Respite service use among caregivers of older people:  
Comparative analysis of family dementia caregivers with  
musculoskeletal and circulatory system disorder caregivers  

Aging & Mental Health  

Abstract  

Objectives: To identify the main drivers of the use of respite services and the need for respite services among caregivers of people experiencing dementia relative to family caregivers of people with other health conditions. Method: Based on nationally representative secondary data regression analysis was used to test the association between selected health conditions and the utilisation of and need for respite services.  

Results: For a person living with dementia the odds of using respite care are higher than for a person with either a musculoskeletal or circulatory condition. Family caregivers of people living with dementia report the odds of the need for more respite as 5.3 times higher than for family caregivers of people with musculoskeletal conditions and 7.7 times higher than for family caregivers of people with circulatory conditions. The main reason for never using respite services is largely driven by the type of health condition, age of care recipient, existence of a spouse, and level of disability.  

Conclusions: Respite services that cater to the specific needs of families experiencing dementia at home should become a higher priority within the aged care sector. Alternative models of respite care that focus on prevention and early intervention would be cost effective.
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2 **Key words:** home care, dementia, unmet need, primary carer, respite

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Introduction

Australia’s aging population, people living longer with disabling health conditions (Woolf et al., 2010, Bosanquet and Sikora, 2004), and a national policy emphasis towards home-based care, has placed greater financial, and emotional stress on family members and caregivers. Not surprisingly there is a growing demand for day respite services (NSW Government, 2011) that offer family members a break from caregiving responsibilities by providing planned short-term, time-limited breaks while also providing a break for the individual with a disability (Australian Institute of Health and Welfare, 2012). Day respite provides the care recipient with opportunities to attend/participate in group activities in a day centre setting (Australian Institute of Health and Welfare, 2012). However the use and impact of respite services is an under-researched area in Australia.

Older people make up the vast majority of individuals requiring home-based care, including respite care at home, and in the community (Australian Government Department of Health and Ageing, 2012). They are also most likely to report their main disabling condition as either arthritis and related disorders (21%) or disease of the circulatory system such as heart disease, stroke or high blood pressure (13%) (Australian Bureau of Statistics, 2012a). While a smaller percentage of older people currently report dementia or Alzheimer’s disease (2.7%) as the main condition relating to mental or behavioural disorder (Australian Bureau of Statistics, 2012a), as the population continues to age we can expect a rising proportion of older people reporting living with a diagnosis of dementia. This is because an individual aged 80 years or over is seven times more likely to identify dementia or Alzheimer’s disease as their main long-term health condition in comparison to someone aged 65-79 years (7.9% compared with 1.0%). In
contrast, the proportion of those reporting arthritis as their main condition are similar across these age groups (17.3% compared with 15.9%) (Australian Bureau of Statistics, 2012a).

In addition, by the year 2050, approximately one million people are expected to be living with a dementia-related illness in Australia (Deloitte Access Economics, 2011). This represents an increase of 375% from 267,000 people in 2011. Moreover, because dementia is one of the major reasons why older people enter residential aged care or seek assistance from community care programs within Australia (Australian Bureau of Statistics, 2012b, Department of Health and Ageing, 2011), it becomes even more important to examine the support services provided to the older population and their caregivers.

The investigation of the use of services by primary caregivers is also important because primary caregivers of people living with dementia are more likely than other caregivers to report needing support or an improvement in their role as a caregiver (Australian Institute of Health and Welfare, 2012). Yet it is acknowledged that the greatest area of unmet demand reported by caregivers is respite care (Australian Institute of Health and Welfare, 2012). In fact, investigations by the Australian Institute of Health and Welfare (2012) found that 48% of co-resident primary caregivers of people living with dementia, who require additional support, reported respite care as their main area of need. In contrast only 15% of all co-resident primary caregivers of people without dementia indicated respite as the main area in which they need assistance (Australian Institute of Health and Welfare, 2012).

In recent years a number of changes have been implemented across the aged care sector in Australia with greater importance given to consumer-directed care. Part of these reforms include the government’s continued emphasis on home based care with the aim of home support and home care packages providing greater choice and flexibility for people residing at
home. Other initiatives include the development and implementation of My Aged Care which is a national contact centre through which all referrals for government subsidised services must be made, centralising client records, the establishment of Australian Aged Care Quality Agency, and the launch of the Aged Care Pricing Commission. Changes to funding arrangements for both community and residential care services occurred in 2015 resulting in a greater emphasis on a self-funded approach. The 2015-16 changes build on those already achieved, such as the national voluntary quality indicators for aged care and the national fee framework for the Commonwealth Home Support Programme (Government, 2015).

