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Exploring the Burden of Family Caregivers for Dependent Older Persons under Community-Based Long-Term Care in Nakhon Pathom, Thailand

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Abstract

In Thailand, community-based long-term care (LTC) for all Thai dependent older persons has been implemented under the Universal Coverage Scheme since 2016. This study aims to investigate the burden experienced by family caregivers looking after dependent older persons under community-based LTC in Nakhon Pathom Province, Thailand. The data were obtained from a questionnaire survey completed by 313 family caregivers benefitting from community-based LTC in Nakhon Pathom Province. The findings show that community-based LTC could partially alleviate the financial burden related to disposable products and medical equipment expenses, but it has not helped much with time-related burden. Additionally, the services were below the standard outlined in the benefit package guidelines, particularly in terms of the duration and frequency of visits. The findings highlight the need to enhance the quality of services and adopt a targeted approach for the distribution of disposable products and medical equipment to reduce the burden on family caregivers, especially those with lower incomes. This study provides lessons from Thailand's experience that may apply to other developing countries in Asia facing challenges from ageing societies, informing the establishment of similar community-based LTC systems.

Keywords:

community-based long-term care; caregiver burden; dependent older persons; Thailand

Introduction

Population ageing is one of the significant global demographic trends that has recently been intensifying across all major regions of the world (United Nations, 2024). Driven by a rise in life expectancy and a decline in fertility rates, Southeast Asia is now experiencing a rapid increase in population ageing (World Health Organization Regional Office for South-East Asia, 2025). This trend has become a concern as ageing comes with the decline of intrinsic capacity and the need for support in basic functions and daily activities (World Health Organization, 2021). The rising old-age dependency ratio implies a reduction in the capacity of families to take care of dependent older people in Southeast Asian countries (Rostgaard, 2014), which leads to social risks that families and the existing welfare systems may not be able to adequately address. In response to this, long-term care (LTC) has been gradually developed and implemented across countries in the region to fulfill the care needs of dependent older adults and reduce the burden of caregivers in affected households (Asian Development Bank, 2022).

Among the countries in Southeast Asia, Thailand has experienced the fastest-growing ageing population (Cook & Pincus, 2014), resulting in a high proportion of older adults (World Health Organization Regional Office for South-East Asia, 2025). The country was transitioning into an ageing society since 2005, before reaching the complete status in

2024, with individuals aged 60 years or older accounting for 21% of the total population (Department of Older Persons, 2024). It is now moving toward a super-aged society, as shown by several indicators; for instance, the old-age support ratio (persons aged 15–59 years per persons aged 60 years and older) dropped from 8.5 in 1990 to 3.7 in 2020 (Department of Older Persons, 2024). Meanwhile, family members, especially women, who have traditionally served as the primary caregivers for older persons (Sihapark, Chuengsatiansup, & Tengrang, 2013; Suriyanrattakorn & Chang, 2021), have seen their capacity weaken due, inter alia, increasing migration, higher female labour participation, and a declining number of children per family (Asian Development Bank, 2020b; United Nations, 2024). As a result, the number of older individuals living alone increased from approximately 6% in 2002 to approximately 13% in 2024 (National Statistical Office, 2025). The National Survey of Older Persons in 2024 also found that bedridden and homebound older persons accounted for 1.1% and 1.3% of the total respondents, respectively (National Statistical Office, 2025). These figures are likely to increase due to the rapid ageing of the population and the rising prevalence of chronic diseases (Suriyanrattakorn & Chang, 2021), morbidities, and injuries (Bundhamcharoen & Srithamrongsawat, 2010).

To address these challenges, in 2016, the Thai government introduced community-based LTC as a health benefit package under the Universal Coverage Scheme (UCS) (Thonchaithanawut, 2020) to assist family caregivers in caring for dependent older adults in their households, without shifting the primary responsibility from families to the government or LTC providers (Srithamrongsawat, Suriyawongpaisal, Kasemsup, Aekplakorn, & Leerapan, 2018). The additional budget for community-based LTC is channelled to the National Health Security Office (NHSO), which manages the UCS (Asian Development Bank, 2020b).

