

VWQ Lou 樓瑋群  
 EWT Chui 徐永德  
 AYM Leung 梁綺雯  
 KL Tang 鄧廣良  
 I Chi 齊 鈇  
 EKS Leung Wong 梁王珏城  
 CW Kwan 關志威

# Factors affecting long-term care use in Hong Kong

## Key Messages

1. Psychological factors play the most significant role in contributing to long-term care choices. Older people's positive attitude towards community care services (CCS) and strong structural solidarity of the family are two key factors.
2. Stronger family structural solidarity is associated with the use of CCS, whereas family structural solidarity tends to be confined to nuclear families rather than intergenerational families, which implies that spouse and children caregivers have different needs. Caregiver support services targeting the elderly couple's families and children as caregivers should be differentiated and more specifically targeted.
3. In general, CCS serve frail elders with acute rehabilitation needs, who are more likely to be cared for by family members and/or domestic helpers, whereas residential care services serve frail elders with a higher level of cognitive impairment.

## Introduction

The growing elderly population in Hong Kong has increased the demand for long-term care (LTC) services and supplies. Strategies have been developed to meet these challenges by balancing residential care and community care for the frail elderly, particularly to community care services (CCS) that help elderly people to live independently in the community. This not only helps the elderly to achieve ageing in place, but also improves cost-effectiveness in allocating financial resources.<sup>1</sup> To achieve a sustainable LTC policy in Hong Kong, the strategies must respond to factors affecting individual choices among various community or residential LTC services, such as changing demography, social norms in terms of elderly care, gender and cultural traditions, and the current development of the welfare regime.

This study was based on the revised expanded model of Andersen's Health Service Utilisation.<sup>2</sup> The original model proposed that people who choose to utilise certain health care services are affected by three factors: (1) predisposing factors (eg demographic variables), (2) enabling factors (eg financial concerns, availability of a caregiver, and coping strategies of both the caregiver and care recipient), and (3) needs factors (health status, dependency level, caregiver's burden, and care-giving intensity).<sup>2</sup> This model is widely adopted to explore factors that affect LTC services and their utilisation by the Hong Kong elderly. In addition, psychological factors, such as attitude towards LTC arrangements, knowledge about such services, utilisation of such services, family solidarity (eg consensus solidarity, structural solidarity, and affectional solidarity), and a sense of control (eg self-efficacy), should also be included.<sup>3</sup>

This study aimed to investigate the characteristics of elderly people with LTC needs who opt for CCS (eg integrated home care services, enhanced home and community care services) or residential care services (RCS) [eg care and attention homes for the elderly, and nursing homes), and to focus on the four factors.

## Methods

This study was conducted from June 2007 to February 2009 and adopted a multi-stage, cross-sectional survey design, supplemented by qualitative in-depth interviews. The study was approved by the Survey and Behavioural Research Ethics Committee of The Chinese University of Hong Kong.

In the questionnaire survey, a cluster sampling method was used. A total of 59 agencies agreed to participate, and 435 dyads were interviewed by trained interviewers using standardised questionnaires. For older people who had difficulties communicating, proxy interviews were conducted with their family members. Among the 435 dyads, 67% and 33% of the elderly were about to receive RCS and CCS, respectively. Sociodemographics of the elderly and the caregivers are listed in Tables 1 and 2. Eight of the dyads underwent an in-depth interview based on a semi-structured questionnaire and purposeful sampling.

The questionnaire consisted of questions related to predisposing factors, needs factors, enabling factors, psychological factors, and LTC options. All were measured using validated Chinese version scales. Four of the research team members independently translated those scales that lacked a Chinese version

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The University of Hong Kong:  
 Department of Social Work and Social  
 Administration  
 VWQ Lou, EWT Chui  
 Department of Nursing Studies  
 AYM Leung  
 Sau Po Centre on Ageing  
 EKS Leung Wong  
 Department of Statistics and Actuarial Science  
 CW Kwan  
 School of Social Work, The University of British  
 Columbia  
 KL Tang  
 School of Social Work & School of Gerontology,  
 University of Southern California  
 I Chi

Principal applicant and corresponding author:  
 Vivian WQ Lou  
 Department of Social Work and Social  
 Administration, The University of Hong Kong,  
 Hong Kong SAR, China  
 Tel: (852) 2219 4835  
 Fax: (852) 2858 7604  
 Email: wlou@hku.hk

(eg affectional solidarity scale, and filial piety scale), and a consensus on the translation was reached. A person fluent in both Chinese and English, but unfamiliar with the scales, then back-translated them. Satisfactory reliabilities for measurement instruments were noted. The dependent variable—whether the respondent opted for RCS or CCS—was recorded at the time of the interview. Respondents were asked to report all the independent variables retrospectively.

