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Aging in the Right Place: Participatory and Community Mapping for Collaborative Working and Knowledge Co-Creation

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Abstract

Tenets of aging in the right place emphasize the importance of creating accessible and inclusive environments that enable older people to maintain their health and well-being through developing a sense of belonging, autonomy, independence, safety and security. Creating functional and 'meaningful' environments for aging extends beyond altering physical surroundings and requires consideration of the psychosocial and cultural aspects of places and spaces. This chapter examines the role of place in the lives of older people through the use of participatory and community mapping as an innovative visual and participatory technique for including the voices of older people in the research process. There is a need for research methods to permit older adult's expression of their sense of aging-in-place and for researchers to understand what aging in the right place means to older people. This chapter draws on three 'place-making with older people' projects in Canada and the UK to demonstrate application of this method in practice to (i) better understand older people's sense-of-place needs and (ii) articulate place within the context of their immediate environments and the wider community. Data from three community-based participatory research (CBPR) projects highlight how

inclusive methods such as community mapping can foster inclusive spaces where older adults have the opportunity to collaborate with a range of community stakeholders in a co-created planning process that uncovers nuanced and deeper meanings of older adults' sense of place.

Key Words:
Participatory and community mapping, community engagement, collaboration, equity and inclusivity, healthy aging

1. Introduction

This chapter draws on three 'place-making with older people' projects undertaken in Canada and the UK to demonstrate the use of participatory methods in practice for: i) enhancing understandings of older people's sense-of-place and (ii) articulating these understandings within the context of their immediate environments and the wider community. Guided by principles of community-based participatory research (CBPR), we present how the participatory and community mapping method facilitates inclusive engagement across a wide range of stakeholders, in a process of collaborative planning and co-creation (Jagosh et al., 2015). Importantly, the application of CBPR principles (equity, inclusivity, empowerment, partnership, and co-creation) fostered inclusive and collaborative working when generating ideas about and solutions towards creating age-friendly environments (Fang, 2020). Shaped by CBPR, participatory and community mapping methods were selected to help formulate and progress opportunities for older people to voice their thoughts and feelings about how to age well in the right place – revealing in what ways physical, psychosocial, cultural and emotional place supports can help older people to live longer with better quality lives at home and in the community.

The purpose of this chapter is, therefore, to examine the role of place in the lives of older people through the use of participatory and community mapping as an innovative visual and participatory technique for including the voices of older people in the research process. Three research projects are presented as case studies to demonstrate the use of participatory principles and mapping methods for optimising multi-stakeholder engagement and ensuring the inclusion of diverse voices, *particularly those which are seldom heard*. A common aim across the case studies is an emphasis on addressing global challenges aligned with UN Sustainable Development Goals 3 (to "ensure healthy lives, promote wellbeing for all at all ages") and 11 (making "cities and human settlements inclusive, safe, resilient and sustainable"), through the

use of inclusive and participatory methods to understanding health and age-friendly environment research which generates real world impact (United Nations, 2019).

1.1 'Aging-in-place' or aging in 'the right' place? How is it a global challenge?

Aging-in-place is a well-known concept in urban studies and environmental gerontology (Costa-Font, Elvira, & Mascarilla-Miró, 2009; Wahl & Oswald, 2010). It refers to the "ability to live in one's own home and community safely, independently, and comfortably regardless of age, income, or ability level" (Centers for Disease Control and Prevention, 2013, p. webpage). The concept originates from the interaction between older people and their living environment and reflects the challenges, barriers, and accumulation of changes over the life-course (Vasunilashorn, Steinman, Liebig, & Pynoos, 2011). More recently, aging-in-place "has been discussed as a phenomenon, goal or process" focused on both "place as a dwelling" incorporating broader aspects of home and belonging including "relationships in the community" (Ahn, 2017, p.1). Traditionally, aging-in-place has been assumed to be a positive experience for older people. However, research has indicated that when the built environment, for example a house or apartment, and community surroundings, such as services and supports can no longer adequately accommodate a person's everyday needs, the experience of aging-in-place can become negative (A. Sixsmith & Sixsmith, 2008). At the individual level, for example, *home* can become a vulnerable and isolating place, especially if older people are not able to benefit from living in a safe and secure home and in a residential community with access to health and social services and amenities (Angus, Kontos, Dyck, McKeever, & Poland, 2005; Hillcoat-Nalletamby & Ogg, 2014). At the household level, individual experiences are also influenced by decisions made at the structural level. This can occur when redevelopment policies, initiatives and housing renewal programs fail to meet the needs of older adults, such as through a lack of awareness of age-specific place-based needs, funding and resources, and political pressures for cost saving, which fail to create accessible environments (Wong, 2013).

To build more effective age-friendly environments, therefore, requires a shift in thinking from aging-in-place towards aging in the right place (Golant, 2015). Aging in the right place progresses existing aging-in-place conceptualizations (Golant, 2015). First, it contests the idea that remaining in the same place is the best option for older adults. Second, it encourages understandings of what the right place is, to determine which environments are more welcoming, vibrant and promote a sense of belonging for diverse older people.