The Australian government’s continued commitment towards reforms in the aged care sector highlight the importance of national level investigations in this area of research. A better understanding of the use of respite care will assist in developing aged-care strategies to reduce the vulnerability of older people prematurely entering residential aged care facilities. If respite services fail to meet the needs of caregivers, and caregivers are unable to cope, recipients of care will require accommodation support options at approximately five times the cost per client (ACT Government, 2011).

**Literature Review**

Over the years increased attention has been devoted to understanding the support services used by people living with dementia and their families. A review of the literature by Phillipson, Jones and Magee (Phillipson et al., 2013a) reinforces the importance of the assessment and matching of services to the needs of individual caregivers and care recipients at the local level. Their review identified an association of service use behaviours of caregivers with demographic variables, factors representing social structure, and health beliefs about dementia.
Also caregivers’ attitudes towards respite services were important in predicting respite use. Additionally, a review of 76 international studies by Neville et al. (2014) identified the lack of knowledge by caregivers of the availability of respite services and misinformation surrounding respite services as significant barriers to the use of respite care. The recognition for the need for respite by caregivers, their willingness to accept respite, and the availability of social support resources also influenced the use of respite services. Other factors identified as influential in the use of respite services included satisfaction with respite services, the characteristics of respite services, and the role of health workers in providing appropriate respite care.

Using a large sample of secondary data collected across Queensland, Australia, researchers (Vecchio et al., 2016) found that users of home-care services aged 65 and over with cognitive impairment used more day centre care and respite care compared to other users of these services. The Australian Institute of Health and Welfare (AIHW) also identified the use of respite services by primary caregivers of people living with dementia as higher than other co-resident primary caregivers (Australian Institute of Health and Welfare, 2012).

Further evidence from an Australian investigation showed that the use of respite services for family caregivers of people living with dementia was often low. Despite reporting unmet need for respite services, 44.2% of those surveyed were not utilizing day respite and 60.2% were not utilizing residential respite programmes. Beliefs that service use would result in negative outcomes for the care recipient were strongly associated with non-use of both day care and residential respite care and were more strongly associated with service non-use than other predisposing, impeding, and need variables (Phillipson et al., 2013b).
Objectives of the Study

The objectives of this study are to identify characteristics associated with the need for respite services and the use of respite services among family caregivers of people experiencing dementia. Given the competing interests and priorities within the community care sector, this is better understood when examined in the context of other major disabling health conditions. Although it is clear that there is a greater need for respite services among caregivers of people experiencing dementia, what is of value to policy makers is a demonstration of the main drivers of this need and use of services and the extent of this need and use relative to family caregivers of people with other health conditions. For instance, is the need for respite services driven by demographic factors, comorbidity, or does the dementia condition itself lead to greater need? If, after controlling for confounding variables, the analysis shows that caregiving of people experiencing dementia is associated with inadequate respite services, then a case is made for the development of respite models specific to people with cognitive decline and their caregivers.

Understanding the use of respite services by caregivers of people living with dementia is important to plan for future service needs and ensuring effective and sustainable aged care services. The findings of this study will provide a case for the development of suitable models of respite for caregivers of people living with dementia. This study extends the current research in this area by conducting a quantitative study of the relationship between selected health conditions and the use of and need for community respite. The use of a nation-wide database from the Australian Bureau of Statistics improves the accuracy of information and allows results to be generalizable to people 65 and over living with dementia, musculoskeletal, and circulatory system conditions and living in the community.
Method

Data source

The cross sectional data for analysis were sourced from the Survey of Disability, Ageing and Carers 2012 (SDAC), Confidential Unit Record Files, collected throughout Australia from 5 August 2012 to 2 March 2013 (Australian Bureau of Statistics, 2012a). The collection of the information was on the basis of informed consent prior to data collection. The SDAC included people in urban and rural areas of all Australian States and Territories, living in both private and non-private dwellings (including persons in cared-accommodation). The survey collected information from three target populations: people with disability, older people and people who care for individuals with disability, long-term health conditions or older people. Multi-stage sampling techniques were used to select the sample for the survey. Trained interviewers from the Australian Bureau of Statistics collected the household component of the data survey. After exclusions due to scope and coverage, the final combined sample was 79,164 individuals, comprising of 68,802 individuals from the household component and 10,362 individuals from the cared-accommodation component.

