

## SINGAPORE | INCLUSIVE COMMUNITIES

# Creating Dementia- Inclusive Neighbourhoods through Partnerships with the Community

The Dementia-Inclusive Neighbourhoods Study focuses on the role of partnerships between agencies, designers, planners and local stakeholders, with a longer-term view to inform policy making.



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## Rising Incidence of Dementia Globally, and in Singapore

Singapore's population is ageing rapidly and the city will be home to over 900,000 seniors by 2030. Alongside this growth in the seniors population is a rising incidence of dementia—while dementia is not a natural part of ageing, its prevalence is more common in older adults. Currently, about 1 in 10 persons aged 60 and above has dementia, and this proportion is expected to increase over time. By 2030, the number of people living with dementia in Singapore is set to double from current numbers.

People in the early stages of dementia may experience mild memory loss, or challenges with cognition, perception and speech. When the illness progresses to the middle or later stages, they may experience personality changes and an increasingly reduced ability to perform higher-order tasks, such as navigation. This has an impact on the quality of life for persons living with dementia, as well as those caring for them.

## The Current Gap in Hardware Provision for Dementia-Inclusivity

Today, dementia day care and caregiver support are available to support persons with dementia. The Agency for Integrated Care (AIC), which coordinates and supports efforts in integrating care for seniors and caregivers, is actively strengthening community-level support. They partner community care service providers to implement community and intervention teams to increase dementia and mental health awareness, and provide support for those identified with needs. AIC has also set up Dementia-Friendly Communities, Go-To Points in neighbourhoods, and launched the Dementia-Friendly Singapore Movement, which rallies society to build a caring and dementia-friendly Singapore.

While the “software” and programming for dementia-friendly communities is in place, more can be done to enhance the “hardware” of the built environment, to enable persons with mild to moderate dementia to continue to live in their homes and neighbourhoods.

Currently, dementia-friendly design guidelines in Singapore are for indoor, institutionalised settings such as nursing homes. Guidelines relating to dementia-friendly neighbourhoods exist overseas, but these are for lower-density neighbourhoods. For a high-density city like Singapore, therefore, we need to develop new guidelines which can be applied to the way we plan and design our neighbourhoods, for dementia-inclusivity.

## It Takes a Whole Community to Create Dementia-Inclusive Neighbourhoods

However, creating a dementia-inclusive neighbourhood cannot just be the task of planners and designers alone.

Input is also needed from those who live, play and work in the neighbourhoods, as they have an intimate understanding of the gaps and needs in their neighbourhood, based on lived experiences and observations.

This includes persons living with dementia and caregivers, their neighbours, businesses, and service providers in the community. As dementia-inclusive design is meant to support inclusivity for all, we must also hear and learn from other segments in the community, such as young families with children, and those with special needs.

The importance of partnering with the local community is particularly important in the Singapore context of a city that is already highly built-up. Dementia-inclusive “hardware” cannot always be applied tabula rasa. For existing neighbourhoods and towns, planners and designers will need to balance the need for change with the need to maintain existing areas or features that are positively familiar to residents. This requires sensitivity and an understanding of residents’ relationships and perceptions of their neighbourhoods today.

## A Partnership-Driven Approach

With these challenges as the backdrop, AIC and CLC, in its role as a futures centre for the infrastructure and environment sector, are co-leading Singapore’s first evidence-based study on Dementia-Inclusive Neighbourhoods.

Working with the Singapore University of Technology and Design (SUTD)’s Social Urban Laboratory, the study seeks to distil design and policy recommendations contextualised to Singapore’s high-rise and high-density urban environment, to enable those living with dementia to age in more inclusive communities with a higher quality of life.

Partnerships with multiple stakeholders are a cornerstone throughout this initiative (Figure 1).

In fact, this principle informed the selection of the study site—a housing estate in Yio Chu Kang, located in the Central North region of the city. This area was selected as it has an existing catchment of senior residents, and more importantly, the support of local grassroots leaders and service providers who are already contributing to dementia-inclusive community initiatives.