## Results

Hierarchical logistic regression was used to study the odds for respondents who opted for CCS. Only independent factors with P values of <0.1 in bivariate group comparisons were entered in the logistic regression. Four models were tested: model 1 entered predisposing factors only; model 2 entered predisposing and needs factors; model 3 entered predisposing, needs, and enabling factors; and model 4 entered predisposing, needs, enabling, and psychological factors (Table 3).

In model 1, age and marital status were significant factors. The CCS respondents were more likely to be younger and married. In model 2, CCS respondents were

more likely to have less cognitive impairment, a shorter duration of disability in instrumental activities of daily living (IADL), and a higher level of caregiving burden. In model 3, the CCS respondents were more likely to have a lower level of social support, receive care from domestic helpers, be cared for by a spouse, have perceived financial implications after choosing LTC services, and receive an old age allowance or disability allowance. In model 4, CCS respondents were more likely to have a higher level of cognitive impairment, a lower level of social support, more positive attitude towards CCS, prefer CCS more and RCS less, have a caregiver living in the same household, and have an economically inactive caregiver.

More CCS than RCS respondents (26% vs 18%) expected a 60% to 100% probability of changing LTC arrangements in 5 years' time, whereas less CCS than RCS respondents (38% vs 58%) expected no probability of changing LTC arrangements.

Findings based on in-depth interviews were consistent with those based on the questionnaire survey. Needs factors, enabling factors, and psychological factors played significant roles in LTC utilisation.

**Table 1. Sociodemographics of the elderly (n=435)**

Variable	No. (%) of the elderly
Gender	
Male	160 (37)
Female	275 (63)
Mean±SD age (years)	81.06±7.52
Respondent type	
Elderly	159 (37)
Proxy	276 (63)
Education level	
No education	194 (45)
Primary school	161 (37)
Junior secondary or above	79 (18)
Religion	
No religion	134 (31)
Chinese traditional belief	155 (36)
Formal religion	146 (33)
Employment	
Full/Part time	4 (1)
Retired	340 (78)
Homemaker	91 (21)
Marital status	
Currently not married	242 (56)
Currently married	193 (44)
Residential care services	
Care and attention homes for the elderly	260 (60)
Nursing homes	30 (7)
Community care services	
Enhanced home and community care services	97 (22)
Integrated home care services	48 (11)
Mean±SD duration of service received (years)	1.30±0.57

**Table 2. Sociodemographics of the caregivers (n=435)**

Variable	No. (%) of caregivers
Gender	
Male	142 (33)
Female	293 (67)
Age (years)	
≤40	41 (9)
41-50	126 (29)
51-60	134 (31)
≥61	134 (31)
Relationship with the care recipient	
Spouses	100 (23)
Children and in-laws	279 (64)
Grandchildren	12 (3)
Other relatives	26 (6)
Friends	5 (1)
Others*	13 (3)
Education level	
Below primary	32 (7)
Primary	118 (27)
F1-F3	85 (20)
F4-F7/VI	119 (27)
Tertiary (non-degree/degree)	81 (19)
Religion	
No religion	184 (42)
Chinese traditional belief	91 (21)
Formal religion	160 (37)
Employment	
Full/part time	220 (51)
Retired	117 (27)
Homemaker	78 (18)
Others†	20 (4)
Marital status	
Currently not married	103 (24)
Currently married	332 (76)
Mean±SD duration of care provided (years)	5.51±6.62

