Opportunities and Challenges of Innovative Housing and/or Support Service Models in fostering Aging in Place for Older Adults: A Critical Review

by

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Abstract

This capstone project presents a critical synthesis of recent literature (2000 to 2013) focused on three types of innovative housing and/or service models and aging in place to address housing needs for older adults. The inquiry reviews and synthesizes literature across multidisciplinary field related to psychology, sociology, gerontology and architecture. By comparative analysis of their differences and similarities, opportunities and challenges are identified for Villages, NORCs and Cohousing. Findings affirm the potential of these innovative housing and/or service models to support aging in place. Through planned empowerment programs, sociocultural activities, enhanced health/social services and accessible built environment, older adults can remain autonomous and independent living in safe and comfortable surroundings. Organizational strategies include shared leadership, effective communication processes, co-location of services and relationships. Villages, NORCs and Cohousing's distinct effectiveness stem from their identification, contextualization and strategic allocation of external and internal resources. Their challenge to sustain comes from membership recruitment and funding limitations. This comparative study and analysis will advance research, practice and policy on housing for aging in place.

Keywords: aging in place, Villages, NORCs, Cohousing, community building, social capital

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Table of Contents

Approval ii
Partial Copyright Licence iii
Abstract iv
Acknowledgements v
Table of Contents vi
List of Tables viii
List of Figures viii
Glossary ix

1. Introduction and Purpose 1
1.1. Introduction 1
1.1.1. Aging in place and limitations 1
1.1.2. Types of senior housing in place and relative importance for aging in place 3
1.2. Justification of conducting a critical literature review on innovative models of housing for aging in place 4
1.2.1. Purpose of the review 6

2. Research Methods 7
2.1. Critical review and synthesis 7

3. Types of innovative housing and/or support service models: Villages, NORCs and Cohousing 10
3.1. Naturally Occurring Retirement Communities (NORCs) 11
3.1.1. Formation of NORC programs 11
3.1.2. Collaborations 13
3.1.2.1. Partnership with community stakeholders 13
3.1.2.2. Partnership with older adults 17
3.1.3. Co-Location 20
3.1.4. Funding 21
3.2. Village Model 22
3.2.1. Formation and developmental history 22
3.2.2. Consolidated Services 24
3.2.3. Organizational structure – bottom up governance and grassroots membership 26
3.2.4. Freestanding and self-reliant 27
3.3. Cohousing 29
3.3.1. Formation and development of senior cohousing 30
3.3.2. Participatory Process 32
3.3.3. Resident Management and non-hierarchical structure 33
3.3.4. Common House and common facilities 34
3.3.5. Intentional Neighbourhood Design 35

4. Discussion of the three housing and service models 37
4.1. Empowerment 37
4.2. Community Building 39
4.3. Enhanced access to service 40
4.4. Built Environment 41

5. Comparative analysis of the three models 43
5.1. Empowerment activities 47
5.2. Community building 50
5.3. Service comparison 52
5.4. Built environment 55

6. Conclusion 58
6.1. Future Research Areas 61

References 64
Appendix A. Empirical Data Extraction 71
Appendix B. Non-Empirical 85
Appendix C. Social Resources and Networks 100
Appendix D. Aging in Place 112

List of Tables

Table 1: Comparative Analysis of the Three Housing Models 44

List of Figures

Figure 1: Pathways and Outcomes 43

Glossary

Term	Definition
Aging in Place	The ability of the older adult to make autonomous housing decisions and to remain independent functioning with health and well being in a safe home and community.
Built Environment	Defined as structure of housing and physical location.
Cohousing	Intentional and interdependent communities sharing purpose-built and resident designed housing, management responsibilities and other resources (Durrett, 2009).
Community Building Activities	Defined as engagement in structured or informal; social and cultural activities.
Empowerment Activities	Defined as involvement in leadership roles and volunteering.
Enhanced Services	Defined as unskilled personal support/assistance or professional service to maintain health and functioning.
Innovative Housing and/or Service Models	Emerging types of housing models innovative in re-framing societal expectation of aging and in enhancing service delivery for aging in place (Greenfield et al., 2012).
NORCs (Natural Occurring Retirement Communities Programs)	Community level interventions with an integrated set of supportive services to enable residents to function independently as they age in place (Ormond et al., 2004).
Social Capital	Embedded resources in social relationships that can be drawn through formal and informal participation. This will include civic activities and social engagement that engender norms of reciprocity (Putnam, 2000).
Villages	Grassroots, self-governing, community-based organizations developed for the sole purpose of enabling people to remain in their own homes and communities as they age (Scharlach et al., 2012).

1. Introduction and Purpose

1.1. Introduction

1.1.1. Aging in place and limitations

As the aging population expands, there is need to make provision for housing and service support for a large cohort of older adults with diverse needs. In the next 40 years, the United States will experience rapid growth in population aging. By 2050, the segment of 65+ is projected to increase by 50% from 2010. More significantly, the fastest growing segment will be those from 85 years and over. This demographic is expected to triple in size by 2050 (U.S. Bureau of the Census, 2000). The trend in Canada follows closely in parallel, with the number of older adults increasing at an accelerated pace. By 2036, older adults 65+ will constitute 25% of the Canadian population, and doubled the number from 2009. Similarly, the cohort of aged 85+ is projected to be 5.8% of the total population by 2056 and triple the number projected for 2021 (Stats Can, 2006).

The majority of older adults prefer to remain in their current residence for as long as possible (Wiles et al., 2011). Older adults prefer to age in place and in familiar surroundings (Wagnild, 2001) for good reasons. Home is where they can maintain their independence and remain autonomous (Sixsmith & Sixsmith, 2008). The familiarity of home enables them to participate in their daily activities with ease and comfort. Within the safe confines of familiar surroundings, they can choose company or privacy to socialize or disengage. Daily routines of home maintenance and taking care of one self can keep them physically healthy and familiarity can encourage attachment to their homes. Being able to remain in their homes is also symbolic of independence and self-reliance (Thomas & Blanchard, 2009). It suggests efficacy or that the older adults have the ability to stay in control of their lives (Wiles et al., 2011). This “narrow” understanding of independence is easily reinforced in the refuge of one’s own home. Therefore, instead of stressing the ability to choose their preferred lifestyle and important relationships that

contribute to health and wellbeing (Register & Scharer, 2010), many older adults have chosen to remain in their homes at all cost (Sixsmith & Sixsmith, 2008). In many instances, this is also fuelled by their fear and aversion to institutional long-term care (Wagnild, 2001) where there is little choice in a controlled and restrictive environment.

With increasing live expectancy, the preference of older adults for autonomy and the escalating cost of intensive long term nursing home care, aging in place has become a key issue in social and health care policy (Sixsmith & Sixsmith, 2008). By delivering the appropriate level of professional services to alleviate dependence from disabilities (Beeber, 2008) and support for personal care, older adults can potentially be sustained at their own home at a lower cost.

In theory, aging in place is a viable choice for community dwelling older adults who prefer to remain in familiar homes. However, the practicality of the concept is challenged from effects of changing social and family trends. Older adults face diminishing social relationships as they age. Daughters and wives, traditional informal caregivers, are increasingly engaged in other familial responsibilities and careers. Children who customarily provide tangible support are becoming fewer in numbers due to a lower birth rate and they may live in distant places due to other global/economic reasons. The number of interdependent relationships further decreases with loss of friends and “hard-to-meet” neighbours due to inaccessible environmental design and modern urbanization. In addition, public and local institutions, such as churches and local community centers, have declined in their ability to provide support and social capital of place (Sixsmith & Sixsmith, 2008)

Aging in place can no longer be, categorically, a feasible and safe option for the older adult. Studies have shown that illness, loneliness and unsafe housing conditions can trigger relocation in spite of delivered care services (Tang & Lee, 2010). In addition, an unfriendly neighbourhood will discourage older adults from seeking help in emergencies even when private homes are adapted for mobility (Cannuscio et al., 2003). When home modifications are not adopted, a hazardous and inappropriate home can further detain older adults from engagement. Living in isolation, the residential home can become negative and uncomfortable, void of meaningful connections (Register & Scharer, 2010) and a threat to health and wellbeing.

1.1.2. Types of senior housing in place and relative importance for aging in place

Long-term institutional care has traditionally provided care for those who are dependent on intense round the clock medical care provision and for those who are older, frail and lacking informal support (Regnier, 2002). This can become an environment where older adults have compromised levels of autonomy, privacy and dignity. Instead of maintaining their health, older adults may even deteriorate as they become more helpless and unmotivated (Avlund et al., 2003). With the rising cost and impracticalities of institutional care, other types of facilities have evolved in the past decade to reflect the needs and preferences for independent living in community (Regnier, 2002).

Different types of supportive housing provide varying degrees of personal and home support for functional independence. Basic private supportive housing provides “board and care” by combining sociable building features with hospitality services such as meals, housekeeping and emergency response (Mancer, 2010). For those who need skill nursing care intermittently, assisted living is another innovative residential development that offers private and subsidized onsite support in a home like environment for those eligible (Regnier, 2002). Its arrival has changed the conception of care needs by de-emphasizing the medical model of care (Mancer, 2010) to support independence. The exterior/interior appearance of these structures is created to resemble a family home to enhance psychological independence. In addition, self care is encouraged with person centered needs delivered only as required and on request (Regnier, 2002). To foster mutual relationships, family members are recruited for informal support and residents are provided with an array of social activities. Assisted living can be a viable option for some, but limiting for those who desire more active lifestyle choices in less restrictive or familiar settings. For health and wellbeing, other safe alternatives are needed to satisfy the preference to remain independent for diverse older adults (Sixsmith & Sixsmith, 2008); the system of supportive services has to be unbundled from housing and reorganized. There is also need of additional public planning, policy and governmental support (Brenton, 2001) to encourage coordination and new combination of housing and delivery of service and supports.

Supportive services have gradually become more holistic involving community based structures for good reasons. Among others, support delivered to alleviate functional dependence according to level of self care ability (Beeber, 2008) is disempowering, ineffective and costly. The conceptualization that older people are weak and powerless (Thomas & Blanchard, 2009) has instigated this system of measure of independence/dependence and the predominance of personalized assistance. With this deficit model, service intervention often targets physical dependence instead of supporting disability/frailty (Wiles et al.,2011) and segregate older adults in their private homes. At the same time, this narrow definition of dependence has rendered those with less defined symptom for assistance ineligible for help. A system that integrates personal, medical and community care is more empowering and effective.

Home and Community Based Services (HCBS) provide health and social service to maintain the older adults within their community (Blumberg & al., 2010). In addition to personal care services delivered directly to homes, there is a variety of community based programs to facilitate access such as transportation and home modification programs as well as group activities for health and friendship. When appropriately utilized, research has shown that HCBS is effective and can improve quality of life for those with moderate disabilities and chronic illnesses (Tang & Lee, 2010). More so, the availability of these services can create awareness of needs and delay decisions for relocation (Tang & Lee, 2010). However, supportive services are often inadequate, inefficient, ineffectual and unresponsive (Greenfield et al., 2012). Due to lack of system funding, coordination and organization, these services can be fragmented, hard to find and qualify. Even worse, for those who are vulnerable, functionally challenged, unaware and uninformed, these services can become virtually unavailable (Sixsmith & Sixsmith, 2008).

1.2. Justification of conducting a critical literature review on innovative models of housing for aging in place

Housing options in society is needed to accommodate an increasing number of older adults with higher life expectancy and with propensity for independence and autonomy as they age in place (Wiles et al., 2011). In response, a range of innovative

housing and service models have emerged in North America to promote aging in place in the last two decades (Greenfield, 2011). Typically, these various models reinforce residential choices by offering a varying combination of housing and supportive services according to lifestyle. They aim to attain their goals of providing a continuum of care by leveraging social capital of the population. Three of these popular community level approaches are Villages (McWhinney-Morse, 2009), NORC programs or NORCs (Naturally Occurring Retirement Communities) (Vladeck, 2004) and Cohousing (McCamant & Durrett, 1994). With a similar objective, they aim to foster aging in place by meeting social and service needs of individuals mobilizing community resources (Greenfield et al; 2013). By acknowledging the strength and autonomy of the older adults and involving them in leadership, these models also have the potential to sustain over time (Minkler & Wallerstein, 1997; McDonough & Davitt, 2011). The opportunities and challenges they uniquely offer are influenced by the organizational capacity and the strategies they choose to accomplish their goals (Greenfield et al., 2013).

Knowledge of these innovative housing models can offer valuable information for policy setting and resource allocation for government and other community stakeholders. As community level operations, they can meet diverse needs of older adults with longer life expectancy and different expectations of life in a safe and supportive environment. Although these innovative models have attracted attention leading to conceptual papers and anecdotal research (Greenfield, Scharlach, Lehning, Davitt & Graham, 2013), there is generally a lack of systematic review and evaluation of literature to identify their strength and limitations. By synthesis of literature, we aim to identify how their unique social and physical environment both facilitate and impede processes for community building and aging in place. By integrating findings, we can advance knowledge development and efforts to optimize resources allocation to foster aging in place within communities. Through recognizing factors that influence coordination of formal and local efforts in health, social and housing sectors, it is possible to have informed policies to promote housing models to overcome inadequacies in governmental involvement (Lehning, Scharlach & Wolf, 2012). Furthermore, critical literature review can generate new proposals for research to enhance housing options for the older adults to remain autonomous and independent.

1.2.1. Purpose of the review

The purpose of this literature review and synthesis is to examine the opportunities and challenges of three innovative community-based housing and/or support service models, i.e., Villages, NORC and Cohousing, for aging in place. Specifically, the purpose of this study is:

1. To critically review and synthesis current literature on facilitators and barriers of the above mentioned three housing models in their social and built environment factors.
2. To conduct a comparative analysis of the three innovative housing and support service models.

Research questions guiding this review and synthesis are as follows:

1. What are the major issues and findings in the literature on innovative housing and/or support service models for supporting aging in place?
2. What are the opportunities and challenges of these housing and/or support service models for aging in place?

2. Research Methods

2.1. Critical review and synthesis

This study utilized a systematic review to identify relevant literature for review and syntheses (Mays, Pope and Popay, 2007). Systematic review of evidence is an approach to knowledge synthesis that can lead to reliable knowledge translation without relying on individual studies. The evidence gathered help identify theoretical and substantive gaps in literature based on relevant theoretical perspectives. Synthesis of knowledge is to integrate and contextualize individual research findings to a larger body of knowledge on the topic. Systematic review involves critical review and syntheses using a rigorous scientific approach. In order for research findings to be consistent and generalizable, effective scientific methods are used to identify and synthesize information. Explicit, reliable and reproducible methods used in syntheses to limit bias and improve reliability and accuracy of conclusions to better inform policy, practice and future research efforts.

The approach used in this study is based on (Mays et al, 2007) and includes identifying the research objectives; defining eligibility criteria for inclusion of studies; identifying potential studies according to criteria; assembling a feasible data set by extracting data according to quality appraisal of studies; analyzing dataset through synthesis and preparing a structured report of the research. The synthesis approach is often non-linear, but an iterative approach that includes snowball techniques to refine identification of studies. In order to generate reliable and consistent findings, it is imperative for the researcher to describe the purpose, methods, principles and likely decision rules that will guide the review. In this systematic review, the research objective is framed broadly using the ‘lumping rationale’. The aim is to identify common generalizable features addressing the research topic without regard for minor differences in study subjects, context and design. This broad systematic approach allows review

over a wider range of different settings, study population and behaviour relevant to the research topic.

A total of 78 articles were reviewed relating to key concepts in the project. Of these related articles, 33 are empirically researched and 30 are conceptual journal articles from multidisciplinary academic fields of sociology, gerontology, psychology and architecture. An additional 15 gray literature was retrieved from web links to complete the search. To identity relevant articles for research, a keyword search was conducted using academic databases such as Ageline, PsycINFO, CINAHL and Google Scholar to include studies from the various disciplines. The keywords used for the literature search included: aging in place; Villages, NORCs, Cohousing; community building, social network and integration, social cohesion and supportive services. Empirical or evidence based journal articles (qualitative, quantitative and surveys), book chapters, and books were included. With these emergent types of housing, non-empirical based literature such as review articles, conceptual and descriptive items were also used. Similarly, grey literature, government publications, unpublished research reports and electronic publications produced in house were relevant sources of information. Although the grey literature on housing models were less academically rigorous and can be anecdotal and subjective in nature, they were necessary to provide direct perspective from stakeholders in many cases. Finally, reference lists of the selected journal articles were inspected and additional relevant sources were identified. The time frame of publications is between 2000 and 2013. This time frame was chosen due to limited availability of published literature on these emerging types of housing prior to year 2000. The first Village was found in Boston, 2002. Seminal articles and books from 1980 onwards were also included. Due to the paucity of empirical research on these emerging models, this study is descriptive is nature and conducted using mostly case studies of the housing models.

Integrative theory development eliminates fragmentation and forges linkages and organize framework to improve effectiveness for design and policy (Mays, Pope and Popay, 2007). A shared set of concepts, assumptions and meanings for social phenomenon will assist to integrate and synthesize theories across disciplinary boundaries with different methodologies and theories. In this study, the 4 criteria used as indicators for aging in place - empowerment, community building, enhanced service and

built environment - were chosen based on an initial literature review and identification of important issues for successful aging in place. These were also chosen after integrating different objective and subjective indicators for “successful aging in place” (Rowe, 1987) across a range of scholarly disciplines and “quality of life” for older adults in the practice literature. These housing and support service models are similar in their approach to strengthen facilitators and minimize barriers in environments for aging in place (Lawton, 1986). The models have unique features and differ in their emphasis on social and built environment to effect outcomes that are impacted by community and individual factors (Greenfield, 2011). The shared concept is the employment of activities and programs to meet individual and collective needs to remain functionally independent while residing in community. The review also compares these dimensions with respect to outcomes and social/built environment factors leading to the differences.

By understanding how these innovative housing and support service models differ in their potential to support aging in place, the processes and outcomes, we can identify relevant features of these organizations to provide sustainable community-based housings. The effects of change and the factors leading to change are analysed. Although these innovative housing and supportive services are emerging all across North America, little is known about the nature of the relationship between the social and physical environments and their effects on aging in place. By examining variables of the social organization and the built environment in the community context, we hope to better understand factors that contribute to effective housing models, and in turn, to enable older adults to age in place.

3. Types of innovative housing and/or support service models: Villages, NORCs and Cohousing

Innovative housing and support service models in Villages, NORCs and Cohousing aim to provide a supportive environment for older adults to remain independent while living in their own communities and to avoid untimely relocation. The supportive environment is constructed by engaging older adults as partners to build up their own surroundings to meet their health and social needs (Greenfield, 2011). As partners and builders, older adults are highly regarded and actively involved in contributing their valuable assets (McDonough & Davitt, 2011) to address their community and personal challenges as they age. By facilitating opportunities and lowering barriers for socialization and reciprocal relationships among community members, formal/informal care networks are also integrated for effective supportive services and social capital (Cramm et al., 2012). Through relationships, dynamic and complex resources embedded within these cohesive communities (Barr & Russell, 2003) can maintain health and wellbeing (Gray, 2009) and sustain meaningful involvement (Register & Scharer, 2010) even for weaker community members (Li, Pickles & Savage, 2005). As a result of planned coordination, supportive services can also become more available, accessible and affordable (Greenfield, 2012). With structural organization and strategic allocation of external and internal resources (Cassidy & Leviton, 2005), these models aim to provide relevant services to keep older adults independent, active and successfully engaged in community (Ivery & Akstein-Kahan, 2010). With proper administration, they are also cost effective as they can re-distribute resources using an integrated delivery system (Elbert & Neufeld, 2010).

