Push and Pull Factors Surrounding Older Adults' Relocation to Supportive Housing: A Scoping Review

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RÉSUMÉ

Les logements avec services de soutien, tels que les résidences pour personnes âgées et celles offrant des services d'assistance, sont de plus en plus considérés comme des choix adaptés aux besoins des personnes âgées au Canada. Cet examen de la portée décrit la nature et le contenu des recherches explorant les facteurs qui incitent les personnes âgées à déménager en résidences avec services de soutien. Une recherche effectuée sur PubMed, CINAHL, Web of Science et PsycINFO a permis de repérer 34 articles sur ce sujet. Les articles examinés utilisaient une variété de méthodes et de cadres théoriques, dont le modèle "Push and Pull", qui était le plus courant. Cet examen de la portée suggère que les problèmes de santé et les déficits fonctionnels sont les principales causes de relogement en résidences avec services. Davantage d'études longitudinales sont nécessaires en vue de définir de manière plus exhaustive les déterminants médicaux et sociaux du relogement et ses conséquences. Ceci permettra de caractériser plus précisément cette population en croissance pour mieux aligner les politiques sur les besoins des adultes âgés qui envisagent ou entreprennent un relogement.

ABSTRACT

Supportive housing, including retirement homes and assisted living, is increasingly touted as a suitable living option for Canadian older adults. This scoping review describes the nature and content of studies that explore underlying factors that motivate older adults to relocate to supportive housing. We conducted a search of PubMed, Cumulative Index of Nursing and Allied Health Literature (CINAHL), Web of Science, and PsycINFO, which identified 34 articles for review. Articles reviewed employed a variety of methods and guiding theoretical frameworks, of which the push and pull framework appeared to be most common. This review suggests that health and functional deficits are important reasons for relocation to supportive housing for older adults. Further longitudinal data are required to more comprehensively describe medical and social determinants for relocation and its consequences, in order to better describe this growing population and better align policies with the needs of older adults contemplating or undergoing relocation.

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Introduction

In 2016, more than 400,000 Canadians lived in long-term care or supportive housing (Statistics Canada, 2017a). As our population continues to age, an unprecedented number of individuals will come to live in such congregate arrangements (Statistics Canada, 2017b). Supportive housing is an umbrella term encompassing retirement homes and assisted living (Canadian Centre for Elder Law, 2008). Although some adults 65 years of age or older move to supportive housing from community living, supportive housing remains distinct from long-term care homes (Canadian Centre for Elder Law, 2008; Perks & Haan, 2010). Long-term care homes are provincially regulated institutions that have entry requirements based on care needs, whereas supportive housing provides the option of relocating regardless of need (Howe, Jones, & Tilse, 2013).

Within Canadian long-term care homes, person-level data are collected through the mandated use of a standardized instrument (the Resident Assessment Instrument/Minimum Data Set [RAI-MDS] 2.0 or interRAI-Long-Term Care Facilities [LTCF]) across provinces and territories (Hirdes, Mitchell, Maxwell, & White, 2011). These data have played and continue to play a crucial role in shaping long-term care policy in Canada and other countries (Carpenter & Hirdes, 2013). The lack of a similar data infrastructure in supportive housing impedes evidence-based policy discussions for a sector with fragmented and jurisdiction-specific regulations (Canadian Centre for Elder Law, 2008).

An aging population with increasing care needs places a growing emphasis on supportive housing as an alternative to long-term care (Perks & Haan, 2010) but it is unknown whether these facilities have the capacity to meet residents' needs (Hirdes et al., 2011). For example, to be licensed in Ontario, a retirement home must offer at least two of the following services: meal provision, bathing assistance, personal hygiene, dressing or ambulation, dementia care, medication administration, incontinence care, or the services of a physician, nurse, or pharmacist (Ontario Retirement Communities Association, 2018). Thus, retirement homes may offer a wide range of heterogeneous services, such as providing meals and medication administration, but whether they can support residents who require additional help with activities of daily living is unclear. Without information on important factors that may be driving residents to relocate to supportive housing, it is difficult to ascertain the level of care needed to best serve this group of older adults.

A recent study from the Hamilton Niagara Haldimand Brant region of Ontario shed some light on the characteristics of retirement home residents by comparing those receiving home care services with home care clients living in the community (Poss et al., 2017). Approximately 40 per cent of retirement home residents receive home care services, and they tend to have greater cognitive and physical impairments than their community counterparts (Poss et al., 2017). This study also suggests that potential discrepancies exist between the care available in supportive housing and the needs of residents accessing such services. Yet, despite the growing numbers of older adults relocating to supportive housing, their characteristics and needs remain under-studied, hampering any informed assessment of the patchwork of policies implemented across Canada.

An understanding of the existing literature is needed to guide future investigations of prospective supportive housing residents, services, and policies. The push and pull framework, based on Lee's theory of migration (Lee, 1966), is a conceptual guide that is commonly used to examine the factors for relocation. In the context of older adults' relocation to supportive housing, this framework posits that older adults are influenced by push and pull factors when considering relocation to supportive housing. Pull factors are those that attract older adults to supportive housing, whereas push factors drive them out of their current living situation (Tyvimaa & Kemp, 2011). Given the paucity of literature focused on this population, it is unclear how these factors relate to older adults' health and functioning; hindering the assessment of supportive housing policies' relative appropriateness.

We therefore conducted a scoping review to describe the nature and content of studies that explore older adults' reasons for relocating to supportive housing in order to better understand their needs. More specifically, we reviewed studies that examined older adults' reasons for moving, and their relation to health and function.

Methods

A scoping review is designed to provide an overview of the literature on a topic with an expected paucity of evidence (Armstrong, Hall, Doyle, & Waters, 2011). We conducted a scoping review of the supportive housing literature in accordance with Arksey and O'Malley's (2005) framework, to achieve our objectives.

Search Strategy

The search strategy was devised to describe the population, the setting, and the outcomes of interest. Because of the heterogeneity of terms used to describe supportive housing, a wide-range of keywords identified in Howe et al.'s (2013) international comparative search of terms was used (Table 1). We searched in PubMed, Cumulative Index of Nursing and Allied Health Literature (CINAHL), Web of Science, and PsycINFO up to and including August 2018.

