provide needed financial support.[1] In 2012, the government amended the Elderly Rights Protection Law to include a clause that requires non-resident children to visit their elderly parents "often" and exhorts employers to provide family leave to those bearing family responsibilities. This requirement is widely regarded as nonspecific and unenforceable.

In recent years, the demographic transition reinforced by China's onechild policy has drastically reduced the number of children and has likely ended any remaining hopes of relying on the family alone for support of the elderly. According to the CHARLS baseline survey, an older person ages 80–84 has an average of four living children, but those ages 60–64 have only 2.8 (Figure 1). And many (11 percent) of the young elderly, ages 60–64, have only one child. Future elderly will have even fewer children to provide support. Anticipating a likely crisis in elderly financial support, the Chinese government extended pension coverage to include rural people in 2009.

Until recently, Chinese nursing homes were designed to help childless elderly who have no earnings or ability to work for pay. These facilities, the most visible public response to long-term care needs, are owned and run by the government and are usually of very low quality, with few elderly living in them. As children become less available to serve as responsible caregivers, long-term care facilities of decent quality will be in increasing demand, and many private investors are eyeing this potential market. Starting in 2011, the government has issued a series of policies to encourage the establishment of long-term care facilities by the private sector. In recent years, entry barriers have been lowered further, and local governments have even provided operational subsidies to companies providing long-term care.[2] Up to now, these newly built institutions concentrate on serving elderly from wealthy urban families capable of covering the costs of care.

Despite rapid development of the eldercare industry, and likely due to the costs of private facilities, the government has continued to maintain the primacy of the family as the main source of care. In 2011, the government proposed a "90-7-3 model" for eldercare, in which 90 percent of the elderly's care needs should be satisfied in their homes, 7 percent through community-based service centers, and 3 percent through nursing homes. To facilitate such an arrangement, the private sector is encouraged to operate at the community level so that

[1]This law was adopted at the third session of the Fifth National People's Congress on September 10, 1980 and amended in accordance with the "Decision on Amending the Marriage Law of the People's Republic of China," which was made at the 21st meeting of the Standing Committee on the Ninth National People's Congress, April 28, 2001. The Marriage Law (2001) states that parents are under obligation for the upbringing and educating of their children, and children are also under obligation to support their parents. If a child fails to perform his or her obligations, parents who are unable to work or who are living a difficult life shall be entitled to ask their child to pay aliments (that is, funds necessary to support basic housing and nourishment).

[2]The guiding principles for the future of elder care in China are reflected in the government policy *Speeding up the Development of the Service Industry for the Elderly* (State Council 2013), which emphasizes the role of the market in service provision and the regulatory role of the state.

the elderly can be cared for in the same community where they have long resided. This arrangement may still be feasible for most elderly people because, as the CHARLS data reveal, most Chinese elderly either live with a child or have a child residing nearby (Lei et al. 2015). However, in the long run, as the number of nearby children further decreases through out-migration, there are likely to be more severe unmet care needs.

In this study, we describe the current patterns of both care needs and provision with the aim of identifying the determinants of unmet needs. As we show below, women disproportionally lack care and are more vulnerable than men under family-based elderly care arrangements.

DATA, FUNCTIONAL STATUS, AND CARE NEEDS

The CHARLS, which was developed, implemented, and archived by the National School of Development at Peking University, is a nationally representative panel survey of China's population over age 45. The baseline survey, conducted from July 2011 to March 2012, covers 17,705 individuals in 10,029 households in 450 village level units and 150 counties. The survey followed strictly random sampling procedures that employed multi-stage (counties–villages–households) proportion-to-population sampling (PPS). All counties in Mainland China, excluding those in Tibet, were included in the sampling frame; and the sample counties are drawn from twenty-eight provinces.[3]

Elderly care needs are measured by drawing information from the questions on activities of daily living (ADL) and instrumental activities of daily living (IADL). For each ADL and IADL, respondents are asked whether they have any difficulty in doing these activities. If a respondent has difficulty and needs help in at least one ADL/IADL activity, then he or she is designated as "has difficulty with at least one activity, cannot selfmanage, but can when assisted." If a respondent has difficulty with at least one ADL/IADL activity, yet is still able to perform it, then he or she is designated as "has difficulty with at least one activity but can self-manage without assistance." The rest of the respondents do not have difficulty in any activity and are designated as "has no difficulties."