Past studies have examined the burden of family caregivers in Thailand (Chuakhamfoo, Phanthunane, Chansirikarn, & Pannarunothai, 2020; Juntasopeepun, Bliss, Pandang, & Thana, 2025; Muangpaisan et al., 2010; Sasat, Wisesrith, & Sakhunpanich, 2013; Sihapark et al., 2013; Tuttle, Griffiths, & Kaunnil, 2022) and the provider's perspective on the implementation of the community-based LTC system under the UCS (Srithamrongsawat et al., 2018; Suanrueng, Wannasri, & Srithamrongsawat, 2018). However, there is a lack of empirical studies that explore the burden of family caregivers within the operational context and the implementation at the community level. This study aims to investigate the burden of family caregivers under the community-based LTC in Nakhon Pathom Province, Thailand, with the following questions:

- To what extent has the community-based LTC under the UCS reduced the time-related and financial burden on family caregivers in Nakhon Pathom Province?
- To what extent have community-based LTC services been delivered according to the benefit package guidelines in Nakhon Pathom Province?

Community-based long-term care in Thailand

According to the Strategic Plan for Implementing Long-Term Care of Dependent Older Persons (2014–2018), the primary goal of the community-based LTC is to enhance the capacity of caregiving individuals, families, and communities and to enable older adults to live with dignity, while ensuring that they can access the available health and social services (Asian Development Bank, 2020b; National Health Security Office, 2016; Srithamrongsawat et al., 2018). The three main principles that underlie the community-based LTC system can be summed up as follows: first, the system aims to support and strengthen a family caregiver's capacities, uphold the cultural value of filial piety, and preserve the family's primary

role in caring for dependent older family members; second, local governments or local administrative organizations (LAOs) play the main role in managing the community-based LTC system, with the support of the central government; third, a community-level funding mechanism is to be established to support the delivery of services (Srithamrongsawat et al., 2018).

The community-based LTC was successfully implemented under the UCS in 2016. Initially, it was piloted in 1,000 districts, targeting 1,000 dependent older persons (Asian Development Bank, 2020b), and was later expanded nationwide. In 2020, population coverage was extended from UCS beneficiaries aged 60 or older to all Thais with dependency, defined as having a Barthel Index of Activity of Daily Living (ADL) score of 11 or lower, regardless of public health insurance entitlements and income status. Under this condition, most beneficiaries (88%) remain older persons aged 60 or older (Thonchaithanawut, 2020). To promote multi-sectoral participation, LAO enrolment in the community-based LTC program was conducted voluntarily (Srithamrongsawat et al., 2018). In 2023, there were 7,179 (92%) participating LAOs and 334,823 LTC beneficiaries (National Health Security Office, 2024).

In terms of budget allocation, the NHSO annually allocates a budget to LAOs to deliver community-based LTC services in accordance with the LTC benefit package, on a per capita basis (Asian Development Bank, 2020b). In addition, the Local Health Fund has been used as a mechanism for budget allocation at the community level. Each LAO may designate either a Center for the Development of Older Persons' Quality of Life or a health facility in the community to manage the allocated budget (National Health Security Office, 2016). In most cases, the budget is managed by a health facility. The per capita budget, in principle, covers the monthly allowance for volunteer caregivers, overtime pay for care managers, and disposable products and medical equipment. In 2024, the per capita budget was adjusted from US$ 188 to US$ 326 (National Health Security Office, 2024).

The LTC benefit package only covers healthcare, which includes health services, home- or community-based care, and disposable products and medical equipment (e.g., hospital beds, air mattresses, adult diapers, and wound dressing sets) (National Health Security Office, 2016). The benefit package does not cover social care, despite its criticality in meeting the needs of dependent older persons. In terms of disposable products and medical equipment, the per capita budget is expected to subsidise only 60% of the expenses because some families may already be financially able to cover them from other sources or benefits (Srithamrongsawat et al., 2022).

In terms of operation, the community-based LTC services are delivered at home through the district health system, which is composed of the district hospital and health centres under the patronage of the Ministry of Public Health. However, in some subdistricts, health centres may fall under the patronage of Local Government Organizations due to the healthcare decentralisation policy. In most cases, a care manager, who is a nurse from a health centre, assesses an individual's care needs and develops a specific care plan (Srithamrongsawat et al., 2018). A volunteer caregiver then provides the LTC according to each individual's care plan under the supervision of the care manager (Asian Development Bank, 2020a). Not everyone can apply for a volunteer caregiver position unless they meet the screening requirements. Normally, the qualifications of volunteer caregivers include being over 18 years of age, having completed middle school or its equivalent, and passing a medical check-up with a valid medical certificate (Suanrueng et al., 2018). Candidates are required to complete

a minimum of 70 hours of training to qualify as volunteer caregivers under the community-based LTC and to be eligible to receive a monthly allowance (National Health Security Office, 2016; Suriyanrattakorn & Chang, 2021). The monthly allowance of volunteer caregivers depends on the number of care recipients under their responsibility. Those who take care of 1–4 care recipients receive US$ 19 per month, whereas those who take care of 5 or more care recipients receive US$ 47 per month (National Health Security Office, 2016). In addition, a family care team (e.g., physicians, nurses, and pharmacists) is available to provide health services. Eligible persons receive services based on the level of care needs, which can be divided into four groups (Table 1).