Article Selection

We included journal articles that focused on individuals who were considering relocating to, or who were are already living in, supportive housing that were published in English between 2000 and August 2018, and for which a full-text version was available. Articles that studied naturally occurring retirement communities — communities of older adults aging in a specific

neighbourhood — were excluded because these are distinct from purpose-built supportive housing. Included articles were indexed and duplicates were removed using EndNote X7. Three authors independently screened articles' titles and abstracts and consulted a senior author to arbitrate screening decisions after full-text review.

Data Charting and Thematic Analysis

Publication characteristics, study characteristics, and participant information were collected and extracted. Publication characteristics included year of publication, journal, country in which the study was conducted, and MEDLINE® indexing status of the journal. Study characteristics included descriptors for supportive housing, study design, and the use of guiding frameworks or models, and participants' information included age, gender, and measures of health or functioning. MEDLINE indexing status was used as a surrogate for the visibility of the article to health care professionals and policy makers (Matsoukas, 2015).

Results were collated by identifying common themes in the literature (Levac, Colquhoun, & O'Brien, 2010). Publication characteristics, general approaches in study designs, and the use of guiding frameworks or models were summarised once charted. Lastly, study

Table 1: Search strategy

Concept	Search Terms	
Retirement home AND Supportive housing/ Seniors	(retirement AND (community OR communities OR home OR village OR resort OR town OR condominium OR park OR housing OR apartment)) OR (village AND (lifestyle OR rental OR vertical)) OR ((supportive OR supported) AND (housing OR senior OR accommodation OR resident)) OR (assisted AND (living OR service OR facility* OR apartment)) OR (residential AND (home OR care OR living OR park)) OR (sheltered AND (care OR housing)) OR (service AND (housing OR flat)) OR (care AND (close OR flex OR integrated)) OR ((seniors OR senior) AND housing)	TS=((retirement AND (community OR communities OR home OR village OR resort OR town OR condominium OR park OR housing OR apartment)) OR (village AND (lifestyle OR rental OR vertical)) OR ((supportive OR supported) AND (housing OR senior OR accommodation OR resident)) OR ((assisted AND (living OR service OR facility* OR apartment)) OR (residential AND (home OR care OR living OR park)) OR (sheltered AND (care OR housing)) OR (service AND (housing OR flat)) OR (care AND (close OR flex OR integrated)) OR ((seniors OR senior) AND housing)))
Push and pull factors	Retirement home AND	(relocation OR mobility OR move OR moving OR migrate OR migration OR transition) AND (choice OR consider* OR decision OR decid* OR select* OR reason* OR push OR pull OR proactive OR reactive OR plan OR influence OR determin* OR factor)
Disease, functioning, and frailty	Retirement home AND	(disease OR illness OR comorbidity OR frailty OR Function* OR Activities of daily living OR ADL* OR IADL* OR Instrumental activities of daily living OR Quality of life OR Functional status OR everyday function* OR Functionally impaired elder*) AND (cohort OR cross-section OR survey OR review) AND (prevalence OR incidence OR epidemiology OR risk)

participants were described, and measures of health and function were reported.

Results

Search Results

Our database searches returned 15,522 publications, with 13,615 unique citations. A total of 2677 (not counting 128 duplicates) were added after the updated search in August 2018. After screening and full-text review, 34 articles were included (Figure 1).

Summary of Study Characteristics

Table 2 provides an overview of included articles' study characteristics. Most studies (44%) were conducted it the United States, followed by Australia (21%), Canada (12%), and Europe (12%). Two studies (6%) were conducted each in Israel, China, and Taiwan. More than half of articles (56%) were published between 2007 and 2012, with only 12 per cent having been published before 2006. The majority of studies (65%) were published in journals that were indexed for MEDLINE. Articles were most frequently published in the *Journal of Applied Gerontology* (15%) and *Journal of Housing for the Elderly* (12%). The former is indexed for MEDLINE but the latter is not.

The most frequently used descriptor for supportive housing was retirement living, with 44 per cent of studies using "retirement" in their definition of their setting, followed by "assisted living" (21%). Settings that included "retirement" were continuing care retirement communities, retirement villages, and retirement communities. Remaining articles (35%) used a variety of descriptors, such as senior housing/houses (including congregated senior housing and housing for seniors), supportive housing, and government-subsidized senior citizen apartment buildings (Table 2).

The push and pull framework was the most commonly applied framework (27%); half of studies used another conceptual approach, and 24 per cent used none. Almost all 34 articles reported participants' age and gender, and 65 per cent reported at least one measure of health and/or functioning.

Study Designs

Studies used various designs to explore older adults' factors for relocating to supportive housing. A qualitative approach was applied in half of the studies, while quantitative approaches were used in 47 per cent (Table 2). Only one study used mixed methods, in which they conducted interviews and applied quantitative instruments (Ewen & Chahal, 2013).

Qualitative approaches consisted of interviews with older adults and/or their families who were planning to move to, or already resided in, supportive housing. Most authors analyzed qualitative data using thematic or content analysis (Table 3). A few studies also collected data via participant observation. These studies
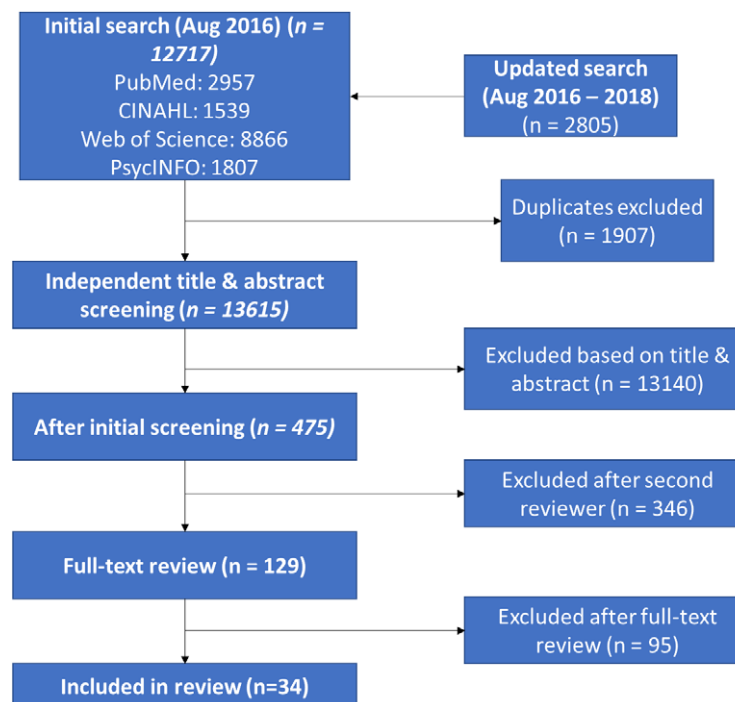

