Neighbourhood Design for Healthy Ageing

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Abstract
Ageing is critical to housing systems as it affects the level of demand for housing. As the population ages, the suitability of housing influences the demand for social services, support and care in community. An ageing population will exert significant pressure on neighbourhood design and housing. Unfortunately the existing built environment in Australia – predominantly low-density developments with high automobile dependency – is not sympathetic to the needs of the aged population. It is widely acknowledged that the ageing of society is a challenge for social policy. However, there is little literature on planning policy supporting healthy ageing.

The aim of this paper is to identify the relationship between neighbourhoods and healthy ageing. Neighbourhood consist of both housing and spaces in which we live and work. The paper presents the results from a household survey and focus groups conducted in South Australia on the perception of the aged population on age-friendly neighbourhood design and housing options. It is found that due to low-density development and lack of public transport and inappropriate location of facilities and design of public spaces, neighbourhood does not adequately support healthy ageing. The study concluded that there is a need to create a safe pedestrian environment, easy access to public transport, shopping centres and public facilities, recreational facilities and nearby health centres. These elements can substantially improve the neighbourhood and can positively affect the ageing.

Keywords: ageing, healthy ageing, neighbourhood design, built environment, cities.
Introduction

It is well recognised that the population throughout the world is ageing. By 2021, an estimated 18% of the population will be aged 65 years and over, and close to four in every 10 households will be occupied by at least one older person, the majority living alone or in a couple. These demographic changes are producing economic, social, and personal challenges for society, for families and individuals, and the issues for governments are numerous.

According to United Nations projections almost one third of the population (32.5%) will be aged 65 and above in 2050 (United Nations 2009). These estimates indicate the demand for housing the ageing population, and the supply will not be sufficient (Demirkan 2007). Housing is not restricted to the house in which households live but includes surrounding environment, community facilities and services at neighbourhood level such as location and proximity to support services, availability and adequacy of open and green spaces, proximity to informal supports including family and friends, accessibility and usability of transportation, and security concerns (Golant 1984; Gomez-Jacinto and Hombrados-Mendieta 2002; Kaplan 1985; Levy-Leboyer and Ratiu 1993; Kart and Kinney 2001; Michael et al. 2006).

Many studies from various parts of the world suggest that an overwhelming number of the elderly population prefer to live independently and age in situ or age in place (Beer and Faulkner 2009; Olsberg and Winters 2005; Mihailidis et al. 2004; Mihailidis and Fernie 2002; Olsberg and Winters 2005). Literature on housing reflects that even in developed countries there is a growing lack of agreement between the occupants’ requirements and housing standards. A major cause of this disagreement is the neglect of individual differences and housing tastes by designers and planners (Handy and Clifton 2001). Existing studies on housing standards are mostly restricted to evaluation of housing satisfaction ignoring the neighbourhood satisfaction, although they are closely interrelated. Some researchers argue that there is very little empirical study on social issues and neighbourhoods based on the perspectives of older people (Freedman et al. 2008).

The aim of this paper is to identify the relations between neighbourhood and healthy ageing. Triangulation approach is used to address the aim of the research. Household
surveys and focus group meetings of ageing populations were conducted in South Australia to obtain the perception of the aged population on age-friendly neighbourhood and housing options. The first part of the paper presents an overview of healthy ageing and neighbourhood and the second part presents the opinion of aged people on neighbourhood and finally the paper elaborates on the type of neighbourhoods appropriate for healthy ageing.

**Healthy ageing and neighbourhood**

Ageing populations and health in later life have raised concern to identify the cause (Annear et al. 2009). Many illnesses experienced in later part of life are preventable as they are often associated with the onset of a more sedentary lifestyle. Marmot (2004) argues that population health outcomes are shaped by cumulative exposures of socio-spatial issues over the life path. A study of eight suburban neighbourhoods in Vancouver Census Metropolitan Area by Collins et al. (2009) supports Marmot’s statement and demonstrated a strong relationship between the social conditions of daily living and health status (Collins et al. 2009, Bernard et al. 2007, Freedman et al. 2008). A number of research studies on ageing indicate the strong relationship between poor health and deprived suburbs and neighbourhood (Dunn and Hayes 2000, Stafford and Marmot 2003, Wilson et al. 2004, Pampalon et al. 2007).