At the subdistrict level, there are two types of caregivers: volunteer caregivers and LAOs' paid caregivers. They differ in terms of the source of financing, number of care recipients, frequency of visits, and compensation received (Table 2). Due to budget limitations, the caregivers under the community-based LTC cannot be employed as full-time workers; thus, they are called "volunteer caregivers." This study focuses on volunteer caregivers who deliver services under the community-based LTC system funded by NHSO.

Methods

Study design and participants

This study purposively selected Nakhon Pathom Province, in the central region of Thailand, as the study site, given its early adoption of the community-based LTC under the UCS since the pilot implementation in 2016 and its notably high proportion of older population (20.5%), more than half of whom were female (57.9%) (Department of Older Persons, 2024). In addition, Nakhon Pathom comprises a mixture of rural and urban areas, although the province is in the Greater Bangkok area.

Table 1.
Community-based LTC benefit package

Benefit	ADL 5–11		ADL 0–4	
	Group 1 homebound	Group 2 homebound, and has a cognitive disability	Group 3 bedridden	Group 4 bedridden with the end-stage of life
Health services	At least once a month	At least once a month	At least once a month	At least twice a month
Home- or community-based care	At least twice a month	At least once a week	At least once a week	At least twice a week
Procure disposable products and medical equipment	Disposable products and medical equipment to assist the dependent person's movement or functioning			

Source: National Health Security Office (2016)

Table 2.
Differences between volunteer and paid caregivers

	Volunteer caregivers	LAOs' paid caregivers
Source of financing	The National Health Security Office	The Local Administrative Organizations
Number of recipients of care	1–10	2–4
Frequency of visits/ Working time	2-8 visits per person per month, depending on level of care needs and care plan (1–2 hr. per person)	20 days per month, frequency of visits determined by level of care needs and care plan (8 hr. per day)
Compensation	US$ 19–47 per month, depending on the number of recipients of care	US$ 156–188 per month

Source: National Health Security Office (2016); Ministry of Interior (2019)

A cross-sectional study was conducted in the Nakhon Pathom Province from September to November 2023. In 2022, 1,713 LTC recipients were under the UCS in Nakhon Pathom Province. The study assumed that most of the dependent older persons who were LTC recipients had family caregivers. The sample size was calculated from the number of LTC recipients based on Krejcie and Morgan (1970) with a 5% margin of error, indicating that a population size of 1,713 requires at least 313 samples as the minimum sample size (Krejcie & Morgan, 1970). The cluster random sampling method was used. In the first stage of sampling, 12 out of 34 subdistricts in Nakhon Pathom, each of which has at least 20 LTC beneficiaries registered under the community-based LTC program in the NHSO database, were randomly selected for this study. The latter sampling stage included family caregivers in the selected subdistricts. Care managers in each selected subdistrict used the records of registered LTC recipients to purposively select family caregivers who met the inclusion criteria of the study. These criteria included the following: (1) being over 18 years of age; (2) providing unpaid caregiving to the community-based LTC beneficiaries aged 60 years or over; (3) being a spouse, a son or daughter, or a more distant relative; and (4) providing most of the informal caregiving to the community-based LTC beneficiaries. To collect data, information about the study and questionnaires were first handed out to each participant at home. Then, the questions were asked through face-to-face interviews conducted by the researchers and a team of undergraduate students majoring in public health. To ensure that the relevant data and information were collected with the least amount of missing information, the students were trained in data collection techniques beforehand. After that, all collected data were thoroughly reviewed and validated by the research team. The interviews lasted 20–30 minutes after the participants provided informed consent. Of all the targeted samples, 313 respondents were included in the final analysis, yielding a response rate of 87.2%.

Measures

The data in this study were collected using a questionnaire survey divided into four sections. In the first section, the respondents were asked to provide basic demographic information (e.g., gender, age, education level, and public health insurance entitlement) and information on their caregiving workload, such as time burden on personal care activities (e.g., bathing, feeding, and toileting) and household activities (e.g., cleaning, washing, preparing food, drinks, and medicines). The second section focused on the financial burden on caregivers (e.g., cost of food, medicines, disposable products, and medical equipment). The third section focused on the provision of community-based LTC services under the UCS, including the frequency and duration of visits, services delivered in each visit, and support with disposable products or medical equipment. The last section included the details of the care recipient (e.g., gender, age, public health insurance entitlement, and the Barthel ADL Index level). The decision to use a questionnaire to collect data was to ensure that the study could gather reliable data and information relevant to the community-based LTC services directly from the family caregivers.