Figure 1: Overview of Article Selection Process

Table 2: Study characteristics

	Number of Studies (%)
Year of publication	
2000-2006	4 (12%)
2007-2012	19 (56%)
2013-2018	11 (32%)
Country	
United States	15 (44%)
Australia	7 (21%)
Europe	4 (12%)
Canada	4 (12%)
Other	4 (12%)
Indexed for MEDLINE®	22 (65%)
Supportive housing descriptors	
Retirement living	15 (44%)
Assisted living	7 (21%)
Other descriptors	12 (35%)
Study design	
Qualitative	17 (50%)
Quantitative	16 (47%)
Mixed methods	1 (3%)
Guiding frameworks and models	
Push and pull framework	9 (27%)
Ecological theory of aging	6 (18%)
Other	11 (32%)
None	8 (24%)
Studies reporting age of participants	33 (97%)
Studies reporting gender of participants	34 (100%)
Studies with measures of health or functioning	22 (65%)
General health	21 (62%)
ADLs and/or IADLs	11 (32%)
Depression or mood	6 (18%)
Cognition	4 (12%)
Pain	3 (9%)
No assessment of health or functioning	12 (35%)

Note. ADL = activities of daily living; IADL = instrumental activities of daily living.

were guided by a phenomenological approach (Jungers, 2010), a grounded theory approach (Ball, Perkins, Hollingsworth, Whittington, & King, 2009), and a thematic analysis through micro, meso, and macro lenses (Portacolone & Halpern, 2016).

Quantitative approaches largely entailed the use of surveys and questionnaires developed by authors for the purposes of the study (Table 3). The majority of studies used a cross-sectional design to look at relationships between factors surrounding the transition, but a few studies were longitudinal in nature. A pair of studies, for example, administered a survey at two time points, one year apart, to investigate older adults' relocation outcomes after moving to supportive housing (Smith & Sylvestre, 2008; Sylvestre & Smith, 2009). Two studies used longitudinal data from existing cohorts: the Longitudinal Study on Aging II in the United States (Hong & Chen, 2009) and the ENABLE-AGE Project in Europe (Granbom et al., 2014). Finally, one study used online vignettes to present different

scenarios to prospective older adults and their adult children to explore decision-making surrounding relocation (Caro et al., 2012).

Guiding Theoretical Frameworks

The majority of studies (77%) used a theoretical framework to guide their inquiry into older adults' relocation to supportive housing (Table 2). The most frequently used framework was the push and pull framework, which was applied explicitly in 27 per cent of studies, followed by the ecological theory of ageing, which was used in 18 per cent of studies. Different frameworks were used in 32 per cent of articles. The rest of the articles did not report the use of a framework. Table 4 lists these theoretical frameworks.

Most frameworks applied in the studies reviewed were directly related to ageing and relocation: the push and pull framework, the ecological theory of ageing, or frameworks describing different types of movers (e.g. Litwak and Longino Jr's (1987) and Gardner, Browning, and Kendig's (2005) models, and concepts designed for examining person–environment interactions (e.g. complementary/congruence model of wellbeing). However, some researchers generalised concepts that are non-specific to older adults or relocation to study this phenomenon, including Rosenbaum's (1990) theory of learned resourcefulness, grief, ecological system theory (Portacolone & Halpern, 2016), and the theory of planned behaviour (Ajzen, 1985).

Push and Pull Factors Affecting Relocation to Supportive Housing

The articles that applied the push and pull framework revealed several factors involved in older adults' relocation to supportive housing (Table 2). Push factors for relocation included individuals' or spouses' health challenges, increasing social isolation, fear of burdening family, inadequate living arrangements, necessary maintenance of property, and aiming to achieve control over one's future. The most frequently cited push factor in the studies were older adult's or their spouse's declining health (Bekhet, Zauszniewski, & Nakhla, 2009; Crisp, Windsor, Anstey, & Butterworth, 2013; Ewen & Chahal, 2013; Groger & Kinney, 2001; Stimson & McCrea, 2004; Tyvimaa & Kemp, 2011). Articles that did not explicitly use the push and pull framework also showed that older adults who were relocated experienced increasing physical decline (Svidén, Wikström, & Hjortsjö-Norberg, 2002), falls (Castle & Sonon, 2007; Saunders & Heliker, 2008), cognitive impairment (Rockwood et al., 2014), and/or functional deficits (Ewen & Chahal, 2013; Granbom, Lofqvist, Horstmann, Haak, & Iwarsson, 2014).

Table 3: Summary table of reviewed studies

Authors (Year)	Descriptor for Supportive Housing	Purpose of Study	Guiding Frameworks or Models	Data Collection Methods and Tools	Data Analysis	Participants or Sample	Age Reported (Years)
Groger and Kinney (2001)	Continuing care retirement community (CCRC)	To better understand why people move to CCRCs	Push-pull framework	Interviews Functional health: (Short Form Survey-36 [SF-36]); cognitive functioning (Metamemory Questionnaire); depression (The Center for Epidemiologic Studies Depression Scale [CES-D])	Thematic analysis	8 married couples and 5 single women moving into CCRCs	Mean: 74.4 years (Range: 68-81 years)
Svidén, Wikström, and Hjortsjö-Norberg (2002)	Sheltered housing for the elderly	To analyse how individuals describe their experience of moving to and living in sheltered housing	N/A	Semi-structured interviews	Phenomenological approach to thematic analysis	41 women and 18 men living in sheltered housing for >1 year	Not reported
Krout et al. (2002)	CCRC	To examine reasons given for relocation to an upstate New York CCRC	Push-pull framework Litwak and Longino's model 3 types of moves among the elderly	Interviews and author-developed survey to collect demographics Self-assessed health on a 10-point scale (0=very serious health problems to 10=very best health); spouse's assessed health using the same 10-point scale	Exploratory factor analyses and multiple logistic regressions	91 affluent individuals who relocated to one CCRC (64% female and had graduate/professional degrees)	60% > 75 years
Stimson and McCrea (2004)	Retirement village	To identify relationships between push-pull factors, predictor variables, and relocation to retirement villages	Push-pull framework	Mail-in survey	Factor analyses and path analyses	985 residents typically from a white-collar background (60-65% female)	Most common age of entry is 70–74 years
Bekhet, Zausz-niewski, and Wykle (2008)	Retirement communities	To examine the relationship among positive cognitions, learned resourcefulness, and relocation adjustments	Rosenbaum's theory of learned resourcefulness	Self-report questionnaire with scales to assess learned resourcefulness, positive cognition, and relocation adjustment Perceived Health Status (4-point Likert scale, 1=poor 4=excellent); Index of Activities of Daily living (lower score=more independence)	Hierarchal regression and a correlation matrix	104 cognitively unimpaired elders (66% women)	Mean: 85 years (range: 65-95 years)