Our analysis below focuses on an older subset of respondents, 3,647 men and 3,695 women ages 60 and older (7,342 in total), for whom care requirements are generally related to aging. We use the sampling weights provided in the CHARLS dataset in all descriptive tables to derive nationally representative statistics. Overall, 62.1 percent of China's over-60 population reported having no difficulty with daily activities, leaving 37.9 percent who reported at least one type of difficulty (Table 1). More women report functional limitations than men (43.3 percent of women versus 32.4 percent of men).[4] Rural *hukou* holders report a higher rate of functional difficulty than their urban counterparts (42.3 percent of rural *hukou* holders versus 28.1 percent of urban *hukou* holders).[5] Rural residents also reported

[3]More detailed information on the survey is available in the 2011–12 national baseline user's guide (Zhao et al. 2013).
[4]Women also have worse health status in most other dimensions of health measurements (Lei et al. 2014).
[5]Rural *hukou*, or agricultural registration status, is an identity coined in the 1950s for the purpose of differentiating between grain producers and consumers. Those who have rural *hukou* were deemed farmers and not eligible for purchasing grains. *Hukou* status is the defining characteristic of the dual economy in China due to many restrictions placed on rural *hukou* holders in terms of

higher rates of functional difficulties than those living in urban areas (44.7 percent rural versus 30.6 percent urban).

Many people (14.1 percent of those ages 60 and older) who report functional limitations still managed to carry out their daily functions by themselves. Very often, this is achieved with the aid of instruments such as canes. For these people, the degree of functional limitation is less severe, and they are not included in the remaining analysis. We thus focus on those infirm elderly who are completely dependent on a caregiver in at least one activity or who have difficulty with at least one activity and can self-manage only with another's help. Therefore, excluding individuals who can selfmanage without help from others, 23.8 percent of the older population requires assistance with daily activities. The share requiring assistance is higher among women (27.7 percent) than men (19.8 percent). It is also higher among rural *hukou* holders (26.3 percent) than urban *hukou* holders (18 percent), and higher in rural areas (27.3 percent) than in urban areas (19.9 percent). Of all respondents requiring care, most (17.4 percent of China's over-60 population and 73.1 percent of those needing care) depend on helpers for at least one type of activity. The rest, 6.4 percent of older Chinese or 26.9 percent of those needing care, reported functional difficulties but stated that they could accomplish all daily activities with help.

GENDER PATTERNS IN UNMET CARE NEEDS

In the following analysis, we focus on the infirm older respondents requiring care. The analysis sample includes 1,694 respondents. We report descriptive statistics of this sample in Table 2. Among older Chinese requiring care, women account for a disproportionate 59 percent of those needing care. The mean age of Chinese who need care is 73.4 years, and women requiring care are 1.1 years older than men. A large share of infirm elderly are registered as agricultural residents (76.8 percent, hereafter referred to as holding rural *hukou*), but only 59.6 percent of them live in rural areas. Women are more likely to hold rural *hukou* and live in rural areas.

The education level of the infirm elderly is quite low; indeed, more than half (54.2 percent) of them never completed primary school. There are sharp gender differences in educational attainment. While about 69.5 percent of women are illiterate, only 32.2 percent of men are; and while 21.3 percent of men have finished at least middle school education, only 6.5 percent of women have done so. Aside from education, pension availability provides another indicator of economic status where gender differences are evident: while 39.1 percent of China's infirm elderly requiring care have access to a pension, 48.3 percent of men receive a pension, but only 32.7 percent of women do.[6]

We define the care status of the elderly using information from a followup question for those who indicated that they have difficulty in a daily activity and require care. The question asks, "Who most often helps you with the aforementioned ADL/IADL activity?" and "Has no

employment and social benefits. Rural residence, on the other hand, is a geographic identity defined by the National Bureau of Statistics according to population density. A densely population area may be defined as an urban area even though most of the residents hold rural *hukou*. The much lower rate of rural residence in comparison to rural *hukou* is also a reflection of rural-to-urban migration in which rural *hukou* holders move to urban areas but cannot change the registration status.