Data analysis

After the collection, the data were first sorted into tables to determine the frequency of each variable and provide meaningful descriptive statistics. Continuous variables are presented as mean ± standard deviation (SD), and categorical variables are presented as percentages. The IBM SPSS Statistics 30 software was adopted for data analysis and administration.

Ethical approval

As this study involved human participants, ethical approval was obtained to ensure that the participants' rights and welfare were respected without compromise. The Mahidol University Social Sciences Institutional Review Board (MUSSIRB) reviewed and approved this study (Certificate of Approval No. 2023/107.2206).

Results

Caregivers and care recipients' background characteristics

Table 3 shows the characteristics of the participants. To conclude, most caregivers were females (74.8%), entitled to the UCS (79.9%), married (53.7%), and completed primary education (55.9%). The mean age of the caregivers was 55.4 ± 12.7 years. More than half of them were unemployed (53.9%) and the daughters (53.9%) of the care recipients. The duration of caregiving ranged from 2 months to 30 years, with a mean of 6.2 ± 6.4 years. The average monthly family income was US$ 427.8 ± 620.2.

Table 4 shows the characteristics of the care recipients under the community-based LTC. Most care recipients were females (71.3%), and their age ranged from 60 to 101 years, with a mean of 79.4 ± 9.7 years. Most of the care recipients were UCS beneficiaries (91.1%), with almost two-thirds (64.5%) being homebound care recipients.

Table 5 presents the distribution of bedridden and homebound care recipients by income quintile of families. It is apparent that care recipients in Quintiles 1 and 4 comprised around half of the total in both groups. Among those who were bedridden, more than one-fourth were in Quintile 1 (26.1%) and Quintile 4 (25.2%). Similarly, almost one-fourth of the care recipients who were homebound were in Quintile 1 (23.7%) and Quintile 4 (24.8%), respectively.

Table 3.
Background characteristics of the caregivers (n = 313)

Background characteristic	n (%)
Gender	
Male	79 (25.2)
Female	234 (74.8)
Age (mean ± SD)	55.4 ± 12.7
18–29 years	15 (4.8)
30–44 years	45 (14.4)
45–59 years	125 (39.9)
60 years or above	128 (40.9)
Public health insurance scheme	
Universal Coverage Scheme	250 (79.9)
Social Security Scheme	47 (15.0)
Civil Servant Medical Benefit Scheme	16 (5.1)
Marital Status	
Single	98 (31.3)
Married	168 (53.7)
Divorced/Widowed	47 (15.1)
Education	
No education	12 (3.8)
Primary	175 (55.9)
Secondary	79 (25.2)
Tertiary	47 (15.0)
Employment	
Unemployed/Retired	169 (53.9)
Full-time	97 (30.9)
Part-time	47(15.0)
Relationship with the care recipients	
Spouse	59 (18.9)
Child	169 (53.9)
Grandchild	41 (13.1)
Sibling	19 (6.1)
Daughter/Son-in-law	25 (7.9)
Duration of care giving (mean ± SD)	6.2 ± 6.4
Family income per month (US$) (mean ± SD)	427.8 ± 620.2
0–99	77 (24.6)
100–199	44 (14.1)
200–299	38 (12.1)
300–399	49 (15.6)
400 or higher	105 (33.6)

Source: Data collected by authors

Time spent on caregiving

Table 6 provides information about the respondents' time spent on caregiving per month. In general, caregivers of bedridden care recipients spent more time overall (128.72 ± 68.1 hours) than those taking care of homebound care recipients (97.96 ± 63.1 hours). More time was spent on helping with household tasks (58.60 ± 54.9 hours) than on providing personal care (50.26 ± 49.2 hours) each month. These general patterns varied based on the care recipients'

dependency level. Differences in the time spent on personal care were observed. The caregivers of bedridden care recipients devoted more time to personal care (69.64 ± 51.4 hours) than caregivers of homebound care recipients (39.62 ± 44.5 hours). No substantial difference was observed in the time spent on household activities between the bedridden (59.07 ± 32.3) and homebound (58.34 ± 32.4) care recipient groups.