Continued

Authors (Year)	Descriptor for Supportive Housing	Purpose of Study	Guiding Frameworks or Models	Data Collection Methods and Tools	Data Analysis	Participants or Sample	Age Reported (Years)
Bekhet, Zauszniewski, and Nakhla (2009)		To understand why elders relocate to retirement communities and what living in the communities is like from their perspective	Push-pull framework	Interviews		Constant comparative method	
Castle and Sonon (2007)	Assisted living facilities	To examine factors around the search, selection, and satisfaction of residents and family members in assisted living	Conceptual model based on typical sequence for assisted living search and selection process	Questionnaire adopted from nursing home research, consisting of health and functional measures, demographics, search, choice, selection, and satisfaction Self-reported health status (SF-36, 4-20 with higher scores meaning better health); ADL status (higher scores = less dependence); IADL status (higher scores=less dependence); mood (0-30 mood scale; higher = better mood); pain (1 = no pain, 6 = unbearable pain	Logistic regression	375 assisted living residents (76% female) with matched family members (76% female)	77 years (SD: 5.2)
Kemp (2008)	Assisted living facilities	To explore pathways that lead couples to assisted living and how marriage influences their lives in this setting	N/A	Interviews	Inductive analysis	20 married couples and 10 adult children	Husband: mean 86 years (range 66-94) Wife age: mean 85 years (range 67-93)
Saunders and Heliker (2008)	Assisted living facility	To explore the expectations and experiences of newly admitted residents	N/A	Interviews	Content analysis	5 newly admitted female residents	Mean: 78.9 years (range 63-91)
Sergeant and Ekerdt (2008)	Congregated senior housing, assisted living	To study motives for residential mobility and the decision-making process within the context of the ecological layers of aging	Ecological layers of the aging context	Interviews Self-reported health problems	Thematic analysis	30 individuals and couples who moved within the past year and 14 extended family members (66% female).	11% 60-69 years 39% 70-79 years 50% 80-87 years

Continued

Table 3: Continued

Authors (Year)	Descriptor for Supportive Housing	Purpose of Study	Guiding Frameworks or Models	Data Collection Methods and Tools	Data Analysis	Participants or Sample	Age Reported (Years)
Smith and Sylvestre (2008)	Government subsidized senior citizen apartment buildings	To determine effects of neighbourhood and individual change on personal outcomes of recent movers	Amended Golant's model, an interactional worldview in which older adults' relocation outcomes are influenced by personal and behaviour-setting components	Investigator-developed longitudinal survey administered 1 year apart Self-rated health (5-point scale from bad to excellent); depression (CES-D); Index of ADLs (11 ADLs, Katz et al.); IADL Scale (8 tasks, Lawton and Brody)	Logistic regression	137 retirees (62% women) who recently (1 month to 1 year) moved to senior citizen apartment buildings. Majority of respondents obtained a gr 7 to 12 education.	37% 55-64 years 27% 65-74 years 25% 75-84 years 11% ≥85 years
Sylvestre and Smith (2009)		To determine effects of changes in local behaviour settings and individual attributes on adjustments of older parents who have moved to senior citizen apartment buildings					
Ball et al. (2009)	Assisted living facilities	To examine how race and class influence decisions to move to assisted living	N/A	Interviews, participant observation, and review of residents' records Self-reported health problems	Grounded theory approach	60 residents (70% women), 43 family members/friends, 12 administrators; ~ 50% African American and 50% white	4% 18-44 years 11% 45-64 years 10% 65-74 years 46% 75-84 years 29% ≥ 85 years
Hong and Chen (2009)	Supportive housing	To test a model for late-life relocation and health derived from the ecological model of aging and the complementary/congruence model of well-being	Ecological model of aging Complementary/congruence model of well-being	Longitudinal Study on Aging II (a nationally representative sample of noninstitutionalized persons ≥70 years) Looked at 12 medical conditions for comorbidities; functional disability (Nagi's 7 items); Functional limitation (combined ADLs, IADLs); Self-rated health (1=excellent to 5=poor)	Latent growth curve modeling (to estimate variations in initial status and longitudinal changes)	5,294 older adults (63% women); 2.4% recently relocated to supportive housing	Mean: 75.5 years (SD: 5.26)
Jungers (2010)	Assisted living	To create a rich description of the meaning of relocation and describe nuances in the process	Late-life transition	Focus group, interviews, and observations	Phenomenological approach to thematic analysis	14 participants (10 women) residing in assisted living facilities	Mean: 85.2 years (range: 75-98)