The analysis was confined to information about non-institutionalized main recipients of care aged 65 and over with selected health conditions (either dementia, musculoskeletal or circulatory system) and their caregivers. Reasons for these confinements are as follows: 1. Older people make up the majority of individuals who use respite care (Australian Government Department of Health and Ageing, 2012); 2. Older people are most likely to report dementia, musculoskeletal or circulatory system as their main disabling condition (Australian Bureau of Statistics, 2012a); 3. Non-institutionalised care is preferred by the recipient of care, their family
(Healy, 2002) and the government (Hamilton and Menezes, 2011) and this trend towards deinstitutionalisation is expected to continue. An individual may have two or more health conditions. The assigned condition is based on their main disabling condition. Since we are interested in the use of respite care the analysis was also confined to recipients of care living with their caregivers. In the 2012 survey, primary carers of an individual with a disability reported their attitudes to, and experience of, their caring role (Australian Bureau of Statistics, 2012a).

After excluding those who did not fit this study’s criteria, 444 observations remained for analysis, resulting in an estimated weighted population of 154694. Since the data is de-identified and collected by the Australian Bureau of Statistics, ethical approval was not required for the data.

**Statistical Analysis**

Analyses were conducted using Stata version 11.2 (StataCorp, Texas, USA) and followed the statistical methods recommended by the Australian Bureau of Statistics (Australian Bureau of Statistics, 2006). All the results were calculated using the person weights provided in the SDAC. These weights indicate how many individuals in the population are represented in the survey, and take into account the individual’s probability of being selected into the sample. Standard errors of population estimates were calculated as recommended using the jackknife method (UCLA, 2016).
Model

The current health care system delivers a broad range of respite services in three main settings: home-based; community-based; and centre-based. Costs can vary depending on the type of service (Australian Government, 2015). While individuals generally contribute to the cost of care if they can afford to do so, the Australian Government pays for the bulk of aged care in Australia and subsidises those unable to pay (Australian Government, 2015). An analysis of the sample under investigation indicates that overall 86% of respite care recipients receive a pension. It is therefore assumed that the majority of the sample under investigation receives a government subsidy for respite services.

Empirical studies of health utilization usually consider as regression variables those that measure: need/morbidity (indicators of chronic conditions and limited activity); age (accounting for imperfect health status measurement but also for individual preferences); sex (accounting for gender-specific health care requirements and also for preferences); ability to pay (income); and other socio-demographic factors such as marital status (Jones et al., 2007). Based on these studies and the Andersen ‘Behavioural Model of Service Use’ that suggests access to health and social services is determined by predisposing, enabling and need characteristics (Andersen and Newman, 1973b), we test the association between respite care and type of disabling health condition. The Anderson model is used in the health care service literature to explain service usage, particularly in relation to respite use by carers of people with dementia (see review by Phillipson et al (Phillipson et al., 2014))(Vecchio et al., 2016).

Using regression analysis, estimates are obtained regarding the effect that a care recipient’s health condition has on a caregiver’s probability of: (a) use of respite services; (b) perception
of inadequate respite services; and (c) reason for non-use of respite services. These aspects of respite service use are based on the perspective of the family caregiver. The decision to seek care support services is taken by the family caregiver. We do not consider the amount of respite care since this often depends on supply factors such as agency resources (Vecchio and Stevens, 2011).

A binary logistic regression is initially run to estimate the relationship between respite use and type of health condition. The second model estimates the relationship between perceived inadequate respite and type of health condition. The dependent variable in model 1, *Respite Use*, represents caregivers that have used respite services against caregivers that have never used respite services. *Respite Need* in model 2, indicates caregivers that report the need for more respite when asked ‘what is the main source of support’, 0 otherwise. The independent variables for both models include predisposing, enabling and need characteristics.