Cost of caregiving

Table 7 shows that the average monthly cost of caregiving for bedridden care recipients (US$ 190.6) was higher than that for homebound care recipients (US$ 152.2). The cost of caregiving for both groups was higher for non-medical costs than for medical costs. For bedridden care recipients, non-medical costs constituted about 74%, while medical costs made up about 26%. For homebound care recipients, non-medical costs were approximately 86%, and medical costs were 14%. Among non-medical costs, food accounted for a large proportion for both groups: 69% for bedridden and 84% for homebound care recipients. The cost of caregiving services was considerably higher among the bedridden care recipients (US$ 21.8) than among homebound care recipients (US$ 1.5). In addition, medical costs for disposable products and medical equipment were higher among bedridden care recipients (US$ 11.2) than among homebound care recipients (US$ 3.7). No substantial difference was observed in the cost of home adaptations between the bedridden (US$ 21.7) and homebound (US$ 20.0) care recipient groups.

Table 8 shows the support received from the community-based LTC in terms of disposable products and medical equipment by income quintile. No substantial difference was observed between the low- and high-income groups. The evidence shows that although the families in Quintile 1 received most of the

Table 4.
Background characteristics of the care recipients (n = 313)

Background characteristic	n (%)
Gender	
Male	90 (28.8)
Female	223 (71.3)
Age (mean ± SD)	79.4 ± 9.7
60–74 years (young old)	104 (33.2)
75–84 years (old-old)	104 (33.2)
85 years or above (very old)	105 (33.6)
Public health insurance scheme	
Universal Coverage Scheme	285 (91.1)
Social Security Scheme	4 (1.3)
Civil Servant Medical Benefit Scheme	24 (7.7)
Assistant with ADL	
Bedridden (0–4)	111 (35.5)
Homebound (5–11)	202 (64.5)

Source: Data collected by authors

Table 5.
ADL level of care recipients by income quintile of families

Level of ADL	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Bedridden (0–4)	29 (26.1)	11 (9.9)	25 (22.5)	28 (25.2)	18 (16.2)
Homebound (5–11)	48 (23.7)	38 (18.8)	42 (20.8)	50 (24.8)	24 (11.88)

Source: Data collected by authors

Table 6.
Time spent on caregiving per month

Time spent on caregiving per month	Average time spent (hours) per month (mean ± SD)		
	Total	Bedridden (0–4)	Homebound (5–11)
Personal care	50.26 ± 49.2	69.64 ± 51.4	39.62 ± 44.5
Household activities	58.60 ± 54.9	59.07 ± 32.3	58.34 ± 32.4
Total time spent	108.86 ± 66.5	128.72 ± 68.1	97.96 ± 63.1

Source: Data collected by authors

Table 7.
Average cost of caregiving (US$ per month)

Level of ADL	Medical cost			Non-medical cost			Total
	Disposable products	Medical equipment	Medical care	Food	Home adaptations	Care giving services	
Bedridden (0–4)	32.3	11.2	5.3	98.3	21.7	21.8	190.6
Homebound(5–11)	13.5	3.7	4.0	109.5	20.0	1.5	152.2

Source: Data collected by authors

Table 8.
Disposable products and medical equipment support from community-based long-term care

Disposable products and medical equipment	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Diaper (n = 70)	18 (25.7)	11 (15.7)	14 (20.0)	21 (30.0)	6 (8.6)
Incontinence Pad (n = 6)	2 (33.3)	1 (16.7)	0 (0.0)	1 (16.7)	2 (33.3)
Patient bed (n = 50)	16 (32.0)	4 (8.0)	5 (10.0)	13 (26)	12 (24.0)
Air mattress (n = 22)	7 (31.8)	0 (0.0)	3 (13.6)	5 (22.7)	7 (31.8)
Walker (n = 21)	5 (23.8)	4 (19.1)	3 (14.3)	6 (28.6)	3 (14.3)
Walking cane (n = 8)	0 (0.0)	3 (37.5)	1 (12.5)	4 (50.0)	0 (0.0)

Source: Data collected by authors

support, those in Quintiles 4 and 5 still received more support than those in Quintiles 2 and 3. This implies that the distribution of disposable products and medical equipment under the community-based LTC did not follow a targeted approach.

Community-based long-term care services

Table 9 shows that the frequency of LTC visits by volunteer caregivers per month did not differ substantially between the groups of bedridden and homebound care recipients, although bedridden care recipients should, in principle, receive more visits due to their higher dependency. The data show that homebound care recipients received an average of 3.45 visits per month, with more than half (56.9%) receiving services in accordance with the LTC benefit package, which requires support to be provided 2–4 times per month. Counterintuitively, bedridden care recipients received fewer visits, at an average of 3.04 visits per month, with around half (50.5%) receiving only 2–4 times per month, which was fewer than the required 4–8 times per month according to the LTC benefit package guidelines.