Creating age-friendly environments that cater to the individual, specifically older adults, is a matter of urgency as there are approximately 962 million persons over the age of 60 years worldwide (United Nations, 2017). The dramatic increase of older populations globally has raised questions on how to best design and develop environments for older people including adequate housing and community supports to ensure good quality of life until the end of life (Ahn, 2017). Failure to do so could result in detrimental individual, community and societal outcomes. For example, the World Health Organization (2016) have raised concerns about growing health and social care costs that includes direct (e.g., medical supplies) and indirect costs (e.g., work loss) for individuals and carers, as well as societal costs due to increased hospitalization, service demands, early admission to long-term care and reliance on social security. The pressures for ensuring appropriate care for older people can result in deterioration of the mental and physical health and well-being of individuals such as family members, friends, carers, service providers due to decreased morale when they are unable or are struggling to provide adequate care for themselves and their loved ones (Murfield, Moyle, Jones, & O'Donovan, 2020).

When considering possible outcomes of not altering the status quo, it becomes clear that providing supportive age-friendly environments that include appropriate housing and community resources is crucial. However, responding well to the diverse needs of older people is complicated. Older people are a heterogeneous group, so there is no one size fits all solution. Older peoples' everyday life experiences are shaped by interrelated social factors such as age, gender, race/ethnicity, ability, culture, and socioeconomic position (J. Sixsmith et al., 2019). As such, creating innovative ways to develop age-friendly environments for a range of older people living across different global and cultural contexts has been identified as a 'wicked' problem (Fang, Woolrych, et al., 2018), referring to a societal quandary that is deeply complicated with no perfect resolution, and that has neither conclusive nor objective answers (Rittel & Webber, 1973).

1.2 Why a participatory approach?

Sense-of-place, indicating the human connection to place, is the bond that people form with their environments as they establish feelings of belonging and place identity, e.g., the good neighbour; attachment to the community; and a social support network connected to a place (Scannell & Gifford, 2010). One aspect of the "wicked" problem introduced in this chapter is that, often, sense-of-place perspectives are not well articulated in urban re-development and

regeneration opportunities; suggesting that the social, cultural, relational and community aspects of place that influence good quality of life and shape the everyday lives of older adults, are frequently overlooked in the urban planning and real estate development process (Hillcoat-Nalletamby & Ogg, 2014). This is perhaps due to a lack of knowledge and resources. Both are arguably linked to insufficient multi-stakeholder involvement across local service providers, local government officials, planners and developers and people living in the community to provide the necessary knowledge for identifying promising solutions, and acquiring community assets for reducing resource gaps (Polk, 2015). According to Raymond, Kyttä, and Stedman (2017, p. 4), "it is the shared performance of individuals (e.g., by inventing, constructing, and deconstructing structures) that turn lived space into a special place." Their assertion suggests that including people of different backgrounds, experiences and expertise (such as older people, health and social care providers, housing providers and business owners) in the research process can generate a breadth of valuable insight and practical solutions for creating healthy, age-friendly environments. When multiple perspectives are not consulted, there are lost opportunities for ascertaining holistic understanding of people-environment relations, factors, and resources that can bring meaning to place, and producing supportive environments. The end result can be extremely important for older people who indeed are more vulnerable to environmental change; and are living with vulnerabilities such as decreased functionality, poor health, living alone and/or financial challenges (United Nations, 2017; World Health Organization, 2011). For some older people, urban development initiatives that have overlooked age-related vulnerabilities has meant that older people are forced to prematurely relocate into long-term care facilities (Bekhet, Zauszniewski, & Nakhla, 2009); live alone with limited social support and social interaction (Aspinal, Glasby, Rostgaard, Tuntland, & Westendorp, 2016); or become homeless when they are no longer able to afford to live in their homes (Maglione, Kristoffer, & Iglewicz, 2018).

The research cases studies presented in this chapter each attempted to tackle different problems associated with modern-day urban development initiatives by using community-participatory principles and participatory and community mapping methods to ensure community voices inform the planning and development process. The first case study focuses on a 3-year CBPR project to evaluate the redevelopment process and co-creation of livable age-friendly home and community environments for low-income older adults transitioning into high rise condominiums in Richmond, British Columbia (BC), Canada. Participatory community mapping workshops (PCMWs) were used. Workshop activities involved using a map of the

neighbourhood surrounding the redevelopment site to 1) reveal experiences of local community members, 2) identify facilitators and barriers to accessing the built environment, 3) set up group walk-alongs in the community to access experiences of place, and 4) co-create place-based solutions. The second case study was also undertaken in Western Canada with the aim of enhancing functional understandings of the system of support services necessary for 'Housing First' implementation across Metro Vancouver, BC to better support the housing, health and well-being of people experiencing homelessness. In this case, 13 community service mapping workshops were hosted by the research team in different municipalities and brought together service providers and persons with experiences of homelessness to describe and understand resource difficulties and gaps. Last, case study 3 used community mapping to understand how sense-of-place is experienced by older people living in transformational urban environments in the UK. Community mapping workshops were undertaken in three neighborhoods in three cities to identify opportunities, challenges, facilitators and barriers to social participation, healthy living and being active and engaged for older people. The workshops used a visual map representation of their community and discussions revolved around community values, understanding and interactions with place to cultivate solutions which enable aging in the right place.