Table 3: **Continued**

Authors (Year)	Descriptor for Supportive Housing	Purpose of Study	Guiding Frameworks or Models	Data Collection Methods and Tools	Data Analysis	Participants or Sample	Age Reported (Years)
Cheng et al. (2011)	Residential care facilities	To understand the well-being of residents and how the environment affects residents' activities and health	Therapeutic landscapes (Gesler)	Interviews Self-rated health status (5-point scale from excellent to poor)	Constant comparative method	27 elderly residents (17 female), 16 family members, 5 residential care facility managers	Mean age: 80 years
Finn et al. (2011)	Retirement village	To explore financial considerations that retirees had when relocating	N/A	Convergent interviews	Content analysis	81 retirement village residents; 52 discussed financial issues (28 women) whose interviews were analyzed	Mean 76.3 years (range: 55-89)
Tyvimaa and Kemp (2011)	Senior house	To explore factors influencing relocation to senior houses	Push-pull framework	Interviews and open-ended questions from surveys	Content analysis	120 senior housing residents (15 were interviewed) from 3 sites; 55-79% were women depending on site	At site 1, 50% of respondents were ≥75 years. At site 2, respondents were 60-70 years old. At site 3, age was distributed from 55 to ≥75 years
Ayalon and Green (2012)	CCRC	To examine the transition to CCRCs within the framework of anticipatory and disenfranchised grief	Anticipatory and disenfranchised grief	Interviews	Thematic analysis	29 CCRC residents (24 female) and 19 adult children (13 female)	Range: 72-88 years
Bäumker et al. (2012)	Extra care housing	To examine factors motivating older people to move to extra care housing compared with those moving to retirement villages	Push-pull framework	Investigator-developed questionnaire Self-perceived health (5-point scale, very bad to very good); ADLs (Barthel Index of ADLs); cognitive impairment (Minimum Data Set Cognitive Performance Scale [MDS-CPS])	Chi-square analyses	949 individuals (65% female) recently relocated to extra care housing or retirement villages	Mean ages among settings ranged from 75.5 to 77.5 years

Continued

Authors (Year)	Descriptor for Supportive Housing	Purpose of Study	Guiding Frameworks or Models	Data Collection Methods and Tools	Data Analysis	Participants or Sample	Age Reported (Years)
Caro et al. (2012)	Retirement community	To determine how five distinct dimensions (functional status, features of current housing, social networks, features of retirement communities, and finances) affect decisions to relocate	Ecological theory of aging	Online vignettes (text, photographs, audiovisual clips) using a fractional factorial survey design Self-reported health status; IADLs	Logistic regression	215 older adults (79% female) and 51 adult children (6% in senior housing)	Median: 73 years
Huang (2012)	Senior housing	To use a model based on the theory of planned behaviour to investigate factors underlying older adults' intention to move into senior housing	Theory of planned behaviour	Questionnaire based on the model developed using the theory of planned behaviour Self-reported health status	Predictive modeling	264 older adults (63% female) from 5 randomly selected in older adult schools	28% 61-65 years 21% 66-70 years 20% 71-75 years 20% 76-80 years 11% ≥81 years
Weeks, Keefe, and Macdonald (2012)	Several housing options (including special retirement and congregate housing)	To examine how sociodemographic characteristics, health, and unmet support needs influence relocation preferences	Push-pull framework	Mail-in survey based on the 1998 Seniors' Housing and Support Services Survey (developed by the Canada Mortgage and Housing Corporation) Self-reported health status (excellent, very good, good, fair, or poor); Difficulty in completing at least 1 ADL	Logistic regression	1,015 community-dwelling adults (58% female) in 4 Canadian provinces	34% 65-69 years 27% 70-74 years 20% 75-79 years 11% 80-84 years 7% ≥ 85 years
Ewen and Chahal (2013)	Congregate senior housing	To elucidate push-pull factors associated with moving into congregate senior housing	Push-pull framework	Semi-structured interviews and scales for measuring psychosocial well-being Self-rated health (Cantril ladder; 10=very best possible health and 0=worst possible health); co-morbid health conditions	Horizontalization, clusters of meaning, and developing themes. Multiple regression and t-tests for quantitative data	26 older women who recently moved to congregate senior housing	Mean: 78 years
Walker and McNamara (2013)	Retirement living facilities	To identify issues older adults face when relocating to retirement living	Person-environment-occupation model, Stages of relocation from decision (push-pull factors) to adjustment.	Semi-structured interviews	Grounded theory approach	16 "relatively healthy" residents (12 female) from retirement living facilities (3 who recently made the decision to relocate)	Mean: 80 years

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Table 3: Continued

Authors (Year)	Descriptor for Supportive Housing	Purpose of Study	Guiding Frameworks or Models	Data Collection Methods and Tools	Data Analysis	Participants or Sample	Age Reported (Years)
Crisp, Windsor, Anstey, and Butterworth (2013)	Retirement village	To identify distinguishing characteristics of older adults who consider relocation in the future from those who have not	Push-pull framework, Five factor model of personality	Mail-in survey Self-rated physical health in relation to physical activity, pain, and general perceived health (RAND-12 Health Status Inventory [RAND-12]) Physical Health Component Score)	Logistic regressions	517 community-dwelling residents (51% female)	Mean: 65 years (SD: 8.0)
Crisp, Windsor, Butterworth, and Anstey (2013)		To identify relocation factors that older adults find encouraging or discouraging	Gardner's two types of movers to retirement villages: planners and reactors.				
Bohle et al. (2014)	Retirement village	To explore influences on the housing choices of retirees	N/A	Convergent interviews	Analysis of convergent and divergent themes	81 retirement village residents (46 female) and 73 local community residents (40 female)	Mean: 77.7 years (range: 59-93 years)
Granbom, et al. (2014)	Special housing	To explore which aspects of housing and health predict relocation to ordinary or special housing in very old age	Ecological theory of ageing (person-environment fit)	Longitudinal data (part of the Enabling Autonomy, Participation, and Well-Being in Old Age: The Home Environment as a Determinant for Healthy Aging [ENABLE–AGE] Project) collected via home visits, interviews, assessments, and observations Symptom List Questionnaire (0-30); Geriatric Depression Scale (0-15); 4 tasks from Mini-Mental State Examination (MMSE) ; use of a mobility device; ADLs; IADLs; perceived functional independence; SF-36	Cox regression modeling	384 persons living in the community (75% female); 70 participants relocated after 4 years (46 to special housing)	Mean: 84.9 years (SD: 3.0)

