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Long-term Care Needs

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Abstract

Thailand is experiencing more acute population aging than most developing Asian countries. Its population aged 60 and older is anticipated to grow from 10% in 2000 to 38% by 2050. Meanwhile, the oldest-old population that is most likely to require long-term care (LTC) is estimated to increase tenfold during the first half of the 21st century. Family has remained a linchpin of support for Thai elders with LTC needs. Given population aging and other demographic trends such as smaller family size, migration of adult children, and lengthening survival at older ages, policy makers are concerned how such socio-demographic changes may have implications for familial support for older persons with LTC needs and in turn, the wellbeing of the elderly. The Thai government has thus far played a limited role in addressing LTC. While Thailand's recent National Plan for Older Persons recognizes the importance of LTC management, empirical evidence to support such policy planning remains lacking. This study provides a situation analysis of recent LTC needs among older persons in Thailand based on nationally representative surveys. Specifically, we examine prevalence of self-care disability (i.e., elderly with difficulty in activities of daily living) and how such disability varies by socio-demographic characteristics of older persons. Moreover, we assess patterns of caregiving, whether care needs are met, and who primarily takes care of older Thais with LTC needs. We are particularly interested in whether older persons with ADL disability take care of him/herself, or whether they have family members (spouse, children, other relatives) or others (friends, paid carers) as the main caregiver. Furthermore, we examine how types of familial and non-familial caregivers and the quality of caregiving (measured by caregiving knowledge) are associated with the wellbeing of older persons with self-care disability. Our analysis is based primarily on the 2014 Survey of Older Persons in Thailand (SOPT), which is the fifth in a series of Thai government surveys of older persons. The sample consists of 34,173 persons aged 60 and over, of which, 2,020 report having self-care disability.

Introduction

Thailand is experiencing more rapid population aging and likely more acute demand for long-term care (LTC) than most developing Asian countries. The proportion of the Thai population surviving to age 80 and older, which is a major driver of LTC needs, is estimated to rise tenfold between 2000 and 2050. Moreover, in Thailand and other middle-income countries, population cohorts approaching their 70s and 80s in the next two decades have been more exposed to risks related to non-communicable diseases than previous cohorts, thus making them more vulnerable to disabilities that require LTC (World Bank, 2016). Like other Asian settings, family has been a linchpin of support for older Thais with needs for personal assistance with activities of daily living. However, Thailand's growing bulge of older persons, and the shrinkage of family size and out-migration of adult children have raised concerns among policy makers about the extent to which home-based care for frail elderly with family members as primary caregivers can be maintained in the future.

In Thailand, formal state or paid private LTC services are still at a very early state of development. Efforts of the Thai government to comprehensively address the LTC system that incorporates family-based care with community-based and institutional care have thus far been limited by a lack of empirical evidence to support such policy planning. This study attempts to partially fill in the research gap. Based primarily on nationally representative data from the 2014 Survey of Older Persons in Thailand, we examine recent patterns and trends in caregiving for frail older Thais in the family context. First, we examine prevalence and differentials of older Thais in needs of LTC, including those reporting functional limitations, difficulties in activities of daily living (ADLs) and instrumental activities of daily living (IADLs). We then address who serves as the main providers of informal care among family and non-family caregivers. Next, we examine the extent to which LTC needs are met and who among older Thais are at risk of unmet needs for LTC. Lastly, we assess caregiving knowledge among the care providers. We conclude our study by discussing the implications of our empirical findings for understanding the roles of intergenerational relationships in LTC provision and for improving Thailand's current programs and policies on LTC.

Long-term care for frail elderly in comparative perspectives

Provision of LTC can be carried out in three broadly defined settings that encompass home, community, and institutions and incorporate both health and social care services (World Bank, 2016). Social care involves assistance with ADLs and IADLs as well as social support. In western developed settings, LTC provision tends to be dominated by institutional care (e.g., nursing home care), although evidence suggests that the majority of older persons with LTC needs prefer receiving care in their homes or communities (Columbo et al., 2011; Keenan, 2010). In much of eastern Asia, such formal LTC systems remain in a nascent stage (World Bank, 2016). In these settings, LTC for older persons is primarily provided informally by family members, who are likely informally employed women and sometimes the elderly themselves.

Adult children in eastern Asia typically hold strong beliefs regarding respect and obligations to assist their parents (Kim et al., 2015). Filial piety, one of the most important cultural ideals, plays an important cultural principle underlying intergenerational relations in many Asian societies (Slote & DeVos, 1998). It offers guidelines for children's beliefs and behaviors towards parents, including showing obedience and respect to parents and elders, sacrificing for parents, honoring the public prestige of parents and in some settings ancestors, co-residing with parents, and taking care of parents whether healthy or sick. Thus, filial piety has played an important role as the intergenerational contract in eastern and south Asian contexts (Croll, 2006), under which elderly parents are willing to receive support and even consider assistance and care from adult children as the return and gratitude for previous sacrifices by parental generations. Adult children who do not behave in ways consistent with guidelines of filial piety are likely sanctioned by family members, communities and sometimes the state. Findings in several East Asian settings suggest that aging parents whose children do not behave in appropriate filial ways are at greater risk of adverse psychological wellbeing (Lim & Kua, 2011; Silverstein et al., 2006).

Intergenerational coresidence is considered the normative and traditional living arrangement for older persons in Asia. This form of living arrangements facilitates intergenerational contacts and material and emotional exchanges between generations, particularly aging parents and married children and their families. Intergenerational coresidence in Asian families can be characterized by mutual aid and interdependence across generations responding to the needs of both parents and children. At the same time, this type of living arrangement is particularly important for the wellbeing of Asian elderly given their dependence on the family instead of the state to provide old-age LTC (Kim et al., 2015). With declines in fertility, increased migration of working age adults, changing socio-economic environments and family structures, research shows steady decline in intergenerational coresidence across Asian countries. Nevertheless, it remains a prevalent form of living arrangements for Asian elders. Compared to Western settings, Asian countries generally observe higher levels of intergenerational coresidence between elderly parents and adult children (World Bank, 2016).

Although there is still strong belief that adult children should be attentive and supportive of their parents particularly in old age, the behaviors that accompany such belief are in flux (Kim et al., 2015). Evidence indicates that the meanings and practices of filial piety are being modified and reinterpreted by both elderly parents and adult children (Croll, 2006). Caregiving in response to parental care needs is also undergoing transformation. Policies regarding caregiving for older adults may lead to changes in filial behaviors. Recognizing that shifts in filial behaviors may have diminished filial support, some governments attempt to step in to fill gaps in the safety network for older persons. Over time these policies may have crowded out filial support (Kohli, 1999). For example, in China the meaning of institutional care for older persons has shifted from a stigma to a reinterpretation of filial piety (Zhan et al., 2008). If adult children are unavailable to provide direct physical care for frail aging parents due to geographic distance or other commitments, they can substitute their filial duties by paying for high-quality institutional care for elderly parents

Across Asia, rapid population aging and social change have exposed the limitations of informal LTC for frail older persons. Currently, several governments in Asia are grappling with what is appropriate and sustainable role of the state in addressing LTC which has traditionally been the domain of families, communities, and health systems (World Bank, 2016).