According to the LTC benefit package guidelines, the duration per LTC visit for bedridden and homebound care recipients should be approximately 1–2 hours per visit, with more hours allocated for bedridden than for homebound care recipients. However, Table 10 shows that the duration per LTC visit did not differ substantially between the bedridden and homebound groups, with an average of 28.1 ± 17.9 minutes and 28.59 ± 15.7 minutes, respectively. Thus, the duration of LTC visits for both groups was less than the LTC benefit package guidelines.

Table 11 shows that the volunteer caregivers mainly provided all care recipients with check-ups of their health status (e.g., checking vital signs and blood glucose), massages, and rehabilitation rather than personal care. In addition, they also educated the family caregivers about caring for their dependents. However, the bedridden care recipients received more personal care (e.g., feeding, taking medications, bathing), social services (e.g., cleaning, cooking), and nursing services (e.g., wound dressing, tracheostomy tube care, suction) than the homebound care recipients.

Table 9.
Number of monthly long-term care visits by volunteer caregivers

LTC visits by caregivers	Bedridden n (%)	Homebound n (%)
Visits per month (mean ± SD)	3.04 ± 3.87	3.45 ± 4.9
Less than 1 time per month	4 (3.6)	5 (2.5)
1 time per month	38 (34.2)	59(29.2)
2–4 times per month	56 (50.5)	115(56.9)
5 times per month or more	13(11.7)	23(11.4)

Source: Data collected by authors

Table 10.
Duration of long-term care visits by volunteer caregivers

LTC visits by the caregiver	Bedridden n (%)	Homebound n (%)
Duration per visit (mean ± SD)	28.10 ± 17.9	28.59 ± 15.67
Less than 30 min	47 (42.3)	77 (38.1)
30–59 min	48 (43.2)	100 (49.5)
60 min or more	16 (14.4)	25(12.4)

Source: Data collected by authors

Table 11.
Services provided by caregivers

LTC Services	Bedridden n (%)	Homebound n (%)
Checking vital signs	96 (86.5)	186 (92.1)
Providing health education	97(87.4)	186 (92.1)
Monitoring of blood glucose	44 (39.6)	91 (45.1)
Rehabilitation	41 (36.9)	52 (25.7)
Massage	37 (33.3)	68 (33.8)
Feeding and taking medications	30 (27.0)	41 (20.3)
Bathing	13 (11.7)	14 (6.9)
Cleaning	10 (9.0)	7 (3.5)
Wound dressing	9 (8.1)	9 (4.5)
Cooking	8 (7.2)	6 (2.9)
Tracheostomy tube care	2 (1.8)	1 (0.5)
Urinary catheterization	2 (1.8)	4 (1.9)
Suction	2 (1.8)	0 (0)
Enemas	1 (0.9)	2 (0.99)

Source: Data collected by authors

Discussion

This study examines the burden of family caregivers under the community-based LTC in the central region of Thailand, Nakhon Pathom Province. The findings highlight that the family caregivers of bedridden care recipients spent more than half of their time on personal care, almost 1.7 times more than caregivers of homebound care recipients. This finding aligns with previous studies, revealing that most caregiving time for bedridden persons was for personal care, with the total time varying depending on the care recipient's level of dependency (Juntasopeepun et al., 2025; Sasat et al., 2013; Tuttle et al., 2022)

While highlighting the system's challenges, the findings also indicate that the community-based LTC system under the UCS could partially reduce the family caregivers' financial burden of medical-related costs. However, it does not reduce their burden of time-related caregiving, so it cannot be concluded that the existing community-based LTC services have successfully complemented

or supported informal caregiving. It has only helped partially by alleviating the financial burden through the provision of disposable products (e.g., diapers and incontinence pads) and medical equipment (e.g., patient beds, air mattresses, and walkers). Ideally, disposable products and medical equipment support should be universally available to all dependent persons regardless of their socioeconomic status and public health insurance entitlements. However, due to budget constraints, the US$ 326 per capita budget was calculated to cover only 60% of the expenses on medical equipment (Srithamrongsawat et al., 2022). Therefore, a targeted approach that considers both the needs of care recipients and the financial situation of families should be adopted; for instance, disposable products and medical equipment should be provided to those who cannot afford them, while encouraging those who can to rely on their own resources. The evidence from the study shows no difference in the distribution of these necessities across the income quintile, which reflects mistargeting problems. Moreover, the major cost of caregiving came from non-medical items and social costs, especially food, which are not covered by the community-based LTC benefit package, as only health services and medical equipment are offered. Therefore, additional sources of finance from relevant institutions are necessary to provide social support to dependent older persons who need LTC services, either in-kind or in-cash, to reduce the financial burden of family caregivers.