Table 3: Continued

Authors (Year)	Descriptor for Supportive Housing	Purpose of Study	Guiding Frameworks or Models	Data Collection Methods and Tools	Data Analysis	Participants or Sample	Age Reported (Years)
Rockwood et al. (2014)	Assisted living and nursing home	To compare events and symptoms that predispose and precipitate moving of older adults to assisted living or to a nursing home	N/A	Health record review and personal/facility interview. Cognitive impairment scale (Global Deterioration Scale); Dependence Scale (0-15, 15 indicating worse dependence); Dementia Symptom Scale (SymptomGuide)	Analysis of variance and chi-square	174 residents who were admitted to nursing home or assisted living; 54 moving from community to assisted living (69% female)	Mean: 85.3 years (SD: 6.4) moving to assisted living
Crisp, Windsor, Butterworth, and Anstey (2015)	Retirement community	To investigate changes in loneliness or social networks following relocation	Five Factor Personality Model Social network-health relationship	Mailed-in self-report questionnaires at prior to relocation, 1, 6, and 12 months post relocation SF-12 Physical Health, SF-12 Mental Health; Depression Anxiety Stress Scales (DASS)	Longitudinal modeling	83 older adults relocating to a new retirement community (61% female); 549 community-dwelling older adults	Mean age of those moving to retirement homes: 75 years (SD: 7.66)
Ayalon (2016)	CCRC	To evaluate views of CCRC residents on the nursing unit within their community	N/A	Interviews conducted over 4 years Subjective health status (excellent, good, mediocre, poor, very poor)	Longitudinal thematic analysis	57 continuing care retirement community residents (>60% female)	Mean: 80 years (SD: 4.7) (first interview) to 83 years (SD: 3.5) (last interview)
Portacolone and Halpern (2016)	Housing for seniors	To understand reasons that led community-dwelling older adults to relocate to senior housing	Micro/subjective, meso/institutional, and macro/ideological lens of analysis	Ethnographic interviews and participant observation	Thematic analysis guided by micro, meso, or macro lens of analysis	23 living in building for seniors and 24 living in conventional housing (66% female); all living alone	≥75 years
Koss and Ekerdt (2016)	Supportive housing	To examine how anticipation of the fourth age influences third-age residential reasoning	Ecological theory of aging Anticipation of the fourth age (marked by progressive dependence and decline)	Semi-structured interviews	Thematic analysis	30 community dwelling older adults (50% female). 7 lived in independent housing in or associated with age-segregated communities	Mean: 76.4 years (range: 67-97 years)

ADL = activities of daily living; IADL = instrumental activities of daily living; SD = standard deviation.

Table 4: Theoretical frameworks

Framework	Brief Description	Key Article
Push and pull framework	See Introduction.	Tyvimaa & Kemp (2011)
Ecological theory of aging	There are age-related changes to health and function that influence the person-environment fit. This causes an "environmental press", which may result in relocation.	Granbom et al. (2014)
Litwak and Longino's model of three types of moves among the elderly	Older adults make three types of moves: (1) healthy retirees moving for amenities and friendship, (2) frail older adults moving because of their need for informal care, and (3) older adults moving because of their increased dependency and need for formal care.	Krout et al. (2002)
Gardner's two types of movers	There are two types of movers: (1) planners who are motivated by future health concerns and (2) reactors who move because of current health problems.	Crisp, Windsor, Anstey, & Butterworth (2013)
Golant's model of an interactional worldview	Builds on ecological models by providing a temporal perspective on person-environment and behavioural relationships.	Smith and Sylvestre (2008)
Complementary/ congruence model of wellbeing	Older adults' well-being is dependent on their ability to satisfy their needs using available environmental resources.	Hong and Chen (2009)
Therapeutic landscapes	A concept used by health geographers in which one's outcomes are influenced by the power of place to provide physical, mental, and spiritual healing.	Cheng et al. (2011)
Ecological systems	The use of micro/subjective, meso/institutional, and macro/ideological perspectives to understand relocation.	Portacolone & Halpern (2016)
Rosenbaum's theory of learned resourcefulness	Learned resourcefulness (a repertoire of self-control skills and ability to cope with adversity) can facilitate positive relocations.	Bekhet et al. (2008)
Anticipatory and disenfranchised grief	Anticipatory grief refers to one's reaction to impending losses. Disenfranchised grief refers to grief that one cannot openly acknowledge.	Ayalon & Green (2012)
Theory of planned behaviour	States that one's behaviours are determined by one's intention to perform that action, and that such intention is influenced by attitude and the subjective norm.	Huang (2012)

Pull factors for relocation were related to one's lifestyle, community and social amenities, the prospect of receiving care, and affordability (Table 5). Pull factors generally involved the availability of amenities and care that enabled older adults to maintain an existing lifestyle (Stimson & McCrea, 2004). Articles that did not apply the push and pull framework also suggested that reasons for relocation related to the maintenance of older adults' current lifestyle. For example, Kemp (2008) found that couples who moved to assisted living homes did so because of their desire to continue living together after a spouse's major health transition. The push and pull factors are described in Table 5.

Other Factors Influencing Relocation

Articles that used other models or no explicit guiding conceptual framework described additional factors, which may or may not be related to push and pull factors, influencing older adults' relocation to supportive housing. An article that used the ecological theory of ageing examined how different dimensions affected relocation: functional status, features of current housing, social networks, features of retirement communities, and finances (Caro et al., 2012; Sergeant & Ekerdt, 2008). Another article described how increasing dependence results in changes in the person–environment fit, which may precipitate the move (Granbom et al., 2014). Using the ecological theory of ageing, Koss and Ekerdt (2016) categorised older adults' reasoning for relocation as pre-emptive, where participants believed that their current homes would be suitable in the future, or contingent, where they have anticipated having the need to relocate.

Reviewed articles also explored the impact of adult children (Castle & Sonon, 2007; Sylvestre & Smith, 2009), older adults' subjective interpretations of the new residential setting (Smith & Sylvestre, 2008), socio-economic status and race (Ball et al., 2009), learned resourcefulness (Bekhet, Zauszniewski, & Wykle, 2008), grief (Ayalon & Green, 2012), and the larger cultural and political context (Portacolone & Halpern, 2016; Sergeant & Ekerdt, 2008) as factors for relocation.