2. The Participatory and Community Mapping Method

Participatory and community mapping is a method that stems from Participatory Rural Appraisal, an approach developed in the 1980s to develop deeper understandings of the everyday experiences of people who lived a rural life (Chambers, 1994). This approach comprised methods, denoted by Chambers (1994, p. 1), which "enable local people to share, enhance and analyse their knowledge of life and conditions to plan and act." The mapping method is also known for its alignment with CBPR or *activist participatory research* that derives from earlier works of Freire (Freire, 1990). (Freire, 1990) research on the pedagogy of the oppressed (1990) maintained that community members have the knowledge and expertise to self-actualize and determine their own reality. This intellectual movement has been widely influential despite remaining a minority view among industry professionals (e.g., architects, planners, health professionals, technology developers). It has also resulted in a constellation of approaches and methods that strive to not only collect data, but also to enhance "people's awareness and confidence, and to empower their action" (Chambers, 1994). Hence, a key strength of the mapping method is the accessibility and inter-activeness of the process itself through community-engaged practice. Participatory and community mapping is also informed

by Indigenous traditions and practices and can consist of a range of activities such as: drawing; diagramming; recovery of place-history; valuing and applying folk culture; collective working; family meetings; socio-dramas; and the production and diffusion of new knowledges transmitted through written, oral and visual forms including systematic 'go-along' walks and observation (Cornwall, Guijt, & Welboum, 1993). Application of participatory and community mapping is articulated below in three research case studies to demonstrate its use in different geographic and cultural contexts.

2.1 Case Study 1: The Kiwanis Towers Redevelopment Project

Context:

This research study was undertaken in Richmond, BC, Canada, a municipality of Metro Vancouver. Amidst increasing housing insecurity, the experience of being forced to leave a familiar home and community, alongside the pressures of having to create a new home and reintegrate into a new community, can hinder the ability for older adults to age well in place (Greenfield, Oberlink, Scharlach, Neal, & Stafford, 2015). The issue of precarious housing and forced relocation is more prominent in municipalities with growing numbers of older people. Richmond, a municipality of Metro Vancouver, for example, has a growing older adult population consisting of approximately 40–50% middle-aged and older adults, i.e., over the age of 45 years of age (Metro Vancouver Board of Directors, 2019). Currently, the municipality of Richmond provides various housing options, such as social housing for low-income persons, assisted living, and long-term care, to accommodate older adults who are no longer able to live at home or in their community due to age-related health issues or lack of affordable accommodations (Fang, Canham, Sixsmith, Woolrych, & Sixsmith, 2018). However, these government subsidized homes are limited and the buildings are generally older and in poor condition requiring repair, retrofitting or redevelopment (Fang, Canham, et al., 2018). Costs to repair, retrofit and/or redevelop older buildings have also risen alongside elevated housing prices (Fang, Canham, et al., 2018). Shaped by these contextual issues, this research case study examined an affordable housing redevelopment initiative that sought to address issues of affordability whilst ensuring sense-of-place when redeveloping housing for low-income older people. The research aim was to evaluate the redevelopment process and co-create liveable age-friendly home and community environments with and for older people who have limited financial means, as they moved from cottage style apartments into high rise condominiums, known as the Kiwanis Towers.

Mapping Method:

In 2015, a series of four participatory community mapping workshops (PCMWs) attended by more than 40 participants were implemented six months after the first cohort of older adults had moved from cottage style apartments into high rise condominiums (Fang et al., 2016). The PCMWs consisted of mapping exercises and walk along interviews conducted with residents; housing and health service providers; community organizations; representatives of the municipal government; and other stakeholders. The PCMWs created a platform for older adults to share their ideas, and recommendations for the redevelopment. Their purpose was to identify older adults' needs for community services and supports as well as map the condominium's amenity space. PCMWs facilitated awareness raising (amongst older people, service users and developers) of community issues, local decision-making and empowered older community members to be active place-makers in the redevelopment process. Community engagement activities during PCMWs involved presentation of the ideas surrounding aging-in-place within high rise condominiums, presentation of resident stories (drawn from previous interviews and photovoice sessions) and experiential group walks around the community to map leisure, service and amenity spaces. Large scale, aerial maps and plans were used to focus attention on the local community and Kiwanis Towers. The maps displayed Kiwanis Towers and the surrounding neighborhood which visually highlighted different local spaces and places where participants interactively and collectively identified important services and resources. Participants annotated the maps with perceived service gaps and desires for future services and other resources and amenities that would support them to age well in place. The workshops concluded with discussions of aging-in-place at home and in the community and opportunities for creating resources and supports for aging well.

Image 1: PCMW activity with older people annotating large scale, aerial maps.