The Thai context

Thailand has been experiencing demographic changes that pose challenges for the role that family members and particularly adult children play in providing routine personal care of older persons that need assistance to adequately care for themselves (Knodel et al., 2015). Medical advances are permitting older persons to survive to more advanced ages. The added years, however, involve extending not only periods in good health but also periods of frailty, chronic illness, and disability when routine personal care is required (Murray et al., 2015). At the same time, the family size of older persons has declined substantially over recent decades while the dispersion of their adult children through migration has increased.

The smaller family sizes of older persons can be problematic given the traditional prominence of adult children as caregivers as there will be fewer children available as potential caregivers. According to the United Nations (2015), the current TFR is estimated at only about 1.5 births per woman during her reproductive years down from over 6 during the 1960s. Thus in 2014 persons aged 60-64 averaged only 2.5 living children compared to 4.4 among persons 80 and older (Knodel et al., 2015). Moreover, family size of older persons will continue to decline at a rapid pace in the future given that the TFR has been below 2 since the early 1990s. Already in 2014, persons aged 50-54 who will be entering the older age span within the coming decade averaged only two living children. Unless fertility rises, completed family sizes of older persons will fall below two children in the foreseeable future.

The provision of personal care requires geographical proximity between the caregiver and the recipient and is particularly facilitated through coresidence in the same household. As documented in the analysis that follows, the vast majority of personal caregivers of older Thais coreside with them. Thus filial caregiving is further threatened by declining coresidence and the increased dispersion of adult children through migration. Coresidence of persons 60 and older has declined from 77% to 55% between 1986 and 2014 (Knodel et al., 2015). Moreover, increased migration has resulted in the proportion of adult children that live outside their parents' province to rise from 28% to 39% between 1995 and 2011 (Knodel, Prachuabmoh & Chayovan, 2013). Unless older-aged persons whose children have all migrated either move to join one of their children or one of their children returns, this increased dispersion of adult children further reduces the availability of filial personal care. Hiring paid carers to assist older parents with self-care could be one of the potential solutions. However, as the following analysis indicates, resorting to non-family paid assistance among older persons remains relatively rare.

In addition to demographic change, social, political and technological transformation can alter the normative context underlying filial obligations to older-aged parents (Hendricks & Yoon, 2006). So far, however, evidence indicates that the normative context has yet to change substantially in Thailand, although this may occur in the future (Knodel, 2014; Knodel et al.,

2013). There is widespread preference for a family member, especially adult children, to provide personal care. A mixed-methods study by Knodel et al. (2013) based on the 2011 Opinion Survey on Knowledge and Attitudes Regarding Older Persons and qualitative interviews with persons approaching old age found that they preferred children over spouses and relatives over non-relatives as their main carers. In addition, the concept of parent repayment where adult children have an obligation to care for aging parents still prevails. However, some respondents admitted that this could be problematic given their children's obligation to their own conjugal family and the lack of economic opportunities if they return to the parents' home (Knodel et al., 2013).

Given potential erosion of family support for older persons in need of personal assistance, the roles of technological innovation have been widely discussed, particularly regarding the extent that it can assist the elderly in performing activities of daily living and enhance opportunities for aging in place. The assistive technologies range from basic ones (e.g., canes, wheelchairs, and elevated toilet seats) to more advanced ones (e.g., sensors, smart phones, and personal care robots). Findings from developed settings suggest that technology confers unique benefits in reducing difficulty with daily tasks and unmet need and can potentially improve the quality of care and defer functional declines and institutionalization, which also would reduce public and private expenditures (Agree et al., 2005; Satariano et al., 2014). The extent to which technology can substitute or supplement filial care remains an open question. Assistive technologies commonly found in Thailand tend to be simple ones; however, their usage is likely to increase in the foreseeable future.

The Thai government is clearly aware of the challenge that LTC poses in the context of decreasing availability of family assistance. Extending its prior 2008-2011 plan, the Health Development Strategic Plan for the Elderly (2013-2023) of the Ministry of Public Health clearly spells out a strategy for addressing LTC. The plan is based on the concept that the quality of life of older persons at advanced ages can be best retained through a combination of assistance within their family and a supporting system of healthcare and social services within their own community. It emphasizes the need for the community and local administrative organizations to cooperate in implementing the LTC system, including allocating a budget for the purpose. The components of the system include databases on older persons, good-quality elderly clubs, volunteers to provide home-based care for older persons, preventive dental services, and a system to ensure care for the elderly who are home- or bed-bound (Foundation of Thai Gerontology Research and Development Institute & College of Population Studies, 2012).

With respect to providing home-based assistance for older persons, the Bureau of Empowerment for Older Persons (now Department of Older Persons) launched the Home Care Service Volunteers for the Elderly Program in 2003. Its objective is to establish a system of community-based care and protection for older persons with chronic illnesses, especially for those who are bedridden, who have no caregivers or who are underprivileged. After its initial start as a pilot program, it steadily expanded and attained some level of coverage in all communities throughout Thailand in 2013. The latest 2013 statistics indicate that over 51,000 elderly home care volunteers had been enlisted who are responsible for nearly 800,000 older persons (Ministry of Social Development and Human Security, 2013). Nevertheless, the extent

and quality of services provided by elderly home care volunteers vary greatly across communities. For instance, only one third of local authorities surveyed in a recent evaluation study reported that services provided by elderly home care volunteers met the needs of elders in their communities. Key challenges in providing comprehensive home-based assistance for older persons include insufficient numbers of qualified and skilled home care volunteers and lack of budget to compensate the volunteers in their activities (e.g., transportation expenses) (Suwanrada et al., 2014).

In the western context, long-term institutional residences for older persons are viable ways of dealing with persons in serious need of elder care. However, they are considered only as a last resort to be provided by the Thai government as a way of dealing with persons in need of LTC care. Thus, there are only 12 institutional old-age homes supported by the national government with under 2000 residents and 13 others under the supervision of the Department of Local Administration (Foundation of Thai Gerontology Research and Development Institute & College of Population Studies, 2012).