Active ageing is an important factor to improve long-term health (Saelens et al. 2003). ‘Active aging’ is the desire and ability of older people to integrate physical activity into daily routines, such as walking, exercise, or pleasure. The World Health Organization (p. 2) defines healthy ageing as:

> Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Health is a resource for everyday life not the object of living. It is a positive concept emphasizing social and personal resources as well as physical capabilities.

Older people have a very strong relationship between their home and neighbourhood and it helps them in their well-being. This relates to ageing in place which is the dominant preference of older people in Australia and New Zealand (Wiles et al. 2009). ‘Ageing in Place’ allows older people to live in their home or in their suburb and is considered the most effective and preferred option for old age people (Hollander 2001). Wiles states
Place is a dynamic process invested with integrated physical, social, emotional, and symbolic aspects which interact at a range of scales (Wiles et al. 2009: 1). Neighbourhood has three dimensions, built environment as well as social and economic conditions (Freedman et al. 2008). The built environment has various scales and it varies from unit, block, neighbourhood and cities. The indoor and outdoor environment affects the ability of an older person to stay active, to participate and to contribute to society. If the built environment is not age friendly then aged people will be mainly confined to their homes and therefore more prone to isolation, depression, reduced fitness and increased mobility problems.

**Opinions of aged people on neighbourhood and preferred dwelling unit**

A survey of 85 households randomly selected from across South Australia and seven focus group meetings of older people were conducted to obtain the views of various age cohorts and socio-economic aged groups across South Australia. Mainly their opinion on the following issues of neighbourhood and dwelling unit were asked in both household survey and focus groups:

1. Local shopping and services provide older adults with places to walk, to meet others, and to stay active without a car,
2. Concerns about traffic and inadequate pedestrian infrastructure limit walking and other activities in neighbourhoods by making older adults feel unsafe,
3. A neighbourhood’s overall sense of attractiveness, including gardens, buildings, and streets, encourages walking for exercise and pleasure,
4. Adequate public transportation is essential to remaining active in the larger community and independent in one’s neighbourhood, and
5. Preferred dwelling unit.
6.

**Household result: Overview on neighbourhood**

Many respondents were very happy with the neighbourhood in which they currently live. The lowest ranking suburbs were Ottoway (1), Whyalla (1), Parkholm (3) and Mount Barker (4). The ratings of the neighbourhoods in which respondents live were generally consistent with their level of happiness with their neighbourhoods.
The top 3 most important features and top 3 least important features were identified to see whether these preferences were the same in Adelaide Statistical Division (SD) and in regional areas. Firstly the highest and lowest ranking features for each respondent were identified (often the same rating out of 10 was given to more than one feature). Then the number of highest and lowest rankings for each feature was calculated.

Overall the most important feature was ‘live in an area where I feel safe’, with 58 out of 85 respondents (68.2%) giving this feature an importance ranking of 10 (extremely important). The second most important feature was ‘live near health facilities’, with 43 out of 85 respondents (50.6%) giving this feature an importance ranking of 10 (extremely important). The third most important feature was ‘live near family’ and ‘live near shops’, with 35 out of 85 respondents (41.2%) giving this feature an importance ranking of 10 (extremely important). This pattern is repeated in both Adelaide Statistical Division (SD) and regional areas, with the third most important feature being ‘live near family’ for Adelaide SD and ‘live near shops’ for regional areas.

Overall the least important feature was ‘live in a smaller dwelling’, with 16 out of 85 respondents (18.8%) ranking it the least important feature. The second least important feature was ‘have a garden of my own’, with 9 out of 85 respondents (10.6%) ranking it the least important feature. The third least important feature was ‘live near family’, with 8 out of 85 respondents (9.4%) ranking it the least important feature. The least important features for Adelaide SD follow the overall trend and regional area respondents rank ‘living in a smaller dwelling’ as the least important feature. However, regional areas depart from the pattern in the second least important features.