Outcomes:

Through the use of participatory and community mapping and the implementation of PCMWs, older adults were able to establish their role as active place-makers, empowering them to be more than just tenants living in a building (Fang et al., 2016) as their data was used to influence design of activities in the Towers (J. Sixsmith et al., 2017). Findings from PCMWs included the identification of needs of older adults alongside potential solutions to overcome cross-cultural challenges, which were actioned as priority items by local service providers and the municipal government. Guided by CBPR principles, the PCMW process prioritized the view that knowledge is dynamic, multifaceted and often embedded in social processes. Discussions during PCMWs brought to the forefront the everyday realities of older adults inside and outside Kiwanis Towers and their need for appropriate spaces and places that enable their functionality and well-being, including how bright rooms can cause dizziness and disorientation resulting in falls and injury; dark rooms and communal spaces can be trip hazards and difficult to negotiate, especially for people with visual impairments; living on the 16th floor can mean being unable to get down 16 flights of stairs during a fire or a fire drill; the limited comprehension of emergency information provided only in English; being frightened to cross a busy road to get to the shopping center because there is no traffic light; and being unaware of the extent of memory loss due to a lack of social supports. These examples were reported by older people

to have shaped the organization, development and planning of the building itself and their immediate neighborhood, including the installation of a traffic light directly in front of Kiwanis Towers. Overall, PCMWs created a unique opportunity and space for the co-creation of shared solutions together with local services providers and staff members in the municipal government — individuals who would typically make the decisions for older adults, not with them.

2.2 Case Study 2: Service Mapping in Metro Vancouver for 'Housing First'

Context:

At the height of the housing market surge in 2016 (Metro Vancouver Board of Directors, 2019), housing insecurity also became prevalent, most severely impacting those in positions of vulnerability (e.g., single mothers, low-income older people, youths living with substance use disorders). The Metro Vancouver Data Book reported that in 2016, over 15,000 households were at great risk of becoming homeless with the primary group being individuals 65 years of age and over (Metro Vancouver Board of Directors, 2019). During this time, the social housing waiting list for seniors' housing rose by over 100%. As one approach to addressing homelessness in Metro Vancouver, Housing First was implemented as "a systems approach" that coordinated immediate access to housing and supports for individuals experiencing chronic or episodic homelessness through a collective, multi-system and cross-sectoral process (Canham et al., 2018). Having sufficient access to individualized case management and support resources is considered essential for successful Housing First delivery (Canham, Fang, Battersby, & Wada, 2019; Canham, Wister, & O'Dea, 2019); yet there was no formal documentation to describe and understand inequalities in access to resources between and within communities in Metro Vancouver. Hence, research was undertaken to enhance functional understandings of the support service system necessary for Housing First implementation across Metro Vancouver. Doing so enabled service providers to identify their needs and resource gaps, which is integral to being able to advocate for necessary support and resources.

Mapping Method:

Participants included local stakeholders who had a vested interest in the Housing First throughout Metro Vancouver (e.g., organizations who were currently implementing or considering implementing Housing First and clients or potential clients). Service providers represented government agencies, housing associations, community centers, charitable organizations, and health authorities. In 2016, ten service mapping workshops involving 215 participants across 10 Metro Vancouver municipalities were held (Canham et al., 2018).

Service mapping workshops with more than 150 participants were conducted in Langley (n=19), Richmond (n=11), the North Shore (n=10), New Westminster (n=13), the Tri-Cities (n=31), Surrey (n=14), Maple Ridge (n=14), Vancouver (n=17), Burnaby (n=14), and the Downtown Eastside (Vancouver) (n=20). Another three workshops focused on population-specific Housing First needs of women (n=19), youth (n=16), and older people (n=17). The workshops led to rich discussions of Housing First services and supports available in different regions or for different populations, with a focus on how the system functions and what gaps and weaknesses exist. At the workshops, participants directed the mapping process; and by placing sticky notes on pre-printed maps, participants generated visual representations of where housing support services and resources were located in their community and identified service gaps. Researchers facilitated discussion about how the mapped services functioned in different regions (e.g., accessibility, gaps, communication and so on). Example questions included: What difficulties are there in using these services and supports? What helps you access services and supports in the community? Where are there gaps in service provision? Where do you get these resources that are not available in your area? To enable depth of understanding, researchers documented key observations from each workshop in field notes and post-event reflective summaries.