The *Predisposing* vector of categorical variables relating to care recipient characteristics include age, gender, language spoken and relationship to caregiver. Applying these demographic characteristics allows the control, for as much as possible, of the unobserved individual fixed effects. The supply side of family care provision relates to family caregivers, specifically whether or not they are the spouse of a care recipient. Given that the investigation is confined to older people, supply considerations are mostly captured in the ‘spouse’ variable. The majority of caregivers under investigation are spouses (66%), over the age of 60 years and therefore assumed to be retired from the paid labour market.

The *Enabling* vector represents receipt of a government pension and “urbanicity”. The “urbanicity” variable (major city, inner region, outer/remote region) is based on the ABS Accessibility Remoteness Index of Australia. The classification relates to the distance to large
towns and cities, and the distance to other people. There is the assumption that: (a) people tend
to obtain goods and services from the nearest urban center; (b) large urban centers offer a wider
range of goods and services compared to smaller urban centers; and (c) frequency of access to
goods and services is relative to remoteness.

In a home setting need characteristics are reflected in the capacity of the recipient of care to
meet tasks relating to daily living. This is represented in the Need vector that includes: (a) level
of disability; (b) number of health conditions; and (c) type of main disabling health condition.
Disability level reflects the capacity of the recipient of care to meet tasks relating to domestic
activity, self-care, cognitive, and behavioural function. The level of disability is used to
determine the quantity and intensity of care that is required. The greater the level of disability
of an ill family member, the more care demands are placed on the caregiver (Sherwood et al.,
2008, AIHW, 2011). The number of health conditions, from 1 to 9, captures the number of pre-
existing health conditions. As the number of health conditions experienced by an individual
increases one would expect a greater strain on the individual and increased care demands.

An individual is considered to have a disabling condition if he or she reports a health
condition and possesses a limitation (either profound\(^1\), severe\(^2\), moderate, or mild) or restriction
(either schooling or employment) that lasts at least six months and restricts everyday activities

\(^1\) An inability to do, or always needing help with a core activity task in communication, mobility and
self-care.

\(^2\) Sometimes needs help with a core activity task, has difficulty understanding or being understood by
family or friends, can communicate more easily using sign language or non-spoken forms of
communication.
Type of main disabling health condition is represented as a categorical variable that includes dementia, circulatory system, and musculoskeletal conditions. Dementia becomes the referent. These categories were chosen because of the higher prevalence of these conditions among older people (Australian Bureau of Statistics, 2012a). Health conditions determine what type of care (residential/institutionalized or non-residential) individuals use. Individuals with more severe health conditions are more likely to use residential care. To minimise the possibility of bias associated with the health condition variables we include disability status and number of health conditions as control variables.

Lastly, a multinomial logistic regression is used to estimate the caregiver’s relative risk ratio for each main reason a primary caregiver has never used respite care. The main reasons under investigation include: “Does not need respite”, “Recipient does not want respite” and “Caregiver does not want respite”. The base case used for comparison is the category “Has used respite”.

**Results**

**Descriptive statistics**

Table 1, presents the demographics of descriptive statistics of the recipients of care and their caregivers under investigation. Most recipients are cared for by their spouse. A large proportion (63%) of care recipients report a profound disability and have a mean of 2.4 health conditions. The stratification of demographics by selected health conditions indicate that a greater proportion of older people living with dementia report a profound disability (82%), followed by circulatory system conditions (65%), and those experiencing musculoskeletal conditions (59%). The greatest amount of care per week is provided by family caregivers of
people living with dementia. Forty or more hours of care are provided by 68% of dementia caregivers, 56% circulatory system caregivers, and 38% musculoskeletal caregivers. While only 11% of all caregivers use respite, 30.9% of caregivers of people with dementia use respite compared to only 7.5% and 10.6% respectively, of caregivers of people with either musculoskeletal or circulatory system conditions.

The chi square in the table represents the ‘uncorrected’ chi square with weighted cell proportions. The test indicates significance of difference of socio-demographic variables among the three health groups. Differences are found for the use of respite and need for more respite. Specifically, carers of people with dementia not only use a greater amount of respite care (30.9%), but also need more respite care (31.9%) compared to those caring for people with either musculoskeletal (7.5% and 6.9%, respectively) or circulatory (10.6% and 4.5%, respectively) conditions. Also gender, age, level of disability, and hours of care differences are observed among the groups of health conditions.

