Healthy Self-Management Communities by Design

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Singapore is a densely populated urban island city state facing a rapidly ageing population and a rising prevalence of chronic disease. These challenges coupled with a complex healthcare landscape often results in poor healthcare encounters. Lifestyle interventions involving sustainable behavioural change is crucial in the holistic management of health, but these social determinants of health are often not adequately addressed during care encounters. This serve as an impetus to start shifting care beyond the hospital and into the community. However, shifting care into the community is a big step, requiring first an empathetic understanding of the community values. We used a mixed method research to inform the design of a self-management care ecosystem where residents of the community can be supported to exhibit health-promoting behaviours confidently through their daily social activities. The insights were shared through an exhibition to reach out to the healthcare professionals to reframe the way they think about delivering care to the ageing population of 200,000 residents in the northern segment of Singapore.

social capital; successful ageing; community-based perspective

1 Introduction

The ageing population and rising chronic disease prevalence impose great pressures on Singapore’s healthcare system. A recent local study done by the Centre for Research on the Economics of Ageing showed that one in four Singaporeans aged 65 and above have chronic disease (Boh, 2016).

As our population ages, we expect to see more of the elderly having not just one or two, but several chronic diseases at the same time. They might be managed concurrently by having a few specialists in the hospitals. The key to reducing the number of years spent in disability is prevention, early detection and treatment, as well as sustained lifestyle changes. (Ministry of Health, Singapore, 2017, p.27)

Without good management, late complications from chronic diseases increase care cost to patients and decrease their quality of life. Good chronic disease care starts with patients and their caregivers understanding their own health. The prescriptive relationship between patients and healthcare professionals, sporadic unplanned patient education, lack of coordination and integration of services
often result in health illiteracy and reduce patients’ autonomy and ownership of their own health issues within broken systems in our healthcare.

The disconnect between clinical care and social determinants of health, especially during acute care episodes, is illustrated by in-depth analysis of our own patient profiles and volumes. Prior research have shown that an individual’s behaviour within their physical and social environment account for at least 60 percent of their health, with healthcare contributing only 10 percent to their health (McGinnis, Williams-Russo & Knickman, 2002). In addition, the Southern Central Foundation’s Nuka healthcare system found that the key to sustaining chronic care and achieving better outcomes was through building trusting relationships between healthcare workers and patients in their homes and community where they make their health choices. To be successful, long-term care plans that activate individuals through multiple regular touch points within their communities are needed.

Shifting care provision to the community is not a simple replication of the suite of services by hospital-trained staff with institutional mind-sets and experience. Rather, it requires a reframed and holistic understanding of the users in the community and their perspectives on health. Despite attempts to scale up clinical-community partnerships to address social determinants of health through the identification and formulation of toolkits for healthy places (Healthy Community Design Checklist, 2013), there is currently insufficient local research on such partnerships in the context of urban high-density environments.

This research aims to understand how the design of service offerings and public spaces can affect the level of social capital in the community, and ultimately health and wellbeing outcomes for an urban ageing population. The inquiry includes a series of literature review, quantitative and ethnographic observations to understand the local ageing community in the northern part of Singapore.

Finally, we describe how the understanding of the determinants of social capital in our local community was translated into the production of an exhibition to reach out to healthcare professionals, and the co-development of three wellness centres to build confident, resilient self-management communities, supported by a responsive healthcare system.

1.1 Background

Social capital refers to the networks, norms and social trust that facilitate coordination and cooperation for mutual benefit (Putnam, 1995), and can be measured in terms of ‘bonding’ and ‘bridging’. Bonding refers to relationships between similar individuals, who may be family or kin, who share common language and educational norms. Bridging deals with connections between people who differ in age, socio-economic level, ethnicity or education (Szreter & Woolcock, 2004).

A study which examined the relationship between health and social capital for 40,000 older adults found that individual social capital has a causal beneficial impact on health and vice-versa (Sirven & Debrand, 2012). Research that looks into the relationship between social capital and the built environment has largely been based in areas with low population density, like the US or Australia (Brisson & Usher, 2005; French et al., 2013), hence limiting the applicability of these findings to Singapore which has one of the world’s highest population density. Such studies have also revealed that the relationship is dependent on cultural influences (Kobayashi, Kawachi, Iwase, Suzuki & Takao, 2013).