[6]For an analysis of gender differences in pension, see Zhao and Zhao (2018).

assistance" is one answer option. As indicated in Table 2, among the 1,694 older people in need of care, 88.4 percent received assistance in at least one ADL/IADL activity, but 11.6 percent received no assistance. The care gap is statistically significantly larger among women than men – 12.8 percent of women did not receive help, in comparison to 9.9 percent of men, suggesting that women are 29.3 percent ([12.8 percent–9.9 percent]/9.9 percent) more likely than men to have unmet needs. As women are often the primary care providers for their families – for children, grandchildren, elderly parents, and spouses – during much of their adult lives, it is a failure on the part of the family support system that women are more likely to be left without care toward the end of their lives. In what follows, we explore possible causes of the gender gap in unmet care needs and shed light on China's likely future unmet care needs.

To understand factors contributing to unmet care needs, we first compare characteristics of those who received help and those who did not in columns 4 and 5 of Table 2. Echoing the higher incidence of unmet needs among women, women are overrepresented among those who did not receive help, accounting for 65 percent of those with no assistance when they need it. In contrast, women amount to 58.3 percent of those who received help. Those who received care are older – the mean age among those who received care was 73.7 years, while those who did not were 70.8 years. As the extent of care needs is greater among older people, it thus appears that the family responds to care needs. However, socioeconomic status (SES) seems to affect whether care needs are met. Rural *hukou* is associated with receiving no help – 85.8 percent of those receiving no help have a rural *hukou*, while 75.6 percent of those requiring help receive it. Living in rural areas is also related to a higher probability of unmet needs. Those who have unmet needs are significantly less likely to have a pension income (29.7 percent) relative to those whose care needs are met (40.3 percent). Additionally, those who failed to receive help have lower education than those who received help. The above correlations suggest that the economic positions of the elderly may be related to whether children provide care. However, since family members of low-SES older persons are also likely to be of low SES, it also may reflect the availability of the family as caregivers who might otherwise be employed in more distant labor markets.

As our focus in later analysis is on the gender differences in unmet needs after controlling for other socioeconomic factors, we pay careful attention to family characteristics, like number of children, number of sons, and spouse's characteristics, including whether there is a spouse and the spouse requires care.[7] The average person who needs care has 3.6 living children (Table 2) and a little more than half are sons (note that this is the generation preceding the one-child policy). Women have 0.3 more children than men, and those whose care needs are met have 0.1 more children than those with unmet needs. Having unmet needs has a small negative association with having a spouse – 62.8 percent of those who received help have a spouse, while of those without a spouse, 61.3 percent receive care. However, there is a statistically significant gap between men and women in current marital status (52.5 percent of women requiring care have a spouse versus 77.2 percent among men); thus after controlling for gender, the availability of a spouse may still explain the gender gap in unmet

[7]Using this information, we divide the health status of the respondent's spouse into three categories: those with no spouse, those whose spouse requires care, and those whose spouse requires no care.

needs. The last two rows of Table 2 report the health status of the spouse. About one-fifth (19 percent) of respondents requiring care have a spouse, and his or her spouse also needs care. Consistent with our previous result that women tend to have higher care needs, married infirm men are more likely to have an infirm spouse than infirm women (24 percent for men versus 15.5 percent for women). The contrast also seems large if we compare those who receive care with those who do not – 24.8 percent of those with unmet needs have a spouse who also needs care, as opposed to 18.2 percent of those whose needs are met.

As many factors (for example, gender, rural *hukou* or location, availability of a spouse, own and child's SES) affecting the likelihood of receiving care are correlated, we conduct multivariate regression analyses of the factors associated with care, in which the dependent variable is equal to 1 if care needs are met and 0 if not. Our analysis focuses on examining gender differences in the determinants of unmet needs. We estimate logit models, with results reported in Table 3, for the following three specifications: A base model, Model 1 includes all of the individual characteristics – gender, age, age-squared, rural *hukou*, rural residence, education, and receipt of a pension – as well as the number of children and number of sons among independent variables. Spouse characteristics are added in Model 2, and in particular, an indicator of whether the spouse needs care. A third model, Model 3, includes an interaction of a female indicator variable with an indicator of whether the spouse needs care.