Data and measurement

Thailand is unusual in Southeast Asia in having conducted a series of national surveys between 1986 and 2014 that document the social, economic and health situations of older persons at the time (Teerawichitchainan & Knodel 2015). These include five Surveys of Older Persons (SOPT) in Thailand between 1994 and 2014 conducted by the National Statistical Office (NSO). The present analysis is based primarily on the 2014 survey which covers all persons aged 50 and older in each sample household. Analyses are restricted to persons aged 60 and over, the age range most commonly used when referring to the older-aged population in Thailand. Information is available for 38,695 persons aged 60 and older. After applying appropriate weights the sample is nationally representative¹.

Overall, among persons age 60 and older covered in the 2014 survey, 79% provided interviews by themselves, 5% were assisted by another person and the remaining 16% were provided by a proxy (typically another household member). Proxy interviews are necessary since eligible respondents who are unavailable for interview often differ from those that are willing and able to provide interviews themselves. These include older persons that are particularly frail, have serious hearing difficulty or suffer from dementia as well as healthy individuals who are absent at the time of interview.

Relevant to the present analysis, the survey included questions that solicited a variety of information to assess the need for assistance with activities of daily living as well as information about who the main care provider is for those who receive such assistance. Information about who provides assistance other than the main provider is not available in the 2014 survey. Respondents were asked directly if they wanted or needed (*tongkarn*) someone to help them with their daily living activities. Thus the 8.5% that gave positive responses can reflect either a need

¹ The official full report including detailed tables and a description of the methodology of the survey is available online (<http://service.nso.go.th/nso/web/survey/surpop2-1-1.html>).

or a desire for personal assistance or some combination of the two. Note that this question leaves the definition of daily living activities up to respondents who likely think of them in a broad generic sense. Thus what respondents consider as daily living activities does not correspond to the far more narrow set of specific activities that are referred to as such in the gerontological literature and in our analyses.

Respondents were asked in the 2014 survey if they experienced specific difficulties involving 4 physical functional activities, 8 activities of daily living (ADL) and 3 instrumental activities of daily living (IADL).² The total number of difficulties reported is used in the following analysis to measure need for long-term personal care. Appendix Table 1 shows the percentage of respondents that reported a difficulty in 2014 with respect to each specific item as well as the percentages reporting difficulties that were included in the two previous NSO surveys. The wording of the questions is identical across the surveys but the items that were asked about were much less inclusive in 2007 than in 2011 and 2014. The results show higher percentages of respondents reporting functional and ADL difficulties in 2014 than in the earlier surveys. IADL difficulties do not reveal consistent differences. Overall, it is difficult to judge whether the differences across the surveys are meaningful given that the questions are subjective and could reflect differences in the manner in which the surveys were conducted. At a minimum, the differences suggest that the reported levels of functional, ADL and IADL difficulties are less than fully precise.

Despite any imprecision, Table 1 indicates these measures correspond well with reported self-assessed physical health during the past seven days and self-assessed need or desire for help with activities of daily living. Functional, ADL and IADL difficulties are relatively rare among respondents that assessed their health as very good to fair, averaging a total of just less than 1 of the 15 possible difficulties asked about. In contrast those that say their health is poor and even more so those who say their health is very poor report far more difficulties with the latter averaging more than eight. The results also show a substantially higher mean numbers of functional, ADL and IADL difficulties for respondents that indicate a need or desire for help with activities of daily living than those who do not. Similar stark patterns of differences are evident with respect to the percentages that report experiencing any of the various types of difficulties.

Older-aged respondents in the 2014 survey that received assistance with daily living activities were asked how they were related to their main care provider.³ Additional information on this is also available from the caregivers themselves. Survey interviewers were instructed to ask the main person providing assistance a series of questions concerning their socio-demographic characteristics and about knowledge of several issues related to caregiving. Interviews were completed with caregivers of 85% of persons 60 and older that had a caregiver. The instructions were to interview the main caregiver and that was mostly the case. Among the 3278 caregivers interviewed, 92% indicated they were the main caregiver while the remaining 8% classified themselves as a minor caregiver. Comparisons between the relationships of the caregiver to the care recipients as reported by the recipients themselves and as reported by

² These are referred to in the text collectively as physical difficulties.

³ We use the terms caregiver, care provider and assistant with activities of daily living interchangeably.

interviewed caregivers who were classified as the main caregiver agree in the overwhelming share of cases (96%).⁴ Thus as Appendix Table 2 reveals, the percent distributions of main caregivers as reported by care recipients and as reported by interviewed caregivers who were classified as main caregivers are quite similar. However, the relationship distribution of the 8% of interviewed caregivers that identified themselves as minor caregivers is substantially different from that of the main caregivers with more being sons, other family members or nonfamily members and far fewer being spouses or daughters.

Table 1. Mean number of functional limitations and ADL and IADL difficulties and percentage with any functional limitation and ADL and IADL difficulty by self-assessed health and self-assessed need or desire for assistance with daily living activities, persons aged 60 and older

	Self-assessed physical health during past 7 days			Self-assessed need or desire for ADL help	
	very good to fair	poor	very poor	no	yes
Mean number of:					
4 functional limitations	.58	1.88	3.19	.65	2.62
8 ADLs	.08	1.12	3.58	.04	3.06
3 IADLs	.31	1.07	1.91	.34	1.68
4 most important ADLs	.03	.60	1.82	.01	1.66
All 15 difficulties	.97	4.07	8.68	1.03	7.36
Percentage with					
any functional limitation	28.8	67.2	90.3	31.5	78.8
any ADL	3.0	25.1	60.6	2.3	61.3
any IADL	21.2	60.3	86.4	23.6	76.3
any of the above difficulties	33.9	75.1	91.9	36.6	87.7
any of the 4 most serious ADL	1.4	19.7	53.1	0.4	54.6

Note: The four most serious ADL encompass eating, using toilet, bathing and dressing.

Source: 2014 Survey of Older Persons in Thailand

Unmet need for personal care is measured among respondents that say they need or want assistance with daily living activities. Those that report that no one provides such care are considered as having an unmet need. An index of correct knowledge is calculated by summing the number of the correct answers to the three questions about knowledge relevant to caregiving for older persons. One question asked what type of food relieves constipation (correct answer: vegetable/fruit). The second asked how many glasses of liquid an older person should drink per day (correct answer: 8-14). The third asked what to do if the older person has a fever of over two days (correct answer: go to see a doctor). We also examine if the care recipients self-assessed

⁴ Agreement between the recipients and caregiver reports with respect to the relationship with the recipient does not necessarily mean they were referring to the same individual since there may be multiple individuals in any particular relationship category.

happiness is associated with how the care provider is related to the care recipient. For this purpose we draw on responses to a question asking the respondent to indicate on a scale from 0 to 10 how happy they were during the past three months.