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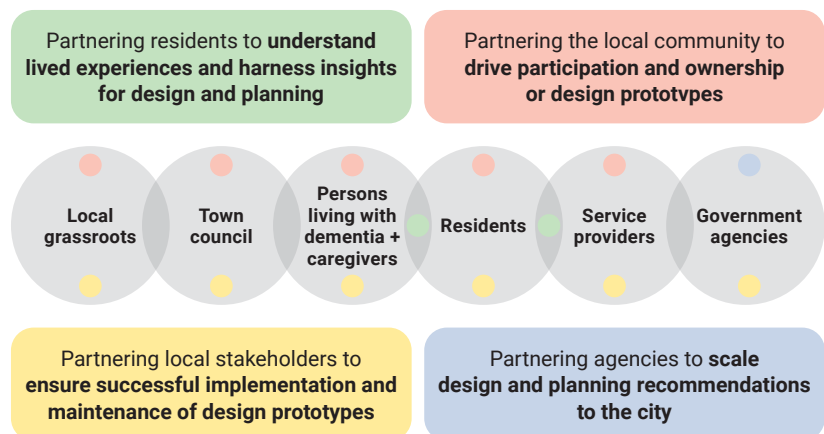


Figure 1: The partnership model for the AIC-CLC-SUTD Dementia-Inclusive Neighbourhoods Study. Image: Elly Chiu and Lim Ren Ai

## Understanding First-Person Perspectives and Lived Experiences of Persons Living with Dementia and Their Caregivers

The research study started with engaging persons living with dementia and their caregivers, by observing their behaviours and interactions in their natural environment, to understand their needs and experiences. This phase was supported by service providers such as senior care centres and clinics located in Yio Chu Kang, who proactively reached out to persons with dementia and their caregivers to participate in the interviews.

To understand their preferred daily routines, persons with dementia were given a set of pictures with different features in the neighbourhood and were asked to select pictures that would

constitute their “best day in the neighbourhood”. This method was designed to accommodate their preference to express their responses in non-verbal or visual ways. This was complemented by an in-depth interview with their caregivers, to further understand their lifestyles, habits and aspirations.

The researchers then accompanied the person with dementia and their caregiver on a walk around the neighbourhood. This allowed the researchers to capture their responses to the environment, understand what was easy or less easy, and observe their wayfinding methods.

Through the design ethnographic studies, we found that what makes a place friendly or inclusive to persons living with dementia are not abstract signages or nostalgic murals, but their overall perception of the neighbourhood and the psycho-social factors associated with it. They would not step out of their home if there were multiple issues to consider (such as number of junctions to cross), but they would venture outdoor if their favourite activities were waiting for them (such as meeting friends for chess). These helped us to come up with innovative ideas and designs to enhance the psycho-social environment of the neighbourhood.

**Professor Chong Keng Hua, Associate Professor of Architecture, Director of Social Urban Lab (SOULab)**



Researchers interviewed and observed 10 pairs of persons with dementia and their caregivers to understand their behaviours and motivations when navigating their neighbourhood.  
Image: Singapore University of Technology and Design Social Urban Lab (SOULab)





Residents at a Community Workshop in May 2022.  
Image: Singapore University of Technology and Design Social Urban Lab (SOULab)

### Capturing Residents' Perspectives through Community Workshops

Next, community workshops were held for the residents of Yio Chu Kang to partner AIC, CLC and SUTD in identifying sites in their neighbourhood that could benefit from more inclusive design, and to supplement insights shared by persons living with dementia and their caregivers.

Having lived in Yio Chu Kang for years, residents were able to share observations that designers may not be able to pick up from a site survey. For instance, residents could point out frequently-used short cuts within the neighbourhood which deviated from formal routes, and gave opinions on how amenities like activity areas or ramps could be placed at more suitable areas.

Understanding and responding to non-dementia residents' needs is also important to ensure that eventual designs and prototypes are inclusive to all, and not just persons living with dementia.

At these workshops, residents were also able to learn more about the needs of persons living with dementia by hearing from them directly, as well as from SUTD researchers. This two-way engagement with residents early on in the study set a good foundation for a sustained partnership throughout the lifecycle of the project, including support for the design prototypes that would eventually be piloted on the site.