After controlling for other factors influencing access to care, note in Model 1 that the correlation between age and receipt of care is no longer statistically significant. Although the educational attainment indicators relative to illiterate are jointly statistically insignificant (with an F-statistic of 6.22), those who finished at least middle school were 5.2 percentage points more likely to receive care when needing it. Interestingly, having more children and, in particular, having more sons is not statistically correlated with receiving care. As Chinese culture suggests that having children and especially sons is important for security in old age, this finding suggests that culturally based expectations may not be borne out, and it indicates that children are not the primary care providers for infirm parents. After controlling for other variables, having a rural *hukou* does not change one's likelihood of receiving care, but living in rural areas is still negatively associated with receipt of care. After controlling for *hukou* status, those residing in rural areas have a 3.6 percentage point, or 31.0 percent (3.6/11.6), lower probability of receiving care. This may be due to differences in economic status of the parents or due to the higher labor force participation of rural adult children, which leads to differences in the availability of children as caregivers. Economic status, measured by whether the older person receives a pension, is positively associated with receiving care – receipt of any pension income increases the likelihood of receiving care by 3.2 percentage points, or 27.6 percent (3.2/11.6).

Turning to the gender dimension of care receipt, we next consider the coefficient on the female indicator variable. In the raw data, we note that women are 2.9 percentage points less likely to have care needs met. After controlling for basic individual and family characteristics, the female coefficient is larger, at 3.7 percentage points (and significant at the 5 percent level), indicating that other covariates do not fully explain the gender gap in unmet needs. In Model 2, after we add an indicator for whether the spouse is alive and

whether the spouse needs care, the marginal effect of the female indicator variable is reduced to 3.2 percentage points, suggesting that 14 percent of the gender difference in receipt of care may be explained by the availability of a spouse.

Existence of a spouse capable of providing care is very important. Compared to a widowed person, if the respondent has a spouse who also needs care, then the likelihood of receiving care is higher by 3.2 percentage points, but not statistically significant. If he or she has a spouse who does not need care (and is presumably available as a caregiver), then the likelihood of receiving care is increased by 10.5 percentage points (90.5 percent =10.5/11.6) and statistically significant. Interestingly, after controlling for spousal information, the age of the respondent is positively associated with receiving care when needed (the average marginal effect is 0.027) and also statistically significant. This suggests that, after controlling for spousal effects, an older person is more likely to receive help from a nonspouse, most likely children. The probability of receiving care when needed increases by 2.7 percentage points as age increases by one year. This age effect may be driven by the fact that older children may be more available or, alternatively, that older elderly may have more functional difficulties and thus warrant more attention from their children.

To see whether men and women benefit equally from the availability of a spouse, Model 3 reports results after interacting the female indicator variable with the indicator for presence of a spouse and spouse's health status. To ease interpretation of multiple interaction terms, we suppress these additional interactions and instead report average probabilities for men and women in three situations: lack of a spouse, presence of a spouse who requires care, and presence of a spouse with no care requirements. Other things equal, the probability that a widowed man receives care when needed is 74.4 percent and that of a widowed woman is 81.4 percent, but the gap is statistically insignificant. When a spouse is present but also requires care, the average probabilities are similar for men and women (83.8 percent for men and 82.7 percent for women). When the spouse is alive and well, however, the probability that a woman receives care is significantly lower than for a man (94.6 percent for men versus 86.5 percent for women), with a statistically significant gap of 8.1 percentage points. These results suggest that having a spouse capable of providing care is much better for men than for women. When a husband is not providing care, children apparently assume that their father is caring for their mother.

The above analysis suggests that most of the care deficit experienced by women exists in families where the spouse is present. Whether children can provide care when one spouse is unable or unwilling to provide support seems crucial to understanding the gender care gap. Next, we thus examine the division of labor in care provision between the spouse and the children.

PATTERNS OF CARE PROVISION

The CHARLS survey includes information not only on the respondents and their spouses, but also on their family members (children, parents, and siblings of each respondent), regardless of whether they co-reside with the respondents. In answer to the question "Who most often helps you with the aforementioned ADL/IADL activity?" respondents could

choose from a preconstructed list of family members. Up to three choices are available. This makes it possible to understand the division of labor in care provision within the family.

OVERALL PATTERNS OF CARE PROVISION

Respondents receiving assistance in daily activities are almost always assisted by family members. As Table 4 shows, less than 1 percent of CHARLS respondents requiring care receive help exclusively from hired caregivers. The spouse remains the dominant care provider and the sole provider in 38.5 percent of cases. A slightly lower share (34.3 percent) receives assistance only from children (including spouses of children). Joint care arrangements by both spouse and children are uncommon, accounting for 5.3 percent of cases, and other relatives provide care in only 4.9 percent of reported cases. Finally, another 4.6 percent of those requiring care receive assistance from some combination of spouse and children, paid care providers, and other relatives.