The main independent variables used in the analysis in addition to the total number of functional, ADL and IADL which indicates need for assistance vary somewhat with the particular dependent variable being analyzed. They include gender, marital status, age, area of residence, education of respondent, value of respondent's total assets and living arrangements. The main statistical methods used in the present study are cross-tabulation, binary logistic regression and multiple classification analysis.

Results

Prevalence and differentials of self-care disability

There is considerable variation in the extent to which people have functional limitations, ADL difficulties and IADL difficulties. As Table 2 shows, despite the fact that the 2014 survey asked about eight potential ADL difficulties and only four functional limitations and three IADL difficulties, the mean number of ADL difficulties reported is lowest and the percentage of respondents that report having any is only 7%. This compares to over one third reporting at least one functional limitation and over one fourth reporting an IADL difficulty.

Table 2. Functional limitations, difficulty with activities of daily living (ADLs) and difficulty with instrumental activities of daily living (IADLs) by age, gender and area of residence, persons 60 or older

	Functional limitations (Maximum=4)		ADL difficulty (Maximum=8)		IADL difficulty (Maximum=3)		All difficulties (Maximum=15)	
	mean number	% with any	mean number	% with any	mean number	% with any	mean number	% with any
Total	.82	35.5	.30	7.3	.45	28.1	1.57	40.9
Age								
60-69	.39	21.1	.11	3.3	.17	12.5	.68	25.1
70-79	1.06	45.7	.32	8.5	.59	38.6	1.96	53.3
80+	2.07	72.6	1.01	21.8	1.31	69.5	4.39	79.2
Gender								
men	.58	25.4	.25	5.8	.34	20.6	1.16	30.6
women	1.02	43.7	.34	8.6	.55	34.2	1.90	49.4
Area								
Bangkok	1.02	44.6	.46	9.4	.50	31.7	1.97	48.2
other urban	.84	36.8	.28	6.9	.42	26.1	1.54	41.0
rural	.78	33.3	.28	7.3	.46	28.5	1.52	39.7

Source: 2014 Survey of Older Persons in Thailand

At the same time, the pattern of differences according to age, gender and residence are similar across the three sets of physical difficulties. Both the mean number of problems and the percentages having at least one of each type of the three categories rise with age. Particularly sharp increases are apparent between those in their 70s and those 80 and older. Likewise women are substantially more likely to report these three types of difficulties than are men. Increases with age as well as gender differences are consistent with findings from previous surveys (Knodel, Prachuabmoh & Chayovan 2013; Knodel & Chayovan 2008). Interestingly, with respect to place of residence, older-aged persons in Bangkok appear to be distinctly disadvantaged physically. This could partly reflect a tendency for some persons that develop physical difficulties and need for medical assistance to move to Bangkok for treatment given the superior medical facilities including leading quality hospitals that are far more common there.

Care providers

Information provided by main caregivers themselves indicates that 94% coreside with the recipient of their care and most of the remainder lives adjacent or very nearby. As Table 3 shows, based on information from respondents 60 and older, only 11% receive assistance with their activities of daily living. This varies substantially according to the level of need for assistance. Only 6% of those who report that they do not need or want assistance indicate that they receive care compared to almost two thirds of those who say that they do need or want assistance. Similarly among those that assess their health as at least fair, only 7% indicate that they receive care. In contrast over one fourth that report their health as poor and two thirds who say their health is very poor say someone helps them with their daily living activities.

With regard to functional limitations, ADL and IADL there is a noticeable increase in those receiving care between those that report no limitation or difficulty and those that report having any. Moreover, the increase between those who report one and those who report multiple limitations or difficulties is particularly striking. Having ADL difficulties is clearly associated with a higher probability of receiving assistance than having either functional limitations or IADL difficulties. This underscores ADL problems as particularly relevant for creating a need for a caregiver. Fully three fourths of persons with two or more ADL difficulties report receiving care compared to half of those with multiple IADL difficulties and a third of those with multiple functional limitations. If the total overall number of limitations and difficulties is considered, there is a clear increasing association as the number of difficulties reported increase.

Table 3 also reveals that overall a child is by far the most common main caregiver accounting for over half (55%). However, it is far more likely that the child providing the care is a daughter than a son. Spouses are clearly the second most common main caregiver making up almost 30% of those providing the main assistance with daily living activities. Children-in-law only infrequently serve as the main person providing assistance. However, apparently the large majority of children-in-law that are main carers are daughters-in-law.⁵ Together spouses, children and children-in-law represent about 90% of main caregivers for persons over 60.

⁵ Although the gender of the child-in-law providing main care is not provided directly in response to the question about the relationship of the carer to the respondent, it is possible to determine this indirectly for those children-in-law that are coresident from information on the household composition. Among the 42% of children-in-law that were coresident main carers, 87% were daughters-in-law.

Table 3. Percentage receiving care and percent distribution of main care providers among those receiving assistance, persons 60 and older

	% receiving care	Percent distribution of main carers of those receiving care					
		spouse	son	daughter	child- in-law	other relative	non-family member
Total	11.2	28.9	13.4	41.9	5.7	8.2	1.9
Self-assessed need or desire for assistance							
no	6.4	33.8	14.4	40.1	4.8	6.1	0.8
yes	63.9	23.7	12.4	43.9	6.7	10.4	3.0
Self-assessed health							
very good to fair	7.3	30.7	14.7	41.8	5.6	6.0	1.2
poor	26.8	24.6	12.8	43.2	6.4	10.8	2.3
very poor	66.5	32.5	9.8	38.4	4.7	10.8	3.7
Functional limitations							
none	4.1	51.9	11.9	28.7	2.0	4.9	0.5
1	9.4	34.4	14.2	41.7	4.3	4.5	0.9
2+	32.7	19.6	13.9	46.7	7.3	9.9	2.5
ADL difficulties							
none	7.4	32.6	14.5	40.0	4.6	7.3	1.0
1	35.1	21.2	15.6	45.9	7.6	7.9	1.7
2+	75.1	23.7	10.7	44.6	7.4	9.9	3.8
IADL difficulties							
none	4.3	52.3	11.7	28.0	2.2	5.2	0.5
1	15.8	25.6	15.3	42.8	5.4	9.2	1.7
2+	50.2	17.1	13.5	49.4	7.9	9.4	2.7
Total difficulties							
none	3.9	56.8	10.5	25.9	2.0	4.2	0.6
1-2	7.3	33.5	16.9	39.7	2.5	6.6	0.8
3-4	14.7	20.8	13.8	48.0	6.4	10.4	0.6
5-9	37.7	15.9	16.2	48.5	8.7	8.7	2.1
10+	88.4	23.9	10.3	44.8	6.5	10.5	3.9

Source: 2014 Survey of Older Persons in Thailand

Notes: Care refers to assistance with activities of daily living (ADL).