## Insights on How Persons Living with Dementia Relate with the Neighbourhood

By partnering with persons living with dementia, their caregivers, and the Yio Chu Kang community, AIC-CLC-SUTD were able to distil four key insights on how persons living with dementia relate with the neighbourhood.

Firstly, persons living with dementia and their caregivers have a heightened sense of risk about the environment, and this can hinder them from navigating the neighbourhood with confidence. Secondly, it was observed that persons living with dementia, even if they may have trouble reading signages, often moved around the neighbourhood with a clear internal “mental map” of the area. As such, a “less is more” approach may be more helpful to support persons living with dementia in navigating their high-density, highly-stimulated urban environment. Thirdly, when making improvements to the neighbourhood or renewing older estates, planners should take care to preserve spaces that hold positive familiarity and value for residents. Lastly, neighbourhood planning and design should support the quality of life of persons living with dementia by introducing choice and new purposes incrementally.

## Partnering Local Stakeholders to Pilot Design Prototypes On-Site

Based on these insights, AIC, CLC and SUTD have developed several design prototypes for implementation. To be situated at key community spaces, the prototypes include a revamped void deck that will act as a calming community space for a variety of activities, an outdoor activity area redesigned as an intergenerational community space with elements that promote wellness, as well as enhanced feature columns for wayfinding across a main path in the neighbourhood. In this phase of the study, AIC, CLC and SUTD are partnering closely with the Ang Mo Kio Town Council and local grassroots to translate the design prototypes into reality.

Before the prototypes were developed, the research team also engaged residents on how they might use the prototypes, and discussed possible programmes to build up interest and engagement with these spaces. Six months after the prototypes are implemented,

Singapore will be a rapidly ageing society over the next few years. There will also be a significant number of seniors who will face challenges with dementia as well. It is therefore important that we adopt a science-based approach to tackle the issues of ageing and dementia, and implement workable solutions on the ground. By working with partners, we can assess what is best to improve one's lived experience in the community, and to scale this nationwide.

**Mr Yip Hon Weng,**  
Advisor to Yio Chu Kang  
Constituency, Member of  
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the research team will conduct post-implementation reviews with residents to assess how well the prototypes have met their goal to make the neighbourhood more dementia-inclusive.



Yio Chu Kang residents giving their feedback on the proposed prototype designs.  
Image: Centre for Liveable Cities

### Partnering Agencies to Scale Up Guidelines Nation-Wide

Besides partnering with the community in Yio Chu Kang, it is also important to translate learnings into guidelines to inform the planning and design of other neighbourhoods in Singapore.

Today, Singapore has existing codes and guidelines on barrier-free access and universal design. There are also initiatives to improve the inclusivity of our train and bus networks, and plans to roll out therapeutic gardens for the well-being of residents. So how might we enhance these to better address the needs and aspirations of those living with dementia and other cognitive impairments?

To this end, AIC and CLC have been engaging agencies such as the Building & Construction Authority, Housing & Development Board, Land Transport Authority,

National Parks Board, and the Urban Redevelopment Authority, to share and discuss findings on the study, with a view to translating these into new or revised guidelines, so that dementia-inclusive neighbourhood principles can be applied more widely in Singapore through inter-agency partnerships. Such guidelines cover questions such as how dementia-inclusive guidelines might be incorporated into Universal Design guidelines, and how features within our therapeutic gardens might be enhanced.

These partnerships and coordination between agencies need to be established from the initial stages of the study, to increase the potential for successful implementation and uptake of the study's recommendations, and the likelihood of achieving meaningful and lasting change.

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### Conclusion

Partnerships with the community and agencies have been a cornerstone in the AIC-CLC Dementia-Inclusive Neighbourhoods Study, from the development of insights, to the shaping of the prototypes, and in the future scaling up of interventions through plans, programmes and policies. By taking on a whole-of-society approach, Singapore aims to be an inclusive city, not only for persons living with dementia, but for all who live here. 🗨️