\* People from the same hometown or employees

† Unemployed, students, or resigned from a job to take on the caregiver role

**Table 3. Regression analysis on community care service (CCS) respondents**

Variable	Odds ratio			
	Model 1	Model 2	Model 3	Model 4
Predisposing factors				
Age	0.967*	0.988	0.996	0.959
Gender of the elderly (Female=1)	1.098	0.671	0.431*	0.720
Marital status of the elderly (Married=1)	0.341 <sup>†</sup>	0.417 <sup>†</sup>	0.711	0.456
Needs factors				
Activities of daily living (ADL)	-	0.983	0.995	1.000
Instrumental ADL	-	1.092	1.058	1.040
Cognitive impairment	-	0.786 <sup>†</sup>	0.781 <sup>†</sup>	0.685 <sup>†</sup>
Duration of disability in IADL (months)	-	0.992 <sup>†</sup>	0.992*	0.990
Hospitalisation in the previous 6 months (No=1)				
1 week	-	2.669	3.173	2.608
1 month	-	1.494	1.458	1.018
≥2 months	-	1.983	2.088	1.173
Bed-bound in the previous 6 months (No=1)				
1 week	-	0.236	0.187	0.673
1 month	-	0.514	0.518	0.807
≥2 months	-	1.414	1.227	1.156
Caregiver burden	-	1.017*	1.015	1.012
Enabling factors				
Social support network	-	-	0.947 <sup>†</sup>	0.961*
Living alone	-	-	0.943	3.297
Receiving care from a domestic helper	-	-	3.250 <sup>†</sup>	2.372
Care arrangement before receiving CCS or residential care services (RCS) [self care=1]				
Spouse care	-	-	2.229 <sup>†</sup>	0.100
Children care	-	-	0.502	0.153
Others	-	-	0.456	0.223
No. of financial sources	-	-	1.464	0.964
Perceived financial implications	-	-	0.518	0.452
Source of financial support				
Comprehensive Social Security Assistance	-	-	2.053	1.464
Old age allowance or disability allowance	-	-	3.244*	4.964 <sup>†</sup>
Self-rated health of caregivers	-	-	1.103	1.373
Psychological factors				
Positive attitude towards CCS	-	-	-	1.206 <sup>†</sup>
Preference of long-term care arrangements				
Domestic helper	-	-	-	1.019
CCS	-	-	-	1.505*
RCS	-	-	-	0.355 <sup>†</sup>
Knowledge about long-term care services	-	-	-	0.982
Use of CCS	-	-	-	0.536
Family structural solidarity: geographic proximity				
Same household (different household=1)	-	-	-	7.036 <sup>†</sup>
Family structural solidarity: opportunity structure				
Economically active caregiver (economically inactive=1)	-	-	-	0.372*
<i>R</i> <sup>2</sup>	0.0879	0.2469	0.3497	0.5209

\* P&lt;0.05

† P&lt;0.01

‡ P&lt;0.001

## Discussion

Model 4 explained 52% of the variance, and thus all the included factors explained more than half of the phenomenon. Psychological factors contributed the largest proportion (17%) of the explanation, in which a positive attitude towards CCS and family structural solidarity significantly contributed to choosing LTC.

The positive attitude towards the CCS led to a preference for being taken care of by CCS and not by the RCS. From a rational behavioural planning perspective, an individual's attitude towards behaviour reflected his/her personal risk profile, which included health status, availability of sources

of support, and availability of domestic helpers at the time of the interview.

Family structural solidarity indicated that the caregiver and the care receiver lived in the same household, and that the caregiver was economically inactive, which was associated with opting to CCS. Both factors could enhance the availability of support from caregivers. In a Hong Kong study, how far apart elderly parents and adult children lived was associated with the feasibility of caregiving to elderly parents.<sup>4</sup>

No significant association was shown between consensual solidarity (ie inclination to family tradition

and filial piety) and utilisation of CCS. This suggests that attitude towards family tradition and filial piety is somewhat de-linked with attitude towards concrete behaviours (eg LTC arrangements). Older people in Hong Kong still agree with virtues associated with cultural traditions, such as intergenerational exchange and filial piety. However, they also consider reality for their LTC arrangements. Hong Kong people tend to link family tradition and filial piety with providing financial support to older parents, but delink family tradition with behaviours that would demand that children sacrifice their own life choices.<sup>5</sup>

Regarding the association between knowledge and utilisation of LTC services, RCS respondents had a better knowledge of LTC services. In addition, more RCS than CCS respondents have been using LTC services, as LTC knowledge is closely linked to utilisation. Only very limited knowledge was obtained by non-users. This reflects the service gap between community support services for elders without LTC needs and LTC services.