Care patterns differ greatly for men and women. A wife is the dominant care provider for men – 53.8 percent of men requiring help are cared for by their wives alone. Among women requiring care, only 28 percent receive care exclusively from husbands. Instead, children provide care to 42.7 percent of women who require care, making them the dominant source of care for women.

In examining unmet care needs, gender differences are strongly associated with the availability of a spouse as a caregiver. Among those who have a spouse, 61.6 percent are cared for only by the spouse, and another 8.3 percent receive help from both the spouse and children. On the other hand, in the absence of a spouse, children become the predominant caregivers, providing care for 73.1 percent of widowed infirm older people. The health status of the spouse is also likely important in the assignment of care duties.

MULTINOMIAL LOGIT ANALYSIS OF CARE PATTERNS

In order to isolate individual factors associated with patterns of care provision and to explain the division of care responsibilities between spouse and children, we next employ multinomial logit regression models. The dependent variable is categorized by five outcomes: (1) no care, (2) spouse as the sole care provider, (3) children as sole providers, (4) joint provision by spouse and children, and (5) others as care providers. In panel A of Table 5, we include the same regressors as in Model 2 of Table 3, and we add interactions of the female indicator with spouse alive and spouse requires care in panel B. The average marginal effects are reported.

For both panels A and B of Table 5, we observe that marginal effects for the category “having no care” are almost the same in magnitudes to those in Model 2 in Table 3, except the model setup leads to a marginal effect on the female indicator that is opposite in sign. As it is redundant with our earlier discussion, we skip this category and focus on other columns.

In column 2, we observe that when a spouse is present but requires care, the probability of the elderly receiving care from their spouse increases by 46.4 percentage points, and that care only from children declines by 43.6 percentage points. When a spouse does not require

care, the probability of receiving care solely from the spouse increases by 18.2 (64.6–46.4) percentage points, with further withdrawal of care by children by 8.1 (51.7–43.6) percentage points. Notice that joint provision by both children and the spouse increased quite modestly. If we count joint care as a form of children's involvement, when the spouse also requires care, children's involvement decreases by 6.2 percentage points, and when the spouse does not require care, children's involvement further decreases by 9.4 percentage points; and both effects are quite large. On average, women are 12.5 percentage points (23.2 percent = 12.5/53.8) less likely than men to receive care from their spouse alone, 4.2 percentage points (18.8 percent = 4.2/22.3) more likely than men to have care needs met by their child alone, and 4.6 percentage points more likely than men to have the care needs met by other relatives. Although the number and gender composition of children have no influence on whether parents receive care, they are correlated with the type of care they receive. In particular, having one more child increases the likelihood of being cared for by a child by 1.9 percentage points and decreases the probability of being cared for by others by 2.5 percentage points. Interestingly, having more sons relative to daughters is not associated with a higher likelihood of being cared for by children but associated with a higher likelihood of being cared for by one's spouse. Given that regression models already control for marital status, this result indicates that having more sons is associated with children collectively shirking their duty toward their parents. This type of strategic behavior among children leading to a decrease in care provision has been studied by Roméo Fontaine, Agnès Gramain, and Jérôme Wittwer (2009) and Shiko Maruyama and Johar Meliyanni (2013).

By interacting the female indicator variable with spouse's health status, we examine how men and women are treated differently by family members. After running the multinomial logit regression model, including all variables used in panel A, and the interaction term of female indicator variable and the indicator for whether the spouse is alive and requires care, we derive the average probability of receiving care from the spouse or the children for both men and women conditional on the health status of the spouse and test whether the gender differences are statistically significant.

Column 2 of panel B reveals that if the spouse requires care, the probability that a woman will be cared for by her husband is 40.8 percent, while the probability that a man will receive care from his wife is 55.5 percent. The gender difference is 14.7 percentage points in favor of men, and is statistically significant. Column 3 suggests that when husband and wife both require care, the probability that a man will receive care only from children is 11.2 percent, while for a woman it is 22.4 percent. The difference is 11.2 percentage points and statistically significant. These results indicate that much of the care deficit caused by a spouse's health issues is compensated by care from children. When the spouse does not require care, we find (unsurprisingly) that the probability that care is provided by the spouse is higher than when the spouse requires care. The average probability for a woman to be cared for by her husband is 56.4 percent, while that for a man to be cared for by his wife is 75.6 percent. The care deficit from the spouse is larger (19.8 percentage points) than when the spouse also requires care. Under these circumstances, children reduce their provision of care. The probability that a woman receives care from children is 10.6 percent, while for a man it is 7.1 percent. The female advantage is 3.5 percentage points, much smaller than the deficit left by the spouse. This confirms our conjecture that when a spouse is capable of

providing care but does not, children do not fill in the gap, thus leaving women with less care.