Table 2, presents the findings relating to the main unmet source of support for primary caregivers and the primary caregiver’s unmet need for respite care. The results are stratified by health condition. Among those caring for people with dementia, “More respite” is the most reported (31.9%) unmet source of support. “More financial assistance” is the most reported among the musculoskeletal (18.7%) and among the circulatory system (9.7%) caregivers. Caregivers of people living with dementia report the greatest need for respite care at short notice or on an irregular basis (21.2%), compared to other caregivers (musculoskeletal 12.9%
and circulatory 11.0%). This group also reports that, compared to others, there is a greater need for ‘this type of respite’ during weekdays (24.72%), and a greater need for respite but ‘not this type of respite’ during week nights and weekends (refer Table 3).

**Regression**

*Factors associated with the use/non-use of respite*

The results of two logistic regressions - the odds ratios associated with the use of respite (model (1)) and the odds ratios associated with the need for more respite (model (2)) – are presented in Table 4. Referring to the use of respite, the direction of the signs appears as expected. Generally increasing age is associated with higher odds of respite use. The odds of using respite for those with a profound disability are 2.1 times higher than for those with a milder disability. The odds of caregivers of individuals with musculoskeletal or circulatory conditions using respite are 0.24 and 0.33 times, respectively, as great as those of caregivers of individuals living with dementia. To aid interpretation, for odds ratios less than one, we invert these (one divided by the value). In other words, for an individual with a dementia condition, the odds of using respite care are 4.12 times higher (CI 10, 1.689) than for an individual with a musculoskeletal condition and three times higher (CI 8, 1.126) than an individual with a circulatory condition.

*Factors associated with the need for more respite services*

In regard to the need for more respite, a greater number of health conditions decrease the odds for needing more respite services. Given the complexity arising from acquiring more health
conditions, it is possible that specialised services such as nursing and allied health are used instead of respite services. Relative to other caregivers, the need for more respite is greater for caregivers of people living with dementia. That is, the odds of caregivers of individuals with musculoskeletal or circulatory conditions reporting the need for more respite services are 0.19 and 0.13 times, respectively, as great as those of caregivers of individuals living with dementia. In other words, caregivers of people living with dementia report the odds of the need for more respite as 5.3 times higher (CI 17.241, 1.563) than for caregivers of people with musculoskeletal conditions and 7.7 times higher (CI 31.25, 1.98) than for caregivers of people with circulatory conditions.

Factors associated with non-use of respite services

The relative risk ratios computed from the multinomial logistic regression are presented in Table 5. The estimates show the caregiver’s relative possibility of reporting a particular reason why respite care has never been used compared to the base case, “Has used respite”. Individuals with a greater chance of reporting that they do not need respite tend to possess a non-profound disability, are cared for by their spouse, and experience either a musculoskeletal or circulatory system health condition. Those with a greater chance of reporting that the recipient of care does not want respite tend to have a carer other than a spouse and possess a non-profound disability. Individuals from non-English speaking backgrounds, reside in a major city, and have a non-profound disability tend to report that the family caregiver does not want respite.
Discussion

To provide sustainable community services for older people living with dementia it is important to look at service usage in the context of other health conditions. This study investigated the use of, and need for, more respite services and the link between these services and selected main disabling conditions. The investigation was confined to caregivers of older people residing in their own homes experiencing either dementia, musculoskeletal, or circulatory health conditions. The analysis was based on a nationally representative data set sourced from residents across Australia – making this the largest Australian study of this nature.

Family caregivers play a vital role in supporting individuals living with dementia to reside in the community and delay entering residential aged care facilities (Gaugler et al., 2000). The descriptive statistics revealed that among care recipients aged 65 and over, most were cared for by their spouse. The older age of caregivers means that greater community support is required to delay institutionalization of care recipients as their health, and the health of their caregivers, deteriorate. The descriptive statistics also showed that the hours of care provided by caregivers to individuals with a dementia condition was higher than other caregivers. These findings are consistent with research by Kim and Schulz (2008) and the AIHW (2012).