The most important features for Adelaide SD are consistent with the overall most important features. The most important feature was ‘live in an area where I feel safe’, with 36 out of 52 respondents (69.2%) giving this feature an importance ranking of 10 (extremely important). The second most important feature was ‘live near health facilities’, with 26 out of 52 respondents (50%) giving this feature an importance ranking of 10 (extremely important). The third most important feature was ‘live near family’, with 24 out of 52 respondents (46.2%) giving this feature an importance ranking of 10 (extremely important). ‘Live near shops’ was the fourth most important feature, 23 out of 52 respondents (44.2%) giving this feature and importance ranking of 10 (extremely important).
The least important features for Adelaide SD are consistent with the overall least important features, with the addition of ‘living near friends’ being a third least important feature, equal to ‘living near family’. The least important feature was ‘live in a smaller dwelling’, with 9 out of 52 respondents (17.3%) ranking it the least important feature. The second least important feature was ‘have a garden of my own’, with 7 out of 52 respondents (13.5%) ranking it the least important feature. The third least important features were ‘live near family’ and ‘live near friends’ with 4 out of 52 respondents (7.8%) ranking these features least important.

The most important features for regional areas are consistent with the overall most important features. The most important feature was ‘live in an area where I feel safe’, with 22 out of 33 respondents (66.7%) giving this feature an importance ranking of 10 (extremely important). The second most important feature was ‘live near health facilities’, with 17 out of 33 respondents (51.5%) giving this feature an importance ranking of 10 (extremely important). The third most important feature was ‘live near shops’, with 12 out of 33 respondents (36.4%) giving this feature and importance ranking of 10 (extremely important).

The least important feature for regional areas is consistent with the overall least important feature, with 7 out of 33 respondents (21.2%) ranking ‘living in a smaller dwelling’ the least important feature. The second least important features for regional areas are ‘living near family’, and ‘living in a low maintenance dwelling’ with 4 out of 33 respondents (12.1%) ranking these features least important. ‘Living near family’ is less important for respondents in regional areas (for which it was ranked the second least important) than in Adelaide SD (for which it was ranked the third least important). ‘Living near friends’ is more important for respondents in regional areas, with 1 out of 33 (3%) ranking it least important, compared to 4 out of 52 (7.7%) in Adelaide SD. ‘Living in a low maintenance dwelling’ is much less important for respondents in regional areas than in Adelaide SD, with 12.1% ranking it least important in regional areas, compared to 3.9% in Adelaide SD. ‘Having a garden of [their] own’ was more important for respondents in regional areas than in Adelaide SD, with 2 out of 33 respondents (6.1%) ranking it least important in regional areas, compared to 7 out of 52 respondents (13.5%) in Adelaide SD.

Household result: Overview on dwelling unit
The first part of the section gives an overview of existing dwelling unit occupied by aged people and the second part presents their preference.

More than three quarters of respondents lived in fully-detached houses. The second most common housing type was semi-detached, single storey (8.2% of all households). The third most common housing type was independent living units (5.9% of all households). More than double the number of respondents in regional areas lived in independent living units in regional areas compared to Adelaide SD.

The most popular preference was still a fully-detached house (52.9% of all households). 7.6% more of respondents in regional areas preferred to live in fully-detached houses compared to Adelaide SD respondents. However, only 52.9% of all households preferred to live in a fully-detached house, compared to 76.5% currently living in them. The second preference for dwelling units was for independent living units, with 18.8% of respondents preferring them. This represents the greatest increase in preference compared to 5.9% of respondents currently living in them. Semi-detached, single-storey houses were the third preference overall, with 7.1% of all respondents preferring them, compared to 8.2% currently living in them. In regional areas, semi-detached, single-storey houses are preferred by less than half the respondents currently living in them. The third preferences of regional respondents were retirement units/supported hostels and retirement hostels/nursing homes (both with 6.1%). At present, no regional respondents lived in such dwellings. Retirement units/supported hostels also represent an increase in desirability amongst Adelaide SD respondents, with 5.9% preferring to live in them compared to 1.2% currently living in them. In Adelaide SD retirement units/supported hostels were as popular as flats/apartments, with 5.8% of respondents preferring to live in them and only 1.9% currently living in them.

**Focus groups result**

Many dominant themes emerged from the focus groups. Ageing in place was clearly the preferred options. Participants stated a preference for housing which is well serviced. They unfolded what they mean by ‘well serviced’ by saying that accessibility to public transport or community transport is one of the pre-requisite requirements because as they will age they will be not able to drive. Almost all the people had an agreement that they do not want to be isolated from the community. They also express the desire to be well
linked with the services they require. They are also concerned about the built environment which does not support them to go for a walk or go shopping or to services they need. Their reasons were, because the footpath is not even, there is no street furniture or shed where they could relax if they are tired. Streets not well lighted make them crime prone. They also mentioned there are no recreational activities near their home which will attract them to walk and meet people and be active and healthy without a car.