Study Participants

All articles reported participants' gender, and all but one (97%) reported participants' age (Table 2). With the

Table 5: Push and pull factors affecting relocation

Study	Push Factors	Pull Factors
Groger & Kinney (2001)	Desire to plan while able Optimal timing and ready for change Fear of burdening family	Attachment to community Joining friends and neighbors Proximity to family Prospect of long-term care
Krout et al. (2002)	Decline in own or spouse's health Deteriorating homes Reduction in income	Continuing care Health services on site Household and maintenance help
Stimson & McCrea (2004)	Change in lifestyle Home maintenance Social isolation Health and mobility	Built environment Affordability Location Desire to maintain existing lifestyle
Bekhet et al. (2009)	Own or spouse's failing health Getting rid of responsibilities No help Closing facility Loneliness	Location Family and reputation of facility Security Joining friends
Tyvimaa & Kemp (2011)	Personal circumstances: social isolation, declining health status, need for assistance Physical environment: heavy housework, renovation Community environment: unsafe neighbourhood, lack of services	Social environment: new lifestyle, activities, age homogeneity Physical environment: easy living, purpose built Community environment: location, access to services, public transportation
Bäumker et al. (2012)	Health reasons (e.g. own or spouse's health) Housing reasons (e.g. home requiring adaptation or too much to manage) Social reasons (e.g. isolation) were less important than health and housing reasons	Attractions of extra care (e.g. tenancy rights, care support on-site, security, accessibility, size, communal areas, family/friends, social/leisure facilities)
Weeks et al. (2012)	Authors did not categorize factors. Factors significantly related to relocation included gender (women), age (<80 years old), household income (higher income), whether the current home met their needs, and unmet heavy cleaning needs.	
Ewen & Chahal (2013)	Health and functional decline To relocate closer to a relative who needs care	Availability of on-site services
Crisp, Windsor, Anstey, & Butterworth (2013)	Authors did not categorize factors. Those most likely to have considered relocation to retirement villages were: younger (55-64 years old vs. 65-74), or retirees with enough money, worse physical health, and poorer current neighbourhood social cohesion.	

exception of one study that included only women (Saunders & Heliker, 2008), 60–70 per cent of participants were women (Table 3). All mean and median ages were greater than 60 years (Table 3). Younger participants (with a mean age of 65 years old) tended to be community-dwelling residents who may have been relocating to supportive housing (Crisp, Windsor, Anstey, & Butterworth,, 2013; Weeks, Keefe, & Macdonald, 2012). In contrast, in articles with participants who were already living in supportive housing, the participants were 70–80 years old (Bäumker et al., 2012).

Participants were often described as healthy (Walker & McNamara, 2013) and/or cognitively unimpaired (Bekhet et al., 2008); no studies focused on older adults with significant physical and/or cognitive impairments. Approximately two thirds of studies used at least one measure of health or functioning (Table 6). Up to 62 per

cent assessed general health, with self-rated health being the most frequently used instrument. Activities of daily living (ADLs) and instrumental activities of daily living (IADLs) were the second most frequently assessed aspect of health and functioning, with 32 per cent of studies applying an instrument to measure them. Other standardized instruments, such as the Center for Epidemiologic Studies Depression Scale (CES-D) and the Minimum Data Set Cognitive Performance Scale (MDS-CPS), were used to measure depression/mood and cognition, respectively (Table 6). A total of 12 per cent of studies collected information related to specific health conditions from patients and/or their medical records (Ball et al., 2009; Ewen & Chahal, 2013; Hong & Chen, 2009; Sergeant & Ekerdt, 2008). Cardiovascular disease and hypertension were the most commonly reported

Table 6: Instruments to assess health and/or function

Aspect of Health or Functioning	Instruments
General health	Self-rated health status (usually using a 5-point Likert scale) Short Form Survey-36 (SF-36) Symptom List Questionnaire
Activities of daily living (ADLs)/ instrumental ADLs (IADLs)	Index of Activities of Daily Living ADL and IADL status Functional disability (Nagi's 7 items) Perceived functional independence
Depression or mood	Center for Epidemiologic Studies Depression Scale (CES-D) Mood scale (0–30) Geriatric Depression Scale Depression Anxiety Stress Scale (DASS)
Cognition	Metamemory Questionnaire Minimum Data Set Cognitive Performance Scale (MDS-CPS) Four tasks from the Mini Mental State Examination (MMSE) Global Deterioration Scale
Pain	Pain 6-point Likert scale

health conditions (Ball et al., 2009; Ewen & Chahal, 2013; Sergeant & Ekerdt, 2008).

Articles that commented on participants' health or functioning generally stated that participants were in good physical health with only minor problems. For example, Groger and Kinney (2001) reported that participants had high levels of well-being, with the exception of a few reporting minor "forgetfulness" problems. Studies that used self-rated health as a measure of general health commonly reported that participants were in "fair" or "excellent" health (Bekhet et al., 2009; Huang, 2012; Weeks et al., 2012). Some of the articles suggest some deficits in ADLs/IADLs among study participants. One study reported average scores of 7.2/10 and 5.5/10 on the Older Americans Resources and Services ADL and IADL Scales (Castle & Sonon, 2007), whereas another found that only 31 per cent of 215 retirement home residents were independent with two or more IADLs (Caro et al., 2012). The three articles that examined how health and functioning impacted relocation found that worse health, dependence with IADLs, cognitive deficits, and accessibility problems were associated with moving to supportive housing (Granbom et al., 2014; Hong & Chen, 2009; Rockwood et al., 2014).

Discussion

We conducted a scoping review to identify and describe manuscripts reporting on older adults' reasons for relocation to supportive housing. Of the 34 articles that met eligibility criteria, 12 per cent described studies that were conducted in Canada; the majority were published after 2007. Thirty-five percent of articles were published in a journal not indexed for MEDLINE, which may hinder their visibility to health services researchers. As a result, literature regarding older adults' reasons for relocating to supportive housing may be under-utilised to inform the planning and delivery of care, and refinement of supportive policy. This may also explain why the literature may focus on the geographical and planning aspects of older adults' relocation rather than health-related factors.

Articles reviewed were heterogeneous. First, numerous descriptors were used to designate purpose-built housing that provides services for older adults, ranging from "senior housing" to "retirement homes". This is consistent with previous reviews of supportive housing nomenclature, suggesting that commonalities exist among settings despite the diversity in descriptors used (Howe et al., 2013). Second, studies employed a variety of qualitative and quantitative designs. Despite differing approaches, both qualitative and quantitative studies had a shared purpose: to understand the factors driving older adults' relocation to supportive housing. Notably, some articles reported using similar frameworks despite using different study designs. For example, Groger and Kinney (2001) used the push and pull framework to analyze interview data, whereas Stimson and McCrea (2004) used the framework to guide the development of a model from survey data.