The three housing and service models are constrained and enabled by their organizational capacity and the characteristics of the community they serve (Thomas & Blanchard, 2009). Although these housing models are similar in their focus on leadership development, building relationships, enhancing services and adapting built environment,

the operation of these dimensions are different and influenced by community, human and fiscal resources (Greenfield, 2011). The combination of these factors, both external and internal, have a direct influence on the level and types of members' involvement in community transformation (McDonough & Davitt, 2011). In the same way, the unique social and physical characteristics of the communities (Cassidy & Leviton, 2005) can also impact the development of the programs (Lehning, Scharlach & Wolf, 2012). In light of these dynamic and governing relationships, the strength of these different models is determined by their organizational structure to maintain program effectiveness for participation and limited by the organizational capacity in fiscal funding from private and/or public sources (Cassidy & Leviton, 2005). Their level of success for sustainability will depend on how well they can integrate partners in diverse settings and to remain relevant and attractive to heterogeneous partners for expansion.

3.1. Naturally Occurring Retirement Communities (NORCs)

Naturally Occurring Retirement Communities or NORCs programs are community based interventions to integrate existing community supportive services for older adults to age in health, safety and comfort (Altman, 2006). According to studies, NORC programs are generally able to support aging in place and successful in creating social network and sense of community (Enguidanos et al., 2010). Furthermore, qualitative methods and case studies have shown that NORC programs can increase social behaviour, volunteerism and engagement, awareness and use of social service and feelings of better health (Bedney, Goldberg & Josephson, 2010; Anetzberger, 2010). With research findings, they are also successful to reduce incidences of institutionalization as compared to other communities without NORC programs (Elbert & Neufeld, 2010).

3.1.1. Formation of NORC programs

NORC programs are community level initiatives in response to community challenges of aging in place for long-time residents of a common geographical location (Hunt & al., 1994). The organizations are typically led by a public agency from the health or social sector to provide or create service programs for a neighbourhood (Greenfield et

al; 2013). The first NORC programs was initiated in New York City, United States in 1986 under the auspices of the UJA-Federation of New York (Altman, 2006). The social service agency recognized that a diverse group of older adults in the neighbourhood community have specific and complex aging challenges. In order to help them navigate the health and social systems effectively, a concerted effort was made to coordinate existing services and to develop new programs to respond to changing needs. Furthermore, to take advantage of a critical mass of older adults and economies of scale, many services were delivered on site. This innovative service system reflects the recognition that NORC communities are an untapped and underutilized resources to optimize health, and independence in an economical way for aging in place (Kloseck, Crilly & Gutman, 2010). It also paved the way for implementation of succeeding NORC programs.

Modelling after the first initiative in New York, NORC programs address natural communities that evolve from residential developments with a dense concentration of older adults. When a critical mass of older people is reached over time, these communities are designated as NORCs or Naturally Occurring Retirement Communities (Hunt et al., 1994). As communities that naturally evolve, NORCs can be of many types and diverse in nature. They typically include older adults with diverse backgrounds and ethnicities, who are as likely to be in-migrants as stayed- behind retirees. In general, the demographic is prone to have more disabilities and more needs for health and social assistance associated with aging (Greenfield et al., 2013). In the same way, they are also likely to have less financial resources and have low to middle incomes (Altman, 2006). Because of their history in the community, these older adults can be familiar with existing amenities and the neighbourhood. Conversely, they may also be homebound and isolated with little awareness of their unmet needs (Tang & Pickard, 2008) and even less information on where to get help (Wiles et al., 2011). To complicate matters further, some older adults may not even admit to having needs for fear of involuntary relocation (Sixsmith & Sixsmith, 2008).

In addition to cultural heterogeneity, NORCs can have diverse physical environments and structures. NORCs can be vertical or horizontal in physical structure (Enguidanos et al., 2010). Although dense, age-integrated vertical apartments are more prevalent, there are also recent developments of sprawling neighbourhood compounds

designated as horizontal NORCs (Bronstein, Gellis & Kenaley, 2011). Vertical NORCs may include multi-family apartment complex or buildings clustered in proximity to give the appearance of a single entity. When centralized and located near urban centers, these developments are close to amenities such as medical facilities, restaurants, churches, grocery stores and public transportation (Ormond et al., 2004). In contrast, horizontal NORCs are mostly multiple and single housings sprawled over a neighbourhood with no distinct boundary and identity (Enguidanos et al., 2010). When horizontal NORCs are in rural areas with limited services and transportation, accessibility becomes a problem (Vladeck, 2004). Hence, horizontal NORCs are more decentralized and challenging environments for aging in place. In spite of diverse settings, NORC programs are distinct for their partnership strategies. Key features of collaboration and coordinating services on site have distinguished NORC programs for the older adults (Lehning, Scharlach & Wolf, 2012).

3.1.2. Collaborations

Partnership building is the defining feature and central activity of a NORC program (Greenfield, 2012; Ormond et al., 2004). Partnerships leverage resources from multiple stakeholders and is absolutely critical for success of NORC programs operating with numerous types of community (Enguidanos et al., 2010). Being in collaborative relationship and effective communication among community partners can lead to increased awareness of constant changing needs, for those eligible flexible programming and development of range of quality services in response to the older adults (Ormond et al., 2004). Therefore, by involving older adults as partners and integrating the formal service system into the existing neighbourhood, the community is built up with enhanced resources and personal abilities. With all its potential, NORC programs is recognized as an emerging model of collaborative partnership for effective delivery of services (Ivery & Akstein-Kahan, 2010) with promises for aging in place.

3.1.2.1. Partnership with community stakeholders

Collaborative partnership (Ivery & Akstein-Kahan, 2010) among community stakeholders can increase resources to meet the dynamic and multidimensional needs of the community. By incorporating older adults, this broad and integrative approach can

create quality programs that remain flexible and responsive to needs (Ormond et al., 2006). To adequately meet a diverse spectrum of needs, strategic planning for partnerships is critical to organize, coordinate and to effect desirable outcomes for programs. Besides structuring for effective/efficient services, the organization has to encourage positive relationships of trust and cooperation (Putnam, 2000).

Strategic partnerships, participation recruitment, program and partnership management and evaluations are all critical elements for effective programs engineered by the lead organization. NORC programs are mainly initiated by a lead agency from social and humanitarian organizations and subsidized by public funding (Bookman, 2008). This committed lead agency with experience, ability and energy is key to championing the goal of partnership collaboration to produce quality services (Bedney, Goldberg & Josephson, 2010). For the lead agency , there are continuous demands on short and long term planning for fund raising, outreach, management of staff, generation and evaluation of programs and for partnership development (Ivery & Akstein-Kahan, 2010). To achieve compatibility in partnership, the lead agency selects providers who share the same expectation of programs and goals and who provide services that are complementary. Partners are also recruited from the existing system for their history of collaboration and intention for cooperation (Enguidanos et al., 2010). With shared history and alignment of goals, the partnership can be invaluable to integrate NORC programs when strategically managed as valuable partners (Ivery & Akstein-Kahan, 2010). Partnership management by the lead agency is critical for effective program development and for community integration. First and foremost, the objectives and potential of prevailing community partners have to be clearly delineated in order for the NORC programs to fill in the service gaps (Lehning, Scharlach & Wolf, 2012). The lead agency must aim to complement existing services and remain flexible and adaptive in its relation with partners of different cultures and backgrounds (Enguidanos et al., 2010). Together with identifying needs, the lead agency is also responsible to structure governance carefully with formal working agreements and effective communication channels to engender trust and mutual cooperation (Altman, 2006). Findings on NORCs organizations indicate that failure of operation is often due irresolvable conflicts and lack of coordination (Lehning, Scharlach & Wolf, 2012). To minimize conflict, a set of rules and regulations in accordance to governance structure can clearly defined roles and

boundaries for partners. When the lead agency is successful in strategic partnership, the community can be enhanced (Bennett, 2010). On the other hand, a disregard for existing services can give rise to fragmentation and redundancy of services (Enguidanos et al., 2010). Even worse, failure of the NORC programs to weave into the existing system or to elicit receptivity from local partners can lead to its demise (Greenfield, 2013). In some cases, strategic partnership for the NORC programs can also mean ceding power from the dominant lead agency to other supportive agencies and to build up the community on its own (Minkler & Wallerstein, 1997). In this way, it is reinforced that collaborative partnership demonstrates the strength of a collective community approach where "the whole exceeds the sum of the parts" (Kloseck, Crilly & Gutman, 2010).

Collaboration among partners is instrumental to enhance access to services and programs. A well-selected and coordinated cadre of partners can deliver a diverse range of professional services to meet the complex needs of this heterogeneous group of more vulnerable older adults (Lehning, Scharlach & Wolf, 2012). Ancillary services can be contextualized while skilled services are core provisions. A well-integrated partnership can also sustain the NORC program even when governmental funding runs out (Greenfield, 2003).

Starting from where the older adults dwell, cooperation with housing developer and building management is highly desirable. A well-maintained home and accessible space for relationships are key to health and wellbeing (Bronstein & Kenaley, 2010). These invested partners are motivated to maintain wellbeing of these stable and good older clients. Their contribution include onsite presence; efficient delivery of maintenance and repairs; and subsidized space for administrative purpose, for socialization and for activities. With shared history and relationship, they can help to maintain and support existing tenant advisory board (Ormond et al., 2000) and provide access to residents for outreach and assessments (Enguidanos et al., 2010). With convenient access to older adults, housing partners can also coordinate structural adaptation for groups when needs arise. Housing modification to remove mobility barriers, to install wheelchair ramps, grab bars and lighting can reduce fall risks (Chaikin et al., 2011) and foster an additional sense of security along with the presence of the in-house manager. Residential management from horizontal NORCs neighbourhoods can avail home services to keep up with seasonal chores (such as snow and leaves removal) and daily

maintenance (such as changing light bulbs) to delay relocation for lack of services (Bronstein & Kenaley, 2010).

Health and social service providers are pivotal partners for independent living. To maintain successful aging for this group of older adults, a variety of health promoting programs are administrated by social service and medical staff (Valdeck et al., 2010). These validated health interventions are mobilized to influence healthy behaviours and to minimize health risks (Chaikin et al., 2011). There are evidence based chronic care and management programs (Kloseck, Crilly & Gutman, 2010; Bedney, Goldberg & Josephson, 2010) to assist older adults in managing chronic disease and to reduce fall risks. Personal health and other risks are further diminished when individual cases are monitored by staff from social services in conjunction with medical service providers (Vladeck et al., 2010). Although health care service referrals are the most utilized by NORCs participants, other health nutrition and group fitness classes are also among some of the more popular programs (Greenfield et al., 2012). These programs can increase knowledge and simultaneously address health and social functioning. With collaboration among an extensive array of partnerships, barriers to access health service can be lowered, even for residents in remote rural areas. An example would be the 'House Calls' program when the pharmacist make personal visits to ensure residents have the correct medication and dosage. For others, transportation enables them to reach resources not delivered to proximity.

Partnership with non-traditional service providers in the broader community are instrumental to maintain and sustain the NORC programs and stability of the neighbourhood. Affiliations with churches, community centres, local schools and other ethno-cultural organizations can lead to opportunities for social integration among heterogeneous groups through multicultural and intergenerational activities (Bookman, 2008). Programs such as language classes and students mentoring projects can also increase mutual sensitivity and positive attitudes for community stability (Euguidanos et al., 2010). Occasionally, these and other health and social interventions are implemented and evaluated through the auspices of partners from universities and research institutes (Vladeck et al, 2010). Empirically studied programs with validated outcomes of the NORC programs is critical for continuous funding, formation, and development (Vladeck, 2004). Most importantly, strategic partnerships must include

older adults to maximize opportunities for them to remain independent living in the community through active participation (Anetzberger, 2010).

3.1.2.2. Partnership with older adults

Partnership with older adults is critical to the formation and development of the NORC programs that aims to build community with strength of community. Actively engaging the older adults as contributing partners from the beginning can motivate their involvement for better health and sense of autonomy (Beeber, 2006). Their continuous participation can be the most effective strategy to sustain the NORC programs (Greenfield, 2011). As a matter of fact, findings have shown that without active participation from the older adults, the operation will fail (Altman, 2006). By inviting active participation of the older adults in development of the service delivery model they become active agents of change (Bedney, Goldberg & Josephson, 2010). Included as interdependent partners, leaders and decision makers, they are given choices and opportunities to determine how they can be best provided for in their community. By meaningful participation and mutuality, the success of the NORC programs become as important to them as they benefit from services and activities. A self-directed model of service delivery is best for sustaining a sense of control and autonomy (AARP, 2001).

Identifying and assessing needs is critical for the NORC programs to invite active involvement. To encourage participation, NORC programs take steps to identify preferred and unmet needs through continuous big and small group engagement (Bennett, 2010). Comprehensive assessment surveys, formal focus groups and face to face exchanges with trained staff are often tools to discern service gaps (Greenfield, 2012c). For effective communication, existing resident councils or joint advisory boards with representation from older adults are often necessary to gather and to dispense information (Ormond et al., 2004). To avoid disconnection from lack of awareness and interest, representation from residents of single dwellings and from rural areas are explicitly included with extra effort (Bronstein, Gellis & Kenaly, 2009). These remote members are kept informed through frequent newsletters, multilingual resource guides, phone hotlines and a variety of other outreach strategies (Ormond et al., 2004).

Opportunities to engage the older adults as contributing members of NORC programs are varied and occur on different levels. For those with energy for leadership,

there are decision making opportunities on the governance board and advisory committee to administrate plans and develop new activities (Bedney, Goldberg & Josephson, 2010). For those with less inclination and resources, there are volunteer roles to support peer support and to lead groups (Kloseck, Crilly & Gutman, 2010). In-house programs such as 'TALKLINE' (Boneham & Sixsmith, 2005) and 'CONNECT' (Enguidanos et al., 2010) allow members to contribute and support one another with flexible choice of time. To further overcome barriers to volunteer for lack of training (Enguidanos et al., 2010), older adults are often equipped with skills and knowledge to become peer leaders of the community (Kloseck, Crilly & Gutman, 2010). With encouragement and empowerment from staff, older adults can continue to exchange valuable information and aid among neighbours and friends. These relationships are further enhanced by interesting and affordable social activities such as picnic gatherings, cooking classes and tai chi organized by the core staff (Vladeck , 2004).

Paid staff is an integral part of the NORC programs and key for partnership building with the older adults. Relationship with key staff is crucial to forging connections among residents and the agency and to link participants to preferred services (Bronstein, Gellis & Kenaly, 2009). Therefore, these professionals from social and health service backgrounds are critical in the development of desirable and responsive programs for the older adults (Ivery & Akstein-Kahan, 2010) and to build trusted relationships to enhance participation (Elbert & Neufeld, 2010). Identification and implementation of preferred programs go beyond formal communication and assessment for this group of less advantaged older adults who are often lacking in awareness and in confidence (Wagnild, 2001). In additional to insufficient access to information and knowledge, these older adults can also be reluctant to share personal concerns and their needs for formal support for fear of involuntary relocation (Sixsmith & Sixsmith, 2008). To earn their trust and confidence over time, regular engagement, effective communication and consistent delivery of desirable services are requisites. Continuous engagement in case management, chronic health assessment/intervention and personal referral services can offer occasions for valuable information exchange. Through interpersonal interaction, expert and accurate information delivered can also increase awareness of resources and furnish choice for optimal courses of action (Anetzberger, 2009). With sensitivities, these opportunities for trust and participation are magnified when relevant information

are given clearly in a comprehensive and helpful manner. As a result of constant engagement, utilization of key services are highly likely among residents who have confidence in the staff to satisfy their requests in small tasks reliably in a consistent manner (Bennett, 2010). More so, established relationships built on credibility of services delivered by staff to a group of residents can facilitate trust of the organization through collective influence (Ivery & Akstein-Kahan, 2010). On the other hand, staff can also be a hindrance to participation when expectations are unmet or when the staff are perceived as too powerful or impersonal (Boneham & Sixsmith). For all the importance of key staff, it is equally imperative that identification to the NORC programs does not hinge on the effort of one single person (Bennett, 2010) but to the housing model as a whole.

Developing sense of identification and membership for this diverse group of older adults is a core activity of the NORC programs (Vladeck, 2004). A collective identity as members to the organization is a powerful way to create ownership and commitment that is essential for this group of heterogeneous group with little in common. To motivate involvement of residents as unique members, visual and physical distinctiveness of the NORC programs are emphasized and organized (Enguidanos et al., 2010). Demarcation of centralized, single entity vertical NORCs are easily intensified when housing management provide communal space for members activities. However, when these entities are embedded in urban locations, extra effort is simultaneously needed to differentiate their uniqueness and value from the existing service system. In comparison, strategies for branding NORCs in sprawled neighbourhoods (Bronstein & Kenaley, 2010) might be even more challenging. To overcome structural and visual barriers to identification and participation, housing providers often provide space for board meetings and activities and help promote the organization with special events and gift paraphernalia with the NORC logo (Altman, 2006). A nominal fee is sometimes charged and paid as a token gesture of commitment to the organization (Greenfield, 2013). When older adults identify with the unique program, they are willing to contribute fiscally or through volunteering. Therefore, the availability of key service provisions through trusted relationships can enhance participation (Elbert & Neufeld, 2010). Furthermore, the accessibility of these programs on location and in proximity further lower barriers for those with physical and social constraints (Ormond et al., 2004).

3.1.3. Co-Location

Co-location is when services are centralized in one geographic area or when services are delivered in close proximity to where the older adults reside to delay untimely relocation (Scharlach, Graham & Lehning, 2012). By coordinating and delivering a system of services onsite, NORC programs aim to enhance service delivery and community resource. The programs aim to enable older adults to access a wide range of supportive services comfortably and conveniently without the challenge of navigation of the existing service systems. NORC programs deliver household maintenance service and transportation to residents of remote and dispersed horizontal communities to help them remain independent (Bronstein & Kenaley, 2010). At the same time, NORCs provide reliable (regular and consistent) health and social service to residents of vertical NORCs at home. Besides direct benefit for the individuals, grounding services in location can also be an efficient and effective way to deliver service to a concentrated cluster of older adults (Bedney, Goldberg & Josephson, 2010). NORC programs aim to lower resources for delivery by addressing multiple needs simultaneously such as in housing adaptation for apartment blocks (Enguidanos et al., 2010). In the same way, they also aim to coordinate service effectively in a timely fashion by identifying subgroups with similar needs. By using co-location as a strategy, health intervention such as for chronic illness can be delivered onsite with desirable outcomes for the older adults (Chaikin et al., 2011). By involving social worker, medical staff and older adults to share in health assessment and management, greater efficiency is achieved (Vladeck et al., 2010) as community are built up through social integration.

In addition to improving service delivery, co-location is also a strategy for integration and sustainability for the NORC programs (Greenfield, 2013). By co-locating and co-hosting services and activities with existing community partners, NORC programs aim to encourage sharing among different groups of older adults and social integration of community partners. When health programs are located onsite and involve skilled professionals and older adults; self care, medical care and community care is integrated (Vladeck et al., 2010). In the same way, relationships among different residents are built up when housing partners are involved to manage common facilities and public areas for organized activities and social gatherings (Hunt et al., 1994). These frequent exchanges for residents in the same neighbourhood can form a frontline

support for aging in place (Bedney, Goldberg & Josephson, 2010). Social integration of informal and formal supportive networks can increase capacity of older adults to remain independent as well as sustain the organization over time (Bookman, 2008).

3.1.4. Funding

Funding for NORCs comes mainly from public sectors and government subsidies (Altman, 2006). As compared to other initiatives, NORC programs rely heavily on one source of public income. More than 64% of its funding comes from government grants and contracts (Greenfield et al., 2010). For instance, the federal Old Americans Act (OAA) supported 45 demonstration projects with technical assistance by the Jewish Federations of North America. In New York State, there is also continuous funding from the State for many existing NORCs developments. Funding can also come from parent social/humanitarian organizations, other community stakeholders and philanthropists and etc. Buildings and management frequently contribute in various capacities as they have vested interest in the wellbeing of the older residents.