In the late 1950s, a long-term framework was formulated (Chin, 1998) to address the two priorities of a newly independent Singapore: the provision of adequate housing and the generation of employment opportunities for the people (Dale, 1999). The concept plan envisaged the development of high- and low-density residential estates, industrial areas and commercial centres supplemented by transport infrastructure providing island-wide interconnectivity (Chin, 1998). This was followed by a home ownership scheme which aimed to give citizens a tangible asset in the country and a stake in nation-building (HDB InfoWEB, 2017).
As a consequence, citizens moved out from their communal living in villages known as kampungs, to public Housing Development Board (HDB) flats. Paired with a burgeoning birth rate, population density rose from 2540 in 1961 to 7910 people per square km of land area in 2016 with 82% of today’s resident population living in these HDB flats (Housing & Development Board, 2017). These housing units were clustered into self-sustaining townships which were designed to meet the most common needs of residents through developments ranging from market places to shopping malls. Educational, healthcare and recreational needs were also met with various public amenities, reducing the need to venture out of town.

Chua’s analysis on the transition from living in kampungs to the high-rise flats concluded that it resulted in the splitting up of the multifamily households in villages and the loss of a village sense of security. He also found that the segregated communities of users in the high-rise blocks are qualitatively different from the inclusive sense of a community comprising residents of vernacular villages (Chua, 1997). Twenty years on from Chua’s research, these residents who once grew up in the kampungs have now grown old and have mostly retired. They now form the major utilizers of the existing public space and amenities, including healthcare services.

Research have already shown how older people with social support show greater health and wellbeing, lower premature mortality, greater recovery from illness and injury, and better adherence to good health habits (Rowe & Kahn, 1987, 1997). With the potential of social capital effecting these positive population health outcomes, our hospital started to increase their focus on engaging the community as a means of preventive healthcare, asking questions such as:

- Had the change in living space affected the social capital within the community?
- If so, how would it impact the ageing community?
- How might we then intervene to bring better health to the community?

2 Study Methods

2.1 Research Approach

To answer those questions, we undertook a mixed-method research project named “Project Orange” over a period of eight months. The research area covered a total land area of 1.3km² and we collected 259 hours of interview records conducted with 79 residents, together with 1796 photographs and videos. To gain a holistic view of the community, the field research spanned over different times and days throughout the eight month period, involving different community stakeholders, from the residents, to the store owners and even members from the merchant association (Table 1).

Table 1 Breakdown of research phases

<table>
<thead>
<tr>
<th>Phase</th>
<th>Method</th>
<th>Period</th>
<th>Study site</th>
<th>No. of people</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Data analysis + Secondary Research</td>
<td>Mar - Apr</td>
<td>Northern population of Singapore</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Survey for heat map</td>
<td>Jun - Jul</td>
<td>100m around Chong Pang</td>
<td>49</td>
</tr>
<tr>
<td>3</td>
<td>Observation</td>
<td>Apr - Nov</td>
<td>300m around Chong Pang</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Interviews</td>
<td>Aug - Sep</td>
<td>300m around Chong Pang</td>
<td>25 residents 3 Store Owners 2 members from merchant association</td>
</tr>
</tbody>
</table>
2.2 Multi-Disciplinary Team
A multi-disciplinary team consisting of three designers, one data analyst, an operations staff and a geriatrician formed the core team for this project. Five members were embedded into the community to observe the older adults, their characteristics and motivations, and the community spaces that they frequent. At every phase of the research, the team also gathered to compare notes and synthesised their information gathered in order to arrive at concurrence.

2.3 Four phases of research
2.3.1 Phase 1: Determining the context
We reviewed the quantitative data of the demographic density of the northern population (Fig1), where we were to focus our population health management strategy. We selected Chong Pang at Yishun West as the main study site, as 26.4% of the residents who live there are already aged 55 and above. This would give us a glimpse of how the aged future could be like in 2020 (Choo, 1990), compared to other parts of the northern region. Unlike other areas, the community is fairly homogenous with 93% living in HDB flats as “heartlanders”, a term coined by then Prime Minister Goh Chok Tong as the relatively uneducated parochial dialect speakers (“Prime Minister’s National Day Rally Speech, 1999: First-World Economy, World-Class Home”, 1999).