As reported by the family caregivers in this study, most volunteer caregivers under the community-based LTC provided basic health services. This is consistent with the findings of previous studies (Panunth & Soontaraviratana, 2021; Suanrueng et al., 2018), which found that volunteer caregivers provide services such as checking vital signs, dressing wounds, and providing care for bedsores. Only a few volunteer caregivers provided personal care (e.g., bathing and feeding) and social care (e.g., cooking and cleaning) to the care recipients.

Despite the minimal requirement set for community-based LTC under the UCS, the findings also highlight that the frequency of visits and the duration per visit provided by volunteer caregivers were less than the LTC benefit package guidelines. These figures raise concerns and questions about the quality of services provided by volunteer caregivers under the community-based LTC system, which is the main model of LTC services in Nakhon Pathom Province. Notably, the volunteer caregivers who were financed by NHSO differed from LAO's paid caregivers, who were financed by local governments, in that the latter are required to provide both personal and social care and spend at least 8 hours per day on caregiving activities (Ministry of Interior, 2019). Sriyakun (2022) also found that the LAO's paid caregivers spent approximately 7–12 hours per day on caregiving with 20 working days (Sriyakun, 2022). In addition, Srithamrongsawat et al. (2018) found that paid caregivers consistently provided more comprehensive LTC services compared with volunteer caregivers (Srithamrongsawat et al., 2018). Thus, LAO's paid caregivers could reduce the time burden on family caregivers and increase their quality of life and satisfaction with LTC services (Sriyakun, 2022). However, it is also important to note that each LAO could only hire 1–2 paid caregivers due to the limited budget available, while each full-time paid caregiver can only provide care for 2–4 dependent older persons per day. As such, only a few families can benefit from these services.

These findings align with the evidence from Indonesia, Thailand, and Vietnam, which points out that quality is a critical challenge for implementing the community-based services for dependent older persons (Lloyd-Sherlock, Pot, Sasat, & Morales-Martinez, 2017; Pratono & Maharani, 2018), and the quality of services delivered by volunteers has shown

considerable variation (Lloyd-Sherlock et al., 2017). As a result, the current services have not met the growing needs of older persons (Putri, Kafaa, & Yuda, 2020). Moreover, incentives are crucial for improving the quality of care provided by volunteers (Ormel et al., 2019; Vo, Nakamura, Tran, & Moncatar, 2025). Despite the motivation to serve dependent older persons in the community, services that primarily rely on volunteers may encounter challenges in terms of long-term commitment (Vo et al., 2025). Insufficient amounts, irregular payments, and unequal compensation distribution could lead to demotivation and turnover of volunteers due to their perceptions of a low level of financial rewards (Davis et al., 2024; Ormel et al., 2019; Samb et al., 2025; Vo et al., 2025). This could negatively impact the continuity and quality of services as well as the sustainability of the community-based LTC system.

To address the service gaps in community-based LTC, care managers should supervise volunteer caregivers by periodically monitoring service quality and reviewing feedback from older care recipients and their families to ensure continuous improvement. Additionally, instead of assigning responsibility for the management of community-based LTC to a health centre, each LAO should establish a Center for the Development of Older Persons' Quality of Life that is responsible for fund management and the coordination and integration of health and social care services for dependent older persons. The integrated care centre model has been implemented in Asian countries. For example, an integrated community care support centre managed by a care manager is established in Japan to provide housing, long-term care, health promotion and prevention, and other forms of support for ensuring ageing in place in the communities (Szczepura et al., 2023). The Agency for Integrated Care has been established in Singapore to coordinate and integrate the delivery of care services for older persons. Its referral coordinators assess the care needs of older persons, coordinate their transitions from hospitals to the community, and coordinate with LTC providers for those who need care support (Wee et al., 2015).

Continuous training and capacity building should be provided to volunteer caregivers to maintain and improve their capacities, which can also be perceived as a non-financial incentive for volunteers (Ormel et al., 2019). Another point to be considered is the adjustment of volunteer caregivers' compensation, such as increasing it in line with the number of tasks, activities, and expected time contribution (Ormel et al., 2019) or, even better, changing them into full-time paid caregivers. This could incentivise and motivate volunteer caregivers to be more accountable and perform LTC services that align more closely with the benefit package's standard of services.

In addition, with the limited per capita budget, the disposable products and medical equipment should be distributed in the subdistrict based on the targeted approach, which considers the financial situations and needs of each dependent older person and their families to better financially protect those with the greatest needs and limited financial resources.