Private revenue consists of a combination of service fees, personal donations, grants foundations and outreach campaigns (Ormond et al., 2004). Residents of the NORCs community might contribute in membership and activity fees for desirable programs (Enguidanos et al., 2010). About one third of national NORCs reported charging a nominal membership fee that comprises a small percentage of the total budget (Greenfield et al., 2012). Although membership funds constitute only a small portion of the operating budget, it is symbolic of members' support and an indication of members preference for the programs (Enguidanos et al., 2010). Their participation can stimulate continuous contribution from other stakeholders to sustain and maintain the enormous undertaking.

Funding is a major challenge for the NORC programs in order to keep up the complex operation (Ivery & Akstein-Kahan, 2010). The planning and organization of multiple community partners and the development of quality programs involve substantial amounts of human and fiscal resources over a long period of time. The time lag between implementation of programs and desired outcomes can often discourage continuous funding from social entrepreneurs. This is critical as initial funding for pilot

research projects are typically available for a limited period unless there is empirical evidence of effectiveness of the programs based on research outcome evaluations (Ormond et al., 2004). When revenues are not forthcoming, programs might be transferred to local community facilities and administrative responsibilities delegated to other community leaderships (Greenfield, 2013). As a consequence, the programs might be compromised in goals and consistency (Enguidanos et al, 2010). The programs can also become restrictive and unresponsive to the community when external funding comes mainly from one source. In some cases, they may also revert to historically established patterns of execution for expediency without regard for legitimacy and establishment of trust through outreach and communication. Consequently, support and leadership from residents from within the community is crucial for sustainability (Lehning, Scharlach & Wolf, 2012).

3.2. Village Model

Villages are grass-roots membership organizations structured to enable older adults to continue living in their own homes leading active, social and independent lives (McDonough & Davitt, 2011). As spontaneous communities (Thomas & Blanchard, 2009), Villages are initiated among neighbours (Village to Village Network, 2011) to access desired service to support their lifestyle choice of independence. Although there is limited evaluative research on this type of housing, current findings on individual Villages have shown certain successes (Poor, Baldwin & Willett, 2012). Members have reported improvement of health, socialization, activities of daily living and delayed relocation to assisted living. Furthermore, members have also indicated an increase in awareness of community services.

3.2.1. Formation and developmental history

Beacon Hill Village in Boston, founded in 2002, is the first non-profit organization with the sole aim to “enable people to remain in their homes and communities as they age” (Village to Village Network, 2011). To date, there are over sixty-six villages across the United States with approximately 13,000 members. Many more are being developed in communities clustered over the East and West Coast of the country.

Villages are spontaneous communities (Thomas & Blanchard, 2009) with variations in capacity, design, operation and use of staff and volunteers (Scharlach, Graham & Lehning, 2012). Unlike social enterprises with well structured business plans, these non-profit grass-root operations are organized but highly limited according to the resources within communities (Gleckman, 2010). While they are geographically defined communities, they can encompass a small neighbourhood to a catchment area of multiple towns to a county (Greenfield et al., 2012). Typically, Villages are in urban settings in more affluent neighbourhoods (VtV, 2011) with members that are homogeneous in social and economic class. These members tend to be younger with less functional dependency (Scharlach et al., 2012) and higher capabilities and skills. They are also pro-activists interested in civic contributions and continuous social participation even after retirement (Guengerich, 2009).

Founders of these organizations are energetic and civic minded older adults committed to building community with "neighbours helping neighbours" (McWhinney-Morse, 2009). These leaders have a general mistrust of institutions and are disenchanted with the inefficient and ineffective public heath and social service in existence. Grounded in the altruistic beliefs of community empowerment and civic obligations (McDonough & Davitt, 2011), they aim to strengthen community by organizing opportunities for mutual-aid and mutual benefits (Scharlach et al., 2012) without external assistance (Greenfield et al., 2013). By coordinating members to cooperate in providing mutual support and services, they strive to enhance community resources according to their own directives and control (Lehning, Scharlach & Wolf, 2012). The conviction of the pioneer Village founders that important benefits of social and economic capital can be materialized with mutual cooperation (Scharlach et al., 2012) also led to the initiation of the Village to Village Network (VtV., 2011). This national level entity is set up under the auspice of various community foundations, NCB Capital Impact and Beacon Hill Village (Poor, Baldwin & Willett, 2012) to disseminate knowledge and relevant information through peer-to-peer network sharing.

Although interests in this membership model of housing is growing in the public sector, state involvement is indirect and limited (Poor, Baldwin & Willett, 2012). Most Villages are free-standing entities with low affiliations with public service agencies, housing providers, continuing care retirement communities and etc. Self-sufficient and

governed by members, the non-profit organization is typically a formal operation with mission statements, business plans and policies (Greenfield et al., 2012). With lack of substantial external capital, Villages are highly dependent on membership recruitment to maintain the operation (Guengerich, 2009). This becomes a major challenge for the Villages limited by resources and dominance in the aging field (Lehning et al., 2012). The Village concept to potential recruits can remain relatively new, unknown and, sometimes unattainable.

3.2.2. Consolidated Services

Villages are innovative in their multi-tiered service consolidation approach. Multi-tiered consolidated service approach (Greenfield et al., 2012) is the main strategy used to build Village communities. By involving members on multiple levels within the organization and integrating formal and informal service delivery, Villages aim to build social relationships and community (Cannuscio et al., 2003). In this way, community resources for aging needs can be affordably acquired, effectively delivered and specifically allocated by members to support members (McDonough & Davitt, 2011). Villages consolidate services (McDonough & Davitt, 2011) by engaging members to contribute as producers, distributors and consumers within the system. Their roles include information gathering, coordination and centralization of service referrals; consumer review aggregation and collective bargaining for service discounts. In this way, members generate, evaluate and dispense supportive services they select directly and indirectly. Through this organizational system, members actively assist peers or connect peers to vetted service approved by members (McWhinney-Morse, 2009). By remaining in tight control of the operation, resources are also flexibly directed to satisfy those who consume the services. In addition to service choices, this consumer and person centered approach also offer versatile options for volunteers to contribute voluntarily as the backbone of the community (McDonough & Davitt, 2011). In some instances, a ‘time banking’ model is used whereby people can accumulate ‘time dollar’ in their time bank account and can draw on the account as necessary (Bookman, 2008). As a result of this flexible multilevel involvement, members are both active receivers and providers of service in Villages (Scharlach, Graham & Lehning, 2012).

Villages focus on providing direct services of the "non-medical side of healthcare" (Poor, Baldwin & Willett, 2012) and linking members to professional health and services through referral. A range of popular "concierge services" are offered conveniently at home to provide transportation, grocery delivery and other minor household assistance to provide more free time and/or to maintain independent functioning (Guengerich, 2009). To complement physical well being, social activities are organized to build camaraderie and to connect members along social/cultural commonalities. As such, there are health and exercise classes; trips to art galleries and various educational seminars for mortgage reverse planning, legal advice and etc. To stimulate mental health and relationships, technology enhancement classes are also increasingly popular to facilitate event organizing and personal exchange leading to building of personal capacity and community through social media (Greenfield et al., 2012). In addition to facilitating health through direct service provision, volunteers also coordinate a list of "preferred access" of service providers that is conveniently compiled in a centralized location for members. Referrals to core services such as professional house maintenance and other comprehensive services and expert information on health can be retrieved at the service centre on a one stop basis (Guengerich, 2009). According to community preferences, some services such as "early care management" (Poor et al., 2012) are included to provide future health planning and assurance of control in crisis. In general, core services such as referrals and non-professional services are included in the membership fees while others are on fee for service basis. To ensure contracted services remain competitive and of value to members, service providers are constantly monitored, evaluated and updated via consumers feedback (Scharlach, Graham & Lehning, 2012). This combination of service referrals, member supports and consumer engagement is successful (Scharlach, Graham & Lehning, 2012) in lowering cost for members while attracting services of good quality as much as good discounts.

The organizational capacity Villages can be challenged by its lack of ability to maintain operations of the programs in conformity to the original intention (Cassidy & Leviton, 2005) using a consolidated service approach. By this complex, multi-tiered service consolidation approach, members are actively involved in delivery, collective bargaining and aggregated consumer review (Scharlach, Graham & Lehning, 2012). The simultaneous involvement of older adults as consumers and volunteers can enhance

organizational and collective resources but can also divert decision making basis from the original design described in community capacity building literature (McDonough & Davitt, 2011). It appears that Village models can be compromised in trying to balance between economic and collective benefits when decisions for service allocation are made. Instead of mutual cooperation for mutual benefit, members can lose ideals and be motivated for practical and individual reasons without the guidance of strong business plans and strategies to maintain expectations and standards. The lack of organizational capacity and standards for some Village models have led to inconsistencies of core service provision and members dissatisfaction (Greenfield et al., 2012). In many cases, volunteer involvement have fallen short of the original peer-support model (McDonough & Davitt, 2011) with fewer services types and irregular services. For example, some referral centers do not have consistent hours of operation and the central telephone number for information is not readily available (Greenfield et al., 2012). Selling the concept as an insurance of sorts and its concierge service as convenient commodities, instead of the motivating beliefs for a community, are also evident in a few other instances (Guengerich, 2009)

3.2.3. Organizational structure – bottom up governance and grassroots membership

The organizational structure is reflective of a community with values for independence and empowerment. Villages are independently formed and governed by grass-root members of the community who do not trust and are not satisfied with the existing governmental system of services (McWhinney-Morse, 2009). Instead, they have more confidence in their collective abilities to meet communal challenges from the grounds up (McDonough & Davitt, 2011). Their primary goal is to strengthen members and empower community to provide supportive services for aging in place (Lehning, Scharlach & Wolf, 2012).

The organization is led by a committed board with capable people and strong convictions for empowerment. The board members make decisions in accordance to their core belief that those who consume the services should decide what they want in the same way that they are responsible for their own welfare. Led by a board of experts and professional, this self-governing, consumer driven, volunteer first model

(McDonough & Davitt, 2011) administer direct control over operation and allocation of resources. The opportunities for the members to us their abilities to make decisions and to contribute also affirms their sense of efficacy (Bandura, 1997). As a result of validation, members are motivated continuously to participate in receiving and providing services and support (Scharlach, Graham & Lehning, 2012). With members as drivers of the programs, services are generally responsive, flexible to their needs (Lehning, Scharlach & Wolf, 2012). While some organizations have hired staff to support the governance board, to organize volunteers and for outreach and recruitment (Guengerich, 2009), members remain the backbone of the organizations.

3.2.4. Freestanding and self-reliant

Most Villages are self reliant and autonomous (Lehning, Scharlach & Wolf, 2012) without affiliations to existing community based service systems and organizations. With limited support from public agencies, government grants and social organizations (McWhinney-Morse, 2009), operating funds are raised privately from members and local stakeholders. Membership fees account for over half the budget as the largest source of income, with members sharing ownership of the organizational structure cooperatively. Other sources of income may stem from philanthropic donations such as personal gifts and fund raising revenue, especially for the more affluent communities. Stakeholders and philanthropic organizations such as the Archstone Foundation in California, can also support research to evaluate and validate Villages in specific geographic locations (Greenfield et al; 2011) for outcomes of health and independent living. While self-reliance on membership resources can lower cost of services and sustain the organization with minimal external constraints, a high priority is placed on recruitment and retention of active members to keep the organization viable and in existence.

With private contributions constituting more than half the budget, success of the organization is highly dependent on sustained membership (McWhinney-Morse, 2009). Membership recruitment is a challenge due to the exclusive appeal of Villages to active and energetic older adults and the exclusion of those who cannot afford the high membership fees that can run from $150 to $500 for individuals and families (VtV Network, 2011). In sum, the substantial annual membership; the ideology of civic participation and the unawareness of this innovative type of housing may deter potential

commitments to the organization (Lehning, Scharlach & Wolf, 2012). To encourage entry, Villages have marketed the organization in a variety of ways and reduced membership fees for qualified applicants. In order to include and recruit older adults from under-represented groups, “qualified and discounted memberships” are available to older adults from lower income neighbourhoods reached through community centers and churches (Enguidanos et al., 2010). Although intention to foster membership from all social class is evident, the criteria for a reduced membership fee is often not standardized and tend to vary from case to case (Lehning, Scharlach & Wolf, 2012) As with other variations in structural organization for different Villages, there is no universal eligibility guidelines or standards for reference for social inclusion (Lehning et al, 2012). Apart from lowering annual fees to increase appeal, Villages also attempt to promote this type housing and service model through personal contacts, print media and on websites. Through extensive communications, opportunities for connectedness, convenient services as well as “insurance for future” (Gleckman, 2010) are highlighted to attract a broader audience of vibrant young /old adults. To generate even more understanding of the Village concept, a “national voice” has been created. For example, funding from MetLife Foundation and other foundations have allowed the first Village, Beacon Hill, to work collaboratively with NCB Capital Impact (a non profit Community Development Institution) to develop a Village to Village Network (Poor et al., 2012). This important agency offers web-based assistance, research based periodicals, conferences and information exchanges for its 185 organizational members in 36 states (Poor et al., 2012). Through peer- to-peer support, this membership-based organization offer information on implementation and maintenance of Villages by connecting them to resources and expertise. The web-based support is extensive and includes phone line, directory, shared library and etc. for those who are willing to pay a fee to access expert knowledge on the Village models (VtV Network, 2011).

Public interest for this kind of housing and service model has intensified over the last few years (Poor, Baldwin & Willett, 2012). Instead of indirect state and federal funding to subsidize membership fees and to initiate a few innovative projects, government has indicated some interest to partner with Villages. Future collaboration with the public sector will depend on the Villages ability to integrate resources and to

develop diverse revenue streams while balancing flexibility to meet needs of members and growth.

3.3. Cohousing

Cohousing is a collaborative housing alternative where community is formed intentionally for interdependent living. By design, the Cohousing environment is strategically set up to encourage greater sociability, stronger networks and greater cohesion (Williams, 2005). As a result, this form of housing" can enable older adults to age in place safely and comfortably in a supportive and nurturing environment (Durrett, 2008).

Cohousing communities are popular in the Scandinavian countries (Vestro, 2000) for slightly different reasons. In Sweden and the Netherlands, Cohousing is a form of "collective housing" whereby facilities and household responsibilities are shared and collectively organized for the sole purpose of reducing the burden on any single family. Later on, the term "collaborative communities" is also used to better describe cohousing developments designed with strong intentions for community. The first cohousing community in Denmark started in 1972 with a group of 27 families feeling disenchanted and disconnected from neighbours. Together, they developed a residential community to live a lifestyle of mutuality and interdependence (Brenton, 2001). These "bofoellesskaber" (Vestbro, 2000) or living communities are now well established and still popular in the Danish housing sector. Today, about one percent of the Danish population or 50,000 people live in more than 100 cohousing communities with 30 or more start-up projects under construction (McCamant & Durrett, 1989). For the benefits of the older adults, senior cohousing is often offered as an option in the housing policy in Denmark (Lietaert, 2008). This type of housing for the "second half of live" is highly favoured (Vestbro, 2000) and successful in the Scandinavian countries for their capacity to meet the expectation and satisfaction of the older adults (Choi & Paulsson, 2011). They are also subsidized by government with choices for home ownership or rental tenure (Vestbro, 2000).

Following the Scandinavian trend, the concept of a social and practical home environment (Durrett, 2009) has also caught on in North America. Although the share of people living in Cohousing is less than 0.001% in North America (Williams, 2008) as compared to 1% in Denmark (Vestbro, 2000), this type of housing is desirable for its adaptability to community preferences and needs (Lietaert, 2008). The interest for this type of sustainable housing is clearly indicated by the rate of growth from 16 communities in 1995 to more than 113 in 2008 with many more in the planning stages including several senior cohousing communities for those 50 years and older (Freiermuth, 2008). The first cohousing in North America was built in 1991 and there are also about 20 private, resident - led developments in Canada, mainly concentrated on the West Coast (Williams, 2008). Although the model is gradually evolving with increased interest from the commercial sector, the growth is limited to a niche market due to the commitment and resources required (Williams, 2008)

3.3.1. Formation and development of senior cohousing

Senior cohousing or cohousing is an intentional model of residential development formed by grass-root communities out of dissatisfaction with existing stock of housing models that offer limited or no choice for aging in the company and support of neighbours who share similar convictions and values (Glass, 2009; Gleckman, 2010). Cohousing can be diverse in composition and characteristics but consistent in their collective beliefs and attitudes for community (McCamant & Durrett, 1994). In spite of demographic diversity in background, employment and history, adherents of this type of community is also homogeneous in their social class, race and ideology; rendering them close knit in a contemporary world. These adults are open minded to the social inclusion of others with structural differences and share convictions for sustainable community and for equality of human beings (Meltzer, 2005). In addition to a positive attitude for a vibrant community, founders of Cohousing communities are also energetic and committed to the social concept of interdependent living (Andresen & Runge, 2002). As a socioeconomic group of higher education, better health and more disposable income (Durrett, 2009), these older adults are also disposed to taking control of their surroundings in order to fulfil their expectations for aging in community (Choi, 2004). Acknowledging the reality of diminishing energy, this cohort is motivated by the

practicality of sharing housing chores and burden as much as the ideology of the social concept of collaborative living (Choi & Paulsson, 2011). The difference in how they structure community living to meet social and practical needs is largely influenced by the decisions of the "charter" or original members and their unique circumstances. For some, housing with many older adults in later life stages, adaptation of the built environment, careful organization of social life and clear layout of expectations by community founders can lead to a positive environment of shared dependence, mutual aid and co-care (Andresen & Runge, 2002). In spite of their different traditions and labels - "active neighbouring", "old fashion neighbouring caretaking" or "later-life spirituality" (Glass, 2009),- the overall purpose is to build a supportive community to meet the challenges of aging, and perhaps even death (Abraham & Delagrange, 2006). The unified value and vision of "co-caring" in shared dependence is even more magnified in Senior cohousing when elements of spirituality are stressed (Glass, 2009). ElderSpirit Community in Virginia, founded by a group of former nuns (Abraham & Delagrange, 2006), is one such example where "spiritual eldering" is fostered among a diverse group of people from different states, religious affiliations and economic background. These cohabitating neighbours are bounded by a deep sense of spirituality and belief in continuous growth and development in later lives (Glass, 2009). Recently, exclusive Cohousing for older adults, such as the Silver Sage in Colorado, are sometimes built in close proximity to multigenerational cohousing for shared advantage and easy interaction (Abraham & Delagrange, 2006).

Cohousing communities are purpose built with diverse forms, structures and locations (McCamant & Durrett, 1994). These housing models can be found outside of metropolitan areas or in semi-rural settings; in proximity to business districts or far from amenities and transportation. Depending on available sites and community, they can be built as attached row houses, nucleated villages, clustered dwellings as well as in high rise buildings (Durrett, 2009). In general, the housing complex is planned for 15 to 30 households to achieve a balance of medium density for better social outcomes without effects of overcrowding (Williams, 2005). Due to the complex requirement of design for social contact, cohousing are more likely to be new buildings although some are retrofit structures when options are not available (Williams, 2005). All built environments are structured for social interaction according to the ownership and decision of the charter

members (Glass, 2009) with assistance from various professionals at their request. To expedite the complex building process and to improve versatility of the housing model, partnership with developers in the housing marketing and with architects and planners in the decision making processes have increased (Williams, 2008). Partnership with social housing associations and others can increase capacity of the housing model if the purpose and design of the communal space and activities remain choices of the residents (Brenton, 2001).

In spite of variations in community characteristics, in ownership and built structures, cohousing share common and integral features. Inhabited by a community of active older adults determined to build a supportive environment, the housing is organized and structured for continuous participation, involving members as decision makers, co-workers, neighbours and friends.