Column 4 of panel B indicates that when the spouse does not require care, sometimes children assist their healthy parent in providing care to the infirm parent. However, this arrangement makes up only a very small part of the deficit in women's receipt of care.

SUMMARY AND CONCLUSIONS

With rapid population aging, China faces unprecedented challenges in providing care to elders. Coupled with sharp declines of fertility, massive out-migration of children, and the lower relative wealth of the older generation, the traditional model of relying on the family for eldercare may fail and leave many without care. Using the baseline wave of the CHARLS collected in 2011 and 2012, this study has described the scale of care needs for the population over age 60 in China, and the extent to which the care needs are met. We have also examined which family members provide care, with special attention to gender differences and how patterns in division of care provision may explain the deficit in women's receipt of care.

While 23.8 percent of the older population requires care in at least one type of daily function defined by ADLs or IADLs, women are 39.9 percent([27.7 percent-19.8 percent]/19.8 percent) more likely to have care needs than men. Among those with need, 11.6 percent have at least one type of unmet need, and women are 29.3 percent ([12.8 percent-9.9 percent]/9.9 percent) more likely than men to have unmet needs. Given that older women are also more likely to be poor (Zhao and Zhao 2018), lack of care is likely to compound the misery of poverty. Multivariate analysis reveals that most of the gender gap in unmet needs is explained by the existence of a spouse and the health status of the spouse. Further analyses reveal a sharp gender division in patterns of family care. While men tend to be cared for by a wife, women receive care from their children. This pattern is only partially explained by the availability of a spouse and the health of the spouse. Among those who are married, if the wife requires care and the husband does not, then the wife's probability of receiving care is lower than when the husband requires care and the wife does not.

As population aging continues, the scale of unmet needs is likely to grow. The Chinese government is setting up community care centers with the aim of helping families provide care to elders. As women are disproportionately represented among those not supported by the family-based system of care, special efforts should be made to reach out to elderly women – not only widows, but also those whose husbands appear to be healthy but are either unable or unwilling to provide assistance to their wives.

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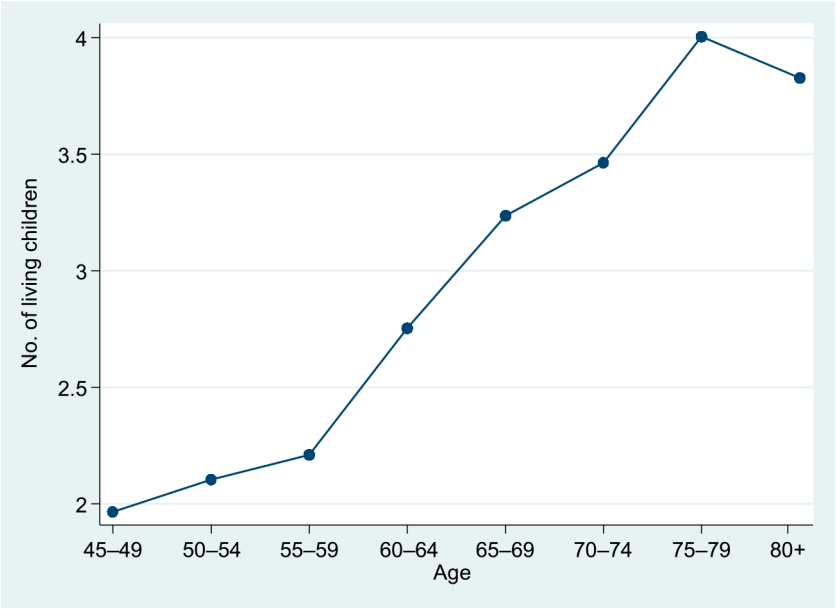

Figure 1.
Number of living children increases with age

Table 1

Older Chinese residents' ability to perform daily functions

	Completely dependent on caregiver in at least one activity (%)	Has difficulty with at least one activity; cannot self-manage, but can when assisted (%)	Has difficulty with at least one activity but can self-manage without assistance (%)	No difficulties (%)	Observations
Total sample (age 60 +)	17.4	6.4	14.1	62.1	7,342
Women	20.0	7.7	15.6	56.7	3,647
Men	14.7	5.1	12.6	67.6	3,695
Urban residence	14.8	5.1	10.6	69.4	2,919
Rural residence	19.7	7.6	17.4	55.3	4,423
Urban *hukou*	12.5	5.5	10.1	71.9	1,766
Rural *hukou*	19.5	6.8	15.9	57.7	5,576

Note: All numbers are weighted.