![Figure 1. Northern Singapore, Yishun and Yishun West](image)

Subsequently, a secondary research was conducted to better understand the history of the space, the people living there, and what they valued. This included online blogs documented by older adults residing in that area, and literature from the national archives. Members of the merchant association who served as the middlemen between the store owners and the different government agencies were also interviewed to help us understand the evolution of the services offered and the activities that happens in the main Chong Pang market.

2.3.2 Phase 2: Survey of hotspots within Chong Pang
We covered different sites within a 300m radius of Chong Pang market during the peak period of activity from older adults, and did a survey with a total of 49 residents. The intent was to understand where they came from, the frequency of their visits, and the hotspots where they congregated at. These information was first overlaid onto a map (Fig 2) to get a sense of the distance people were willing to travel, and subsequently mapped against different amenities, to know what people were willing to travel for. (e.g. food and amenities, clinics)
2.3.3 Phase 3: Observations of activities that brought people together
Observations were done with photos taken over a period of 8 months to uncover how people use public spaces. Brief conversations with residents helped us to understand the things that we saw. The photos taken were then clustered and discussed in a sense making session (Fig 3), to reveal broad themes and insights about how the design of the environment and activities brought people together. This was a continually updated piece of work that was used to inform and triangulate our findings against literatures that we read and the interviews done at Phase 2 and Phase 4 of the research respectively.
2.3.4 Phase 4: Interviews
To better understand the community dynamics and the individual roles the various residents fit into, archetypes were developed based on the common roles that the various residents performed in the community, supplemented by observations and conversations to identify who, what, why and when the older adults were using the public spaces (Fig 4).

Figure 4: Archetype wall

In-depth interviews were done with a group of older adults from each archetype to uncover their latent needs and their underlying attitudes and mind-set. 25 older adults were selected to represent a good mix of older adults of different age groups, gender and race from both the Chong Pang market and the neighbourhood. They were recruited based on their willingness to be part of the 1 hour interview.

The interview questions were kept broad and relevant to their experiences (Fig 5) to elicit stories from the older adults. This included questions about their perspectives about health and ageing, how they sourced for information, their intrinsic motivations and their hopes and fears about the future.

Figure 5: Interview guide stating the question tagged to a recent nation-wide event

The recurring patterns that we identified in various interviews allowed us to distil common themes that mattered to the older adults.

3 Findings
3.1 The History of Chong Pang
In the 1950-1960s, people stayed in kampungs with their livelihood largely revolving around fruit and vegetable plantations. Religious leaders formed an authoritarian influence that managed disputes, taught values, and took care of the aged and destitute. Before the proliferation of
televisions, villagers enjoyed the occasional outdoor film screening and opera performance, usually held during festivities. Basic healthcare came in the form of travelling dispensaries that made their way into the remote villages.

Figure 6. Transition of Yishun West from 1950 to 2017

**Removal of infrastructure/practises that promoted the development of social capital.** In 1976, these *kampungs* were cleared to make way for the first HDB flats in Chong Pang. Many residents from nearby villages moved into Chong Pang and became shopkeepers. With an emphasis on centralisation in governmental policies, religious bodies retired from the role as village authority but continued to support the social and welfare needs of the community through the provision of free clinics and meals for the poor and needy. Travelling dispensaries made way for Yishun Polyclinic (Primary Care Institution) which was built to meet people with healthcare needs efficiently within one location. By 2000, Chong Pang estate had grown to its present form - a sea of high-rise HDB flats surrounding the neighbourhood centre called Chong Pang City, the go-to place for many Yishun residents. (Fig 6)

Despite this seemingly successful transition however, the aforementioned analysis by Chua has shown that it had negative implications too. Taking a deeper look into his prior research showed that by centralising services, the average resident would also be consequentially less attached to it, thus reducing his or her desire to build a community together with its resultant social capital. (Chua, 1997)

**Gradual erosion of existing social capital.** Today, the original residents have grown old in the neighbourhood. Meanwhile, younger families and singles have shifted in from other parts of Singapore in response to housing and employment opportunities. The traditional businesses (hardware, household items, groceries, clothing, hairdressing) now compete for space with contemporary pop-up stores selling mass market personal devices and lifestyle accessories, maid employment services and tuition centres which cater to the newcomers. In a strange blend of the old and new, niche shops sell mp3 devices preloaded with Hokkien and Cantonese songs, giving the older persons something to hold on to in the realm of the unfamiliar. New users of common spaces are observed to place less emphasis on social interaction, focusing on their hand held personal devices instead.