Despite the persistent challenges of financing and service quality issues, Thailand's community-based LTC system can still be regarded as an alternative model for countries planning to implement a community-based LTC system now or in the near future, especially developing countries in Asia, where the LTC system is still in its infancy. This is because Thailand's community-based LTC model is aligned with the concept of ageing in place (Prachuabmoh, 2015), which has been a prominent LTC strategy in many Asian countries (e.g., Japan, Singapore, South Korea, Taiwan) in recent years (Chen & Fu, 2020; Ga, 2024; Satchanawakul, Liangruenrom, Thang, & Satchanawakul, 2025). The concept of ageing

in place emphasises the policy response that aims to enhance the ability of older people to live independently and safely in their own homes and communities, irrespective of their age, income, or level of care needs (World Health Organization, 2015). Furthermore, many developed and developing countries have reoriented their long-term care system from the traditional institution-based LTC service model toward the integrated and community-based LTC model in response to rapid population ageing and an increase in LTC expenditures (Chiu et al., 2019; Ga, 2024; Liu, Eom, Matchar, Chong, & Chan, 2016; Wee et al., 2015). Moreover, the community-based LTC model aligns with the traditional norm and the context of many Asian countries, especially in rural areas, where the social capital in the community enables the care support capacity, such as local governments, community leaders, and volunteer health workers (Pratono & Maharani, 2018; Suriyanrattakorn & Chang, 2021). Importantly, older persons prefer to remain in their own homes, receive care and support from their families, and favour home- and community-based services over institutional care (Le & Giang, 2025; Nakagawa, Noguchi, Komatsu, Ishihara, & Saito, 2022; Rittirong, Prasartkul, & Rindfuss, 2014; Wee et al., 2015). Additionally, the community-based LTC system can be implemented under budget constraints with the support of the government, communities, and families (Suriyanrattakorn & Chang, 2021). Thus, low-resource countries can develop and expand the large-scale community-based LTC system (Lloyd-Sherlock et al., 2017). In brief, this model can be more effective, feasible, and affordable than hospital-based care, which requires more resources and financial support (Chandoevwit & Vajragupta, 2017; Liu et al., 2016).

Our findings have significant policy implications for the expansion of LTC services in Southeast Asian countries. Firstly, the findings indicate that the community-based LTC can partially alleviate the financial burden on family caregivers by providing disposable products and medical equipment. However, because the current distribution is not based on income, resources do not always reach those most in need. In resource-constrained contexts, policy should prioritise support for low-income families who face the greatest financial challenges. Secondly, we found that existing LTC provisions do not always align with benefit package guidelines. Implementing a regular monitoring and feedback system is essential to ensuring the quality and consistency of LTC services.

This study has certain limitations that need to be addressed. First, it was conducted in only one province in a specific region of Thailand, namely, Nakhon Pathom Province in central Thailand; thus, future studies need to cover more areas for greater representation. Second, the data on the time burden of family caregivers obtained from the self-report questionnaire could be biased by incomplete or distorted information recall. That said, the overall findings of this study were mostly consistent with those of previous studies. Third, because this study included only families of dependent older persons who registered under the community-based LTC program but did not cover those who were dependent but had not registered with the system, the study could not acquire the information about and generate the findings that could represent the coverage of this program and those who were not covered under the community-based LTC system. Despite its limitations, the results of this study reflect the burden of family care after the implementation of the community-based LTC under the UCS. They also highlight the need for greater LTC provision with service quality under the community-based LTC system.

Conclusion

Research examining the burden of family caregivers after the implementation of the

community-based LTC under the UCS remains underexplored in Thailand. To the best of our knowledge, this is the first study in Thailand to examine the burden of family caregivers for dependent older persons receiving community-based LTC under the UCS. The study highlights the fact that although the community-based LTC could partially reduce the financial burden of family caregivers, it was still far from effective in reducing the time burden or support on ADL as a consequence of limited LTC provisions. The average frequency of services and duration per visit were less than the standard requirement according to the LTC benefit package. The findings also suggest that the quality of services under the community-based LTC should be improved through training and capacity building, monitoring, and feedback systems for volunteer caregivers. The incentives for volunteer caregivers can also be increased based on their tasks and expected time contribution. This improvement should go hand-in-hand with additional social support to families that have dependent older persons through the integration of support from relevant institutions (e.g., the Ministry of Social Development and Human Security). Finally, this study presents an alternative LTC model that could be successfully implemented in Thailand to a certain degree to address the needs of LTC for dependent older persons through the community-based LTC system. Based on similar cultural, social, and economic factors, this model could be applied and benefit other developing countries in Asia that are facing challenges from population ageing.

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