Table 2

Characteristics of older people who need care, by care status and by gender

	All	Women	Men	Has help	No help
Received care (%)	88.4	87.2	90.1	100	0.0
Women (%)	59.0			58.3	65.0
Age (year)	73.4	73.8	72.7	73.7	70.8
Rural *hukou* (%)	76.8	81.4	70.2	75.6	85.8
Rural residence (%)	59.6	62.2	55.9	58.2	70.3
Education level (%)					
Illiterate	54.2	69.5	32.2	54.2	54.8
Did not finish primary school	17.0	13.4	22.1	16.1	23.4
Finished primary school	16.2	10.5	24.4	16.3	15.3
Finished middle school	7.1	4.8	10.3	7.4	4.4
Finished high school and above	5.5	1.7	11.0	6.0	2.0
Receives a pension (%)	39.1	32.7	48.3	40.3	29.7
No. of children	3.6	3.7	3.4	3.6	3.5
No. of sons	1.9	1.9	1.8	1.9	1.8
Spouse’s health status (%)					
No spouse	37.4	47.5	22.8	37.2	38.7
Spouse requires care	19.0	15.5	24.0	18.2	24.8
Spouse does not require care (%)	43.7	37.1	53.3	44.6	36.6
Observations	1,694	979	715	1,457	237

Note: All numbers are weighted.

Table 3

Factors that influence receipt of care (average marginal effects from logit models reported)

Dependent variable: Received care when needed = 1			
	(1)	(2)	(3)
Women	− 0.037**	− 0.032*	− 0.028
Age	0.006	0.027**	0.022*
Rural *hukou*	0.015	0.023	0.024
Rural residence	− 0.036*	− 0.041**	− 0.039*
Education level (base: illiteracy)			
Did not finish primary school	− 0.038	− 0.050*	− 0.052**
Finished primary school	0.003	− 0.006	− 0.004
Finished middle school	0.052*	0.045	0.045
Finished high school and above	0.016	0.000	− 0.010
No. of children	− 0.000	− 0.001	− 0.001
No. of sons	0.014	0.013	0.012
Receives a pension	0.032*	0.027	0.022
Spouse's health status (base: no spouse)			
Spouse requires care		0.032	0.048
Spouse does not require care		0.105***	0.116***
Predicted probability of receiving care			
Male respondent with no spouse			0.744***
Female respondent with no spouse			0.814***
t-test (*p*-value)			0.118
Male respondent, spouse requires care			0.838***
Female respondent, spouse requires care			0.827***
t-test (*p*-value)			0.772
Male respondent, spouse does not need care			0.946***
Female respondent, spouse does not need care			0.865***
t-test (*p*-value)			0.000
Log-likelihood	− 661.73	− 649.20	− 641.74
Observations	1,694	1,694	1,694

Notes: Sample includes those who have care needs. In Models 1–3, the variable of age squared is controlled; in Model 3, the interaction term of female and spouse's health status is controlled additionally.

***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively.

Table 4

Patterns of care receipt by provider type for infirm older people in China

	All	Women	Men	Married	Single
Without care	11.6	12.8	9.9	11.4	12.0
With care	88.4	87.2	90.1	88.6	88.0
Spouse only (%)	38.5	28.0	53.8	61.6	0
Child only (%)	34.3	42.7	22.3	11.3	73.1
Spouse and child (%)	5.3	4.7	6.1	8.3	0.1
Other relatives only (%)	4.9	5.9	3.3	2.7	8.3
Hired care only (%)	0.7	0.7	0.6	1.0	0.3
Other joint care (%)	4.6	5.1	4	3.6	6.2
Observations	1,694	979	715	1,196	498

Table 5

Multinomial logistic models of care provider type (average marginal effects reported)