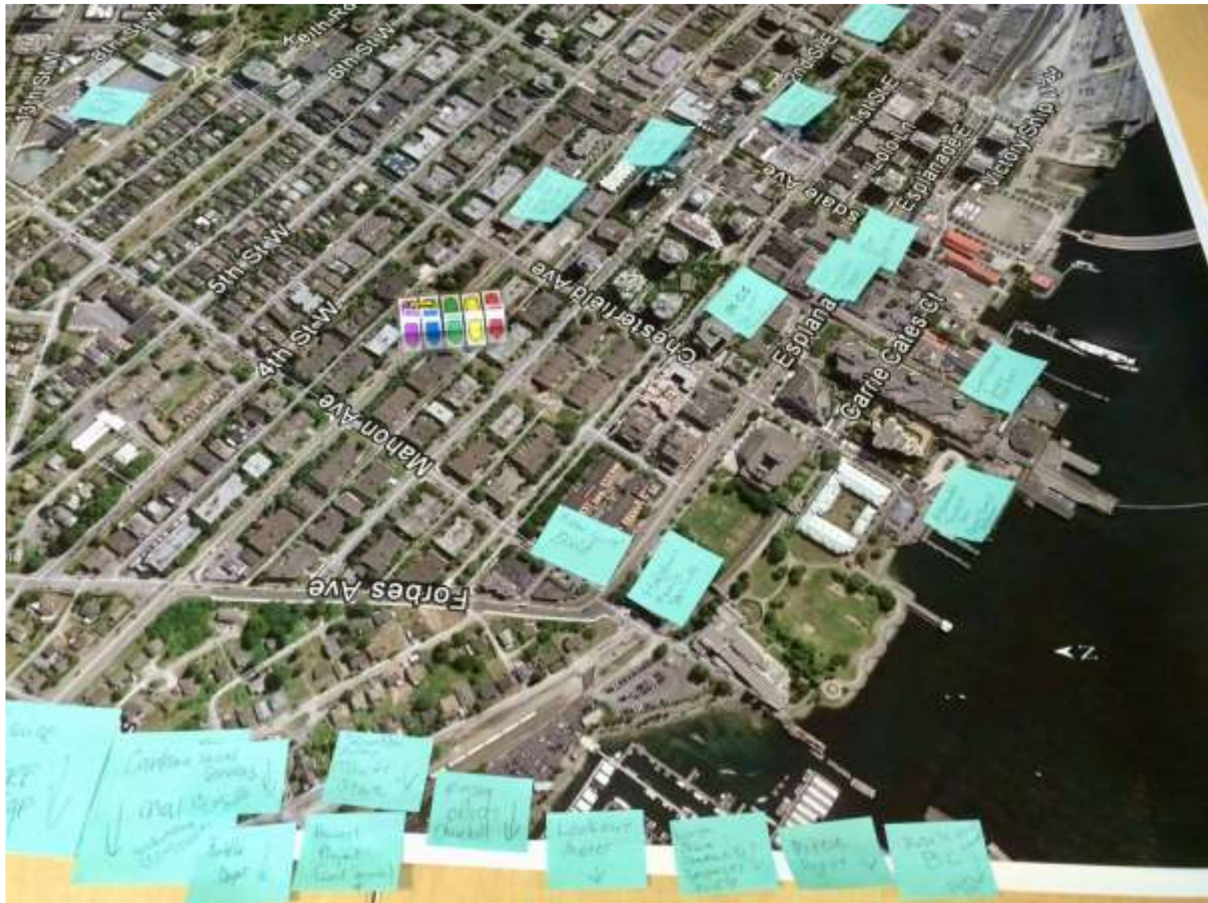

Image 2: A map output from a community service mapping workshop.

Outcomes:

Through the mapping process, four key barriers to obtaining and maintaining Housing First supports were identified: access challenges; individual-level challenges; organizational challenges; and socio-political challenges (Canham et al., 2018). Access challenges reported across Metro Vancouver included long waitlists; unaccommodating service hours; transportation difficulties and having to travel to other communities; lack of access to telephones or computers; and limited knowledge and misinformation about services and system navigation. Multiple individual-level challenges were reported, highlighting the uniqueness of those who were vulnerably housed or who required services to support their housing. For instance, many clients reported having mental health, domestic violence, or drug addiction issues. Individual-level challenges included hesitance to seek assistance; lack of readiness to participate in programs; difficulty completing forms; language and cultural barriers; and antisocial behaviors. Organizational challenges shaped access challenges in that clients were required to demonstrate severity of crisis or need; required to be attached to mental health teams; and limited on their shelter stays. Additional organizational barriers included: limited

program capacity; high service provider workload and turnover; lack of service provider willingness to work with certain clients; and service providers working in silos. Lastly, the socio-political climate of communities were reported to present difficulties in the delivery of Housing First services and supports. While some local governments were supportive of affordable housing initiatives, there was not consistent support across Metro Vancouver. Additional socio-political challenges reported by participants included limited funding for services and supports; denial of homelessness severity; community pushback and not-in-my-back-yard ideologies; and stigma toward persons experiencing homelessness.

2.3 Case Study 3: Developing Age-Friendly Cities and Communities in UK Cities

Context:

Global population aging and urbanization have raised challenges in terms of how we can best design communities to support an aging population. Urban areas offer potential advantages in supporting older adults to age-in-place including proximity to amenities, access to social and cultural supports and opportunities for civic participation. However, as the (World Health Organization, 2019) has highlighted, a well-functioning urban environment is about more than the availability of health, social and cultural resources, but also about ensuring navigation of the urban landscape and presenting an age-friendly environment for social participation and active, healthy aging. As well, integrating sense-of-place into the built environment is essential for supporting active aging, ensuring that older adults can continue to make a positive contribution in their communities and potentially reduce health and social care costs (Woolrych et al., 2019). However, we know little about how experiences of aging differ across different urban, social and cultural contexts. Models of age-friendly cities and communities have benefitted from case study research to inform how urban environments can be designed across the developing and developed world. In addressing this research gap, Place-Making with Older Adults: Towards Age-Friendly Cities and Communities (www. PlaceAge.org) was an Economic and Social Research and Newton funded project (Woolrych et al., 2019) conducted in the UK, Brazil and India, that addressed three specific research questions: (1) How is sense-of-place experienced by older adults from diverse urban neighborhoods? (2) What services, amenities and features are needed to create age-friendly communities that promote healthy cities and active aging in different urban, social and cultural contexts?, and (3) How can communities be designed to better integrate the sense-of-place needs of older adults across different urban and cultural contexts? The aim of the research was to develop place-making tools and resources which are essential for designing age-friendly environments for older adults