By looking at the development of Chong Pang in a retrospective manner, it can be seen that Chong Pang’ transition from a rural village to an urbanised residential town over the years have stunted the development of social capital among the population, exacerbated by the gradual displacement of the original *kampung* community.

### 3.2 The Place

The majority (90%) of those interviewed were fit and pre-frail individuals. Half (53%) of them lived within a 500m radius of Chong Pang City and frequented it at least five times weekly (Fig 7). The rest came from farther afield and visited less frequently – mostly to buy their groceries due to the wide variety of offerings. Interestingly, half of the people in the market used that space as a third place
(Oldenburg, 2005), to meet their social needs, instead of a mere transactional space to buy their daily groceries.

Residents who lived near to Chong Pang’s market visited it more often and had stronger social capital within that community due to the high frequency of interactions, as they socialized amidst the hustle and bustle of the morning activities. This was reflected in the way residents seemed to know each other and exchanged greetings frequently. Residents trusted each other with personal items, including money, indicating a high level of trust.

In comparison, residents who lived further away had significantly less interaction. Neighbours passed each other by at the void deck (a common space on the ground floor of HDB flats), with minimal interactions exchanged. Personal items left in these void decks were chained up, with makeshift posters warning residents about thefts in the vicinity, reflecting a lower level of trust. This suggested that a successful third place for an urbanised area would be one within close proximity to people’s homes (within a 500m radius) with amenities like a market to draw them in. This increases the frequency of visits to the space and the chance of interaction among residents, which then builds a higher level of trust within the community.

![Figure 7. Infographic showing where people frequented at Chong Pang City](image)

### 3.3 The Activities

It was observed that people came together in three manners. Firstly, communities were formed when people who shared similar interests gathered together, whether through formal or informal settings. Common spaces like clubs, schools, workplaces or even activity centres facilitated bridging, and they played an important role in connecting individuals with common needs. Good design of spaces that facilitated such activities encouraged access and utilization, being able to accommodate a variety of activities that met the needs of multiple groups. This created a gateway for residents in the neighbourhood to get to know each other. Such interactions played a pivotal role in relieving the anxiety and suspicion that arose from unfamiliarity.

Secondly, interactions were also effected through common roles. Activities that supported the fulfilment of a person’s role were a natural way to bring people together, regardless of race, age or gender (e.g. grand-parenting). It was a common sight to see parents and grandparents gathering by the side of a playground exchanging parenting tips as the children played. Designing open and centralised spaces that supported such activities promoted high utilization and visibility for people to congregate and interact.

Lastly, spaces that allowed people to dwell around for social activities or chats were desirable. Commonplace items such as newspapers or a cup of kopi (coffee) were recognised as signals of ‘availability’ and served as effective conversation starters. We witnessed how creative the older adults could be in placemaking, as they ignored inappropriate built infrastructure and adapted their meeting places with their own furniture to suit their needs (Fig 8).
The building of such macro-communities plays a pivotal role in supporting residents when they are apart from their families and out in the community. Beyond a space where relationships are formed and strengthened, it also acts as a resource centre where the older adults can obtain information on the latest happenings from a trusted source and even to get contacts for job opportunities. The understanding of how the different activities brought people together in the community, allowed us to distil how spaces and programmes can be designed to build a natural community in our wellness centres.

### 3.4 The People

Among the residents, 5 clear archetypes were identified:

‘Connectors’ refer to residents who are always in the community space, rain or shine. They provide an overview of the relationships in the community, and connect you to the right people due to their wide networks.

‘Migrants’ are people new to this community space. They could either be residents who have just moved into this area, or residents who although have lived in that area for a long time, have not mingled much in the community space. The latter could be in between jobs, and are thus opportunistically using the community space to get potential job referrals. Migrants usually hang out alone, are new to the community space, and usually experience considerable problems in navigating their way to get what they want.