Other relatives include grandchildren, siblings and parents; non-family members are primarily employees including servants or health professionals.

Most of the remaining 10% are other relatives with fewer than 2% reporting non-family members (mainly employees or professional persons) as their main source of assistance. Although not shown in table, it is interesting to note that if only recipients that are both currently married and who have children are considered, spouses account for 61% of the main carers and children for 34%. Thus the situation is almost reversed when respondents have both a living spouse and living children. However, when both a spouse and a child are coresident, they are about equally likely to be the main caregiver (49% and 47% respectively).

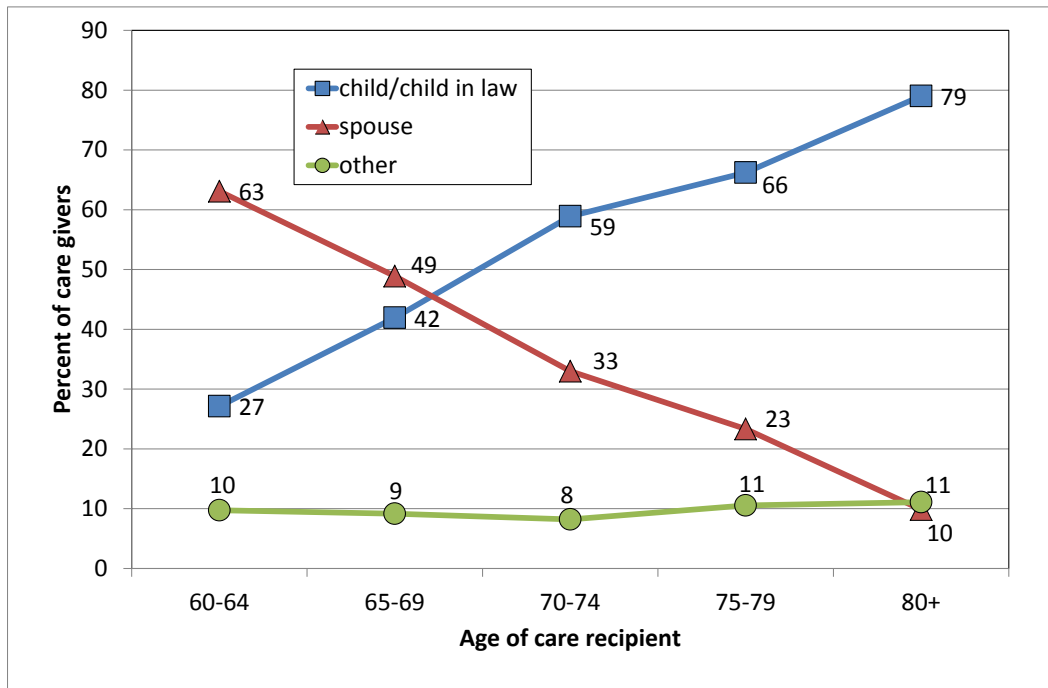
In general, regardless of the measure of need, spouses as main providers of care decline with increasing need while children together with children-in-law are commensurately more common. Underlying this relationship undoubtedly is the association between level of need and age. Thus those with greater need are distinctively older than those with lesser or no need. For example, the average age among persons 60 and older rises virtually steadily from 67.0 for those with no limitation or difficulty to 79.5 for those with 10 or more (not shown in table). Increased age in turn is related to higher chances of widowhood and thus with no spouse available to provide assistance.

Figure 1 summarizes the relationship between age of care recipients and the role of spouses and children or children-in-law as the main care providers. The percentage of main providers that are a spouse declines steadily and almost linearly with age while the percentage for which the main caregiver is a child or child-in-law increases. Among care recipients in their lower 60s, spouses account for over 60 percent of main providers and compared to about half of those in their later 60s. At the same time, children or children-in-law represent only just over a fourth of main caregivers for persons in their lower 60s but rises linearly with age reaching just over two fifths for those in their later 60s and almost four fifths for those aged 80 and older. The role of others besides spouses and children or children-in-law is low and remains almost unchanged at only around 10 percent of main care givers regardless of the age of recipients.

Unfortunately, the 2014 survey does not include questions that measure the quality of or satisfaction with the assistance received in activities of daily living. However, as noted above, it includes a question asking respondents to rate their level of overall happiness during the past three months on a scale of 0 to 10. Many factors other than satisfaction with the assistance provided influence happiness. Nevertheless, it is likely that the quality of care among recipients is of considerable influence. Thus it is of interest to examine the extent to which happiness is associated with different types of care providers even though clearly no causal connection can be inferred. Figure 2 presents the results.

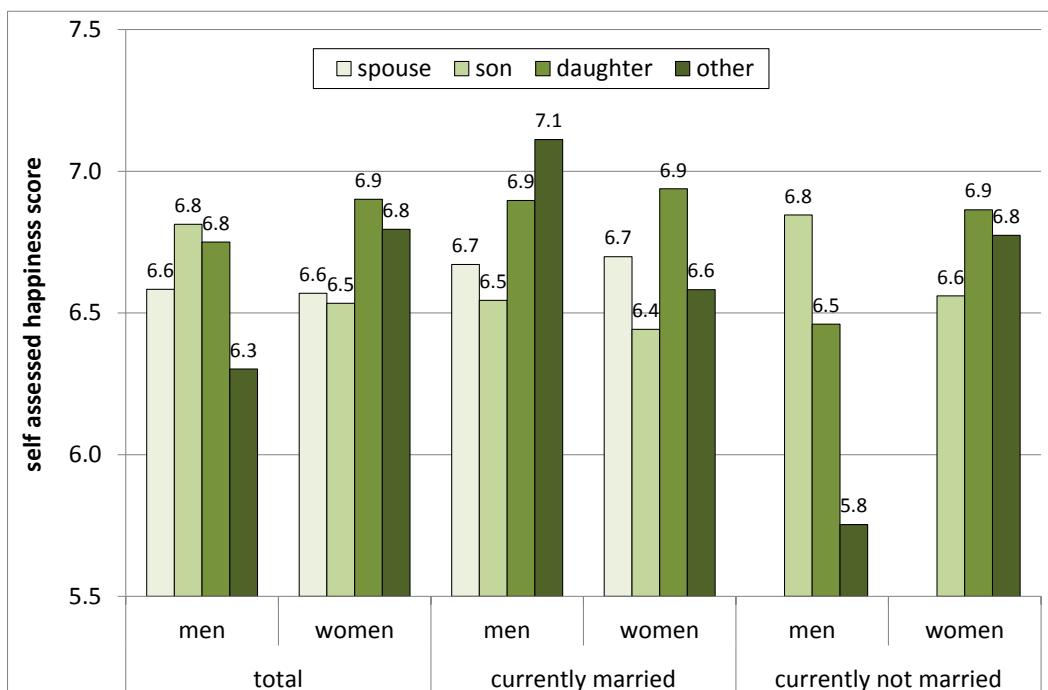
Generally, having a daughter as the main caregiver is associated with relatively favorable happiness scores. Among women, regardless of whether they are currently married or not, a daughter as caregiver is associated with highest average happiness score. Relatively high happiness scores are also associated with men who have a daughter as their main caregiver. These findings are consistent with previous research that documented a preference for coresident daughters as the ones to provide old-age care to parents (Knodel, Saengtienchai and Sittitrai 1995). At the same time, for women regardless of marital status, the happiness score for those whose son is the main caregiver is lower than for those whose main carer is a daughter. The same is true only for currently married men. For men not currently married higher happiness