A greater proportion of carers of people with dementia who used respite care during the weekdays, reported more need for the same type of care. The same primary carers reported that they required more respite on weeknights and weekends, stating that the type of respite care offered was unsuitable. Possibly services are inadequate for short notice or irregular respite care (as indicated in Table 2) or do not suit the needs of families.
Further analysis that controlled for confounding variables revealed that more respite services were being used by those living with dementia than those with other health conditions. This suggests that a significant increase in these services will be required in the future, as individuals with a cognitive impairment are projected to increase significantly. Indeed, for an individual living with dementia the odds of using respite care were found to be 4.12 times higher than for an individual with a musculoskeletal condition and three times higher than an individual with a circulatory condition. Furthermore, caregivers of people living with dementia reported the odds of the need for more respite as 5.3 times higher than for caregivers of people with musculoskeletal conditions and 7.7 times higher than for caregivers of people with circulatory conditions. The main reason for never using respite services was largely driven by the type of health condition, age of care recipient, existence of a spouse, and level of disability.

**Limitations**

Due to data limitations, our study was unable to capture information relating to the care recipient’s diagnostic category or the stage of the condition. Higher need individuals are expected to be either residing in residential aged care facilities or use specialist dementia care. In our analysis the inclusion of several indicators relating to functional status, i.e. disability level and main disabling health condition, acted as proxies for care recipient need. It would be beneficial to expand the models to include psychosocial factors such as attitudes, knowledge, and social norms (Bradley et al., 2002). We expect, however, that the predisposing factors of the model (gender, age, language, and relationship to caregiver) capture to some extent these types of influences. Whilst this study has used a large quantitative sample, this limits our understanding of carers’ non-use of respite. The categories of “does not need respite,”
“recipient does not want respite,” and “caregiver does not want respite,” are very broad, and exploring such reasons are better addressed through qualitative methods.

For people experiencing a dementia condition, the survey responses may have been reported by the caregiver. This is not expected to bias the findings since the family caregiver is likely to be well informed about the circumstances of the care recipient.

Conclusions

This study showed that relative to other health conditions, caregivers of people living with dementia report an imbalance in service whereby they use more respite and need more respite. The expected rising diagnosis of dementia cases accompanied by an aging population means the provision of viable and reliable respite support to long term family caregivers requires urgent attention. Inadequate support services may force family caregivers to prematurely transfer cognitively impaired individuals to institutionalized care such as hospitals and residential aged care facilities.

Care at home offers people with long-term care needs a higher quality of life and better outcomes at lower cost than care in a nursing home (Konetzka, 2014). The use of respite services by caregivers has been shown to extend the length of time people living with dementia can remain living in the community with family support (Phillipson et al., 2013a).

The extent of respite use among those experiencing dementia, as evidenced in this study, combined with changing economic, demographic and social pressures highlights the need for quality and cost effective formal care arrangements in Australia (Baxter, 2002; MacDonald, 2000). Addressing this need must acknowledge the shift towards viewing respite as a service
that provides a positive experience to improve the quality of life for participants and to support
their relationships.

Currently in Australia there is a range of government subsidised home care packages for
people who need extra help to remain living at home. These services include respite care,
personal care, nursing care, allied health care, help with household tasks, transport and home
maintenance. Some home care service providers also use an additional dementia supplement.
However, these services are “more of the same” and do not provide specialised services that
cater to the needs of people experiencing a dementia condition. Instead government subsidised
services and staff that specifically cater to the needs of people with dementia are primarily
available in aged care homes. (Australian Government, 2015) Furthermore, to our knowledge
no home care service employs purposeful therapy or programs to assist in the slowing of
cognitive decline. Rather education and support is aimed at health professionals, carers and the
community in general. Organisations such as Alzheimer’s Australia provide programs for
people with dementia with most focusing on social outings and activities (Australia, 2016).

Of importance is the exploration of models of care that strengthen relationships within the
community. There is a need for community-based respite care packages which go beyond the
existing models to explore new, more innovative models of care that cater to the needs of
people living with dementia and their caregivers. In doing so, this may result in a greater
supply of suitable respite care packages and a higher uptake by caregivers of people living
with dementia. It is acknowledged, however, that increasing availability of services does not
guarantee uptake. Even so, clever future planning of community respite care is an essential
component in improving the quality of life for families dealing with dementia.
To date there is no research undertaken to explore caregiver or care recipient preferences for alternative models of respite community care (rather than residential aged care facilities) that cater to the specific needs of individuals with cognitive decline. It is simply assumed that individuals prefer the current models. Future studies that identify viable alternative models of respite care must test this assumption.
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