In contrast, ‘Dwellers’ are the people who form the bulk of the core community, the major utilizers of the community space. They exist in groups and they seek comfort in familiarity. Having a deep sense of belonging to their respective groups, they offer strong emotional support and influence to each other in the group, due to the significant amount of time they spend with each other.

Next, ‘Patrons’ are task driven, and they form the main consumers of the services and products in the community space. Their relationship with the community space is generally transactional and they are important in sustaining the businesses in Chong Pang.

Lastly, ‘Leaders’ are usually highly skilled and are passionate in contributing to the community, making them highly regarded as important assets.
The five archetypes helped us understand the community dynamics and the individual roles our respondents contributed to (Fig 9).

![Figure 9. Archetypes identified within the community](image)

In-depth interviews revealed the need for security and freedom, the importance of having roles and responsibilities, and staying connected while being relevant to the community were the key themes that mattered to the older adults.

For these older adults, financial security and good health provides them with the confidence to age well and face the anxiety of an uncertain future. Health is simply being able to sleep, eat, and move well. It is regarded as a by-product of being happy and contented with life. This is a stark contrast from the perception that most healthcare professionals hold, where good health is the end goal for people, and the concept of good health is focused on being disease-free.

A common worry articulated by the older adults is that ageing brings about serious health issues, with the attendant rising healthcare costs being a major setback for themselves and their families. These perceptions were reinforced by friends who had similar encounters. Social assistance schemes which allayed their anxieties through substantial government subsidies for their healthcare bills were appreciated and valued.

Another insecurity showed us how they view their diminishing roles in the community. The association of retirement with success is a common mind-set among the older adults. If an older adult is seen to be working hard, even though they are past the age of retirement (65 years old), they are frequently described as “having a hard life”, due to the perceived lack of support from their families. Yet, retirement changes their roles and the responsibilities that define who they are in the family and community. Relinquishing their key roles and responsibilities which they have grown into over their productive years at work (e.g. as breadwinners, supervisors, and mentors), leaves many older adults, especially males, feeling collectively lost in the community space, leading to pre-mature ageing. Without economic engagement, older adults face the potential of fading into insignificance.

Through our conversations with the older adults, we learnt how perceptive they were towards the design of the environment and how it affected the quality of their daily interactions with their neighbours and the community. Particularly salient was the loss of strong ties and trust, termed as the *kampung* spirit. The design of the flats led to isolation as expressed by a resident. “Staying in a HDB flat is like staying in a cage. The windows are high, it’s hard to exchange greetings unless the person is proactive.”

Communal spaces that encourage the development of relationships allow older adults to be seen, heard and connected with their heartland community. People who regularly involve themselves in community activities derive more opportunities for deeper social networks built on trust and cooperation. This was seen in an example that we saw with an older resident, Mr. Tan, who is also a community leader. He made use of the plot of community garden that he was tasked to take charge
of, and proactively gave some of the vegetables that he grew, to other older residents who needed an income. These older residents would then sell the vegetables in an ad-hoc, modest set up at the market space. A nominal fee was subsequently collected from the sales for the purchase of fertiliser, thereby keeping the effort sustainable. This ground up initiative shed light that when given the necessary platform, the community themselves can be useful assets, as they can step up and support each other with the resources that they have in a sustainable manner.

The uncertainty brought about by ageing coupled with dwindling financial and social resources creates anxiety for the average older adult in the community. This results in the gravitation of older adults into public spaces where they seek to connect with others and expand their social network, now that they have retired. The desire to re-create a community with high social capital just like the old kampung days in the neighbourhood was a common request that came out during many conversations with the older adults. A sense of belonging to a community that is tightly knitted, allows the older adults to participate and be valued, so that they can support each other in the community to age well.

4 Translation of Insights

4.1 Project Orange Exhibition

The insights collected from the research were curated and presented in the form of an exhibition (Fig 10) within a community hospital in Singapore. The exhibition of photos and videos shared the sounds and sights of the community and the compelling stories that have reframed the way we saw the older adults.

Figure 10. Project Orange Exhibition

To date, approximately 300 visitors have visited the exhibition, including overseas visitors from as far as the Netherlands. More recently, the exhibition was also a key highlight in a training and engagement programme for young doctors. The intent was to expose them to how the older adults are like in the community, beyond the patient that they are familiar with in a hospital setting, so that they can empathise and deliver better care in the future.