Figure 1. Percent distribution of main care givers to persons 60 and older that receive assistance with their activities of daily living, persons 60 or older



Source: 2014 Survey of Older Persons in Thailand

Figure 2. Self-assessed happiness score according to main care giver, persons 60 and older who report having a person that assists with daily living activities



Source: 2014 Survey of Older Persons in Thailand

Note: Excludes proxy interviews. The question asked “Can you rate yourself from 0-10 regarding how happy you were during the past three months with zero meaning very unhappy and 10 meaning very happy?”

Results shown are adjusted by multiple classification analysis for the total number of functional, ADL and IADL difficulties experienced by the respondent.

scores are associated with those that have sons rather than daughters as their main caregiver. Thus for men overall the contrasting patterns for married and unmarried men largely balance each other out and sons and daughters as main carers are associated with similar happiness scores.

Interestingly, care from spouses is associated with identical mean happiness scores for both men and women. The association of the happiness index with those whose caregivers that are other than a spouse or child are considerably higher among women than among men overall. The gender difference, however, is in opposite directions for the two marital status groupings even though both for men and women this group is made up of mainly by children in law, grandchildren and siblings in roughly similar percentages. Moreover, while for women the happiness score associated with caregivers other than their spouse or children is consistently below the score associated with a daughter as the main caregiver, this is the case for men overall and those not currently married, it is not true for currently married men.

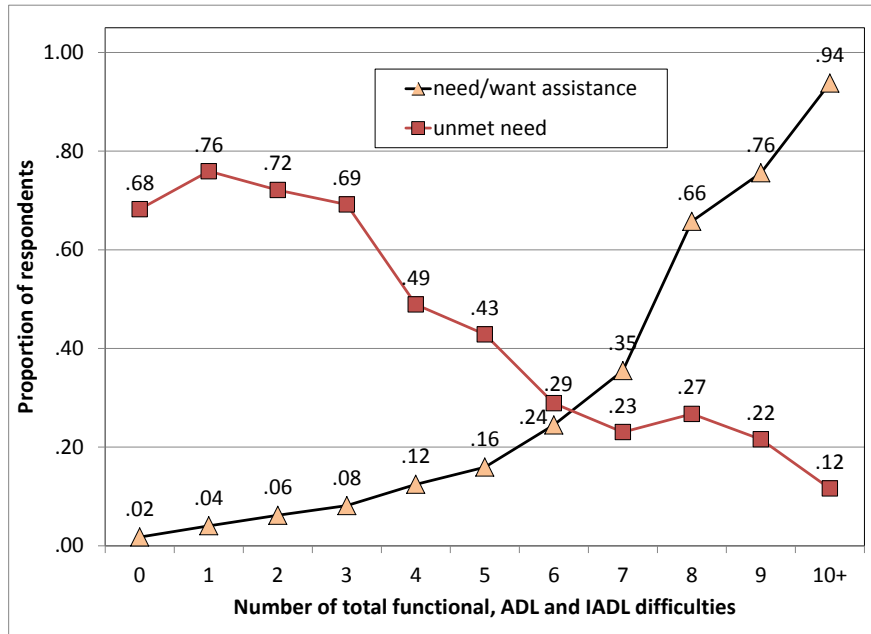
Met and unmet need for assistance

An important issue concerning long-term care is the extent to which those who need or want assistance receive it. As described in the data and methods section, respondents that report they need or want assistance with daily living activities and receive it are considered as having a met need for such assistance. The remainder is treated as having an unmet need. As panel A of figure 3 clearly shows, not only is the desire for assistance in daily living activities strongly related to the total number of functional, ADL and IADL difficulties, but so is unmet need. Clearly the proportion of respondents that say they need or want assistance increases steadily with the total number of difficulties, fairly slowly at first but then sharply starting with those who report six or more difficulties. At the same time, the extent to which persons that want or need assistance do not receive it declines fairly steadily with increased numbers of difficulties experienced. Thus unmet need characterizes over two thirds of those who need or want assistance but experience three or fewer difficulties. However unmet need declines sharply starting with those that have at least four dropping from just under half to only 12% of those with 10 or more difficulties.

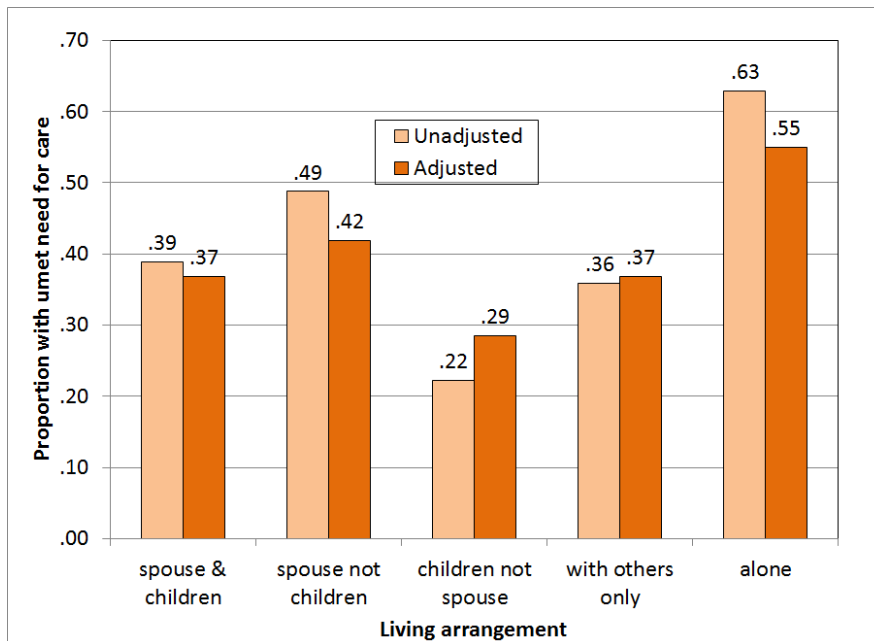
Panel B in figure 2 examines the association of unmet need with different living arrangements. Results are shown both unadjusted and statistically adjusted using multiple classification analysis (MCA) for the total number of functional, ADL and IADL difficulties. Although the adjusted results differ somewhat from the unadjusted results, the relative ordering of the arrangements with respect to unmet need are the same. Unmet need is clearly highest among those that live alone and lowest for those that live with children but not a spouse. The latter may reflect the possibility that children take into consideration the need for care when making decisions about whether to leave a parent living without a coresident spouse or another coresident child.