(PlaceAge Project Team, 2020). PlaceAge adopted a case study approach including interviews, photovoice and go-along interviews with older people and the research team used participatory and community mapping to explore older adults' experiences of aging across diverse urban, social and cultural contexts (PlaceAge Project Team, 2020). The case study presented here draws on data collected in three UK neighborhoods (low, medium and high income) in Edinburgh, Glasgow and Manchester.

Mapping Method:

To develop understandings of how older people value, understand and interact with place and to identify the important features and aspects of the environment that embody place, participatory and community mapping sessions were undertaken with older people, service providers and policy and practice professionals working *with and for* older adults in each community (Woolrych et al., 2019). The mapping sessions (held in 2017) consisted of three key questions that guided the participatory and community mapping discussions: (1) What are the places and spaces in the community that are valuable to you? (e.g., services, amenities, community venues, parks and green spaces) (2) What are the key barriers and facilitators to an age-friendly community? (e.g., access, availability, positioning and so on), and (3) What is necessary to achieve an age-friendly community with respect to providing opportunities for active aging? (e.g., considering future interventions/changes to outdoor spaces, services and amenities and places and spaces). During the mapping sessions, participants gathered in small groups of 5-6 participants and engaged in 3 rounds of discussion (25-30 minutes) guided by the questions and moderated by a group facilitator. On each table, there was an A0 size aerial map of the community along with flip-chart paper, post-it notes, stickers and pens and markers for the participants to make notes and doodles while engaging in formulating answers for each question. After each round was completed, group facilitators presented key points covered in their discussions which were then recorded on flipchart sheets. This also acted as an opportunity for older people to hear and discuss issues which had arisen at other tables, providing further data for the project.

Image 3: A group dialogue as part of the mapping activity to review key points of discussion.

Outcomes:

The participatory and community mapping sessions helped to identify existing services; barriers and facilitators to access as well as opportunities for active, healthy aging; highlighting place affordances; positioning of amenities; and facilitators to mobility and walkability (PlaceAge Project Team, 2020; Woolrych et al., 2019). Key themes identified by older people living in Glasgow, Edinburgh and Manchester were the need for: (1) communities to be better connected and offer opportunities for older adults to feel useful, socially engaged and able to contribute to society; (2) environments which are intergenerational and inclusive of people of all ages; (3) enhanced supports to help older people to live at home surrounded by support networks and services to sustain a high quality of life; (4) opportunities that enable meaningful social participation amongst older people; (5) quality green spaces that have a positive impact on people's health and well-being; (6) ways to help older people feel that they belong and are part of the community; (7) urban outdoor spaces that link to services, facilities and amenities; (8) quality, walkable outdoor spaces that contribute to older people's health and well-being; (9) access to information about what is going on in the community; and (10) a community that is engaged with a shared goal of fostering healthy active aging. These findings were used to

inform policy and practice professionals in a subsequent series of practice and policy workshops.

3. Making Sense of Our Studies

As part of the CBPR philosophy of working, collaborative methods, such as participatory and community mapping are used to facilitate partnership working through systematic inquiry, *especially with those affected by the issue being studied*, to co-create solutions that address social and/or health-related challenges via action-oriented change (Green et al., 1995). A key strength of working according to CBPR principles is the "integration of researchers' theoretical and methodological expertise with non-academic participants' real-world knowledge and experiences into a mutually reinforcing partnership" (Cargo & Mercer, 2008, p. 327).

The operationalization of CBPR through the use of participatory and community mapping in the three research case studies meant that older people became active change- and place-makers in their community (Fang et al., 2016). Participatory and community mapping (also known as community-based mapping), is an approach that facilitated the creation of "tangible displays of people, places and experiences that make up a community" (Corbett, 2009; Fang et al., 2016, p. 223), particularly on the basis of local residents' expert knowledge and perspectives of their living environment. In recent years, there has been a stark increase in the number of studies that apply community-based mapping techniques to gather and analyze local experiential knowledge and promote civic engagement in decision-making processes. The notable strengths of participatory and community mapping techniques has meant that this method is being utilized across diverse disciplines including natural resource management, land use and claims (Bao, 2005; Cronkleton, Albornoz, arnes, Evans, & de Jong, 2010; Fox, 2002); youth health and well-being (Blanchet-Cohen, Ragan, & Amsden, 2003; Literat, 2013); perceptions of crime and safety (Liebermann & Coulson, 2004; Matei & Ball-Rokeach, 2005); drug trafficking (Chambers, 2006), and health care (Smith et al., 2017).