4.2 Design of a modernised kampung – Wellness Kampung

The Wellness Kampung initiative is a re-design of co-located community-based wellness and senior care centres, developed based on Project Orange’s research, concepts of Ibasho Café (World Bank Group, 2015), Ray Oldenburg’s concept of a “third place” (Oldenburg, 2005)), and “principles of the commons” (Stibb, 2011). This initiative is part of the healthcare institution’s overall population
health management strategy and care model in the northern part of Singapore – to build confident, resilient self-management communities, supported by a responsive healthcare system.

To appeal to the older adults’ desire of having a tight knitted community, the Wellness Kampung was envisaged to be the neighbourhood gathering space, to meet the needs of local residents, in consultation with them. The strategy focuses on delivering health interventions through daily social programmes at the Wellness Kampung so that the residents can learn and practise health promoting behaviours with the support of the community. Through empowerment, activation, motivation, and support in their health journeys, the responsibility for health is returned to every individual.

4.2.1 Evoking nostalgia through branding
The design began with a name with which the residents could identify with, and hence get involved with on a regular basis. Wellness gives an aspirational goal of achieving healthy, active and engaged residents, and Wellness Kampung (养生村, hanyu pinyin yang sheng cun) was selected to deliberately leave out the connotation of senior care or eldercare. The word kampung connotes inclusiveness and the gotong royong (mutual aid) spirit, themes that the older adults frequently mention. Furthermore, the verb “berkampung” (to form a kampung) means to gather. It has been said that it takes a village to raise a child and increasingly, this phrase is applied to care for older adults as well. The knowledge about the history of the space also informed the design of the logo, to appeal to the residents. (Fig 11)

Figure 11. Logo Design for Wellness Kampung@115- Pineapple leaves served as a representation of the plantation that used to be in the area.

4.2.2 Spatial Design that facilitates community building activities
The Wellness Kampung is a space repurposed from the void deck of an HDB block, usually used as a thoroughfare for residents in the neighbourhood to get from one block to another (Fig 12). Inspired
from Chong Pang Market where older residents in the nearby area congregated to use it as a third place, the Wellness Kampung was designed to be inclusive and flexible to accommodate various types of activities.

Figure 12. Repurposing of void deck spaces to become Wellness Kampungs

Compared to traditional walled activity centres, folding glass walls were used to minimise the differentiation between the interior and exterior space, serving as an invitation for residents to join in the programmes. Casual passers-by who would have just walked on by in the past can now walk in, linger for a while to observe, enquire, and ultimately stay on to use the space. Conversation starters that were commonly used in Chong Pang market, such as *kopi* and newspapers are also provided alongside with familiar chairs and tables in the multi-purpose space, to allow residents to move the furniture around and mingle with each other. An activity room also provides a conducive space where a wide range of programmes and activities are conducted to bring people of common roles and interests together. The open layout of the communal kitchen encourages collective use, facilitating the exchange of knowledge and recipes.

The range of available activities that were supported by the design of the space resulted in longer dwell times, providing opportunities for new friendships and the building of social capital. The natural formation of these social groups with strong bonds become the driving force at Wellness Kampung to help inculcate and sustain health promoting habits in the community.
4.2.3 Programmes designed by leveraging on community assets
A retired community leader was identified and employed to run each of the three centres, as residents can relate and connect better to them. The programming of the activities was designed to be organic and flexible with little formal organisation to encourage co-design of activities that remain relevant and sustainable to the community. Ground-up activities were encouraged if any resident wanted to share a certain skillset, with the staff merely facilitating the process. The “invisible” organisation lowered the entry barrier to residents coming forward. One such example was a DIY exercise support group, initiated by a resident, for people with disease like stroke and Parkinson’s disease to do rehabilitation activities and support each other 3 times a week. Residents got opportunities to volunteer and to give back to the community by supporting other residents with special care needs (e.g. non-ambulatory persons, stay-alone older adults etc.). These contributions affirm the dignity of both the giver and the recipient, adding meaning to relationships.

To support residents with questions related to health, a community nurse regularly runs consultation and education sessions. Residents could consult him/her on their health issues such as medications, physical monitoring and laboratory results. With the right knowledge, residents are encouraged to support their peers in the monitoring of their chronic diseases. The visibility and accessibility of the community nurse assured residents of timely and appropriate assistance as required.