Figure 3. Unmet need for assistance with activities of daily living, persons 60 and older that report a need or desire for assistance

A. Proportions saying they need or want assistance and proportions with an unmet need by total number of functional, ADL and IADL difficulties



B. Proportions with an unmet need by living arrangements, unadjusted and adjusted for the total number of functional, ADL and IADL difficulties



Source: 2014 Survey of Older Persons in Thailand

Note: Adjusted results were obtained through multiple classification analysis.

Table 4 addresses met need for assistance. It provides a multivariate analysis based on binary logistic regression of several potentially important covariates. Results are shown as odds ratios unadjusted, adjusted only for the total number of physical difficulties and adjusted for all covariates included in the analysis.

Table 4. Odds ratios from binary logistic regression predicting met need for assistance with daily living activities, older persons aged 60 and over that report a need or desire for assistance

	Not adjusted	Adjusted for total number of functional, ADL and IADL difficulties only	Adjusted for all variables
Gender	p=.892	p=.003	p=.000
man	Ref. cat.	Ref. cat.	Ref. cat.
woman	1.01	0.77	0.64
Age	p=.000	p=.000	p=.000
60-64	Ref. cat.	Ref. cat.	Ref. cat.
65-69	1.46	1.24	1.28
70-74	2.30	1.71	1.66
75-79	2.75	1.68	1.63
80+	7.22	3.49	3.25
Area	p=.000	p=.000	p=.000
Bangkok	Ref. cat.	Ref. cat.	Ref. cat.
other urban	1.10	1.65	1.57
rural	0.72	1.13	1.05
Education	p=.000	p=.121	p=.345
none	Ref. cat.	Ref. cat.	Ref. cat.
primary	0.69	0.82	1.03
lower secondary	0.42	0.65	0.77
beyond lower secondary	0.61	0.91	1.36
Value of assets (quartiles)	p=.000	p=.000	p=.000
none	Ref. cat.	Ref. cat.	Ref. cat.
low	0.54	0.74	0.76
medium	0.46	0.52	0.57
high	0.45	0.62	0.66
Living arrangement	p=.000	p=.000	p=.000
with spouse and children	Ref. cat.	Ref. cat.	Ref. cat.
with spouse without children	0.67	0.78	0.83
with children without spouse	2.22	1.63	1.49
with others only	1.14	0.98	0.94
alone	0.38	0.40	0.34

Source: 2014 Survey of Older Persons in Thailand

Note: Total number of difficulties is adjusted as a continuous variable; p-values shown indicate the level of statistical significance of differences within the set categories in the variable.

Prior to any adjustment, gender shows virtually no relationship to met need for assistance but women appear disadvantaged compared to men once results are adjusted for the total number of physical difficulties and even more so when adjusted for all covariates in the table. Increased age is clearly associated with higher likelihood of met need for assistance although the degree of association is moderated when the influence of other variables are taken into account, especially when the total number of physical difficulties experienced by the respondent are controlled. Met need varies to some extent with area of residence and appears to be particularly high in urban areas excluding Bangkok. Education shows relatively little relationship to met need. However, persons with assets are less likely to have need for assistance than those with no assets although the value of the assets does not seem to make a difference. In contrast living arrangements clearly are related. Respondents that live alone are particularly disadvantaged with respect to met need.

Caregiver knowledge

As described in the data and methods section, an index of knowledge related to caregiving has been constructed based on three questions posed to caregivers. The value of the index ranges from 0 to 3 depending on the number of correct answers. On average, caregivers scored just under 2. Table 5 presents the results both unadjusted and adjusted through multiple classification analysis in which the independent variable is the caregiving knowledge score and the dependent variables are various characteristics of the caregivers as self-reported.

Overall, adjusted results do not differ greatly from the unadjusted results. The caregiver characteristics that have statistically significant associations with caregiving knowledge are the urban or rural nature of the area in which caregiving is taking place and the age, education and caregiving status of the caregiver. Those in Bangkok have significantly higher knowledge scores than those in either other urban or rural areas. The relationship with age is curvilinear with the highest scores being for caregivers in middle age and the lowest for those who are either the youngest or the oldest. Knowledge also increases with education up to the secondary level but there is almost no difference between those who stopped with a secondary education and those that went beyond the secondary level. Main caregivers also have clearly better knowledge than those who identified themselves as playing a minor role. Although not highly statistically significant, having some training related to caregiving is associated with superior knowledge. However those with informal training score somewhat higher than those that reported receiving formal training. Neither gender, relation to the care recipient nor coresidence status is significantly associated with the knowledge measure.

Table 5. Caregiving knowledge index by caregiver characteristics, unadjusted and adjusted through multiple classification analysis (MCA)

	Number of cases (unweighted)	Unadjusted	Adjusted by MCA	Statistical significance of adjusted values
Total	3278	1.97	--.	
Area				.000
Bangkok	224	2.19	2.15	
other urban	1637	1.97	1.96	
rural	1417	1.91	1.93	
Gender				.263
man	718	1.91	1.92	
woman	2560	1.98	1.98	
Relationship				.473
spouse	845	1.85	2.00	
son	396	1.96	1.93	
daughter	1410	2.02	1.95	
child-in-law	229	2.08	2.03	
relative	326	2.02	2.00	
non-relative	72	1.91	1.85	
Age of carer				.004
under 25	88	1.98	1.89	
25-39	434	2.06	2.01	
40-59	1730	2.03	2.02	
60-69	653	1.87	1.90	
70+	373	1.72	1.79	
Education				.000
none	140	1.51	1.56	
primary	1911	1.89	1.91	
secondary	734	2.13	2.11	
beyond secondary	492	2.15	2.10	
Location				.631
in household	2990	1.97	1.97	
adjacent	212	1.96	2.01	
elsewhere	76	1.89	1.88	
Training				.089
none	2993	1.95	1.96	
informal only	133	2.16	2.10	
formal	152	2.07	2.04	
Caregiving status				.000
main caregiver	3016	1.98	1.98	
minor caregiver	262	1.85	1.77	

Source: 2014 Survey of Older Persons in Thailand

Note: The knowledge index indicates number of correct answers to three questions.