3.3.2. Participatory Process

Participatory process that actively involves the older adults in the planning and development of the initiative is critical to the success of the housing model (Choi, 2004). This initial process is a strategy for partnership development whereby members are self-selected for their “fit” with the community (Brenton, 2001). Potential partners are tested for their commitment, strength and compatibility as they work through the arduous and complex process of designing the project. The commitment of a considerable amount of time and energy is necessitated to coordinate community founders and to appropriate external resources. Invariably, the navigation of the construction process with architects/builders, finance professionals and the consultation among members to integrate needs and preferences can take up many intense hours of frequent discussions (McCamant & Durrett, 1994). Other lengthy procedures such as feasibility studies, fundraising and site development can prolong the project substantially causing the commitment of the participants to intensify or diminish (Meltzer, 2005). In the same way, this enduring group process can build solidarity and trust (Putnam, 2000) when expectations are aligned for design of the built surroundings and for social activities. Alternatively, disagreement on design of physical space to balance public/private use and to balance adaptability for future needs with the sensibility of a non-institutional

resembling housing (Williams, 2008) can vet members for their suitability to share the task of building a collaborative community.

3.3.3. Resident Management and non-hierarchical structure

With an orientation to living interdependently, cohousing residents share all decisions and responsibilities to organize and manage the community on a daily basis. By sharing household burden, older adults feel empowered in their contribution to the community and enriched with more time for personal care and for socialization (Andersen et Runge, 2002). To effectively organize sharing of obligations and perspectives, regular formal meetings and work groups are structured. Decisions for the community are made democratically with goal of consensus within the non-hierarchical social structure (Durrett, 2009) Similar importance is attributed to every vote in accordance to the community's belief in fair treatment and equal access to shared decisions (Williams, 2005). Besides cooperate decisions in formal setting, group discussions on aging and care issues are even more important for communities that aim to foster the process of aging in the cohousing environment (Abraham & Delagrange, 2006). Expectations of and intentions for the community are constantly aligned to increase conscious awareness of "end of life challenges" and to facilitate sharing of the burden of care for the ill and dying (Glass, 2009). Clear guidelines for positive social interaction, for co-care on a daily basis, for future provisions of skilled care and care aides and etc. are all critical (Glass, 2009) to develop a supportive community, especially one that is informed by the belief of a compassionate creative force and values cultivating relationships for "spiritual eldering" (Abraham et Delagrange, 2006). In all cases, mutual care is nurtured and support given and received according to level of personal comfort and capacity In the same way, communal tasks are structured effectively according to interest, skill and preference. Residents can choose to coordinate work groups, to work in company to cook and clean or to contribute in solitary activities of gardening or bookkeeping. With the advantage of proximity, neighbours can also spontaneously support one another by sharing transportation to medical appointments and grocery shopping and running errands for those in need. (Durrett, 2009).

In additional to formal meetings, the residents also organize informal group activities to increase social interactions (Durrett, 2009). These are varied according to specific communities but always include activities such as dining together weekly (Choi & Paulsson, 2011) and some health and exercise classes. Findings have shown that common meals are well-attended and main events for generating trust and consensus (Vestbro, 2000). Health enhancing activities that include spiritual practices of meditation, contemplation and yoga classes are often organized in communities design for continuous spiritual growth in late life development (Glass, 2009). Other seasonal and cultural events to encourage sharing history and culture among residents (Meltzer, 2005) are regularly scheduled to enhance bonding among diverse residents. As close neighbours, unplanned social gatherings such as movie nights and topical discussions are often conveniently arranged for community to socially integrate. Outside of the immediate community, residents occasionally organize activities with the broader neighbourhood to interact with other community stakeholders for partnership purpose and to increase knowledge of the cohousing concept that is relatively new.

3.3.4. Common House and common facilities

Within the Cohousing, common facilities are shared spaces designed for communal activities to make individuals' lives more convenient, practical and meaningful (McCamant & Durrett, 1994). These public facilities, designed to reflect community preference and needs, can supplement smaller private dwellings with accessible space for satisfying social activities and stimulating personal pursuits. Community gardens, mechanical workshops and art studios within the compound allow residents to participate in meaningful play and work for self or community. The hallmark of cohousing to facilitate and integrate social activities and pragmatic needs is the common house - the "heart" of the community and the gathering place (Williams, 2005). The spacious and multifunctional common house, featuring a large communal kitchen, dining area and other common facilities can conveniently accommodate different functional and pleasurable activities (Williams, 2012). Frequent socialization in the kitchen to prepare meals and regular participation in common areas to celebrate culture or personal traditions can create friendship and lower physical housework for more meaningful pursuits and health. Other convenient facilities such as shared guest rooms, adjoining

suites for intensive care and care aides can adapt the limited private dwellings to provide affordable space for visitors and formal assistance and skilled support (Abraham & Delagrange, 2006). The shared cost and provision for caregivers are important considerations often incorporated into the design of common facilities in this housing model with increasing needs associated with aging in place (Durrett, 2009). The design of the flexible common house to encourage purposeful interaction in an accessible space often leads to spontaneous and unstructured socialization (Choi & Paulsson, 2011) giving rise to a vibrant community of constant involvement. This level of interaction is also deliberately enhanced through social contact design as a cohousing principle in the intentional neighbourhood design (Williams, 2005).

3.3.5. Intentional Neighbourhood Design

Neighbourhood design is critical to sustaining sense of community in cohousing (Durrett, 2009). Although the participatory process establishes initial connections, it is the architecturally engineered space that foster continuous social interaction and community life. Data from 285 cohousing communities bear the result that a well-designed environment for social contact can encourage people to talk, play and be together 5 times more than otherwise (McCamant & Durrett, 1989). Furthermore, older adults who regarded their neighbourhood as a positive environment (Gray, 2009) tend to interact frequently to support their neighbours. Therefore, when there are "local opportunity structures" (Baum & Zirsch, 2003) or environment features constructed to enhance social patterns of exchanges, older adults can possibly be sustained by the resources within the community (Bar & Russell, 2006).

A positive neighbourhood environment (Gray, 2009) that is safe and accessible to encourage a pattern of social interaction can be designed using architectural and social contact principles (McCamant & Durrett, 1989). Social contact design principles aim to facilitate opportunities for positive social attitude and activities and lower barriers for social exchange (Williams, 2005). Hence to foster favourable social interaction and density, the size of about 40 to 100 residents is critically determined with consideration to specific communities (Meltzer, 2005). Accordingly, Cohousing are typically clustered with about 15 to 30 households in a "nucleated village" fashion for visual coherence, sense of collective identity and socialization. Sometimes dense vertical apartments and

centralized high rise buildings are also retro-fitted near to service amenities for effective service delivery, such as meal services (Choi, 2004). With a sizable community living in close proximity, other design strategies are used to maximize opportunities and to minimize structural barriers to social connections (Durrett, 2008). In order to avoid involuntary interaction and withdrawal from over-crowded housings, private, semi-private and public spaces are complementary and clearly demarcated. Consequently, closeness with clear boundaries are reinforced to allow for privacy and independence and to reduce negative dynamics and discomfort (Williams, 2008). As a core design principle, built designs for individual privacy are valued as much as communal space for participation (Andresen & Runge, 2002). Therefore, the ratio of private dwellings to public facilities as well as their relative locations are carefully calculated to impact choice and utilization (Meltzer, 2005). Large, multipurpose and functional public spaces are centralized and highly accessible via a circulation of interconnected pathways also strategically placed for easy visibility from comfortable private units. To increase opportunities for casual surveillance and transition, attractive sitting and rest areas are strategically placed along these circulation pathways. As an enhanced environment for accessibility and flexibility (Choi & Paulsson, 2011), plans are often made in the design stages for building adaptation to accommodate changing requirements for convenient and safe passage within the complex (Abraham & Delagrange, 2006). For added layer of safety to encourage foot traffic, car parks are mostly relegated to the edge of the site (McCamant & Durrett, 1994).

Some senior cohousing are aware of increasing needs and have planned for future modifications of the neighbourhood (Williams, 2005). As in other cases of housing and service models, a balance has to be found between designing to meet aging challenges in later stages of life or to meet satisfaction of a greater demographic range of adults from not so young to not so old (De La Grange, 2008).

4. Discussion of the three housing and service models

These three housing and service models are similar in their goal to engage a community to address needs of their residents for aging in place (McDonough & Davitt, 2011; Bedney, Goldberg & Josephson, 2010). The intention is to create a supportive environment by integrating a web of continuous relationships (Minkler & Wallerstein, 1997). Through sharing of resources, there are community opportunities for efficacy, growth and sustainability (Bookman, 2008) and personal benefits of independence, participation and quality of life (Sixsmith & Sixsmith, 2008). Integrating relationships to enhance community resources can be achieved by opportunities for formal and informal engagement and broadening range and depth of relationships. Categorically, these strategies focus on empowerment activities, community building activities, access to service provision and built environment. The three housing and service models are first discussed for their commonalities and then comparatively analyzed according to four criteria, i.e. empowerment, community building, enhanced service and physical environment (Greenfield, Scharlach, Lehning & Davitt, 2012).

4.1. Empowerment

Empowerment of individuals through participation is an integral component of community change (Minkler & Wallerstein, 1997). Empowerment activities can lead to increased social participation, social cohesion and improved resources to reduce inequalities (Minkler & Wallerstein, 1997). There is belief that altruistic engagement can allow the community to share power in trust (Barr & Russell, 2006). Opportunities for civic engagement, in decision-making roles, in governance and in volunteering, can motivate participation for increased public resources and personal competencies affecting a stronger community.

Empowerment activities increase personal health and competencies through participation (Greenfield, 2011). Participation in purposeful work is an adaptive health strategy for those who are active (Chippendale et al., 2010). Volunteer opportunities can integrate social and community life in a meaningful way. Even for those less active, engaging in roles that contribute to self-worth can lead to a satisfying life (Register & Scharer, 2010). Contributions in voluntary associations can also improve skills and abilities leading to a sense of efficacy, confidence and autonomy (Bandura, 1982). Through working relationships, older adults gain more knowledge and skills to cooperate for common goal. It can also be maintained that volunteering, where people donate time and effort to advance common goal, is evidence of a compassionate, cohesive society (Baum & Ziersch, 2003) and enhanced society.

Empowerment activities build community capacity and community competence through engagement in leadership roles (McDonough & Davitt, 2011). Strong leadership is particularly relevant to grassroots organizations (Minkler & Wallerstein, 1997) that are independent and self-reliant. Leadership involvement can create buy-ins for group identity and participation for partnership synergy (El-Askari & Walton, 2005). As an example, even for those with less energy in the NORC programs, a project from Philadelphia initiated by older adults generated many volunteers (Ormond et al., 2004). Collectively, they can identify issues, mobilize resources and develop strategies in trust. Members are more critically aware as they stand in solidarity against aging challenges. Formal connections in an organization can lead to social capital (Putnam, 2000) for increased community cohesiveness. The community can become characterized by general reciprocity of mutual obligation and responsibility (Putnam, 2000). On the other hand, studies have also found that membership in voluntary associations might not lead to a supportive community, especially for the socially disadvantaged (Gray, 2009). Moreover, it is found that social trust for those who participate in civic activities is more related to personal factors (Li, Pickles & Savage, 2005). This raises the important question of meaningful connections in empowerment activities. Does meaning for the community group come from identification of common goals such as getting quality services or from deepening relationships through working together? This is important for these models as empowerment activities have implications for community cohesion and

participation; increased ownership and responsibility and ultimately for accessing resources for aging in place.

All three housing and/or service support models offer opportunities to empower older adults in civic engagement and volunteering to lead or support other members. Through various participation in structured roles and formal relationships, older adults can potentially strengthen themselves, the organization and the community (Bookman, 2008). The outcomes are more resources to remain independent functioning and productive; in control and with the ability to choose.

4.2. Community Building

Community building activities are foundational to strengthening and tightening the continuous web of relationships in communities (Minkler & Wallerstein, 1997). Therefore, the formation of stronger and broader social networks are structured with care and consideration in these housing and service models.

Opportunities for participation, social engagement and integration are structured formally or informally in these models (Greenfield et al; 2013). Social activities are purposefully designed to integrate members through shared interests and values. A broad range of cultural, social and educational activities are facilitated to foster relationships, and a sense of community according to the community context and resources. With strategic planning, frequent interpersonal relationships can satisfy emotional needs (Seeman & Berkman, 1988) and protect older adults against loneliness (Ashida, 2012). In these housings, opportunities for community building are increased by leveraging built environment. Physical environment are adapted, through transportation and modifications, to lower barriers for participation and facilitate involvement (McCamant & Durrett, 1994).

Involvement in a range of satisfying, supportive and interpersonal relationships is conducive to health maintenance (Thomas et al., 1985). Through social involvement in caring and sharing activities, older adults feel valued in their meaningful relationships (Register & Scharer, 2010) and attached to the community. Through these supportive relationships, they are provided with assistance in their daily needs and protected from

stress and isolation (Berkman et al., 2000). Reciprocal bonds in committed, ongoing relationships can postpone early institutionalization (Beebar, 2008). An extensive social networks can delay onset of disability (Alvund et al; 2003) by motivating older adults to remain active in stimulating activities. In all, older adults embedded in a socially integrated neighbourhood have higher expectations of aging in place (Choi, 2004). Their expectations come from their sense of safe attachment to a trusted community where help is available in times of need (Putnam, 2000). This trusted and integrated community can even be protective of those who are challenged to physically participate (Bar & Russell, 2006; Bowling & Farquhar, 1991).

4.3. Enhanced access to service

Social and health services to prevent health deterioration and to maintain independent functioning is critical to delay institutionalization (Ivery & Akstein-Kahan, 2010). This goal for service provision is explicitly expressed in Villages and NORCs (Lehning, Scharlach & Wolf, 2012). All three housing and service models employ various approaches to enhance supportive services. A range of health services for complex medical and specific needs and an array of social services for housing modification and personal case management are available consistently or on request. To complement the essential services, ancillary services are organized according to community context that include transportation, daily household tasks and maintenance, grocery shopping and etc.

To enhance supportive services, these housing models use an innovative system of service delivery. Instead of relying on one system of support, these models attempt to integrate formal and informal systems of delivery to be an effective delivery of service. Informal network of older adults from the community are connected with formal service providers to select desired services and to share the task of delivering support to meet aging challenges. Furthermore, by involving older adults in the operation to deliver services, these models aim to remain effective and responsive to needs. Effective delivery is impacted by increasing accessibility, affordability and availability of services (Greenfield, Scharlach, Lehning, Davitt & Graham, 2013).

Access to timely and appropriate services are made available in these housing models to delay untimely relocation (Tang & Pickard, 2008). Fragmented and complex systems of formal/informal supportive services are coordinated and consolidated. These professional/medical services and other concierge services are either delivered to the older adults or obtained through a convenient and centralized referral system. By socially integrating these groups of older adults, knowledge and quality information on health needs and external services are shared through social transference (Seeman & Berkman, 1988). By availing friends for support and services, fear and difficulties with navigation of formal systems can be allayed and postponed (Sixsmith & Sixsmith, 2008). Overall cost of services is also lowered when services are delivered by local volunteers and professionals to a shared neighbourhood. This method of co-locating and delivering services on location is particularly important for those residing in rural and suburban areas with limited transit service (Bronstein & Kenaley, 2010). Simultaneously, there is capitalization of human capabilities and increased organization capacity (McDonough & Davitt, 2011).

By engaging older adults and integrating supportive networks into delivery systems, these models endeavour to create an interdependent approach (Beeber, 2008) to service development and delivery. This self-directed model of community service delivery is the best means to maintain autonomy and participation as recommended by AARP (2001). It can also sustain the operations as systems are integrated.

4.4. Built Environment

Built environment can be productive of outcomes for aging in place (Wiles et al., 2011). Accessible space and well-organized spatial system (Vestbro, 2000) can provide an intermediary structure to mediate private and public care. Older adults can continue independent functioning in a familiar home and safe neighbourhood. For those who are physically challenged with irreversible degeneration, adaptation of built environment is particularly salient to continued social participation (Chippendale et al., 2010). A well maintained home and accessible space for relationships are key to health and well-being (Bronstein & Kenaley, 2010). Suitably adapted, physical surroundings can improve functioning of older adults as their capacity declines (Lawton, 1986). A flexible living

space can accommodate live-in caregivers to compensate for disabilities and to provide service needs. Services delivered to a community of people can also increase resources for aging in place. In addition to housing modification, transportation provided by these models in a neighbourhood can allow for continuous participation (Emlet & Moceri, 2011), especially when these models are not situated close to amenities.

All three housing and service models aim to adapt the physical environment to improve mobility and accessibility of supportive relationships. Programs for housing modifications to compensate functional decline, delay health deterioration and prevent fall accidents are addressed. Transportation is facilitated impromptu or upon request to reach decentralized services and amenities. In varying capacity, they also adapt inadequacies of informal social support within community by leveraging physical environment. The physical proximity in some of these dense communities provide a context for supportive network structures for aging and even for survival (Bowling & Farquhar, 1991). Other adaptations can range from bringing formal services on location (Vladeck, 2005), providing treatment rooms and caregivers quarters on site (Abraham & Delagrange, 2006) and arranging household repairs to members' homes (McWhinney-Morse, 2009). In that way, build environment have the potential of integrating formal and informal service systems (Ormond et al., 2006).

5. Comparative analysis of the three models

All three housing models have potential for goals of aging in place. Comparative analysis will identify how these 4 strategic criteria can enhance service needs, health and wellbeing in safe independent living through different intermediate outcomes. Although these criteria intersect, they also have distinctive pathways. Empowerment activities can increase formal participation, sense of obligations and social cohesion. In solidarity, older adults can feel more ability and in control of important decisions as a collective. Community building activities can increase socialization and social integration leading to reduce isolation and sense of belonging. Enhanced services can increase self-awareness and awareness of accessible health, housing and social services for improved functioning ability. Lastly, built environment can be adapted for safety and can lower spatial segregation for sociability and service.