The use of a guiding framework or model was reported in 76 per cent of manuscripts. One third of articles that used a guiding model explicitly applied the push and pull framework, making it the most frequently used conceptual framework. Another commonly used conceptual framework was the ecological theory of ageing, which revolves around the person–environmental fit (Granbom et al., 2014). Despite the use of different guiding frameworks and models, there appears to be a common theme among the reviewed articles: a combination of push and pull factors influences older adults' relocation to supportive housing. For example, "environmental press", as described in the ecological theory of ageing, is analogous to push factors. Another example includes the Gardner's model of two types of movers that categorises older adults into planners and reactors (Crisp, Windsor, Butterworth, & Anstey, 2013), echoing that some are pushed into relocating to supportive housing and must move reactively, whereas others may be pulled into relocating by planning around their anticipated future needs.

Generally, the reviewed studies, specifically those using qualitative approaches, provide valuable insight into

the influence of older adults' lived experiences, albeit framed a priori using guiding models, on their relocation to supportive housing. Perceived and actual decline in health or health of a spouse were the most commonly cited push factors. Pull factors generally revolved around the availability of amenities and support that participants anticipated that they would need in the future. Importantly, these factors are also consistent with the results of articles which did not explicitly utilise the push and pull framework, suggesting that these findings are not just artifacts resulting from the use of this guiding model. Articles also explored potentially influential variables, such as the role of adult children and grief, which modify older adults' experiences with relocation but do not necessarily push or pull them towards supportive housing.

Overall, studies that included both community-dwelling and supportive housing residents showed that those residing in supportive housing tended to be older and were mostly women (Crisp, Windsor, Anstey, & Butterworh, 2013; Weeks et al., 2012). This may be because women have a longer life expectancy than men, and because of the association between increasing age and health and functional deficits. The likelihood that women are the surviving partner in their relationship may contribute to their relative overrepresentation in supportive housing. Many men with similar health and functional challenges may have partners to help them avoid moving to supportive housing (Rockwood, Song, & Mitnitski, 2011). Approximately two thirds of articles used at least one measure of health or function, and most participants were described as healthy, with a few being described as having minor deficits in functioning. However, three articles examined the impact of health and functioning on relocation to supportive housing (Granbom et al., 2014; Hong & Chen, 2009; Rockwood et al., 2014). These manuscripts reported that physical impairments and functional impairments were associated with moving to supportive housing. The instruments used to assess health and function varied and often relied on self-report. The limited and largely subjective data on participants' health and functioning hinder the extrapolation of whether needs are met in supportive housing.

This review of 34 articles reporting on factors surrounding older adults' relocation to supportive housing revealed several gaps in the literature. First, the results of reviewed articles suggest that older adults are pushed into supportive housing by declining physical health and functioning. However, details about this decline, such as diagnoses and comorbidities, are limited by the variable use of instruments and reliance on self-report. Second, there is a collage of different terms used to describe supportive housing, which hinders comparisons and policy discussions with regard to this setting (Howe et al., 2013). Third, financial considerations were identified in a small number of studies, which is surprising given the costs often associated with supportive housing options (Federal/Provincial/Territorial Ministers Responsible for Seniors, 2019). Moreover, considerations related to gender identity, culture, and religion appear to be virtually absent from the literature. Lastly, evidence regarding supportive housing consists of both health-related and non-health-related literature. Although this body of evidence facilitates a multidimensional understanding of older adults' relocation to supportive housing, active efforts may be required to bridge silos between disciplines.

Gaps identified in this review make it difficult to ascertain the appropriateness of current policies. Although evidence suggests that older adults relocate to supportive housing in part because of health and functional impairments, there appears to be a paucity of comprehensive and observational literature to support this. In Canada, the Federal/Provincial/Territorial Ministers Responsible for Seniors (2019) recently called for more evidence that considers the many factors at play, including socio-economic and cultural ones, to guide policies for older adults' housing. Future research should focus on collecting and summarising objective information about the health and functioning of older adults relocating to supportive housing. Longitudinal observational study designs may be particularly useful because the current literature suggests that changes in older adults' health and functioning often prompt relocation. This study design can facilitate a detailed understanding of older adults' needs, and consequently, inform policies relevant for both older adults contemplating moving to and those already residing in supportive housing. The application of guiding frameworks and models appears to be useful in exploring health-related and non-health-related factors that influence the transition to supportive housing. However, the use of a framework such as Andersen's behavioral model of health services use (Babitsch, Gohl, & von Lengerke, 2012) may be more comprehensive in capturing predisposing, enabling, and need factors associated with relocation.

Finally, standardized nomenclature for supportive housing needs to be established to facilitate the synthesis of this evidence, and national and international comparisons of related policies. The mandatory use of interRAI standardized assessments systems in the long-term care and home care sectors across Canada provides a rich resource with which to better understand the clients served in these sectors and guide policy (Heckman, Gray, & Hirdes, 2013). It is time for a similar approach to be implemented in the supportive housing sector.

Strengths and Limitations

Our scoping review should be interpreted in light of its strengths and limitations. The strengths of this review

are the non-restrictive inclusion criteria that encompassed all study types, the use of multiple databases spanning multiple disciplines, and the use of a systematic process documented using reference management software. This review is limited by the exclusion of non-English articles. Finally, our focus was on the identification of factors related to relocation decisions. A number of articles identified also addressed lived experience of the actual relocation and of its aftermath on quality of life in a supportive care setting, which, as important topics, would require specific reviews and further research.

Conclusion

This scoping review describes the nature and content of 34 articles focusing on older adults' reasons for relocating to supportive housing. Approximately one third of included articles were published in journals not indexed for MEDLINE, which suggests that a portion of literature focuses on non-health-related aspects of supportive housing, such as geography and planning. This is also reflected in the heterogeneous study characteristics that included various qualitative and quantitative designs and different guiding conceptual theories. Ideas explicitly or implicitly related to the push and pull framework were common in the articles. It was frequently reported that declining health and functioning was a commonly cited push factor towards relocation to supportive housing. However, although two thirds of the articles utilised a measure of health or functioning, most relied on subjective and self-reported measures. Future research is needed to produce data regarding the health and functioning of older adults moving to supportive housing to better inform policies for this growing population.

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