With regard to enabling factors, there were two observations. First, the relationship between the caregiver and the care recipient is very important. The CCS respondents were more likely to be supported by spouses and/or domestic helpers than children. When psychological and enabling factors were considered together, CCS respondents were more likely to be in 'older couple families'—a spouse who was economically inactive and lived in the same household. Among older couples, partners depend on each other and they are good companions, but seem to have limited social support from others. Lack of social support among the older couples' families puts them at a great disadvantage to cope with life events such as illness, accidents, etc. Children seemed not to give as much support as the spouses of the elderly in keeping such frail older parents in the community. Among 35 CCS respondents who had domestic helpers, only 11% were taken care of by a spouse. Children caregivers seem to depend on multiple sources of caregiving; from formal to informal, from paid to unpaid. This can be explained by declining of intergenerational bonds and a transition to affection-oriented choices among adult Chinese children.<sup>4,5</sup> This also reflected the ability of children to allocate extra resources to provide personal care to frail parents. These changing attitudes and the potential resources needed by adult children to take care of their frail parents deserve attention.

The second observation was that CCS respondents were more likely to have more sources of financial support and fewer perceived financial implications in deciding LTC arrangements. They were also less likely to depend on Comprehensive Social Security Assistance Scheme, and were more likely to receive old age allowance or disability allowance. The existing LTC policy in Hong Kong may influence personal and/or family decisions with regard to LTC arrangements. Those who have comparatively more financial support are more likely to stay in the community.

Those who have comparatively inadequate financial support are more likely to move to residential facilities. The residential care facilities in Hong Kong are subsidised by the government. In the 2008-09 welfare budget, around HK\$6000, HK\$8000 and HK\$12 000 per head per month were subsidised to private homes participating in the Enhanced Bought Place Scheme, Care and Attention Homes for the Elderly, and nursing home residences, respectively. The subsidy led to low shared responsibility in terms of co-payment by the elders and their families. By no means can this universalist approach to RCS fulfill the care needs of frail elders. However, one of the unintended consequences could be economic-driven institutionalisation. For the long run, policies for supporting CCS should be revamped by enhancing incentives for frail elders and their family members.

Based on group comparison analyses of needs factors, RCS respondents were more likely to have higher levels of activities of daily living (ADL) difficulties and cognitive impairment, whereas CCS respondents were more likely to have higher levels of IADL disability, longer hospital stay, and longer duration being bed-bound in the previous 6 months. This suggested that CCS needs were more likely to be triggered by sudden health deterioration or hospitalisation. Not surprisingly, the caregiving burden of CCS respondents was significantly higher than that of RCS respondents, owing to the influence of LTC policies on differential LTC utilisation in Hong Kong. Before a frail older person can be moved to residential facilities, he has to wait for about 32 months for a subvented home or contract home, and about 7 months for a private home (participating by way of the Enhanced Bought Place Scheme). Consequently, immediate placement to RCS is not feasible. They prepare to meet the care needs of the frail older person by family arrangements, moving the elder person to a private home as a temporary arrangement, or receiving CCS. Hence, when older people experience a sudden change of functional ability (such as after a stroke or peripheral vascular disease), they apply for LTC facilities and are usually offered CCS. In other words, CCS teams provide services to those who have urgent and acute rehabilitation needs and whose caregivers experience a higher level of caregiver burden.

Regarding the expected possibility of changing LTC arrangements, the metaphor for CCS and RCS is that of a 'fortress besieged'. Those outside of the fortress expect to move in, while those inside expect to move out. Moreover, it appears that CCS respondents consider their current status of receiving CCS as some sort of temporary measure, and may eventually need RCS (particularly when the elders' condition deteriorates to the level that the caregivers can no longer care for them). Further study is suggested to examine this phenomenon.

#### **Limitations**

First, error in recall of information is a potential limitation. To safeguard the validity of the study, intensive training

was provided to the interviewers, and the importance of asking respondents to recall their experiences was emphasised (the time when they made up their mind to choose a particular service). Second, the recruitment of the respondents relied on referrals by frontline workers through multi-stage sampling. The success rate was 56% at the service unit level, and thus generalisation of the results should be performed cautiously. Third, data were analysed in multiple stages, owing to limited sample sizes. Some of the potential significant variables may have been excluded. Repeat longitudinal studies are therefore recommended.

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