Discussion and conclusions

In Southeast Asia as in much of the developing world, traditional responsibility for care and support of older persons in need of assistance rests with the family, especially with their adult children (National Research Council 2011). Thailand is no exception (Knodel et al. 2013). As described above, the state and local communities are expanding their roles but the measures being undertaken are intended to be primarily supportive of family care rather than to replace it.

There is clearly a strong normative basis underlying the predominant role of family members in providing care for older persons in the form of assistance with activities of daily living. This has been documented by numerous studies over the last half century (Cowgill 1972; Knodel, Saengtienchai & Sittitrai 1995; Knodel & Chayovan 2012). The preceding analysis reveals that the association between having a family member as the main caregiver and socioeconomic characteristics as measured by education or even value of assets is quite weak once other influence are taken into account. This underscores that there is a general normative prescription for family members to take on the role of long-term care provider. National surveys of adults 18-59 in 2007 and 2011 both show overwhelming preference for family members as main care providers with two thirds specifically citing children as their preferred choice (Knodel et al. 2013). The low reliance on paid persons or other non-family members to take main responsibility for caregiving could be due not only to limited availability as well as affordability of such services but also to concern over the quality of care received (Knodel et al. 2013 and 2015). In any event, given the decline in family size and the increased migration of adult children there appears to be a major disjuncture between norms and expectations and the changing empirical reality.

One clear pattern evident in the foregoing analysis is the fact that there is a very strong gender dimension to long-term care with daughters and wives more likely to be the main care provider compared to sons or husbands. The prospect for this to change remains uncertain. The role of husbands as main caregivers for wives is restrained by the fact they are much more likely to predecease their wife. Moreover husbands are typically older than their wives and thus reach advanced ages sooner where mortality levels are higher. This is somewhat counteracted by the fact that at any given advanced age women tend to be in poorer health than men, at least in terms of self-reported health. With reduced family size, the proportion of persons entering advanced ages that has only sons and no daughters will increase as average family size decreases. This increase is already quite evident. According to the 2014 survey, 22% of persons aged 50-54 have only sons compared to only 9% of those aged 80 and older. Among persons 60 and older that receive assistance with daily living activities, daughters are the main caregivers in 58% of the cases while sons are the main caregivers in only 33%. Given the deeply entrenched normative acceptance of women as the appropriate gender to provide personal care, the extent that sons will take this responsibility is questionable at best.

In assessing the future of family caregiving to frail older persons in Thailand, it is important to recognize that the context is changing. As noted above, the national and local governments not only are well aware of the challenges posed by long-term care of the rapidly increasing number of older persons in the population but are actively participating in ways to

ease the burden of long-term care for families. It is very likely that this trend will continue. In addition, assistive technologies are likely to be more commonly used even if only those that are relatively simple and inexpensive will be most common in the foreseeable future. Although data is largely lacking on the role of the private sector, it is likely to play an increasing if mainly supplementary role in long-term care of older persons. This is likely to increase in the near future. Although only a small proportion resort to paid caregivers (particularly domestic workers) in long-term care for older persons, it may well become more common in Bangkok (and/or urban areas). While it is unlikely that any demographically significant segment of the older population in need of long-term care will rely on institutional care in the foreseeable future, still it is likely to increase somewhat especially if the economy improves and higher quality institutional care becomes available.

Finally, we wish to acknowledge that there are a number of limitations to the foregoing analysis. Perhaps most generally, we only examine associations and thus cannot attribute causality to them. Moreover, the data on which the present analysis is based undoubtedly are affected by response error as is true for any survey. As noted earlier, the measures of functional limitations, ADL and IADL are self-reported and hence subjective. Responses concerning if assistance with daily living activities is needed or desired is likewise subjective and moreover might be influenced by whether or not assistance is being provided thus creating problems of statistical endogeneity.

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Appendix Table 1. Trends in having any functional limitation, difficulty with activities of daily living (ADLs) and difficulty with instrumental activities of daily living (IADLs), 2007 to 2014

	2007	2011	2014
<i>% with functional difficulties</i>			
Lifting 5 kilograms	27.0	29.2	30.3
Squatting	12.4	12.7	18.0
Walking 200-300 meters	16.8	15.7	17.5
Climbing 2 or 3 stairs	13.6	11.9	16.1
Any functional difficulty	31.1	32.9	35.5
<i>% with ADL difficulties</i>			
Get up from lying down			5.2
Using toilet	3.4	3.1	4.4
Bathing		2.9	4.1
Dressing	3.0	2.7	3.6
Wash face/brush teeth		2.4	3.2
Putting on shoes		2.8	3.1
Grooming self		2.6	3.0
Eating	2.3	2.2	2.9
Any of 7 ADL difficulties		4.1	5.4
Any of 8 ADL difficulties			7.3
<i>% with IADL difficulties</i>			
Take bus or boat on own	25.8	24.0	26.5
Counting change	10.7	10.6	9.5
Taking medicines		9.3	9.3
Any IADL difficulty		25.5	28.1
<i>% with any functional, ADL or IADL difficulty listed above</i>		37.7	40.9

Sources: 2007, 2011 and 2014 Surveys of Older Persons in Thailand.

Notes: Respondents were asked "Can you perform each activity by self?" with responses categorized as yes, yes with aid, no; those that replied no and yes with aid are treated as having a difficulty.

Appendix Table 2. Relation of caregivers to care recipients aged 60 and older by whether the relation was reported by the care recipient or by the caregiver, 2014

	Main caregiver as reported by care recipient	As reported by interviewed caregiver by reported caregiver status		
		Main	Minor	Total
N of cases (unweighted)	3857	3016	262	3278
Relation to care recipient (% distribution)				
spouse	28.9	27.7	16.5	26.7
son	13.4	12.8	16.9	13.2
daughter	41.9	43.7	32.7	42.8
child in law	5.7	6.8	13.0	7.3
grandchild	3.4	2.8	8.1	3.3
sibling	4.6	4.5	7.0	4.7
parent	0.1	0.2	0.0	0.2
friend/neighbor	0.3	0.2	1.8	0.3
professional	0.7	0.6	1.4	0.7
servant/employee	0.9	0.6	2.5	0.8
Total	100.0	100.0	100.0	100.0

Source: 2014 Survey of Older Persons Thailand



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