Figure 1: Pathways and Outcomes

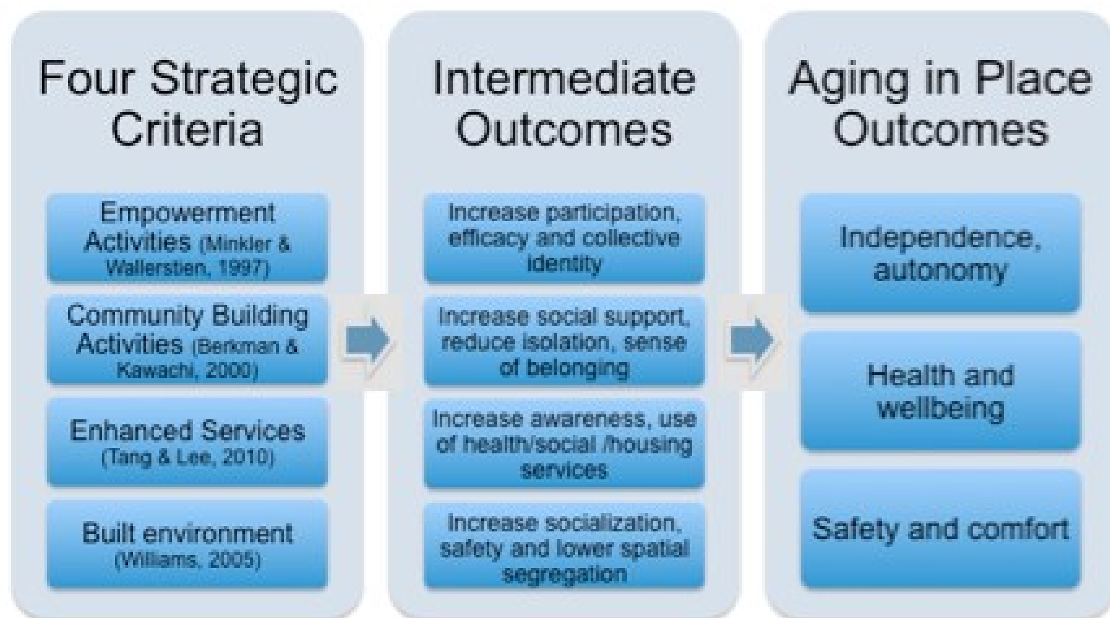

Table 1: Comparative Analysis of the Three Housing Models

	Villages	NORCs	Cohousing
Empowerment Activities	Leaders/founders from grass root initiatives as decisions makers lead to optimal resource allocations, more buy-ins; responsive and flexible programs. Self efficacy and autonomy Consolidated service system integrated formal and informal delivery; increase level of involvement with members as producers, distributors and consumers & strong ties Volunteers as "backbone" lead to collective efficacy and personal empowerment Membership structure strengthens role identity, contribution, commitment	Advisory councils and residential board facilitate participation of older adults as partners Loosely structured volunteering system encourages one/one visitations and caring routines. Increase in human resources of better mental and physical health Training by staff with educational materials equip peers to lead programs and sense of valued e.g. Cherry Hill Levels of volunteering vary from sporadic contribution to ongoing leadership due to lack of capabilities from diverse, weaker group Lack of identifiable structure and representation/consultation in horizontal NORCs	Founders/leaders design, implement and manage initiative through participatory processes that is democratic and equal for all Household interdependence with members contributing in accordance to choice and abilities leading to nurturing and supportive community and more resources for individuals Centralized compact structure enhances sense of place identity and membership

	Villages	NORCs	Cohousing
Community Building Activities	Structured social and cultural activities such as educational series, book clubs, and computer classes that bond members and strengthen identity to membership Formal relationships as volunteers, board members, decision makers lead to strong ties and solidarity High functioning group connect using technology lead to more connections and information	Collaboration with other cultural organizations and community institutions such as senior events, high school mentoring lead to inter connections with broader community Accessible location for group activities in public libraries and community halls Housing partners provide office space and public access areas for interpersonal and group connections Core staff connects interpersonally through case managements; connect residents through small/big group activities. Affordable/ pleasurable activities such as picnics and potlucks with neighbors	Culture and positive social attitude lead to many spontaneous activities such as car rides, grocery shopping, movie watching, picnics Living in proximity with common facilities allow structured activities and pragmatic sharing of resources e.g. communal meals Living in safe neighborhoods with access to public meeting areas and gathering places lead to frequent meetings. Sharing of household and management responsibilities in small committees lead to strong bonds

	Villages	NORCs	Cohousing
Enhanced Services	Range of service determined by organization capacity of human resources and members funding Concrete, daily essential services such as transportation, grocery shopping and house maintenance for convenience and aging in community Services by external providers are of quality and of value to members due to "vetting process" and consumer led Services are delivered formally and informally through members	Collaborative partnership with health/social organizations provide diverse range of complex and specific service for aging specific needs Key home safety assessment, modification service and other health and social services delivered on site through coordination of strategic partners that can be preventive measures Validated programs that are researched and evaluated delivered by professions Fees for service at low or no cost to older adults in community Relational staff providing case management, information and referral leading to trust and enhanced NORCs Small and big groups assessment to identify needs	Limited external services with household maintenance and needs shared by community Sharing of all resources led to more time, energy and personal resources for pleasurable activities Co-care for sick and frail among community with hired assistance from beliefs of interdependent living and rights and value for all

	Villages	NORCs	Cohousing
Physical Environment	Geographic boundary undefined to include whole towns and state	NORCs vary from vertical, centralized compact buildings to disparate neighborhoods of complex building structures affecting organizational identity and accessibility Location of NORCs to amenities with direct influence on formal service utilization Existing housing partners can provide space for public facilities and in kind contribution and information on residents	Functional Common house facilitates social interaction; social connection and purposeful work Social contact design increases social connections in public/private areas through well maintained facilities, sizable public meeting place and circulatory system Complex and timely process to maximize social interaction according to needs and desires Design of centralized compact design to maximize density to increase accessibility to relationships and services

5.1. Empowerment activities

Empowerment opportunities are influenced by motivations and goals of the originators of these housing and service models. Founders and leaders of Villages and Cohousing are highly involved in decision making roles of designing, implementing and developing their grass root initiatives. Altruistic and visionary Village leaders adopt an empowerment philosophy of participation, partnership and education (McDonough & Davitt, 2011). With the "volunteer first model" (McDonough & Davitt, 2011), they are confident that older adults are capable to build adequate resources among themselves to remain independent in community without putting their trust in government. Although Cohousing founders have a different ideology and believe in an interdependent lifestyle, they are equally devoted to community building and active in civic engagement. In contrast, under the experience and leadership of a lead agency for social collaboration (Vladeck, 2005), older adults in NORCs are regularly consulted as partners even without

direct control of the governance board. Representatives on resident councils/advisory boards from congregate and remote housings (Enguidanos et al., 2010) can provide understanding and channels of communication both ways. In turn, continuous knowledge and information exchange at the leadership level can ascertain that programs remain responsive for successful collaboration and for building resources (Minkler & Wallerstein, 1997).

Formal participation is organized differently in these housing and support service models giving rise to differences in supportive resources for aging in place. Cohousing founders structure extensive opportunities for sharing and for contribution (Brenton, 2001). Members in committees of small groups are involved in the participatory process of planning, in governance and in maintenance of the project. Household chores are shared according to skills, interests and physical capabilities, resulting in more personal resources to choose among communal activities, personal care or pleasurable pursuits (Andresen & Runge, 2002). Integration of daily work and social activities for pragmatic and social advantages deepen bonds and increase community resources. As members of equal value, cohousing residents adopt a democratic process (Durrett, 2009) to encourage individual votes for collective decisions. Both Cohousing and Villages are careful to set in-house policies, rules and regulations to align expectations and set appropriate boundary for social behaviour among members. Communication on codes of conduct and specific guidelines are essential to facilitate positive social interaction for cooperation and for confidentiality among volunteers (McDonough & Davitt, 2011). Community procedures to guide conflict resolution during face to face meetings are especially important for collective living in Cohousing to prevent older adults from withdrawing due to negative social attitude (Meltzer, 2005). Unlike Cohousing where integration of community comes from regular sharing of social and human resources, Villages aim to integrate formal/informal service delivery systems through strengthening human capital. Through the compact consolidated system, volunteers have opportunities for multi-stranded involvement directing community resources by producing, distributing and consuming services. Members, as the back bone of the community feel purposeful and connected in formal administrative roles, outreach/ recruitment and financial management (Lehning, Scharlach & Wolf, 2012). In spite of varied and personal opportunities for empowerment, the number of volunteers in NORC programs are

significantly fewer (Lehning, Scharlach & Wolf, 2012). Reciprocity is structured (Bookman, 2008) intentionally to build relationships that empower. To lower barriers for participation, older adults are given flexible times to pay regular visits to neighbours and to support peers (Boneham & Sixsmith, 2005). They are sometimes trained with specific skills to share knowledge on health risks prevention and health promotion to empower the community (Kloseck, Crilly & Gutman, 2010). As a result, older adults have more self-confidence for their abilities validated through supporting community.

Empowerment activities are influenced by a sense of collective identity in organization. Villages are implemented as membership structures that provide mutual aid for mutual benefits (Scharlach, 2011). Members are united in their collective identity as the backbone of the organization, the work force that drives the goal of enabling themselves and others to remain independent in the community. They are formally connected in their obligation to the community (Register & Scharer, 2010) and stand in solidarity to meet aging challenges (Minkler & Wallerstein, 1997). By formal and mutual cooperation, there is collective empowerment and personal efficacy (Putnam, 2000). For Villages, membership dues are also considered a form of contribution and identification (Anetzberger, 2009) for those who choose not to participate physically. Compared to Villages, Cohousing are connected in their ideology for community and motivated by their unique identity in their solidarity to coordinate resources for emergency needs and otherwise. In contrast to Villages with no visible identity marker, members of Cohousing and some NORCs share centralized residential developments as neighbours. For horizontal NORCs and disparate developments with no structural or physical markers, a sense of community is created deliberately with housing management or others (Bronstein & Kenaley, 2010). Membership fees, a symbol of obligation/entitlement, is sometimes levied at an affordable rate after careful consultation with NORCs members (Greenfield, 2011).

Empowerment activities are impacted by resources. NORC programs, with external funding, has a core staff of professional nurses and social workers to organize empowerment activities and to enhance abilities of older adults (Ivery & Akstein-Kahan, 2010). These core staff purposely structure caring routines, cultivate trust and enhance skills to encourage mutual support among older adults who have more aging challenges and diverse functioning in the NORCs communities. These empowered adults (Bennett,

2010) can maintain and sustain the initiatives as they become increasing engaged with supportive relationships and service resources. In contrast, Villages that are constrained in funding but endowed with rich human capital, hire staff mainly for support and sometimes for administration and outreach (Scharlach, Graham & Lehning, 2012). Committed leaders with expertise and members with capabilities contribute in volunteering to continuous increases in human capital and community resources. These independent initiatives can be effective in sustaining human capabilities and allocating resources but challenged to recruit new members and retain volunteers for lack of fiscal funding and consistent business model.

The housing and service models are empowered with the creation of awareness of their organization and missions. Dialogues can be generated with increased awareness, interests and action for empowerment (Minkler & Wallerstein, 1997) Increased participation through national level broadcast are implemented through the Village to Village network, set up under the auspice of MetLife Foundation (Poor et al., 2012). Both Villages and Cohousing disseminate housing related and specific information through newspaper publications to create public knowledge and interest to be involved. Social media presence of the Cohousing is generated through several websites in the United States. In Canada, the Canadian Cohousing Network was set up in 1992 to promote the creation of cohousing communities. With a similar purpose, the Cohousing Association of the United States is one of the largest providing information and resources to support new and existing developments.

5.2. Community building

All three housing and support service models build communities among diverse and homogeneous groups of older adults by magnifying their similarities and minimizing their differences along social, culture and ethnic lines. For Village members who focus on the consolidated strength of the older adults (McDonough & Davitt, 2011), enhancement and cultural activities are structured to reinforce their identification along socioeconomic line. In accordance with their program strategies, Village members also develop strong bonds for mutual cooperation through formal meetings on committee boards and through formal help exchange among peers. With a different focus, NORC

programs aim to build community on new and existing network of relationships (Ormond et al., 2004). Community activities are organized by NORCs staff and in collaboration with other local agencies to integrate this heterogeneous group of older adults within and outside of their communities. Cross cultural events, language classes, and outreach projects are coordinated to deepen and broaden range of connections with different groups (Bookman, 2008). In spite of challenges that require persistent staff effort, length of time and extra resources to integrate different ethnicities, connecting multicultural groups can generate bridging social capital (Putnam, 2000), increase adaptive capacity and stability for the community. A blended community can increase internal resources and linkage to different types of external services. By socially including new immigrants and ethnic groups, NORCs can also increase understanding of how culture influences aging in place for practical and effective housing development in multicultural societies.

Casual caring activities among residents are encouraged and facilitated by staff for tighter bonds of support, for trust and for mutual appreciation (Bennett, 2010). In addition to interpersonal exchanges, staff also facilitate group activities to increase awareness knowledge and information for health promotion that appeal to this group with diverse health challenges. Although interesting programs can attract participation, these structured activities are less needed for the Cohousing housing model with a mutually appreciative and nurturing group of older adults. Spontaneous, structured activities, as well as events to share resources and commemorate personal and communal milestones are often well-attended, knitting the community tighter (Choi, 2004). Community activities are often structured to nurture personal abilities and to strengthen bonds through celebrating and sharing traditions and history of individuals in their communities (Meltzer, 2005).

Community building activities are influenced by built environment and location of the community. Built environment has implications for frequency and level of social contact and formation of relationships (House et al., 1988) for NORCs and Cohousing. NORCs programs that are centrally located in a physical setting offer convenience of easy access to the older adults. Accessible NORCs communities with friendly neighbours are also encouraged with more extensive relationships and diverse resources. Within the residential developments, empowered older adults can continue to support, socialize and foster informal relationships with proximity to friends and activities

site (Kloseck, Crilly & Gutman, 2010). As shared physical space in NORCs neighbourhood can lower barriers for participation, a dense Cohousing community can increase level of informal interactions to strengthen community. Calculated density, optimal size and other design features in Cohousing (Durrett, 2009) can provide consistent, flexible space for interpersonal engagement and group socialization as well as promote spontaneous encounters. Accessible communal and public space can create a safe neighbourhood by supplying context for continuous face to face engagement (Seeman & Berkman, 1988) to share interest/influences, to exchange advice/information and to monitor one another for needs. A vibrant and safe neighbourhood can even be protective of those who are incapable of being very active (Putnam, 2000). Those who are vulnerable and reticent can still feel confidently independent when embedded in an enriched neighbourhood (Boneham & Sixsmith, 2005).

5.3. Service comparison

The Village model and NORC programs both expend and expand on existing aging services (Greenfield, Scharlach, Lehning, Davitt & Graham, 2013) by organizing and coordinating existing system of delivery. In contrast, Cohousing is a residential development for collaborative living that fosters supportive networks to manage community needs as they evolve. As neighbourhood developments, both Cohousing and NORCs are natural venues for co-location of housing and support services.

As support service models, the types of services accessed in NORCs and Villages are similar but the service and mode of delivery are substantially different. Villages have direct communication with most of their members and often use surveys delivered by outreach workers and volunteers for assessment and evaluation of needs. As independent grass roots initiatives, Villages organizational capacity is prescribed by the collective abilities of the volunteers from the community (Poor, Baldwin & Willett, 2012). Consequently, program offerings are flexible but can be inconsistent or irregular as limited by the capacity of the volunteers. For broader appeal, services are also designed and advertised to the younger generation and often as insurance/protection for their increased aging needs (Guengerich, 2009). With resource limitations, skilled services are often provided by paid professionals. Information/referrals to service

providers are organized at the local call centre and easily accessed with a "one-stop-shopping" call on the hotline. These centralized services are often discounted and complement the range of volunteer support in transportation and sundry assistances that are both satisfactory to this community group and are necessary for them to remain in place. In contrast to general services, NORC programs provide a diverse and complex array of specific services to reflect the needs of the community (Vladeck, 2005). These are readily delivered on site or in close proximity. These are subsidized core services that can directly impact illness and health to prevent relocation (Wagnild, 2008). According to specific communities, core services likely include personal case management and empirically validated programs such as falls prevention that highlight education, risks management and healthy living (Vladeck et al., 2010). Chronic conditions that necessitate multi-factorial assessments and multi-level prevention interventions can be effectively managed to lower health risks (Chaikin et al., 2011). By disseminating and implementing health promotion programs, older adults become more aware of needs and have more knowledge to secure and protect themselves from risks. Other proactive/preventive measures such as housing modifications can also help adaptation to declining mobility. Besides paying direct attention to residents, ancillary service are customized to supplement core service to meet health goals (Bedney, Goldberg & Josephson, 2010). Transportation and delivery of service can connect distant and dispersed communities to essential services and amenities without being isolated. To ensure desirable and relevant services, NORC programs make great effort to establish trust and effective communication channels to identify the strengths, gaps and needs of the older adults. Professional staff and coordinators are trained and tasked to continuously engage older adults to identify and satisfy their needs with respect and dignity. Programs that include key services delivered close to home by trained staff can enhance a NORC community (Bennett, 2010) even for those who are not familiar with the services. Through neighbourhood transference, confidence and advice would help decisions for timely services. The sharing of information/knowledge/resources through comfortable and reliable relationships is critical to survival for this diverse population of older adults who are also more inclined to be unaware of and unwilling to address aging needs and relocation (Tang & Lee, 2010). To cultivate culture of information exchange and trust, extra communication strategies are needed for NORCs on different levels. Communication tools include comprehensive assessment surveys, multilingual service

directories, newsletter posted in strategic access areas and personal case management and discussion using common language, cultural humility and sensitivity.

In contrast to NORC programs and Villages, Cohousing is not a service model and operates on a co-care concept to provide home based support and service (Durrett, 2000). As a tight-knit community, co-care and mutual aid in senior Cohousing are magnified when elements of spirituality is present (Glass, 2009). A spiritual belief in a creative force that unifies human beings at all stages and that all human beings have worth motivates residents of Elder spirit (Gray, 2009) to cultivate late life relationships through reciprocity. These committed relationships and lifestyle of interdependence for survival (Beeber, 2008) can provide very frail older adults with support in ADL tasks as they face challenges of death/dying and untimely institutionalization (Glass, 2009). Within senior Cohousing, social expectations are clearly laid out to avoid over burden of unwanted help and burnt out from intensive care needs. Decisions are made collectively when older adults lose ability for self-care and formal care needs are required.

Services and delivery are directly related to resources for these different housing and service models. As compared to NORC programs with direct access to professional services, Villages are more like service coordinators with provision of some in-house service upon request. By using a membership model with consolidated delivery strategies, resources are enhanced collectively and individually. With similarities to a cooperative ownership structure (Scharlach, Graham & Lehning, 2012), Villages generate savings through services provided by their members and through joint purchasing and bargaining power for their members as a consumer group. Along the same reasoning, Cohousing have both the advantage of savings in joint purchase power and economies of scale as residential facilities, hired services and communal labour are shared. Cohousing is unique in the way of providing care for the weak and frail (Glass, 2009). Being in proximity and cohesive, the communities often share cost of skilled formal care for those who need more than informal support. In contrast to Villages and Cohousing, NORC programs are delivered directly and onsite in most cases. There is savings from economies of scale as appropriate services are delivered to centralized communities. The coordinated delivery of preventive measures to modify unsafe housing and to manage health risks can substantially reduce hospital and other expenses for subgroups. For older adults, there is enhanced access to services and relationships

through connection with staff. This vast array of dynamic and quality services is the product of elaborate collaboration among strategic partners led by a committed lead agency (Euguidanos et al., 2010) and funded publicly by the government and philanthropic organizations. Health partners and community stakeholders, such as housing entities, contribute concrete resources in staff and office/program space as well as valuable knowledge of community that can often sustain the NORC programs through financial cutbacks (Greenfield, 2011). In addition, support from the United Hospital Fund's Aging in Place initiative (Vladeck, 2004) and government agency such as the Administration Agency of Aging (Ormond et al., 2004) has allowed continued research to validate programs and to evaluate outcomes on NORCs.

5.4. Built environment

The three housing and support service models are different in how they conceptualize community and facilitate participation. Villages are virtual communities (Poor, Baldwin & Willett, 2012) that identify themselves in their strong commitment to the common goal of remaining independently functioning in the community. In contrast, Cohousing and NORCs are geographically bounded residential communities that share physical neighbourhood and desire to age in place. As shared physical entities, NORCs and Cohousing also have advantages of continuous opportunities for social participation (McCamant & Durrett, 1994). The proximity to neighbours and to amenities can lower barriers for older adults with higher incidences of mobility challenge. However, level of social interaction is also impacted by shared history, location, external structure layout and interior design of the built developments (Bronstein & Kenaley, 2010).

Residential formation and history of these housing communities have influence on types of social relationships for outcomes of aging in place. As residential communities, NORCs and Cohousing have advantages of accessing situational social networks (Gray, 2009) and possibilities for stimulating and vibrant communities (Ashida, 2012). These situational networks can be supportive (Gray, 2009) and protective of all members irrespective of active participation (Li, Pickles & Savage, 2005). As unintentional, older and larger developments, NORCs typically encompass more diverse, loose knit and interesting relationships naturally evolved over time, providing

familiarity and connections to external resources through social transference (Berkman et al., 2000). In contrast, Cohousing are planned new developments consisting of tight groups of neighbours sharing comfort, stability and solidarity. In stark contrast, Villages are not residential developments and members of this virtual community are mainly connected through intentional formal arrangements without encumbrances of or benefits from any involuntary social interaction.

NORCs and Cohousing can facilitate meaningful interpersonal relationships with building configuration, architecturally planned or strategically organized. NORC communities, especially for those under the auspice of housing partners, can often leverage public spaces for interpersonal connections. The convenience to socialize for care /company within the complex is augmented by opportunities to share information and observations at public access points and transition zones (Vestbro, 2000). Older adults are motivated to contribute with the flexibility of place and time within the complex. To magnify these opportunities, Cohousing use social contact design principles to influence social interactions for meaningful connections to work and relationships (Williams, 2008). To enhance intentional and casual engagement, an involved design process is undertaken by professional members or voluntary neighbours self-selected to build a community of tight bonds. According to these design principles, built environment is made functional and accessible for diverse communal and social participation, tying work/self-care/ housing together (Vestbro, 2000). Well-located public areas; enlaced courtyards and attractive atriums gather friends and neighbours in safety and in unity. Centralized, large and multifunctional common house and public facilitates enable purposeful work for personal edification, formal committee meeting and informal socialization. In addition to community connectedness, the accessible and flexible space can give rise to interpersonal relationships as people meet for civic and social engagement as co-workers, friends and neighbours. Cohousing design principles also pay attention to needs for control social contact to prevent overcrowding and forced socialization. Circulatory systems and surveillance areas are strategically and conveniently situated to invite participation with visual information as well as to enhance safety for the community. The design encourages an extensive and diverse involvement that intensifies cohesion. At the same time that community is emphasized, private choice

is valued (Andresen & Runge, 2002). Private homes are designed strategically for autonomous living and a respite from social interaction (Choi, 2004).

Cohousing and vertical NORCs are furnished with external structural features to mobilize community for involvement. These housing models are centralized, compact and dense structures that are easily identifiable and visually unifying. Structured as a single entity, these dense and concentrated spaces also conveniently increase service capacity and socialization. By purposeful design, the size of Cohousing communities are clearly defined and include no more than 30 families to effect positive social attitude in a contained space. On the other hand, NORC programs can include single and multiple housing complex of hundred(s) families spread over several acres (Vladeck, 2004) with a sizable population. When these developments are properly managed and organized, the size of residential communities can motivate efficient sharing of community resources and engender effective delivery of specific services for subpopulation i.e. housing modifications and chronic disease management. The size of networks and proximal ties in these developments also predicts tangible support (Seeman & Berkman, 1988) and a sense of security in the neighbourhood (Berkman et al., 2000). In contrast, horizontal NORCs that are disparate and lacking in collective identity are more challenging environments (Enguidanos et al., 2010). Without community connectedness, they often require a wider variety of services and extra resources to satisfy diverse needs.

The meticulous planning is a complex process often led by a team with members including founders and appointed designers and architects. Resources from community leads to flexible design that reflect community characteristics with potential to enhance its situational network of neighbours for increased human capacity and community resources.

6. Conclusion

With increasing numbers of older people and their preferences for living independently, housing and/or services that provide opportunities for them to remain in the community is essential for health and well-being (Wiles et al., 2011). This research has identified the potential of Villages, NORCs and Cohousing for aging in place. These innovative models can provide a range of options for older adults to remain independent and autonomous in accordance to their value and lifestyle. From preference for an unrestricted lifestyle to living interdependently in a confined or open community, older adults are enabled to remain successfully in their homes. They are innovative in their organizational operations embedded in their ideology of empowering older adults for community through mutual support and services (Bedney, Goldberg & Josephson, 2010). By means of structured civic and social programs/activities and enhanced services, older adults contribute to their own well-being through meaningful relationships, purposeful work and desirable services (Register & Scharer, 2010). The effectiveness of these programs is a result of organized processes that are strategically structured in the social and built environment and identified in this study. Organizational strategies that include collaborative partnership led by older adults; committed and expert leaders; effective communication/exchange channels; training of volunteers and coordinated range of services delivered as well as accessible built environment that provides intermediary structure for private/public interaction and care are important factors for the success of these models. By coordinating social/physical environments and consolidating formal/informal care, the community is enhanced with valuable health and renewable social resources. Simultaneously, public spending can potentially be lowered (Wenger, 1991) as services are delivered more effectively to an entire community. Services can also become more affordable and accessible for the individuals with friends supporting one another. Indeed, delivering support and service closer to home can be made sustainable with communal effort (Poor, Baldwin & Willett, 2012).

Through findings, this study has identified that opportunities and challenges of these housing and/or service models are directly related to their organizational structure and capacity. Their unique opportunities is a result of their different programmatic strategies and in the same way, their challenges are also a result of their organizational capacity governed by external and internal resources (Cassidy & Leviton, 2005). Critically, the extent of these models hinge on their capacity to implement and sustain programs that identify and contextualize community and resources. In short, the provision of dynamic services to lower barriers and desirable activities to motivate participation that address diverse communities is critical to the survival of Villages, NORCs and Cohousing. Also, the capability of these strategic partnerships for flexible/ responsive services and allocation of resources is a direct function of fiscal and human capital accessible in existing social/physical communities. To sustain, continuous capital is needed for these housing and service models for older adults. Hence, a lack of private/public funding and recruitment of new members are main challenges for these housing and/or service models.

Housing and/or service models that are self-reliant have direct control over resources to coordinate services on demand but are challenged to attract external funding and new members. Villages and Cohousing are mainly maintained by members' contribution in fees, funds, physical energy and capabilities with little public support for their active programs. With resources such as individual talents, commitments to goals/ ideologies, solidarity and generalized trust, members can directly allocate resources for preferred services. Opportunities structured for equal participation, for democratic decision making and for multiple levels of civic and social involvement can also consolidate community and empower individuals for sustained involvement. These processes are further magnified in interdependent Cohousing communities where residents live together in built environments that are strategically designed for optimal size and control social contact (Vestbro, 2000). By purposefully harnessing and sustaining members' energies for collaboration and direct services, the programs can also remain affordable and relevant to the existing community. With all the advantages of grassroots organizations, the high dependency on internal capacity for outcomes can also detract from governmental funding and erect barriers for social inclusion (Baum & Zirsch, 2003) to increase membership. As self-sufficient and self-selected developments,

these new housing concepts may be challenged as they remain undesirable to some and unfamiliar to most (Williams, 2008). Older adults who do not share similar ideologies, who are less educated, competent or endowed may not be eligible or attracted to these housing communities. These housing and/or service models can also be undesirable for those who want convenient relationships without civic contribution or who want sustainable relationships without complex and constant involvement. Recruiting potential members can be furthered challenge due to lack of public awareness and knowledge of these unfamiliar concepts. Therefore, governmental funding and collaboration with public institutions can increase capacities of these operations. Housing partners and funding can lower barrier for entry with options of subsidized memberships and rental tenure, furnish outreach staff for market strategies to promote models to different cohorts for more members and adaptive capacity. Funding can also facilitate evaluation and research on a national basis to validate outcomes and to justify investments in these housing types.

Housing and/or service models that rely mainly on external resources have diverse and quality programs to provide appropriate health/social services to maintain older adults but are more restricted in their allocation of resources. With an extensive operation, NORCs depend mainly on partnership synergy and government funding to develop dynamic programs and specific services for the many heterogeneous groups. Strategic collaboration among expert and committed champion agencies, housing partners, health/social service providers, existing community stakeholders and older adults can lead to valuable services regularly delivered on location to promote health, to increase socialization and to reduce chronic risks. Opportunities for constant and consistent engagement with trained staff and peers through structured reciprocity (Bookman, 2008) and through timely exchange of information can lead to encouragement and sustained participation. NORC programs, led by external agencies can be highly effective in providing many skilled and professional services through well-financed partnership synergy. On the other hand, their challenge is to remain relevant and flexible in their programs through sustaining a trusted relationship among many partners of different needs, capabilities and expectations in a constant evolving community. To coordinate fiscal and human resources through strategic relationships often involve time and compromises before results can be evidenced. Unfortunately,

funding from the government for these highly structured NORC programs is often contingent on empirical evidence for outcomes that might not materialize before contracted sites for “demonstration projects” expire. In the same way, funding from community stakeholders can also be restrictive and inflexible to the needs of older adults without proper alignment over time. Furthermore, compromises might even be made at the expense of program relevancy to qualify for funding. Therefore, funding challenges for NORC programs include raising public funds as well as private donations and memberships. Private contributions are essential components and desirable strategy for responsive service and to prevent goal displacement.

6.1. Future Research Areas

This research has addressed opportunities and challenges for aging in place in these housing and/or service models. By recognizing their similarities and differences and reviewing their strength and limitations, we have also identified gaps in existing literature and research that constrained findings and provide future directions. To date, there is a scarcity of literature and empirical research on these emerging types of housing. Comparative studies across diverse sites or longitudinal studies for health outcomes are sparse (Greenfield et al; 2013) and not rigorous. Short term and long term health outcomes are not fully validated, but substituted by anecdotal reports of overall increase in socialization and self-reported health/well-being as a result of participation (Vladeck, 2005). Evaluation of these innovative models are also limited by the lack of nationwide, multi-site studies to compare and contrast their practices from theory. Therefore, these different models are typically described in generalities with discussions on strategies for implementation and development as well as specific issues that arise. In order for these innovative models to remain effective and to sustain, additional and critical research is needed for their validation and to attract resources and public/private funding.

To advance knowledge, more detailed examinations are needed regarding these emerging models for aging in place. Next steps require a rigorous examination of the ability of these housings to meet their goals through empowering individuals and building communities with enhanced services and adapted built environments. From the

conceptual framework analysis on Pathways and Outcomes in Fig 1, we can aim to develop a conceptual model by integrating the 4 criteria and their interconnected pathways. For example, community building and empowerment activities are mutually influencing. Sharing frequent leisure activities in groups can lead to formation of a formal advocacy team building up social capital of social support and efficacy. Similarly, built environment intersects all other criteria by offering space for participation, socialization and services. In the way same, intermediate outcomes and aging in place outcomes are also highly interactive. It stands to reason that a safe and secure neighbourhood can instill confidence for continuous participation and the assurance of help to enable independence, health and wellbeing.

Research is needed to increase organizational capacity for effectiveness and sustainability. We have identified how internal resources from freestanding, self-reliant organizations are important to sustain relevant programs while extensive external resources can increase effectiveness of programs, Therefore, continued scholarly attention to resource development and their impact can inform strategies for multi-partner collaboration with focus mechanism, such as separate boards, to protect the interests of older adults. Partnership with housing developers, with city and provincial housing planners can be advantageous.

The findings highlighted the importance of membership and funding for these aging in place housing and/or service models. Increased membership from heterogeneous groups can attract more funding and provide diversity for social development. Similarly, multi-generational membership can ensure undisrupted functioning of the organizations as older members become less active. By researching and understanding the organizations' propensity for certain subgroups due to homogeneous socio-cultural background or expectations, we can strategize for wider implementation and social inclusion to increase their adaptive capability. Partnership with municipal and city can increase participation through options for ownership, rental tenure and lower membership fees for services for grassroots models .

Longitudinal research on health outcomes to validate housing and /or service models and evaluate programs/service for funding and policy. The reason for these housing and their programs is for successful aging. By associating the extent of health

outcomes with specific aspects of programs/activities delivery, we can improve on implementation practices and substantiate case for funding and being. The preliminary findings on these three types of housing and/or service models and suggestions for future research can critically inform diverse community stakeholders and policymakers for effective and sustainable strategies to promote successful aging in place with community. It may also turn challenges into opportunities for these supportive housings to be more socially inclusive and meaningful.

From this exploratory research on opportunities and challenges, there are significant lessons on insights for local and national efforts to support aging in place. It is apparent that there is no “one size fits all” and therefore, provincial agencies should offer a range of housing choices in settings most appropriate to needs and preference of older adults. Public agencies can also increase organizational capacities of supportive housings. To expedite site development and feasibility studies for Cohousing, municipalities can relax zoning requirements that often multiply cost of construction and time involvement for founders. To lower cost of membership in Villages, that often lack structure and consistency to provide financial aid, public agencies can develop uniform screening protocols for eligibility to subsidized annual fees. To support NORCs on a practical level, enhanced training for coordination/cooperation among social and health care workers can improve health services especially when multi-factorial assessments and multi-level interventions are needed to address chronic diseases and prevention.

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Appendix A. Empirical Data Extraction

Table A.1. NORC Model

Reference	Measurement	Sample Size	DVs	IVs	Result	Significance
Anetzber-ger 2010	• To evaluate impact of NORC program in Cleveland for aging in place	• Survey of 26 questions to 609 participants aged 82+	Good health and wellbeing	• Participation	• High utilization and satisfaction with quality information lead to beliefs that programs increase assess, keep adults active and connected and empowered • High perception or confidence in AIP, increased socialization and participation • High level of satisfaction is related to sense of control and choices	• Community organization lead to service coordination and resource development • NORC emphasizes individual choices and program flexibility
Bennett, 2010	• To explore strategies critical for transformati on for enhanced NORC –	• Case study on 2 NORC. • Qualitative/ exploratory face to face interviews/a nalysis of historical documents	Enhanced and transformed NORC or supportive community	• Patterns of strategies, nurtured and engaged relationships and empowerment	• Strong, caring and supportive community related to skilled staff and inclusion of key services • Participation is function of availability of information, shared communal attitude and health • Social engagement/ social influence leads to participation and communal attitude even without participation of formal programs • Sustainability is about successful transformation of perception for AIP	• Sense of community comes from regular and ongoing personal contact (may be through staff) and participation in preferred service/activities. • Community and people need to be nurtured and educated to maximize potential of the community

Reference	Measurement	Sample Size	DVs	IVs	Result	Significance
Bookman, 2008	• Transformation of communities. Comparison of NORCs and Villages for AIP	• Interviews with residents and planners from 4 NORC-SSP; 3 Villages and 1 campus retirement community	Building of community through relationship building and civic engagement	• Community based strategies to provide services and meaningful relations	• Older adults as assets and untapped human capital can build community • Reciprocity has to be structured /organized for mutual benefits • Models are 'elder empowerment' or 'consumer activitism' • Importance of informal connections in daily interactions in NORCs communities that differentiate potential	• Social capital in relationship to age • Potential of the elderly as community builder • The development of structured "helping activities" in informal relationships
Bronstein & Kenaley (2011)	• Qualitative study on critical themes of NNORC (neighborhood NORC)	• In depth interviews with Resident Council and community	Effectiveness of NORC to identity and address health/mental needs for aging in place	• Formal and informal home and community based support	• NORC's encouragement of simple informal gatherings such as book clubs gives rise to sense of c • Informal community can be resources for support and first defense, bridge to formal care. • Maintenance of PE and concreter service can foster AIP • NORC needs for champion with high motivation and skill to outreach • Challenge of collaboration includes transparency, alignment of common goal and effective communication.	• Trust from formal and informal network can delay institutionalization by connecting to reliable referrals for formal service when needed • Informal relationships can bridge trust and formal service providers and substitute for formal in concrete services • Collaboration provides range and scope

Reference	Measurement	Sample Size	DVs	IVs	Result	Significance
Chaikin et al., 2013	• Impact of implementation and dissemination of fall-risk program in NORCs	• Pre-post test: N=93 high risk falls over 6o years	• Risk of falls factors	• Multi-factorial fall risk assessment, home modifications, medical and community staff	• Multi-factorial risk assessment and prevent intervention included enhanced communication between older adults, physicians, conducted by trusted staff can reduce fall risks. • Multi-factorial prevention program can be successfully implemented and evaluated in community that has NORC programs through collaboration • Collaboration due to enhanced communication system and involvement of older adults, physicians and social workers. •	• Older adults respond to one on one counseling by trusted staff • Nurse assist residents to function at optimal physical and mental capacity by coordinating social and health care • NORC programs potential as vehicle for dissemination and implementation of preventive programs
Greenfield et al., (2012)	• Qualitative study to create framework of sustainability	• In depth interviews with 15 NORC programs in New Jersey study	• Sustainability goals as defined as who NORC programs want to sustain	• Sustainability strategies such as getting more resources to retain lead agency or to integrate	• Programs factors determined by determined strategies. Available community relationships and organizational resources (funding, staff) impact choice of strategies or success of programs • Existing service has great impact on sustainability strategies • Sustainability strategies can be lead agency in leading or integration over time • Relationships with local politicians, government relationships are important for funding • Relationship with other partners through co-locate and co-host programs important for integration	• Challenge of sustainability is the complex context of community • Receptivity of partners and existing system will determine sustainability • Perception of values and quality programs influence sustainability goals and outcomes

Reference	Measurement	Sample Size	DVs	IVs	Result	Significance
Greenfield et al., 2012	• Overview of NORCs programs in New York	• 39 programs surveyed	• Implementation of NORCs	• Organizational community characteristics/setting/members	• Most are affiliated with non governmental multi-service agencies as leaders and are formal entities • Up to 5 paid staff including case manager, program director and social worker, 34 volunteers per month • Most budget is financed from New York State and in kind contribution • At least 20 types of services from professional staff, providers and • Volunteers	• Need advocacy activities and petitioning elected officials for governmental funding
Elbert & Neufeld, 2010	• To find optimum service and "best indicators for success" for cost efficiencies over 5 years evaluation.	• Survey mailed to 1300 NORC residents. Include qualitative case study in 3 suburban communities at St. Louis.	• Cost effectiveness and optimum service • Exit data or nursing home placement	• Supportive services, partnership services and participation	• NORC with supportive service holds promise for cost-effective services for AIP. More aware of resources, sense of belonging and socialization. • Exit data, nursing home placement related to participation • Favorable outcomes due to collaboration of many service providers, a team of staff that focus on relationship building and trust, a plethora of activities • Membership is related to increase funding, identity and participation	• The impact of NORC on target population can be measured with exit data and with evaluation - survey/questionnaires on outcomes of specific service • NORC delays institutionalization and is cost effective • Program evaluation and exit data powerful indicators of NORCs

Reference	Measurement	Sample Size	DVs	IVs	Result	Significance
Enguidanos et al; 2010	• Qualitative and quantitative study. To compare facilitators and barriers of vertical and horizontal NORCs	• Diverse, heterogeneous communities, mixed age, over 10% 60+; different culture and SES	• Level of community collaboration with staff and participants • Level of learning and individual development • Long term sustainability by involving stakeholders and older adults	• Membership, service, activities, volunteerism participation data • Process of engagement; what makes them disengage	• Context and needs is associated with success of NORC. i.e. community factors such as culture, geography, demographic • Horizontal (non centralized, low density) and existing service infrastructure vs vertical structure, make people more active service and satisfied • Barriers are economic constraints, transportation and unawareness. Also health • Participation increases with on-site service, amount and variety, specific to needs (credible, reputable and valuable) with clear identity (Organizational Identity Crisis) and visibility • Flexibility and adaptiveness essential for collaboration	• Challenges and facilitators are largely dependent on and exclusive to type of community-demo, existing service • NORCs can increase socialization, sense of community and support aging in place • Success influence by high density (more economies, more access, social influence) • Success is influenced by structure, existing service, service needs and demographics
Kloseck, Crilly & Gutman, 2010	• Evolution of NORC to a sustainable shared learning partnership model that optimize AIP	• Cherryhill Healthy Aging Program for NORC. N= 2925; age 76	• Health, functional independence and safety	• Shared Learning Partnership	• NORCs are untapped and underutilized resources to optimize health, independence and QOL in an economical way for AIP • Cherryhill Healthy Aging Program. Collaborative partnership demonstrates the strength of collective community approach where whole exceeds sum of the parts"	• "Shared learning partnership" -sharing experience with peers is encouraged in a supportive environment • Importance of "developing collaborative partnerships"

Reference	Measurement	Sample Size	DVs	IVs	Result	Significance
Vladeck, 2004	• New York City's NORC-SSPs, under United Hospital Fund's Aging in Place Initiative	• 28 case studies in NY City NORC-SSPs, drawing common themes and challenges.	• Success of NORC for supportive service and programs for aging in place	• Strategic partnership • Public funding for resources and ability to attract	• Success of NORCs depends on the extent to which it reflects community – strength, interests and aspirations of the residents • Need multiple entry point of constant assessment and outreach • Effectiveness is dependent on managing complex partnership with housing corporations, social service/ health providers, government and residents. • Density, single management /ownership; existing housing community identity or awareness are related to success	• Programs must be community specific, address diverse needs and responsive to changes over time • Partnership building with residents through trust over time with constant engagement and interaction

Table A.2: Co-Housing Model

Reference	Measurement	Sample size	DV	IV	Result	Limitations/future
Glass, A., 2009	• The potential of Elderspirit senior cohousing for later stages of life	• Interview 33 residents, mostly white, single, female, older (range 63 to 84), educated, diverse occupation, migrants from 14 other states diverse	• Opportunities for continuous development in later stages in life for health and mutual support to remain in community	• Income (home-ownership), • Education • Diverse states • Motivations	• The potential of senior cohousing for strong cohesion and mutual support through planning and spirituality to delay institutionalization. Spirituality with reference for "creative force"; attention to process of aging and challenges of dying through creating and cultivating mutual support • Elderspirit meets expectations of mutual support, more health and sociability	• Late life spirituality and influence • Interaction with other social factors as compared to regular senior cohousing • Early stages, will this model sustain? • Importance of late life spirituality to increase mutual support in spite of diversity

Reference	Measurement	Sample size	DV	IV	Result	Limitations/future
Meltzer, 2005	• Sustainable communities •	• Analysis of 12 cohousing projects in 5 countries. Case studies to illustrate diversity and commonalities	• Social and environmental aspects •	• Empowerment process leads the transformation through democratic voting and effective communication • 'Voluntary simplicity" movement and collaborative networking • The adaptability of cohousing for different cultures	• Success of cohousing can inform incorporation of social and environmental factors for sustainability • Potential to contribute to social and ecological sustainable ecological settlements • Import of mixed residential composition such as Denmark project of Munksogaard	• Case studies of snapshots. Different length of time since established • The challenge of equity in terms of affordability, capability of older adults • The challenge of diversity and commonality for social cohesion and individual preference • Importance of community equality and sustainability over personal financial benefits

Reference	Measurement	Sample size	DV	IV	Result	Limitations/future
Williams(2005)	• Social contact design and neighborhood interaction	• Relevance of design on social interaction • Impact of design by personal and informal social factor	• Case study. Comparison of 2 contrasting communities in California to determine level of interaction and factors affecting.	• Design, personal and social factors are interlinked, reinforcing • Design is important factor for social behavior i.e. density, layout, semi-private space and communal space (quality, type and function) • Personal attitude influenced by formal organization mediated by social dynamics and resources •	• Resident involvement in design process is important but need careful considerations for social dynamics and social resources. • Decision process and non-hierarchical can lead to divisiveness and social exclusion • Heterogeneity in social class and household type has benefits with shared values and attitudes • Social and personal factors create social opportunities that can be enhanced by design •	• Study findings are difficult to generalize • Design strategies and processes can be transferable in general • Cohousing principles are non-transferable due to designated scale and high level of resident involvement • Selectivity of cohousing due to residents' predisposition • Formal structure encourages social participation through organization of built space, good accessible programs. Also reduce social conflict

Reference	Measurement	Sample size	DV	IV	Result	Limitations/future
Andresen & Runge (2002)	• To explore Cohousing as generative environment	• Qualitative study with semi structured discussion with 3 focus groups of 18 seniors at 3 different sites. Ave age 62; 40% single an 60% couples; 47% salaried workers	• Experience of occupational choice and performance	• Cohousing is generative due to social and physical environment • Choice is the main motivator. Being in control and deciding for oneself is valued and protected • Outcomes of feeling free with more energy and continuous engagement • Good social relations with mutual involvement is health promoting • Choice in good atmosphere is generative	• Good social relations and mutual involvement comes constant and different types of contact in positive atmosphere. Atmosphere (minimal conflict) encourages and enables choice. From personal values and beliefs • Choice in interdependent living of mutual support and appreciation gives life satisfaction and autonomy	• Short duration between setup and interviews • Honeymoon period • What is limit of “good” social network?

Reference	Measurement	Sample size	DV	IV	Result	Limitations/future
Choi & Paulsson (2011)	• To evaluate common activities and quality of life in Swedish cohousing in senior and mixed cohousing	• Quantitative, questionnaire survey in 12 cohousing units. 4 from 40+ years and 8 from mixed cohousings. 242 of 353 surveyed. SPSS analysis. • Mostly healthy, evenly aged from 50's to 70's	• Common activities and level of involvement to life satisfaction	• Swedish Cohousings are successful • Activities of social and pragmatic advantages are most participated i.e. communal meals • Older adults want higher level of involvement than young families • Most have expectations met and felt satisfaction in improved lives	• Senior Cohousings fulfill expectations and satisfaction of improved living conditions and solutions for household chores. It might be a better model for healthy, older people than young due to its pragmatic and social advantages	• Swedish Cohousings hard to generalize • Senior cohousing starts at 40 years and therefore not representative for senior cohousing for 55+ • Flexibility in design delays relocation

Reference	Measurement	Sample size	DV	IV	Result	Limitations/future
Choi (2004)	• To evaluate life satisfaction and community planning in Denmark and Sweden	• Personal characteristics, physical environment and common activities to satisfaction of life	• Qualitative and quantitative on 28 senior Cohousings interviews with residents and housing association staff, field trips and questionnaires. 935 surveys with 536 returned • Mostly healthy, single, female, avg. 70 yrs	• 95% satisfaction; expectations fulfilled and life conditions improved • Personal characteristics of single/cohabitant, living period and gender and community initiative impacts LS • Importance of intensive resident involvement in design and development • Participation of activities is influenced by community initiative and dwelling size	• Model suited to older adults for its pragmatic and social reasons Housing management is taken care of and social activities are plenty • The personal factors of needed for control and self-determination in later life makes it critical that the older adults have choices in activities according to preferences or expectations • Participatory process give opportunity for involvement and alignment of group intentions and expectations	• Cohousing is hard to generalize in N. America. In Denmark and Sweden, government subsidizes housing and forms can be shareholders, renters or landowners. Cooperative, freehold or lease • Housing association takes care of housing management and some nursing service • How to incorporate service delivery of home help, nursing service and housing management

Table A.3: Villages

Reference	Measurement	Sample Size	DV	IV	Result	Limitations/future
Guengerich, 2009	• Qualitative study on 5 Villages in District of Columbia	• In depth survey. Questionnaire, interviews and discussion with board members =12; volunteers= 9 and members = 24	• Best practice for implementation of future Villages	• Member service and usage, fees • Village development • Board setup, membership and volunteers	• Members feel more connected to community, regularly engaged and QOL • Meet expectations of good value and will recommend friends. • Villages are for younger old adults who desire independence to pursue self interest and remain active • Motivated by self help approach	• Challenges of retention and recruitment • Lack of national voice
Scharlach, 2012	• To examine development and funding of age-friendly communities	• Survey of 292 communities	• Development and funding	• Community planning, program development and consumer associations	• NORCS defined by collocation of services system coordination, collaborations of partners due to public funding • Villages are consumer driven, self-support grassroots. Combine social support, engagement and service	• Lack of public policy to guide coordination of services, lack of federal policy, coordination of local and national efforts • Lack of continuous funding

Scharlach, Graham et Lehning (2011)	• To examine characteristics of "Village" model	• 30 fully operational Villages in 2 surveys. on member characteristics, types and fee structure, the other on organizational mission, goals & funding	• Access to service • Impact on QOL and health as community is built	• Membership and organizational structure and composition	• Villages provide support service to meet needs of middle class, white and healthy older adults • Member supports, service referrals and consumer engagement • The approach uses process of peer support and service referral. Service referral engages members as consumers to review and leverage for discount. Individualized instead of group process	• Financial sustainability is challenge due to heavy reliance on membership • Organizational sustainability is challenge due to lack of tech/ resources and collaboration with other social service agencies • Engaged as consumers do not build connections for social capital
Greefiel et al., 2012b	• To provide national "snapshot" of Villages	• 69 Villages surveyed and questionnaire and hour long telephone interview	• Implementation of Villages	• Organizational characteristics, finances, community characteristics including membership characteristics	• Grassroots and self-governing organizations. Advisory or governance board with older adults as volunteers. Villages connected with broader community through collaborations • Most have 1 paid staff and offer discount to annual fees • Most have list of preferred providers	• The participation of national wide Village to Village network needs to be enhanced for greater awareness

Appendix B. Non-Empirical

Table B.1: NORC Model

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Limitations/future	Significance
Altman, 2006	• Case study of New York NORCs as locale for effective service delivery for AIP	• Mobilization and organization of human and financial resources to sustain and support AIP	• Long term sustainability is from successful organization and mobilization of community	• Importance of seniors as resource, as partners in design and management • Lead agency as site director and most appropriate to use social services provider. • Housing partner important for contribution as invested stakeholder	• Future emphasis on funding from state level • Strategies to identify and map concentration of older adults in suburban areas	• Success of NORC is how well they respond to community and other partners. Service system needs community organization principles • Organization without defined boundaries or organizational entity difficult
McCamant & Durrett, 1989	• Cohousing Community	• Community building with diverse age groups, family types, ideologies	• Physical design can impact improvement of communities • Private homes and cooperative community are fostered through design •	• Common characteristics of participatory process, ,intentional neighborhood design, extensive common facilities and resident management • Important factors are size, location, design, priorities •	• Challenge of financial institutions and planning departments	• Challenge to cultivate shared value and expectation to overcome ethnic diversity, social and residential segregation • Partnership with non-profit or private developer and residential group

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Limitations/future	Significance
Bedney, Goldberg et Josephson, (2010)	• Transformation of perception of aging and impact on public policy through NORC programs	• Concept of aging transformed	• Role of adults in advisory council and planning leads to services preferred	• Level and type of engagement leads to community development and development of services programs addressing needs. • Roles lead to meaningful and purposeful lives • Trust in relationships can lead to timely use of services. Importance of deepen relationships before crisis • Timely use of services and support can delay relocation	• The continuous cultivation and reframe of older adults as agents of change	• NORC promotes healthy aging through innovative, coordinated, systematic service delivery and involving older adults in decision making roles • Isolation and unawareness and untimely use of service lead to institutionalization • NORC is effective to increase socialization, reduce social isolation and link older adults to services for AIP and effective to promote health and well being for successful aging in place

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Limitations/future	Significance
Bronstein & Kenaley, 2010	• Descriptive article to review and compare horizontal and vertical NORCs	• Autonomy of community dwelling older adults	• The ability to remain functioning within community is influenced by model's ability to identify and meet needs	• NORC is community level intervention or community development model of formal and informal home and community based support • Vertical NORC with geographic boundaries, centralized/contained and onsite management is more accessible to relationships. • Vertical NORC contributes to affordability through economies of scale. • Vertical NORC attracts more homogeneous group and less demand of service variety •	• The future need for more accessibility to horizontal rural communities to prevent isolation	• Relationships are affected by environmental factors such as dimensions of structure, design and location • PE that is more compact is better for relations and service. Service is delivered more efficiently, economically and less types of service needed due to homogeneity of community. • NORC programs emphasize the importance of well maintained home and accessible relations. • Onsite management is important partner to maintain residents but need to ensure attention to changing needs

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Limitations/future	Significance
Blumberg, Jones & Nesbitt Jr.	• Usefulness of Lifelong Community framework to support aging in place and impact public policy	• High-rise apartment building Marion High rise of 272 elderly, diverse and vulnerable group	• Goals for AIP through housing /transportation options; healthy lifestyle and service/information access • Increase independence related to chronic and acute diseases; delay institutionalization and support AIP	• Physical structure of housing communities and adequate supportive services or needed service (and information) • Built environment to improve access (interact easier with residents and surrounding community) and to improve service organization • If increased access to resources for diverse and complex population; coordinated and efficient services, expert intervention for mental health and crisis; broader community awareness; empowerment through education, training and access to needed resources; increased interaction and relatedness to staff	• The future development of partnership between housing and community sector services	• Innovative system service delivery to support AIP can meet needs of aging pop. Need reworking of policies, regulations and funding of government agencies to increase scale • Importance of "healthy lifestyle" environment Reconfigured/redesigned space to increase social interaction, creation of exterior/interior space to support program delivery for physical, educational and recreational activity and for supportive service

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Limitations/future	Significance
Enguidanos et al., 2010	• Descriptive article on integration through process of evaluation, implementation and outcome measure of programs.	• Integration of 1500 residents of Park La Brea in 4200 apartments	• The development and implementation of a model that can develop services to maintain older adults in community by enhancing internal and external resources or integration	• Process of implementation and development such as memberships, needs assessments, programs and training of volunteers create integration • Partners buy–ins (management, residents support and participation, range of needed service) and long term funds is critical • Services coordinated and delivered on location; reciprocal support through training and CB • Personal meaningful empowerment and voice	• Collaboration with complex and diverse communities; volunteers and sustainability	• The strength of community through integration • Opportunities include increased access to service through formal and informal support and empowerment. Importance of external resources of trained staff and continuous leadership

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Limitations/future	Significance
Greefield, Sacharlach, 2012	• Theoretical paper. • Examine the potential of NORC programs and Villages for AIP	• Empowerment, community building and service provision	The potential and challenges of the 2 models in terms of community level impact and for individual benefits to age in place	• Empowerment activities, community building activities and access to service • Both models have potential for community contribution. Villages encourage more active participation in empowerment activities. • Both models increase diversity for social network through peer support network and social activities and reduce isolation • Both models address challenges of access to service through coordination and delivery	• Critical directions include examining external and internal resources for effectiveness and sustainability • Effectiveness for diverse range of older adults	• They improve on traditional service delivery systems and on health and wellbeing for AIP • Both models have challenges due to organizational differences and resources. • Integrate formal and informal care systems

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Limitations/future	Significance
Ivery & Akstein-Kahan, 2010	• Descriptive discussion on previous research on development and management of collaborative partnerships	• Community context of 2 NORCs initiatives. Toco HIll-affiliation with JFC services and East Point-African/American with Atlanta Region Commission	• NORC provides supportive service for successful aging • Partnership collaboration is formal comprehensive, long tern and shared goal • Community capacity-financial resources and relationships – govern success • NORCs are built on existing resources and should complement	• The capacity and resources of the community and the organization (structure) • Partnership can provide integrated service to meet multidimensional needs through broad collaboration • Lack of resources to develop NORC structure is fatal • Staff has to be interpersonal, resourceful to outreach and to coordinate • Partnership is social capital – resources from social organization of "expectation and obligations' formally aligned with goal	• . Development of community resources and capacity to sustain in future • The need to separate outreach and program development for better coordination	• Level organizational capacity of community – determines success – what is there already • Importance of lead agency with credulity, history, skills and resources • C. Partnership can increase resources for service • Formal alignment of expectations and obligations with goals can increase cooperation for more resources.
Hunt et al., 1994	• Describe "Naturally Occurring Retirement Community" in context of migration patterns in urban/rural areas	• Partnership based programs to supplement unplanned and undersigned community	• NORCs can maintain health and wellbeing with independence /comfort without special design	• Volunteer and senior participation, flexibility and in context to specific community • Convenience of location and relationships to NORC residents	• Development of meaningful activities in context and on location	• NORCs address physical environment, social fabric of community and services and specific supports that meet community needs

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Limitations/future	Significance
Ormond et al., 2004	• To develop conceptual model of NORC programs to discuss 5 demonstration projects • To clearly distinguish the NORC community from NORC programs and discuss dynamic nature of both	• Integration of internal and external organization	• Program development and implementation depends on organization and funding from internal and external sources. • Strategies for program flexibility and responsiveness	• Desirable programs, knowledge, cost and location of service influence participation. • Integration of private and public funding needed. Participation in membership as indicator of outcomes • Long term benefits need trust and increase awareness of service • NORC programs affect by diverse needs, existing services (esp. housing maintenance) and housing structure/design • The needs of residents vary according to frailties and what is already available • Flexible program and clear outcome balance needed due to dynamic nature of NORC	• The need for more responsive and flexible programs	• The challenge of dynamic nature for clear outcomes • NORC is integrated system of supportive service that depends on successful integration of external and internal factors in structure, community and funding • The greatest challenge for NORC programs is to determine the services due to the dynamic nature of older adults with needs in different groups, setting and over time

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Limitations/future	Significance
Vladeck & Segel, 2010	• Describes Health Indicators in NORCs	• Proactive and effective management of chronic disease • Integration of levels of care is needed for effective management of multi factorial health risks	• Effective tool that targets community instead of reactive, discontinuous responses closes gap between needs and resources • Systematic tool that is data drive, community based and collaborative	• Health indicators provide proactive, systematic approach to manage of chronic diseases of diabetes, heart disease and increased risks of falls • Proactive and systematic is effective in resources (targets more at less cost, more focus with definitive outcomes) • Chronic health conditions need coordinated and integrated management and care	• Long term benefits for service delivery • Research outcomes for integrated service and health service	• NORCs programs can prevent/ delay health decline in timely fashion • Health Indictors is an integrative approach of self-care, medical care and community care. • Integrates housing, social and health services and self care, medical care and community care so people get them where they live and when they need them

Table B.2: Village Model

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Future	Significance
Gleckman,, 2010	• Report on different organization setup of villages	• Burning Hill Village, Beacon Hill, Community without wall and Partners in Care	• Seniors are helped to remain home through coordinated efforts	• Challenge of organization and need commitment to concept and to working together • Labor intensive to setup. Survey, promotion in churches, 1 to 1 recruit • Diverse combination. Volunteers connect members to outside for all services; volunteers and paid help; volunteers all time banking or service exchange	• Community without walls; Beacon Hill and Partners in Care •	• Diversity of models of staff and volunteer combinations and fees/no fees • Sustainability if run entirely on volunteers • Best model is mix model of professional staff and volunteers. with concierge service • Membership as insurance
McDonough & Davitt, 2011	• Expert opinion, Village model through community practice and empowerment theory	• Villages, empowerment and social work	• "Volunteer first" model using community practices • Volunteers as backbone of community	• Volunteers to increase initiative effectiveness, to build social capital • Services are limited/increased by skills, talents of volunteers/members and culture of community e.g. transportation, grocery • Volunteers connect to external "preferred" professionals, vetted and bargained • Strong infrastructure necessary	• Advocacy for improved surroundings AIP • Recruit members of same ideology	• Volunteers are leaders to initiate, to govern and to develop. • Volunteers also build social capital • Increase awareness of policy makers • Strengthening of community through members relationships and identity • Challenges of recruitment

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Future	Significance
McWhinney-Morse, 2009	• Descriptive article	• Beacon Hill Village as supportive community for whole person health	• Importance of committed, civic minded leaders/members • Alternatives to 'regimented', expensive and isolating	• Build grassroots membership • Build service concept with small but essential tasks • Build health care • Consolidator of services - centralize and personalized	• Structure membership Plus program to increase membership. • Expand concept replicable?	• Membership identity is powerful tool of ownership and participation and empowerment • Model is unrestrictive, affordable and protective of loneliness •
Poor, Baldwin & Willett, 2012	• Descriptive article on Village empowerment	• Overview of the Village movement	• The ability of the Village model to empower older adults to stay connected to home and community • The growing interest in the concept as solution to LTSS needs as affordable	• Social and practical support delivered conveniently eg. Health related referrals • MEDPAL programs and "early care management" to prevent crisis • Membership driven model for long term service and support • Consumer led, entrepreneurial model need to be balanced •	• Challenge to balance "flexibility " with strong business model; human and fiscal resources; integrating and leveraging local resources, develop diverse revenue streams. •	• Current findings of positive results from individual villages on services and programs. • Improvement in or stabilization of health, social functioning, activities of daily health, delay assisted living and decreased hospitalization • Greater awareness of community service, more social activities and more likelihood to staying home

Reference	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Future	Significance
Scharlach, Graham et Lehning (2011)	• To examine characteristics of “Village” model	• 30 fully operational Villages in 2 surveys on member characteristics, types and fee structure, the other on organizational mission, goals, fund	• Access to service • Impact on QOL and health as community is built	• Membership composition, goals and organizational structure • Financial sustainability is challenge due to heavy reliance on membership • Organizational sustainability is challenge due to lack of tech/ resources and collaboration with other social service agencies	• Villages provide support service to meet needs of middle class, white and healthy older adults • Member supports, service referrals and consumer engagement	• The approach uses process of peer support and service referral. Service referral engages members as consumers to review and leverage for discount. Individualized instead of group process • Engaged as consumers do not build connections for social capital • Without sense of community sole reliance on membership •

Table B.3: Cohousing

Citation	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Future	Significance
Beeber, 2008	• Importance of interdependence and partnerships for AIP	• Interdependence	• Supportive networks and services in community can delay institutionalization • Interdependence of reciprocal relationships and patterns of mutual • Interdependence in service recommends self –directed model	• Interdependent social network focus holistically and long term monitoring, strength based, stress autonomy • Interdependent as framework for care planning will focus on partnerships, preference, individual strengths and choice that lead to sense of autonomy and value.	• Interdependent framework recommended by AARP (2001) for self –directed model of service delivery as best means to maintain autonomy and choice • Interdependent relationships and network can complement existing model of care	• Interdependence centers on relationship, goals, values and reciprocity. Stress autonomy over independence •
Brenton, 2001	• Older people in cohousing communities	• Opportunities and challenges	• Cohousing as residential group to overcome alienation through interdependent living	• Opportunities through cooperation, companionship and mutual support in active lifestyle • Challenges lack of governmental support	• The importance of developing partnership between governmental support through policy and legislation	• The importance of powerful partners to overcome alienation through social inclusion
Durrett, 2009	• Senior Cohousing	• Concept of cohousing	• Design and planning according to architectural principles for social interaction	• Delineate implementation and organization processes	• Multi-generational co-housing	• Understand the different and similar aspects of housing

Citation	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Future	Significance
De La Grange,2008	• Validation of senior cohousiing	• Spiritual eldering	• Spiritual eldering is mutual care plus conscious awareness of aging and support • Process includes inner work, contemplation, • PE is factor for site accessibility for medical care	• SE and PE environment organized intentionally for spiritual formation and practical care • Later-life spirituality, lifelong learning and personal growth,	• Strategic plans for "old fashion neighborly caretaking" as older adults need additional services	• Importance of conscious spiritually for senior cohousing
Meltzer, 2005	• Sustainability of cohousing model	• Replicability of cohousing in other less advantaged countries	• Absence of hierarchy, optimal size, neighborhood design and separate incomes are related to community formation in cohousing • Optimal size is related to ethnicity and age of cohousing • Cohousing outcomes due to self selection and prerequisite qualities • Sustainability related to implement cost	• Participatory process and hierarchical/democratic in communal living plus optimal size plus neighborhood design leads to outcomes • 80% university degrees over 30% population, self select healthy, intelligent group • Cost due to complexity of development process and consultants	• Density and optimal size for communities as related to ethnicity and age • Large important for efficient service, economies of scale, division of labor and withdraw without jeopardizing longevity of group. Too large - people do not know one another even if participation, inefficiencies in service and getting plans agreed •	• Motivation for interdependent living overrides. Comes from high education and high income group • Cohousing is not easily replicable in low income communities without positive social attitude and motivation for interdependence • Living together in community can be complex and time consuming. Voluntary simplicity movement may not be true

Citation	Theoretical issue reviewed	Construct reviewed	Conceptual contribution	Relevance to paper	Future	Significance
Williams , 2005	• Sustainability of cohousing model	• Social cohesion, social inclusion and wellbeing	• Sustainability due strong social capital and well being within community • Not sustainable long term due to social exclusion - interdependent lifestyle that demands high level of involvement in non-hierarchical setting	• Strong cohesive community through formalized resident participation, non-hierarchical; decision making and design • Challenges of long term sustainability due to affordability and requirement of energy and time • Social contact design, resident involvement in design and operation are crucial for wellbeing and sustainability •	• Cohousing principles only works with scale of community and high level involvement decision making process difficult to generalize • Ways to include: affordability by lowering cost and development process; by integrating into wider community, target recruitment of underrepresented group	• Design and social structure can change social behavior and increase social interaction
Williams, 2008	• Predicting cohousing for future in America, using innovation diffusion framework	• Sustainability in N America.	• Challenges for adoption to “cross the chasm” • Relative advantage of satisfaction and convenience • Complexity in concept • Compatibility in cultural affinity • Visibility and lack of awareness	• Difficult to adopt due to complex concept and design; incompatibility to cultural independence; lack of awareness; relative advantage of satisfaction and convenience	• Retrofitting communities with cohousing principles will reduce complex and long development process, existing community with history of collaboration	• Future implementation for more inclusiveness of cohousing

Appendix C. Social Resources and Networks

Table C.1: Social Resources and Networks

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Ashida (2012)	• Explores construct of social connectedness and social support	• Qualitative; N=126; F/F interviews. Ages 65 to 85, mostly white, middle class and well educated	Social connectedness, social support, determinants and outcomes	Frequent contact was associated with support Network density and proximity is associated with perceived connectedness Connectedness is associated with health	• Perceived connectedness is distinctly more associated with health and well being than available social support and relatively more important • Importance of developing friends and companions in proximity that is protective of loneliness and satisfy needs of companionships • Network density or people who are in contact have impact on loneliness	• Limitations due to typical urban community and cannot be generalized to other culture • Further study with diverse background
Alvund & al (2003)	• Social relationship and onset of disability	• Qualitative study n= 4060; 80+ and 74-75 years in Denmark	Social participation and delay in functional disability	Embedment in social networks is protective of disability by reducing risk of developing disability	• Social relationships that involve participation, obligation and attachment can delay disability • Social participation is motivated by meaningful social roles	• Development of informal friends

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Barr & Russell (2006)	• Social capital as tool of analysis for aging adults and social environment	• Concept paper on policy and social capital	• Development of social networks for building communities and individuals in policy making	• Importance for social networks in later life • The negative implication of importance of productivity, contribution and marginalization • Social capital is not unified concept and varies with social milieu	• Networks critical for building communities and provide access for individuals to contribute and to benefit from capital – cooperation and mutual support. • Nature of bonding, bridging and linking networks and their interrelatedness. • Dark side of bonding and bridging in imbalance of power and beliefs • Linking SC are connections that access service	• Bonding and bridging social capital to increase access to service • The dilemma of stressing the usefulness of making connections for a concrete contribution •

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Baum & Zirsch (2003)	• Social capital	• Concept paper on health and social capital	• Types and level of social capital; civil society, community, social networks, participation, volunteering, trust, reciprocity and social exclusion/inclusion	• Definitions of social capital put different emphasis on structural and cognitive elements of social capital and its formation	• Social capital can impact health • Putnam suggests that social capital can be enhanced through structuring social relations. Hence, it is a social feature with mutual benefits of coordination and cooperation for the collective • Bourdieu argues social capital is individual resources from informal networks that are loosely institutionalized for members within community • Participation can be enhanced through social inclusion by structuring equity within organization	• The measurement of social capital at individual and collective level is not well defined • Need more sophisticate methods
Berkman & Kawachi, 2000	• Social epidemiology	• Concept paper	• Social cohesion	• Importance to identify collective characteristics for group outcomes	• Cohesive is integrated society with strong bonds and solidarity in absence of conflict • Marked by social capital with norms of reciprocity and trust	• Development of social cohesion by reducing conflict within community?

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Boneham & Sixsmith	• Voices of older women in disadvantaged community	• Qualitative. N=19 women from 55 to 82 in • Urban, deprived community	• Social capital conceptualized by aging and gender	• Participation level increases through informal sharing • Empowerment in "shared health" through gossips	• The Importance of structuring sharing and caring in marginalized, especially for disadvantaged • Embedded reciprocal relationships can contribute to health and social capital	• Facilitation of "health enhancing activities" in frail and old communities
Bowling & Farquhar 1991	• Concept paper	• Social network and structure to delay institutionalizati on	• Social support and network characteristics	• Support from size, frequency, geographic dispersion and density	• Geographic proximity highly impacts network. • Network structure and type of network determines support. • Homogeneous tight best for bonding and support • Density and network size is best for expected help	• Institutionalization is lack of networks and relationships

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Cannuscio et al	• Social capital, successful aging and senior housing	• Senior housing contribution to social capital	• Social environment • Physical environment of architecture and urban design	• Access to Social capital is associated to successful aging • Indicated by local groups and mutual assistance, extent of volunteerism, density of membership and social trust • Active street live where neighbors see each other and interact on daily basis can lower risks of death • Public and private spaces; flexibility of space; urban center proximity	• Social connections can enable independent living, value and productive life • Socially integrated connections are socially cohesive • Resources embedded in community relations for those living alone; lower risks of isolation, lack of stimulating interactions, financial insecurity and loss of mobility and transportation. • Social capital that comes from mutual reciprocity in neighborhood and community involvement are important for aging in place • Physical and urban features can prevent social and geographic isolation •	• Social connections and reciprocal social network in dense community is supportive of well being and meaningful life • Communities with lower level of social interaction in public places and high crime rates is associated with higher risks of death • Sustainability of housing depends on investments on social capital • Vertical integrated housing

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Chippendale & Bear-Lehman(2010)	• Theoretical paper on the adaptive approach for successful AIP	• Conceptual paper	• Social capital • Adaptive strategies	• Levels of social capital, of networks and resources in addition to accessibility of built environment leads to successful AIP • Adaptive approaches to enhance social capital can be more effective than remedial	• Adaptive compensates for lack of social and built environment is more effective with inevitable degeneration of older adults • More flexibility. Adaptation of built envir by enhancing social envir. Alternatively, adaptation of social can be enhanced by built environment modification	• Community level change dependent on economics and governmental policy in long range planning
Cramm et al; 2012	• To investigate the importance of neighborhood social cohesion and social capital for older adults	• Survey. Quantitative research of N=945 community living older adults in Rotterdam.	• Collective social capital • Neighborhood social capital	• Individual and collective social capital is significantly related to well being of older adults • Quality neighborhood services, individual and collective social capital are associated with well being	• Neighborhood social capital when people participate activities together, meet and talk regularly builds up resources in network, • Neighborhood security, social capital can mediate income/MS for well being • Neighborhood service, social capital can buffer against adverse effects of being poor and single on well being	• Effects of neighborhood services/facilities (transportation and public facilities) on social capital • Effects of security /safety on social capital

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Gray, A (2009)	• To understand social capital of older people with respect to contextual factors	• Qualitative. Longitudinal survey BHPS as data source in 2 waves of 1991 and 2003. Total of 1924 individuals	• Social capital and inequality • Social capital and opportunities for participation	• Class inequality of social capital • Social capital provides support for older people • More support for those in frequent contact than formal participation	• Professionals have more and better social support; more integrated because they have resource to participate • Childless and single less because of no opportunities • Social capital from frequent interactions in dense network important for loneliness and support • Importance of reciprocity and caring	• Develop caring in sharing for weaker older adults
Li et al., (2005)	• Conceptualize and measure social capital in neighborhood attachment, social network and civic participation	• Qualitative. Use British Household Panel Survey. N=5000 households and 10,000 individuals in UK	• Social trust and social capital	• Neighborhood social capital benefits those of disadvantaged group • Neighborhood attachment generates more trust than formal civic participation • Informal network of weak ties are more important for daily functioning	• People from homogeneous community of frequent exchange and sense of belonging generates more trust than belonging to associations or tenants group • Trust is more inherent in neighborhood community as a collective resource to draw on for support in crisis and for tangible and reciprocal support	• More research on informal networks of weak and strong ties

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Litwin, 2001	• Social network type and morale	• Data analysis of survey in Israel. National sample of 60+	• Social network, frequency of contacts and community memberships	• Proximity of ties; frequency of contact with friends/neighbors levels of social integration in community groups related to well-being	• Diverse network with frequent contact with friends and neighbors and moderate involvement with community groups have highest morale • Disability is most predictive of morale followed by relationships • Locally integrated networks with diverse networks has highest morale even with consideration of disability	• Well being and association with obligated and elective social ties

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Minkler & Wallerstein (1997)	• Community organizing and community building for health	• Academic paper	• Collaboration and community capacity. Empowerment and socialization process	• A framework of community building that is strength based	• CB is a collaborative process whereby members increase community capacities build on strengths they have. Increase individual/collective capacity of awareness, ability to mobilize and strategize through empowerment and socialization. Elements of participation in leaderships, skills and resource enhancement, increase in awareness and sense of community. • Also include history, identity values and accessibility to other resources	• Evidence of empowerment process when there is increased awareness/information ; increased resources or capability; increase sense of control or mastery over environment; increase sense of community; increase resource that reduce inequalities

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Putnam (2000)	• Social capital	• Book chapters	• Social capital – costs and benefits	• Social connections embedded in dense network of social reciprocal relations. • Consequence of trust, mutual cooperation and institutional effectiveness • Measure by social participation, volunteering, memberships (structural) and trust and reciprocity (cognitive)	• Social capital is highly determined by community it is embedded in – the culture of the people, their characteristics; the social structure of the community, its physical layout (determines right density). SES- gender, age, ethnicity, income, education, class and ideology • Bonding social capital – homogeneous group, good for deeper relationship, weaker member of community and good for mobilizing local energies • Bridging – heterogeneous group, outward looking, good for meeting needs	• Social capital for older adults • Frequent interaction among diverse group tend to generate norms of reciprocity • Dense social network reinforce trust as social mechanisms reinforce positive reputation and norms. • People may also be bond to social goals and not to people

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Register & Scharer, 2010	• Connectedness in community dwelling older adults	• Qualitative. Grounded procedures to exam processes on 11 community dwelling older adults	• Perceived connectedness and quality of life, meaningful life	• Perceived connectedness related to have something to do; having relationships, having stake in future and sense of continuity • Meaningful life protects against feelings of alienation and satisfy attachment	• Perceived connectedness is motivation to engage in meaningful activities and relationships. • Meaningful/purposeful activities from obligation, expectation, enjoyable, interesting tasks. Interpersonal reciprocal relationships for company and socialization. • Process goal oriented and patterns/routine for sense of continuity	• Processes related to stakes in future or goals can contribute to connectedness • Spirituality and processes for connectedness
Thomas et al., 1985	• Social bonds in elderly society	• Qualitative research on 256 healthy older adults 60+	• Interpersonal relationships, social bonds and health	• Social bonds are highly related to health and income. • For healthy adults, relationship support can buffer against stress	• Satisfying interpersonal relationships are reciprocal and supportive of feelings of valued and worth, help in stressful situations, sense of security and exchange of ideas and experience • Interpersonal relationships include social integration and attachment	• The association between health and social support • Lose of social bonds as marker of health

Reference	Theoretic issue	Measurement	Construct	Findings	Relevance	Future
Wenger, C	• Network typology	• Longitudinal, qualitative study of rural communities in North Wales. N= 534; aged 65+	• To categories types of network of broad range of social relationships to predict use of service and types of informal support	• Proximity of kin, density or involvement of members and level of interaction	• Locally integrated support network of friends and neighbors based on long-term residence and active community involvement. Protective and predicts less loneliness, participation in voluntary associations. Professional as last resort, rely community nurses and on residential care. Support more heavily disabled people but need for support for caregiver. High morale, local identity • Wider community of active involvement. More likely middle class with distant kin.	• Active participation gives rise to social capital. With friends as neighbors, service needs is lower for residential care but need for specialized needs • Frequent contact, younger and lived in community for length of time • Locally integrated embedded as part of larger social network is most able to adapt

Appendix D. Aging in Place

Table D.1: Aging in Place

Reference	Measurement	Sample Size	Findings	Relevance	Limitations/Future	Significance
Sixsmith & Sixsmith, 2008	• Conceptual paper	•	• Policy cannot assume benefits of aging in place or well-being • Challenges of unsuitable and dangerous SE and PE	• Challenges of aging in place with unawareness, navigation, negotiation, neighborhood infrastructure • Low quality and stigmatizing services • low expectation of older adults	• AIP to be cost effective involves more than re	• The importance of safe community for aging in place and to increase participation and protection of vulnerable older adults
Tang & Lee, 2010	• Empirical quantitative research on HCBS services and AIP/relocation	• N=4501; in 13 communities; independently living	• Moderately disabled older adults can benefit from regular assistance (personal assistance, housekeeping, helpline) in HCBS to remain in place • Older adults can make decisions about relocation with experience of HCBS	• Experience of HCBS can make older adults more aware and willing to make decisions about future placements through personal and group activities • Confidence in service that are regular and hands on delivered personally	• What are factors in housing modification as an empowering process for older adults as they take charge? • Use of secondary data without clear/concise operational measures	• AIP decisions are made on objective functional needs and subjective feelings of housing confidence • Lack of awareness, willingness and knowledge are major barriers of service utilization • Support services can delay institutionalization

Reference	Measurement	Sample Size	Findings	Relevance	Limitations/Future	Significance
Wagnild; 2008	• To describe residential preferences and barriers	• Qualitative. N= 776; age 55 +	• Barriers to aging in place lack of funds, poor health and inadequate formal and informal service and support. • Benefits are feelings of independence/control; security/safety; familiarity	• Barriers are inability to maintain property; finance, need for safety and security and inadequate support • Those with poorer health would prefer to stay in place for familiarity, comfort and security. •	• Lower barriers by live-in care; home maintenance, family and community assistance and more active lifestyle • Most important barriers is illness of health • Lack of planning for aging in place or lack of information	• Affordable yard and home maintenance service can enable AIP • Health promotion and disease and disability prevention service and illness care • Information on future planning; home mod and financial planning • In home care such as visiting nurse, personal care and chore services
Wiles et al; 2011	• Meaning of "Aging in Place", the concept of homes, communities and neighborhoods. Ideal place	• Qualitative research in focus groups and interviews in 2 New Zealand communities. N= 121; Age 56 to92	• Importance of choice for older adults about where and how they age • Feelings of attachment associated with • Sense of security and familiarity	• Feelings of connections with community is important for sense of identity • Older adults feel more connected and safe because know neighbor and neighborhood	• Feelings of security are associated with perceived connectedness and familiarity with neighborhood • Knowing where to access resources and that people are watching out • Sense of identity comes from ability to remain independent with choices because of caring relationships	• Aging in place operates in multiple pathways to effect independence, autonomy and connections to social support and companionships • Importance of subjective feelings

Table D.2: Aging in Place (Non-empirical)

Reference	Theoretic issue	Conceptual focus	Findings	Relevance	Future	Significance
Beeber, 2008	• Interdependence for older adults to remain in community	• Independence and dependence continuum	• AIP is more than maintaining independence with focus on alleviating dependence through support services and care intervention • Importance of nurse to facilitate interdependence among family members and social service	• Compensation of loss of function is only one aspect and has to be considered in context of social network. • Community residence should not concentrate on lack of capabilities	• Level of dependence in context of social support should be used to determine services	• Independence – level of ability to daily activities cannot be used as guideline of supportive services or care intervention • Interdependence is the interconnectedness and interactive nature • Partnership in service support that is self directed for care leads to sense of autonomy and choice
Mancer, 2010	• Housing for future with senior population	• Research and insight into social trend and possibilities in different housings	• Compatibility between needs assessments and housings and health care	• The opportunities and challenges of assisted living, self-contained supportive housings, long term care and campus of care	• Housing options that can unpack housing component and service delivery • Hospitality services need divide level of needs	• Cohousing, active adult communities, age-restricted condos are main options for younger seniors • For older seniors are supportive housing, assisted living and long term care

Thomas & Blanchard (2009)	• Descriptive article. Aging in community as better solution over institutionalization and attachment to place	• Fear of dependence or loss of independence • Lack of meaningful life	• Third way between institutionalization and vision of home • Need to refocus on relationships rather than fixed location; interdependence rather than dependence • Intentional cohousing and villages	• Fear of losing dependence and institutionalization can be mitigated by living interdependently • Dual role of home dweller and integral member of community. Integrate work and private lives	• Aging beyond frame of biomedical model of dependence and independence • Ways to replicate models of community for sustainability • Hope we have by shifting to relationships in community	• Reframe the conception of growing old with hope amidst realities of scarcity of resources and aging with diminished capacities • Redefine core elements of experience of aging through intentional communities; overcome negative preconceptions about age/aging