4.2.4 Outcome
The three centres now cater to approximately 1500 registered residents, with each centre seeing an average of 60 residents daily. 74 new programmes have been started, including Daily Exercises, Social Engagement, Food and Nutrition, and Health Intervention. 19 (26%) programmes are led by healthcare staff, e.g. a fall prevention programme, Advance Care Planning advocacy sessions. 28 (38%) programmes are led by partners, e.g. intergenerational activities by five neighbourhood schools, Life After Stroke, and Autoimmune Illness support groups. 27 (36%) programmes are led by volunteers. One such volunteer is Mr Norman Wee who branded his aerobics sessions after himself (Weirobics). 18 out of 27 of these continue to be active over extended periods, proof that community resources can propel action and build self-supporting ecosystems.
Two stories are selected to demonstrate the components of such a supported self-management community. A 68-year old lady had sustained several falls, and was fearful of further falls whenever she wanted to leave her house. She became progressively homebound and continued to fall at home, requiring frequent hospital admissions. A community nurse encouraged her to go to the nearby Wellness Kampung where she was befriended by a 79-year old neighbour. Since then, the two neighbours have become good companions, and together they ventured out confidently into the community. At another Wellness Kampung, two neighbours voluntarily supported a 51-year old man with stroke and an 84-year old lady with Parkinson’s disease, with “do-it-yourself style” rehabilitation. The two beneficiaries maintained improvements in their physical function. The community nurse maintains a reassuring and motivating presence for both the volunteers and the residents receiving support.

5 Discussion
Through Project Orange, we found that the transition from communal living in kampungs to the vertical living of high rise flats left a sense of nostalgia among older adults as they bemoaned the loss of ties and trust typically found in the old kampung spirit. The loss of a communal space where residents can gather and know each other results in low social capital within the neighbourhood. Retired residents are often seen gravitating towards community spaces where the human traffic is higher, so that they can be seen and heard. The understanding of the activities that attracted the community to come together, the older adults’ perception of health and the nuanced signals of personal availability for conversations assisted us in the design of three wellness centres that have now been operating for almost two years.

5.1 Limitations
While the early success of these wellness centres have sparked interest to develop similar sites around Singapore, we are aware that a wholesale replication may not be successful in other areas of Singapore, based on the varied interests of the seniors in those areas, and the nuances of the local culture within those communities. Which of these insights can be extrapolated to the rest of Singapore and which are specific to Yishun? Will such initiative really build resilient communities that are ready to take charge of their health, therein reducing the strain on the healthcare system? There are many challenges ahead and these are questions that remain unanswered, as the Wellness Kampung is still in its early chapters. What we need is a longitudinal evaluation to illuminate the value of such an initiative in the areas of population health and community resilience.

5.2 Recommendations
Recommendations for design researchers working in this area, especially in the context of a multi-racial community include:

A multi-disciplinary core team of members with diverse backgrounds (e.g. socio-economic status, age etc) who were willing to listen, explore and contribute their domain expertise brought about synergy of collective strengths, with a balanced perspective, therein raising the quality of the research. The extended team comprised of natives who helped to increase the people networks and facilitate inroads into the community by “foreigners” (researchers).

The context of the field research study is important. Immersing in the sounds and sights of the daily activities of the people helped us to understand the local nuances within a community. This was useful in designing interventions with low barriers of entry.

A mixed method research that combined qualitative and quantitative data reinforced each other’s utility, and enriched the data set by giving the research depth and magnitude. The application of various tools (secondary research, interviews, observations) on factors (History, Place, Activities, People) that influenced the local narrative, allowed us to gather data from multiple sources to reveal the community’s unarticulated needs.
6 Conclusion

Design research provided the users’ perspective on what mattered to them as health services. In contrast to services that were traditionally planned in isolation for the users, the Wellness Kampung took into account the existing behaviours of the users that eventually led to a high participation rate and an activated community.

7 References


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Tan Liren is a practising design researcher with the Healthcare Innovation and Research team at Khoo Teck Puat Hospital. She drives user centric research to inspire and transform healthcare through design. She also has an interest in designing for the special needs.

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