Older people especially feel that they should be able to walk a lot to different kinds of services and places. Many respondents from various social and economic groups said that services within walking distance provided a way to get exercise while taking care of daily activities. They mentioned that services are not within 15 to 20 minutes walkable distance and heavy traffic roads and inadequate pedestrian infrastructure is a concern. Due to lack of these facilities they feel unsafe and find it unpleasant to walk. A few participants noted sidewalks serve as a buffer against traffic, especially when the sidewalks are wide. They also stated that a planting strip, or buffer zone, between the sidewalk and the street provide distance from traffic and increased walking. Participants disagreed about the usefulness of traffic calming devices such as speed bumps, traffic circles, and cross walks for encouraging walking by slowing traffic and enhancing pedestrian safety. Another concern was traffic signals with pedestrian controls essential to feeling safe at street crossings. However, the older adults felt that signals in their neighbourhoods did not provide enough time to safely cross the street. They also felt neighbourhood design does not encourage them in walking because it is not safe or friendly, footpaths are not supportive to aged people and there is a lack of community facilities or attractive open spaces to attract them to walking. Public transportation was the issue for participants. They emphasized the importance of public transportation in connecting them to important activities and people. Public transportation was described as important to older adults generally and essential for people with limited mobility. Participants mentioned that public transportation is not just an alternative to driving, but can help seniors to meet and connect with other people.

Discussion

From the analysis it is very clear that the built environment has a direct impact on the quality of life of older people and their caregivers. There is a need to integrate housing, transport mobility, planning and housing to provide a safe and age friendly environment. The built environment should enable full participation of people in their society to
enhance the overall quality of life. Older people’s leisure and other activities are a resource that helps to maintain health and engagement with life. The whole social and built environment where an older person lives must be able to offer opportunities to participate. Housing for older people needs to be considered as a verb rather than a noun. Housing is not only the shelter but it consists of activities.

Our findings suggest that older adults believe neighbourhood design promotes activity in later years. There were a few participants who moved to their present neighbourhood because they wanted to be in an area that was handy to all sorts of activities, shops that are convenient including post office, restaurants, and wonderful places to walk in the neighbourhood. For older adults, maximizing the attractiveness or safety of a walking path is more important than minimizing the distance to destinations. Safety emerged as the biggest concern that limits walking for everyday activities as well as exercise. Primary safety concerns were busy and trafficked streets and unsafe street crossings. From the limited research to date, it is very clear that some built environments encourage walking, biking, and social interaction more than others do and this could prevent traffic injuries. However, there is still much to learn about the effects of the built environment on health and wellbeing. To address the multitude of questions, city managers need to work closely with public health professionals, experts in other fields such as architects, planners, policymakers, social scientists, traffic engineers, developers, law enforcement officers, economists, social marketers, and others. Neighbourhoods need to be designed to promote the physical and mental health of all people. The design of a home, its suitability for adaptation and its location can significantly affect a person’s ability to enjoy their home and carry out the tasks of self-care, home maintenance or enhancement, and satisfying hobbies. As the tendency toward reduced mobility and agility increases with advancing age, so too the need to take into account the extent to which factors to do with housing, rather than ageing, could contribute to a better lifestyle. To live successfully in the community by ageing in place, there must be the right balance between a person’s abilities and the demands of the environment, regardless of age.

Conclusions
Existing built environments in Australia in the form of predominantly low-density developments with high car dependency are not sympathetic to the needs of aged people. The paper concludes that due to low-density development and lack of public transport
and inappropriate location of aged facilities and design of public spaces, the built environment does not adequately support healthy ageing. Therefore, there is the need to create safe pedestrian environments, easy access to public transport, shopping centres, recreation and public facilities. New urbanism principles could be employed to address these requirements. New urbanism believes in walkability, mixed use, good public realm, etc. These elements could substantially improve the built environment and will lead to healthy ageing for older people by including them in society. There is no one perfect neighbourhood solution for all aged people. However, given what we know about the likely impact of neighbourhood on the health of aged people, improving the structure and interior of houses and the facilities of neighbourhoods for older people is an important planning and social policy measure.

References