In all three case studies, the participatory and community mapping process provided a valuable visual representation of how a community values, understands, represents and interacts with place and identified important features (e.g. services, amenities, open spaces) within the environment that make a community a positive place to age (Corbett, 2009). Key strengths of participatory and community mapping include the breadth of inclusive and accessible activities which allowed for feelings, senses and more intangible aspects of age-friendly places to be captured; and provided an interactive approach to knowledge production,

moving from description to depiction and representing features on a map through talking and drawing.

As a part of the mapping exercise, the large aerial maps displaying the immediate environment enabled participants to interactively and collectively identify locally available services and resources. Participants were able to actively engage in the research process through annotating the maps with perceived service gaps and services needed to age well in place. Such annotations were effective in helping people with little or no expertise in research, planning or design participate in visualising, mapping and discussing challenges, unmet needs and forging promising solutions. Because these activities were hosted in the local community, participatory and community mapping activities were often led by both older people as well as community service providers, which grounded the community and planning solutions in local knowledge produced by and with all local stakeholders. As a result, the elitism that often surrounds the traditional academic data collection process was minimized.

Of note, despite the effectiveness of maps to enhance inclusivity and balance power differentials through Indigenous problem-solving techniques and practices (Cornwall et al., 1993), more recent Eurocentric development and use of maps have been critiqued as being re-enforcers of disproportionate power dynamics (Wood, 2010). To address the view that the maps may be less accessible to some than others, in each of the case studies, the research facilitators provided a detailed explanation of the project and process such as the purpose of the mapping exercise; what the map represented; and how it can be used advantageously to communicate the gaps in current community spaces in the participant's native tongue (e.g., English, Mandarin, Cantonese, French). Even though research facilitators were present, their role was to facilitate discussion and not lead them. The research facilitators encouraged participants to situate their own knowledge and experiences relative to the map by prompting the recovery of important place histories such as past experiences of hardship due to service gaps; housing challenges; social isolation; and opportunities for health and well-being.

In all three case studies, the recovery of past and present place challenges during the mapping exercise created some disagreement among stakeholders. Internal community conflicts surfaced as stakeholders debated over *whom* the services were created for and *who* the service providers prioritised. For example, in case studies 1 and 2, it is important to note that Metro Vancouver is a place where people have experienced historical trauma and during the post-colonization era, Metro Vancouver's population was of 90–95% White European descent. Since the late 1970s, the city gradually experienced an increased fluctuation in foreign migrant groups. Naturally, the city evolved as signage, food, amenities, building design and

structure as well as various services, such as social, health, grocery, and hospitality, grew both more culturally tailored and responsive to the needs of the dominant cultural group, which were of Chinese origin. For some older adult participants who were native to western practices, beliefs and values, the notion of having increasingly more bilingual, culturally tailored services was perceived as threatening to their own cultural needs.

Akin to all three case studies, even though the maps and the mapping process served its purpose of generating input, discussion and debate across a diversity of groups, at times, emotions that arose signaled how the power dynamic was neither neutral nor unproblematic. This was highlighted by the fact that participants felt empowered by the process and the discussions and actions that ensued while others felt disempowered. Such a difference in experiences from a process designed to facilitate inclusivity and collaboration may have been influenced by social positioning at the individual level, which shaped understandings of whose voices are most important, what is available, what might be possible in their own community and whether this was fair or unfair or just or unjust. Essentially, the maps became a token of power (Harley, 1989). Those who felt more control over the maps and the discussions that emerged also felt they had benefitted more from the map-making process because they were able to have the most influence over the resultant outcomes.

For some participants, the practical map-making aspect was perceived *as not useful* because the top-down aerial view of the maps did not necessarily coincide with how older people perceived the community at street level. However, one useful technique used in case studies 1 and 3 was the community walk along, which helped older people became involved through physical activity whilst enabling them to visualize the community at street level according to their own experiences and actions, and thus created further opportunities for discussion. The community walk along added a further visual dimension to the participatory and community mapping exercise. Known as a *go along* interview, researchers accompanied individual informants on a participant-led tour of their immediate environments such as local neighborhoods (Carpiano, 2009). The community walk along method has been demonstrated, in the literature, to be crucial for enabling seldom heard voices (Gaventa, 1982). For example, through the process of this participant-led technique, Appalachian communities gained confidence in their own unique knowledge and abilities, and were empowered to take control of their lives through community mobilization, participation and political action (Gaventa, 1982). The idea of standing together is also reminiscent of several social movements inspired by Lefebvre's urge for urban transformation through the collective power of local citizens to enact their *rights to the city* (Lefebvre, 1966). Hence, in addition to identifying significant

features on a map (ie. the necessary supports and services required for older adults to age well in a new community); groups of older people were empowered to lead service providers and members of the local government on a tour of their neighborhood, and their new homes.

The empowerment of older people to lead the community walk along was a positive disruption of the traditional power dynamics between the researcher and the participant. Aligned with principles from CBPR, this was a key strength of the community walk along method. Another, more practical benefit of the walk along method was that it created an opportunity for physical, social engagement activity, as sitting at a table restricted people from physically reaching parts of the map they were concerned about. Nevertheless, the community walk along method is not without limitations. High-level stakeholders, such as government workers and service providers, as well as those individuals who were more familiar with the neighboring area, found the walk along to be futile as they expressed not having gained new insights from the process. Furthermore, older people with some mobility challenges did not wish to participate. This created an added ethical challenge as these older adults remained in the space where the workshops were held, which meant that their voices were not as well represented in the case study. Finally, due to the sheer size of groups, it can be difficult to explore the more in-depth individual sensory aspects of place and memories. Future research might consider how to provide more inclusive approaches and methods such as drive-alongs, e-scooters, support for wheelchair users or virtual local tours.

4. Conclusion and Future Directions

In this chapter, we have discussed how the use of participatory approaches that constitute participatory and mapping methods can provide opportunities for knowledge input from people who live and work in the community (such as older people) who are typically excluded from the research, planning and development process. Often, traditional methods which use less accessible data collection mechanisms (e.g., online surveys requiring technology devices with little or no support) can limit our understanding of community as well as constrain our findings to older people who are comfortable with technology. Informed by CBPR principles, the participatory and community mapping method was felt to be empowering for participants in providing a platform for people to find their voice whilst at the same time allowing for a more contextually aware understanding of aging in place to emerge. Building on community strengths created a shared awareness and understanding of community assets, and ultimately provided local communities with an active voice for decision-making and collective action towards a common goal.

A key advantage of using non-traditional data collection techniques (as presented in the case studies) was through being able to challenge the existing status quo concerning knowledge generation mechanisms; which often valorise certain types of knowledge and knowledge production processes over others. This was strongly enforced by an ethos embedded at the outset of all three CBPR projects, which questions where evidence and knowledge reside; fore-fronting the importance of experiential knowledge amongst older people. The research processes demonstrated in this chapter prioritised the view that knowledge is dynamic, multifaceted and embedded in social processes. Hence, to expose the social nuances of how ageing well in place is perceived and how it can be facilitated within home and community, collaborative research opportunities were created.

Involving older adults in the development and maintenance of their immediate surroundings (demonstrated in Cases 1 and 3), as well as members of the service landscape (as in Case 2) to acquire understandings of local resources, was crucial for developing urban environments that facilitate health and well-being for all. However, achieving this objective required a shift from developing urban places *for* people to building meaningful environments *with* and *by* those who live and work in the community (J. Sixsmith et al., 2017). Yet, historical planning approaches have often used a top-down approach with planning professionals, architects and designers perceived as the experts and decision-makers. CBPR allowed researchers of the three projects to challenge the synoptic view of planning and development (Lane, 2005), which assumes a rational, one-size fits all approach to interventions.

Undoubtedly, there exists inadequacies in traditional research and planning methods for acquiring the necessary and nuanced insight into the lives of older people relocating home in old age. Hence, participatory and community mapping can be a forward-thinking methodological direction for enabling opportunities towards alternative planning engagement techniques. In particular, the value of creating participatory forums in which members of the community, planners, developers and architects can come together to discuss ageing well in place opportunities, demonstrates the value experiential knowledge in building future age-friendly environments. Through the application of participatory and community mapping, the voices of seldom heard participants (such as older adults) were included in the planning process. Nevertheless, more remains to be done in order to improve the inclusion of older people who are frail or housebound, perhaps supported by forms of e-participation through

virtual platforms. The delivery of participatory and community mapping methods, virtually, need further development to be a viable and fruitful mechanism of inclusion.

Enabling the ‘space’ and platform to facilitate cross-sectoral, interdisciplinary and lay dialogue enhanced understandings of older adults’ sense-of-place. Data acquired through mapping activities and ‘walk alongs’ provided multiple vantage points and facilitated the co-creation of place knowledge and solutions that included the commencement of a social programming led by older adults in the new build (Case Study 1); renewed opportunities for social engagement between individuals from different socio-cultural backgrounds (Case Study 2); and lasting partnerships across international stakeholder groups who have a vested interest in the health and wellbeing of older adults (Case Study 3). Calls for joint-interdisciplinary international research collaborations is one future avenue that can be explored to maintain and build on these partnerships. This is important for maintaining capacity building and ensuring continued impact and sustainability long-term.

By and large, participatory and community mapping was demonstrated to be an effective approach for collective working across a diversity stakeholders: housing providers, developers, civil servants, service providers, researchers and most importantly, older adults. The CBPR approach allowed for a more communicative approach to understanding priorities and co-creating solutions which respects the positions of all involved. Multiple partnerships were formed that contributed to the co-creation of solutions and ideas with mutual goals of improving community health and social outcomes and knowledge production and exchange. Collaborative and inclusive features of a CBPR approach enabled strategic planning to occur among stakeholder groups with varying expertise, agendas and interests. Methodologically, participatory and community mapping guided the process for listening to various perspectives and integrating a range of expertise within the development of solutions to support ageing in the right place. Yet, there is still room for growth and improvement in using participatory and community mapping for research in practice.

In conclusion, participatory and equitable modes of facilitating knowledge production and enabling voice has raised much concern and controversy regarding democratic implications, practical value and scientific quality in urban planning and design initiatives and research. However, neglecting tacit, experiential knowledge as evidence is not only a disservice to

science (i.e., through the omission of evidence), but it can also result in partial or inappropriate solutions (i.e., interventions that are not fit for purpose) to complex problems.

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