	(1) No care	(2) Spouse only	(3) Child only	(4) Both spouse and child	(5) Others
Panel A: Dependent variable: Caregiver is none, spouse only, child only, both spouse and child, and others					
Women	0.031*	−0.125***	0.042**	0.006	0.046***
Age	−0.022*	−0.071***	0.052***	0.010	0.031***
Rural *hukou*	−0.020	0.017	−0.019	0.011	0.011
Rural residence	0.039*	0.005	−0.014	−0.017	−0.014
Education level (base: illiteracy)					
Did not finish primary school	0.049*	−0.019	−0.005	−0.016	−0.008
Finished primary school	0.006	−0.011	−0.043	0.009	0.040
Finished middle school	−0.034	0.070*	−0.014	−0.024	0.003
Finished high school and above	0.016	0.021	−0.091	−0.022	0.076
No. of children	0.002	−0.001	0.019***	0.004	−0.025***
No. of sons	−0.014	0.020*	−0.009	−0.008	0.011
Receives a pension	−0.025	0.031	0.010	−0.004	−0.011
Spouse's health status (base: no spouse)					
Spouse requires care	−0.061*	0.464***	−0.436***	0.062***	−0.029
Spouse does not require care	−0.130***	0.646***	−0.517***	0.094***	−0.093***
Log-likelihood	−1701.47	−1701.47	−1701.47	−1701.47	−1701.47
Observations	1,694	1,694	1,694	1,694	1,694
Panel B: Dependent variable: Caregiver is none, spouse only, child only, both spouse and child, and others (with interactions of the female indicator with spousal health status indicator)					
	(1) No care	**(2) Spouse only**	**(3) Child only**	**(4) Both spouse and child**	**(5) Others**
Women	0.031*	−0.125***	0.043**	0.005	0.046***
Age	−0.020	−0.071***	0.052***	0.010	0.030***
Rural *hukou*	−0.021	0.018	−0.018	0.011	0.011
Rural residence	0.039*	0.006	−0.013	−0.017	−0.014
Education level (base: illiteracy)					
Did not finish primary school	0.051**	−0.020	−0.006	−0.016	−0.008

Panel A: Dependent variable: Caregiver is none, spouse only, child only, both spouse and child, and others					
	(1) No care	**(2) Spouse only**	**(3) Child only**	**(4) Both spouse and child**	**(5) Others**
Finished primary school	0.004	− 0.010	− 0.043	0.009	0.040
Finished middle school	− 0.037	0.073**	− 0.012	− 0.025	0.001
Finished high school and above	0.021	0.018	− 0.095	− 0.022	0.078
No. of children	0.002	− 0.001	0.019***	0.004	− 0.025***
No. of sons	− 0.013	0.019*	− 0.009	− 0.008	0.011
Receives a pension	− 0.023	0.030	0.008	− 0.004	− 0.011
Spouse's health status (base: no spouse)					
Spouse requires care	− 0.067**	0.467***	− 0.428***	0.060***	− 0.031
Spouse does not require care	− 0.131***	0.643***	− 0.514***	0.093***	− 0.090***
Predicted probability of receiving care					
Male respondent with no spouse	0.274***	0.005	0.591***	0.004	0.126***
Female respondent with no spouse	0.207***	0.002	0.617***	0.001	0.172***
t-test (*p*-value)	0.161	0.688	0.611	0.659	0.189
Male respondent, spouse needs care	0.163***	0.555***	0.112***	0.072***	0.098***
Female respondent, spouse needs care	0.174***	0.408***	0.224***	0.057***	0.138***
t-test (*p*-value)	0.788	0.005	0.005	0.559	0.248
Male respondent, spouse does not need care	0.057***	0.756***	0.071***	0.084***	0.031***
Female respondent, spouse does not need care	0.142***	0.564***	0.106***	0.102***	0.085***
t-test (*p*-value)	0.000	0.000	0.109	0.415	0.002
Log-likelihood	− 1698.09	− 1698.09	− 1698.09	− 1698.09	− 1698.09
Observations	1,694	1,694	1,694	1,694	1,694

Notes: Sample includes those who have care needs. In panels A and B, the variable of age squared is controlled; in panel B, the interaction term of dummy variable of female and spouse's health status is also controlled. Following the modified score function estimator proposed by Shelley B. Bull, Carmen Mak, and Celia M.T. Greenwood (2002), maximum penalized likelihood estimates (MPLEs) instead of maximum likelihood estimates (MLEs) are used in both panel A and panel B to get less biased and more efficient estimators.

***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively.