

## Successful Ageing in Singapore: Urban Implications in a High-density City

### Abstract

Singapore is facing the challenge of rapid demographic ageing. The 2013 Population White Paper highlighted that the proportion of elderly Singaporeans would double from 1 in 8, to 1 in 4 by 2030. Due to constraints of its geographical size, it would be increasingly important for Singapore to address the ageing phenomenon through the triad of healthcare, housing and urban infrastructure. This case study explores the inter-connection between ageing and urban development. It looks at the development of Singapore's ageing policies in relation to the urban environment. It discusses the policy implementations, gaps, and critiques in housing, accessibility healthcare, and community services. It will pose some questions on the way forward for age-friendly city planning in land-scarce Singapore.

### Introduction

The ageing phenomenon, in the form of rapidly ageing populations, has been widespread in the world today with increasing life expectancy and lower population growth. Many countries have been caught unprepared for the form in which this demographic wave would impact societies, and more specifically, how the urban environment would be an important factor in the approach to this issue.

Singapore has been at an inflexion point in terms of population and economic growth, and urban development. The intractability of a growing population, ageing citizen core, coupled with slower economic growth alongside weak cyclical conditions, poses long-term implications. This would require greater agility in providing not just social and economic stability, but also in addressing the urban implications of housing, healthcare, and infrastructure for this segment of the population.

In 2013, the Population White Paper raised public awareness that Singapore's population was projected to age drastically over the next two decades.<sup>1</sup> The number of Singaporeans aged 65 years and above would increase from 440,000 in 2015 to over 900,000 by 2030, rising to 1 in 4 Singaporeans, as compared to just 1 in 8 today.<sup>2</sup> Meanwhile, the median age of the resident population rose from 29.8 (in 1990) to 37.4 (in 2010) and subsequently 40 in 2016.<sup>3</sup> The age

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<sup>1</sup> In 2012, the first cohort of citizen baby boomers turned 65 and by 2020, the old-age dependency ratio will increase. Singapore National Population and Talent Division [NPTD], "Population White Paper: A Sustainable Population for a Dynamic Singapore," 2013, <http://www.population.sg>.

<sup>2</sup> Ministry of Health, "Action Plan for Successful Ageing" (Singapore, 2016); Kim Yong Gan, "Speech by Minister of Health at the SG50 Scientific Conference on Ageing" (Speech, Singapore, March 19, 2015), [https://www.moh.gov.sg/content/moh\\_web/home/pressRoom/speeches\\_d/2015/speech-by-mr-gan-kim-yong-minister-for-health-at-the-sg50-scie.html](https://www.moh.gov.sg/content/moh_web/home/pressRoom/speeches_d/2015/speech-by-mr-gan-kim-yong-minister-for-health-at-the-sg50-scie.html).

<sup>3</sup> National Population and Talent Division, "Population in Brief 2016" (Singapore, 2016).

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distribution of the resident population aged 65 years and over formed 12.4 per cent in 2016, displaying a steady upward trend from preceding years.

## Background

Singapore faces this demographic ageing at the confluence of multifaceted indicators: low total fertility rate (TFR) of 1.24<sup>4</sup> which is below replacement levels of 2.1; longer life expectancy; lower numbers of marriages; as well as higher rates of late-in-life marriages, to name a few. Traditionally, much policy attention was given to the development of health policies and financial security of the citizen population (through instruments like the Pioneer Generation Package, Central Provident Fund and MediShield),<sup>5</sup> while the study of social and family policies addressed the factors of a declining population. At the same time, the triad of healthcare, housing and urban infrastructure is crucial to tackling this challenge in Singapore's landscape.

Singapore is a small island of 715 km<sup>2</sup>, facing constraints of land space and natural resources. Its centralised urban planning is guided by the principle of optimising land use and economic potential. This created a transit-oriented urban environment and high population density of over 7,797 people per square kilometre for a total population of 5.6 million.<sup>6</sup> High-rise public housing developed by the Housing & Development Board (HDB) housed about 80% of the population,<sup>7</sup> including majority of older Singaporeans. Research has shown that as one grows older, one's sphere of mobility gradually decreases and activities of daily living (ADLs) becomes more limited. One's physical wellbeing is connected to the physical and urban environment one lives in. These factors impact one's quality of life, social networks, psychological wellbeing, and the values of 'person-environment fit'.<sup>8</sup> Therefore, urban planning and development is closely linked with its ageing policies.

There is a greater need for understanding the inter-connection between ageing and the urban environment, and how Singapore has, and continues to approach this nexus. This case study provides an overview of development of Singapore's ageing policies in relation to its urban

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<sup>4</sup> Ibid., 12.

<sup>5</sup> The Pioneer Generation Package provides some healthcare benefits for all Pioneers, for life. Eligible pioneers are living Singaporean citizens who are aged 65 and above in 2014, and obtained citizenship on or before 31 Dec 1986. Refer to <https://www.pioneers.sg>. The Central Provident Fund is a social security system that enables working Singapore Citizens and Permanent Residents to set aside funds for retirement. It has components of healthcare (MediShield), home ownership, family protection and asset enhancement. For more details, refer to <https://www.cpf.gov.sg/members/aboutus/about-us-info/cpf-overview> and [https://www.moh.gov.sg/content/moh\\_web/medishield-life/about-medishield-life/what-is-medishield-life.html](https://www.moh.gov.sg/content/moh_web/medishield-life/about-medishield-life/what-is-medishield-life.html).

<sup>6</sup> Ministry of Trade & Industry, "Singapore in Figures 2017" (Singapore: Department of Statistics, 2017), 1.

<sup>7</sup> Ministry of Trade & Industry, "Population Trends 2016" (Singapore: Department of Statistics, 2016), vi.

<sup>8</sup> Refer to K. Addae-Dapaah, "Age Segregation and the Quality of Life of the Elderly People in Studio Apartments," *Journal of Housing for the Elderly* 22, no. 1–2 (2008): 127–161; M. Scott Ball, *Livable Communities for Aging Populations: Urban Design for Longevity* (Hoboken, N.J.: Wiley, 2012), <http://as.wiley.com/WileyCDA/WileyTitle/productCd-0470641924.html>; Susanne Iwarsson, "A Long-Term Perspective on Person–Environment Fit and ADL Dependence Among Older Swedish Adults," *The Gerontologist* 45, no. 3 (June 1, 2005): 327–36, doi:10.1093/geront/45.3.327; Ee Heok Kua, *Ageing and Old Age : Among Chinese in a Singapore Urban Neighbourhood* (Singapore: Singapore University Press, 1994); L.L. Lim and E. Kua, "Living Alone, Loneliness, and Psychological Well-Being of Older Persons in Singapore," *Current Gerontology and Geriatrics Research* 2011 (2011): 1–9; Andrew Scharlach, "Creating Aging-Friendly Communities in the United States," *Aging International* 37, no. 1 (2012): 25–38.

environment, and implementations of housing, healthcare, and community services. It will discuss:

- Historical development of key ageing policy initiatives;
- Describe key policies in the areas of (1) housing; (2) accessibility; (3) healthcare; and (4) social opportunities and services for seniors;
- Discuss policy implementations, gaps and critiques of the above; and,
- Initiate some questions on the way forward for an age-friendly city planning in land-scarce Singapore.

### Historical development of Singapore's ageing policies

Historically, Singapore's "minimalist approach to social welfare",<sup>9</sup> particularly ageing policies, reflected its view of an Asian culture of filial piety and the emphasis on familial support as the primary line of elder care.<sup>10</sup> Since the 1980s, the issue of a rapidly ageing population had been identified as a part of Singapore's demographic challenge requiring study in its national agenda. The multi-agency approach saw the formation of several iterations of inter-ministerial committees to monitor ageing trends, propose policies, and coordinate efforts among various governmental agencies.<sup>11</sup>

#### ***1980s – Forming the first national committee to study ageing issues***

In its first incarnation, a Committee on the Problems of the Aged was assembled in 1982 and led by the Ministry of Health (MOH). A key recommendation of the "Report of the Committee on the Problems of the Aged" was to improve societal attitudes towards ageing and the elderly. This included fostering greater filial piety and responsibility among children and relatives for their parents and elders as a crucial form of social and old-age support.<sup>12</sup> The Committee valued the integration of elderly in families and society instead of the "extreme measure"<sup>13</sup> of institutionalization. It recognized that the rapidly ageing population would require a national policy aimed at keeping every senior physically and mentally fit to continue leading a normal, useful and active life.<sup>14</sup> The Report highlighted the need for sustained contribution of the elderly to society and economy, by raising both the retirement age and the age for retirement

<sup>9</sup> K. K. Mehta and C. Briscoe, "National Policy Approaches to Social Care for Elderly People in the United Kingdom and Singapore," *Journal of Aging & Social Policy* 16, no. 1 (2004): 89–112.

<sup>10</sup> K. K. Mehta, "A Critical Review of Singapore Policies Aimed at Supporting Families Caring for Older Members," *Journal of Aging & Social Policy* 18, no. 3–4 (2006): 43–57.

<sup>11</sup> Some past inter-ministry platforms include Howe Yoon Chong's "Committee on the Problems of the Aged", 1982-1984; "Advisory Council on the Aged" chaired by Minister Jayakumar, 1988-1989; "National Advisory Council on the Family and the Aged" chaired by former Minister for Community Development, Mr Abdullah Tarmugi, 1989-1997; the "Inter-Ministerial Committee on Health Care for the Elderly" chaired by former Minister for Health, Mr Yeo Cheow Tong, 1997-1999 and the Inter-Ministerial Committee on the Ageing Population chaired by Minister Mah Bow Tan, 1999-2003 and Minister Lim Hng Kiang, 2003-2004.

<sup>12</sup> Ministry of Health, "Report of the Committee on the Problems of the Aged" (Singapore: MOH, 1984), 41.

<sup>13</sup> *Ibid.*, 16, 34.

<sup>14</sup> Olivia Goh, "Successful Ageing — A Review of Singapore's Policy Approaches," *Civil Service College Singapore*, October 3, 2014, <https://www.cscollege.gov.sg/Knowledge/Ethos/Issue%201%20Oct%202006/Pages/Successful-Ageing-A-Review-of-Singapores-Policy-Approaches.aspx>.

funds withdrawal in stages, and alternative employment options (part-time, flexi-time, and work-from-home).<sup>15</sup>

These initial ageing policies were developed during the period of Singapore's rapid urban transformation and widespread urban resettlement of its population from shophouses and *kampung* villages to high-rise public housing. This led to the breakdown of previously close-knit families and communities.<sup>16</sup> Thus, measures that helped to foster family ties, neighbourliness, and multi-generational family living gained importance in this new urban living environment.<sup>17</sup>

### ***1990s – Coordinating a national approach to realize “Successful Ageing”***

The “National Survey of Senior Citizens in Singapore” was conducted in 1995, and examined the characteristics, needs and problems of senior citizens.<sup>18</sup> Some of the aspects covered included finance, employment and retirement, caregiving, mobility, awareness and use of community-based health and support services, and living arrangements. The survey outcomes were envisioned to help urban planners, policy makers and service providers better meet the needs of senior citizens and their care-givers.

These findings were reflected in the Report of the Inter-Ministerial Committee on the Ageing Population (IMC) in 1999. The essential thrusts featured in the committee's vision focused on issues of housing and land-use, accessibility, healthcare, eldercare, financial security, employability, lifestyles, and elderly well-being. The IMC established a holistic vision of “Successful Ageing” and the approach of “Many Helping Hands” which called for collective efforts at four levels – the individual, family, community, and state – to prepare Singapore for the challenges of an ageing population.<sup>19</sup> Nonetheless, the government's emphasis on family being the primary caregiver had largely continued. The report established that the state should only “help families and the community play their role, not supplant them”.<sup>20</sup>

The IMC report also introduced the principle of “ageing-in-place” to develop strategies such as elder-friendly homes and environments, variety of housing options, integrated community planning, and increased provision of healthcare and social services for elders by Voluntary Welfare Organisations (VWOs).<sup>21</sup> Both the “successful ageing” and “ageing-in-place” policy direction has since guided a greater part of Singapore's approach towards tackling its ageing population.

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<sup>15</sup> Ministry of Health, “Report of the Committee on the Problems of the Aged,” 22–26.

<sup>16</sup> Ibid., 11.

<sup>17</sup> Keng Hua Chong et al., “Successful Aging in a High-Density City-State A Review of Singapore's Aging Policies and Urban Initiatives,” in *International Perspectives on Age-Friendly Cities*, ed. Kelly G. Fitzgerald and Francis G. Caro (New York: Routledge, 2015), 83.

<sup>18</sup> This survey was initiated by the Committee on the Aged under the National Advisory Council on Family and the Aged (NACFA) to be carried out on the elderly as a follow-up to the first National Survey of Senior Citizens, 1983. Ministry of Health, “The National Survey of Senior Citizens in Singapore 1995” (Singapore, 1996), <https://www.msf.gov.sg/publications/Pages/National-Survey-of-Senior-Citizens-In-Singapore-1995.aspx>.

<sup>19</sup> Ministry of Social and Family Development, “Inter-Ministerial Committee (IMC) Report on the Ageing Population, 1999” (Singapore, 1999), 2.

<sup>20</sup> Ibid., 21.

<sup>21</sup> Chong et al., “Successful Aging in a High-Density City-State A Review of Singapore's Aging Policies and Urban Initiatives,” 83. And, Ministry of Social and Family Development, “Inter-Ministerial Committee (IMC) Report on the Ageing Population, 1999,” 10–12.

### ***2000s and later – Developing a Masterplan for a “City for all ages”***

In 2001, the Ministry of Community Development and Sports (MCDS) published the “Eldercare Masterplan (AY2001-2005) Report”. This Masterplan highlighted a key strategy to conceive, plan and build community-based facilities for elders as part of a “national infrastructure,” just as markets, schools and hospitals were planned.<sup>22</sup> The “Many Helping Hands” approach extended beyond the state to include community, families, and senior citizens themselves, to develop suitable physical infrastructure, community service systems and programs for elderly and caregivers, funding policies, and public education.<sup>23</sup> The dissemination of community-based facilities are located at purpose-built Community Clubs (CCs) run by the People’s Association (PA), neighbourhood community service centres and Resident’s Committee centres (RC).<sup>24</sup> Other than the CC, secondary service facilities are located at void decks, serving specific zones of the housing estate (see Annex, Figure 1).

The Committee on Ageing Issues (CAI) was set up in December 2004 as an inter-agency forum, which continued to build upon the proposals of earlier committees.<sup>25</sup> In its 2006 Report on the Ageing Population, it recognized three sectors of public, private, and people who would contribute to achieving its long-range view to 2030 of “Successful Ageing for Singapore”. This required an immediate critical 5-year window of implementing its key recommendations before the first generation of “healthier, better educated and richer” baby boomers would hit 65 in 2012.<sup>26</sup> Four key policy recommendations were proposed<sup>27</sup>:

1. Housing for Seniors: Elder-friendly housing
2. Accessibility for seniors: Barrier-free society
3. Caring for seniors: Holistic and integrated affordable healthcare and eldercare system
4. Opportunities for seniors: active lifestyles and well-being

Following the CAI’s 2006 report, a high-level Ministerial Committee on Ageing (MCA) was established under the purview of MOH in 2007 to coordinate various national efforts across multi-agencies and sectors. The “State of the Elderly in Singapore 2008/2009” survey report (2009) included the World Health Organization’s (WHO) concept of “active ageing”<sup>28</sup> into its framework of promoting “successful ageing”. The four new strategic thrusts of Singapore’s ageing policy thus evolved to: (1) ageing-in-place; (2) active ageing; (3) healthcare and eldercare; (4) employment and financial security.<sup>29</sup>

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<sup>22</sup> Ministry of Community Development and Sports, “Eldercare Master Plan 2001-2005” (Singapore: MCDS, 2001).

<sup>23</sup> Ibid., 8–27.

<sup>24</sup> People’s Association (PA) is a statutory board to promote racial harmony and social cohesion in Singapore through programmes, grassroots organisation and a network of community clubs (CC). See [https://www.pa.gov.sg/About\\_Us](https://www.pa.gov.sg/About_Us).

<sup>25</sup> Committee on Ageing Issues (CAI), “Report on the Ageing Population” (Singapore: Ministry of Culture, Youth and Sports, 2006), 10, [http://www.mcys.gov.sg/successful\\_ageing/report/CAI\\_report.pdf](http://www.mcys.gov.sg/successful_ageing/report/CAI_report.pdf).

<sup>26</sup> Ibid., i.

<sup>27</sup> Ibid., iii–xiii.

<sup>28</sup> World Health Organisation [WHO], “WHO Age-Friendly Cities: A Guide,” 2007, [http://www.who.int/ageing/publications/Global\\_age\\_friendly\\_cities\\_Guide\\_English.pdf](http://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf).

<sup>29</sup> Ministerial Committee on Ageing (MCA), “State of the Elderly in Singapore 2008/2009” (Singapore, 2009), 3–5.

From 2010 onwards, the demographic changes of the elderly population became distinctly different from the generation before. Changes in family structures, social norms and living arrangements; longer life expectancy and increased chronic health issues; extended employability, increased financial literacy or dependency began to stretch existing housing, healthcare, and community eldercare options. Therefore the MCA's agenda – as highlighted by Minister of Health Gan Kim Yong – focused on “ageing-in-place” through creating an inclusive “age-friendly city” environment for seniors to “move around safely and confidently within their homes and also within the community”. It would “integrate elder services with housing developments” such as elderly studio apartments with co-location of eldercare services at HDB block void decks, and coordinate healthcare and aged-care services more effectively through integrated “one-stop facilities providing both health and social care for seniors”.<sup>30</sup>

Meanwhile, MOH and MCA launched the “City For All Ages” (CFAA) project in 2011. It aimed to build senior-friendly communities through collaboration. Through outreach with residents, public agencies and community partners, the project sought to raise awareness of health screenings, community events and programmes, gather feedback on seniors' needs in areas of health, community and the urban environment.<sup>31</sup> This coordinated whole-of-Government effort, involved a multi-agency collaboration: Ministry of Community Development, Youth and Sports (MCYS), Ministry of National Development (MND), Housing & Development Board (HDB), Urban Redevelopment Authority (URA), Centre for Liveable Cities, Economic Development Board and SPRING Singapore.<sup>32</sup>

The 2015 \$3 billion national “Action Plan for Successful Ageing” was announced as an outcome of the CFAA project. This plan covered about 60 initiatives over 12 areas (health and wellness, learning, volunteerism, employment, housing, transport, public spaces, respect and social inclusion, retirement adequacy, healthcare and aged care, protection for vulnerable seniors and research).<sup>33</sup> Two of its three main thrusts focused on co-location of services, such as eldercare and childcare facilities in new HDB developments to maximise opportunities for inter-generational interactions (“kampong for all ages”); and transforming the city via transport and ‘Active-Ageing Hubs’ into an ‘enabling place’ for seniors to live and commute independently in their own homes or communities (“city for all ages”).<sup>34</sup>

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<sup>30</sup> Refer to, Kim Yong Gan, “COS Speech By Minister of Health on Ministerial Committee On Aging's Initiatives” (Speech, Committee of Supply 2012, Singapore, 2012), [https://www.moh.gov.sg/content/moh\\_web/home/pressRoom/speeches\\_d/2012/COS\\_speech\\_by\\_Minister\\_Gan\\_on\\_MCA\\_initiatives.html](https://www.moh.gov.sg/content/moh_web/home/pressRoom/speeches_d/2012/COS_speech_by_Minister_Gan_on_MCA_initiatives.html).

<sup>31</sup> Ministry of Health, *Creating Senior-Friendly Communities: Tips and Tools from the City For All Ages Project* (Singapore: Ministry of Health, 2014), [https://www.moh.gov.sg/content/moh\\_web/home/Publications/educational\\_resources/2014/cfaa-guidebook--creating-senior-friendly-communities.html](https://www.moh.gov.sg/content/moh_web/home/Publications/educational_resources/2014/cfaa-guidebook--creating-senior-friendly-communities.html).

<sup>32</sup> “Government to Develop City for All Ages for Ageing Singaporeans,” *Singapore Business Review*, accessed June 26, 2017, <http://sbr.com.sg/healthcare/in-focus/government-develop-city-all-ages-ageing-singaporeans>.

<sup>33</sup> Ministry of Health, “\$3billion Action Plan to Enable Singaporeans To Age Successfully,” August 26, 2015, [https://www.moh.gov.sg/content/moh\\_web/home/pressRoom/pressRoomItemRelease/2015/-3billion-action-plan-to-enable-singaporeans-to-age-successfully.html](https://www.moh.gov.sg/content/moh_web/home/pressRoom/pressRoomItemRelease/2015/-3billion-action-plan-to-enable-singaporeans-to-age-successfully.html).

<sup>34</sup> Ministry of Health, “Launch of Action Plan for Successful Ageing Report Kickstarts Dialogue on ‘The Future of Ageing,’” *70 Initiatives to Enable Singaporeans to Age Confidently*, February 24, 2016, [https://www.moh.gov.sg/content/moh\\_web/home/pressRoom/pressRoomItemRelease/2016/70-initiatives-to-enable-singaporeans-to-age-confidently.html](https://www.moh.gov.sg/content/moh_web/home/pressRoom/pressRoomItemRelease/2016/70-initiatives-to-enable-singaporeans-to-age-confidently.html).

By the start of the new millennium, many aspects of ageing policies had started to incorporate a holistic socio-urban dimension. Thus, the formulation of ageing policy and urban development in Singapore were intrinsically linked in the mission of creating a successful ageing framework for the city.

### Urban ageing: policy implementations, gaps, and critiques

Singapore aimed to create an age-friendly city through the overall concept of ageing-in-place. This framework was highly relevant to its urban environment due to the prevalence of its ubiquitous public housing landscape (i.e. HDB flats), and the fact that over 80% of Singapore's resident population live in these flats.<sup>35</sup> Understanding the distribution of the elderly population across urban and spatial dimensions (see Annex, Figure 2) had been vital to developing the various ageing policies mentioned in the previous section. At the same time, national agencies had the ability to collaborate, coordinate, and implement the "Successful Ageing" policy framework, and later, the CFAA project, with age-friendly services and facilities, geographically across towns and districts. The four key policy areas and their pros and cons are discussed in the following segments.

### *Housing for the silver age*

Age-friendly housing was one of the primary areas that the CAI recommended as the key ingredient for successful ageing. The CAI envisioned that as the older person aged, they could continue to live with a community in familiar surroundings and preferably among loved ones, while having opportunities to interact with other residents of different age groups. This would provide emotional and mental support to seniors and prevent the problem of isolation and loneliness. To this end, the HDB provided a variety of public housing options and financing schemes to meet different living arrangements and financial needs of the older population.

*Exhibit 1: HDB housing options and schemes for the elderly*

<b>Types of housing options and schemes<sup>36</sup></b>	<b>Summary of Features</b>
1-room Rental Units	<ul style="list-style-type: none"> <li>- Caters to elderly, singles, and small families.</li> <li>- Caters to those in lower-income brackets or require short-term lease options.</li> </ul>
Studio Apartments (SAs) <i>Launched in 1998</i>	<ul style="list-style-type: none"> <li>- Eligible for those aged 55 and above.</li> <li>- Sold on 30-year leases.</li> <li>- Available in two sizes (35m<sup>2</sup> and 45m<sup>2</sup>) to house one- or two-member household.</li> <li>- Customised for independent and elderly living.</li> <li>- Equipped with elderly-friendly and other safety features such as: lever taps, non-slip tiles, leveled</li> </ul>

<sup>35</sup> Housing & Development Board, "Public Housing – A Singapore Icon," *HDB InfoWEB*, October 26, 2015, <http://www.hdb.gov.sg/cs/infoweb/about-us/our-role/public-housing--a-singapore-icon>.

<sup>36</sup> Refer to HDB InfoWEB for further and up to date information. Housing & Development Board, "Types of Flats," *HDB InfoWEB*, March 6, 2017, <http://www.hdb.gov.sg/cs/infoweb/residential/buying-a-flat/new/types-of-flats>; Housing & Development Board, "For Our Seniors," *HDB InfoWEB*, March 8, 2017, <http://www.hdb.gov.sg/cs/infoweb/residential/living-in-an-hdb-flat/for-our-seniors>.

	flooring between rooms, support rails in bathrooms, emergency pull cords within house linked to Alert Alarm System (AAS), grab bars fitted through house, etc. <sup>37</sup>
2-room Flexi Scheme <sup>38</sup> <i>Launched in 2015</i>	<ul style="list-style-type: none"> <li>- Caters to elderly, singles, and small families.</li> <li>- Flexibility to choose length of lease on the 2-room flat, based on age, needs, and preferences.</li> <li>- For those aged 55 and above, available lease options of between 15 to 45 years in 5-year increments.</li> </ul> <p><i>Senior Priority Scheme (SPS)</i></p> <ul style="list-style-type: none"> <li>- Scheme helps elderly residents who wish to age-in-place in a familiar environment or live near their older parents or married child, in a 2-room Flexi flat.</li> </ul>
Tri-generational Flats <i>Launched in 2013</i>	<ul style="list-style-type: none"> <li>- Caters to the needs of multi-generation families who wish to stay under one roof.</li> <li>- 4 bedrooms, 3 bathrooms, (2 of which are en-suite).</li> <li>- Eligible only to applicants with multigenerational families, comprising at least a married or courting couple and their parents(s) listed in the application.</li> </ul>
Married Child Priority Scheme (MCPS)	- Caters to encourage married children and parents to reside together, or within the same estate, or within neighbouring estate to foster care of aged parents.
Multi-Generation Priority Scheme (MGPS)	- Caters to encourage families to stay close to each other in specific integrated flat types (tri-generation flats).

Elderly SAs (commonly identified by the pre-fix of “Golden-”) such as Golden Jasmine in Bishan estate and Golden Tulip in Bukit Merah View were introduced island-wide. Usually located within mature housing estates with well-established transportation networks, these are typically standalone blocks. Recent developments are now integrated within blocks with other flat-types. Elder-friendly features and provision of senior-centric services and health facilities within the SA blocks benefited the seniors. These flats were also one of the methods recommended by the HDB for those above 55 years to monetise their existing larger flats and downgrade to a smaller flat on a Lease Buyback Scheme (LBS)<sup>39</sup> to receive a stream of income in their retirement years.

However, there have been some negative outcomes resulting from the nature of these apartments. A 2008 study found that these age-segregated SA communities in standalone blocks, saw a “corresponding negative effect of the psychological and social environments [in

<sup>37</sup> Council for Third Age [C3A], “Studio Apartments,” *Schemes for Seniors*, accessed June 27, 2017, [http://www.c3a.org.sg/Benefits\\_details.do?id=127](http://www.c3a.org.sg/Benefits_details.do?id=127).

<sup>38</sup> Yeo Sam Jo, “More Flexible HDB Flat Options for Elderly Buyers,” *The Straits Times*, August 20, 2015, <http://www.straitstimes.com/singapore/housing/more-flexible-hdb-flat-options-for-elderly-buyers>.

<sup>39</sup> Singapore Ministry of Communications and Information, “7 Ways the Government Is Helping Seniors,” June 21, 2016, <http://www.gov.sg/news/content/7-ways-the-government-is-helping-seniors>; The Sunday Times, “Schemes to Monetise Flats ‘can Be Simpler,’” *Singapore Press Holdings*, June 9, 2013.



which] the monotonic social group [...] breeds morbidity, a sense of rejection and despair”.<sup>40</sup> At the same time, the goal of ageing-in-place was challenged due to the lack of availability of SAs within the existing neighbourhood of those who chose this option. Relocation of seniors to unfamiliar neighbourhoods led to disconnection from their familiar urban and social environments, thus exacerbating the sense of isolation and loneliness<sup>41</sup>.

In the public housing realm, HDB introduced various upgrading schemes aimed at improving and enhancing ageing public housing estates for the growing population of elderly residents. Some of these schemes included the Main Upgrading Programme (MUP), Housing Improvement Programme (HIP), Lift Upgrading Program (LUP), Project Lift Improvement and Facilities Enhancement for Elderly Project (Project LIFE), and Essential, Optional and Enhancement for Active Seniors (EASE). These aimed to improve the overall living environment of housing estates at the precinct level, block level, and unit level.<sup>42</sup> However, results from a 2011 National Survey of Senior Citizens found that a majority (74.2%) of public and private dwelling types surveyed still did not include elder-friendly features such as non-slip tiles and grab bars in bathrooms.<sup>43</sup> The process of catering to the increasing population of senior citizens in island-wide public housing estates was an on-going challenge that HDB faced.

In 2012, the government began exploring the possibility of retirement villages. The URA released its first “Short term residential development land parcel” for a site in Jalan Jurong Kechil for a “private retirement housing product”.<sup>44</sup> This retirement community residential development with a 60-year leasehold was launched in 2014. The project received much interest from many seniors who were looking for a retirement community that could “offer seniors much-needed companionship from like-minded peers”, with the special provision of elder-friendly “services, facilities and on-site care management”.<sup>45</sup> However, some observers highlighted that the development’s units were priced steeply, its showflat’s interiors posed some accessibility obstacles for wheelchair-users, and no age restrictions were imposed on buyers – thus potentially compromising the initial aim of a retirement village community.<sup>46</sup>

<sup>40</sup> Addae-Dapaah, “Age Segregation and the Quality of Life of the Elderly People in Studio Apartments,” 152.

<sup>41</sup> Chong et al., “Successful Aging in a High-Density City-State A Review of Singapore’s Aging Policies and Urban Initiatives,” 87; Keng Hua Chong et al., “Psychosocial Well-Being of the Elderly and Their Perception of Matured Estate in Singapore,” *Journal of Housing For the Elderly* 29, no. 3 (July 3, 2015): 259–97, doi:10.1080/02763893.2015.1055025.

<sup>42</sup> The HIP was renamed from the 1990 Main Upgrading Programme (MUP). Housing & Development Board, “Types of Upgrading Programmes,” *HDB InfoWEB*, accessed June 28, 2017, <http://www.hdb.gov.sg/cs/infoweb/residential/living-in-an-hdb-flat/sers-and-upgrading-programmes/types>.

<sup>43</sup> Soon Hock Kang, Ern Ser Tan, and Yap Mui Teng, “The National Survey of Senior Citizens in Singapore 2011” (Singapore: Institute of Policy Studies, 2011), 22, <https://www.msf.gov.sg/publications/Pages/National-Survey-of-Senior-Citizens-2011.aspx>.

<sup>44</sup> The Jalan Jurong Kechil site was tendered out by the URA on a first-time 60-year lease “Short term residential development land parcel” condition. Cheryl Ong, “All 281 Units of Retirement Resort Sold out within Hours, Singapore News & Top Stories - The Straits Times,” *The Straits Times*, January 18, 2014, <http://www.straitstimes.com/singapore/all-281-units-of-retirement-resort-sold-out-within-hours>.

<sup>45</sup> Radha Basu, “Ageing Singapore to Get First Retirement Village,” *The Straits Times*, November 12, 2013, <http://www.asiaone.com/news/yourhealth/ageing-singapore-get-first-retirement-village>.

<sup>46</sup> Radha Basu, “Lots of Room for Improvement at ‘Retirement Resort’ - The Straits Times,” *ST Property*, January 13, 2014, <http://www.stproperty.sg/articles-property/singapore-property-news/lots-of-room-for-improvement-at-retirement-resort/a/149997>.

Other future retirement village projects and proposals were announced subsequently. These included the Tsao Foundation's proposal to repurpose a cluster of older HDB blocks in Whampoa into an integrated retirement village comprising of elderly studio apartments, a 10-room ward and nursing home model with nursing and medical staff on hand<sup>47</sup>; and the St Bernadette Lifestyle Village, a group living nursing home concept housed in a single-storey bungalow.<sup>48</sup> The retirement village and community model have been left largely to the exploration of the private sector. However, owing to the centralised nature of Singapore's landuse planning, the creation of this typology of housing still required close collaborations with state agencies such as URA, HDB, and MOH.

### **Accessibility – in the urban environment**

As one ages, disability prevalence increases, and one's sphere of mobility decreases. Accessibility from one's home to public amenities and facilities for seniors to participate and engage in community life and activities is crucial to prevent isolation and depression.<sup>49</sup> The CAI proposed better coordination between major government agencies, such as the Building and Construction Authority (BCA), Land Transport Authority (LTA), and Town Councils, which manage public housing estates island-wide – to achieve “an inclusive, elder-friendly place, that allows older persons to integrate with the wider community and lead active lives” in homes, buildings and outdoor built environment.<sup>50</sup> The main goal of accessibility requires improving barrier-free access between housing estates and transport networks.<sup>51</sup>

Since 2007, improvements to BCA's Code on Accessibility in the Built Environment included improved interconnectivity and accessibility links between buildings (e.g. shopping malls and industrial buildings) and from buildings to key public spaces (e.g. parks, open spaces, transport nodes and bus shelters); supporting “ageing-in-place” by stipulating elder-friendly features within residential units for future retrofitting, passage and entryway design, installation heights of switches and sockets; and, the provision of lifts for accessibility to all floors and communal areas.<sup>52</sup> These enhancements to the urban environment were also implemented in tandem with the Ministry of Social and Family Development (MSF)'s “Enabling Masterplan 2012-2016” to build an inclusive and enabling society for people with diverse needs (persons with disabilities, families with young children, elders and their caregivers).

On the transport network scale, the LTA launched the Land Transport Masterplan in 2008 to create “a more people-centred land transport system that [would] meet the diverse needs of

<sup>47</sup> “Whampoa Likely to House Singapore's First HDB Retirement Village,” *iProperty.com*, November 28, 2013, <https://www.iproperty.com.sg/news/7961/Whampoa-likely-to-house-Singapore%E2%80%99s-first-HDB-retirement-village->.

<sup>48</sup> Janice Tai, “First Retirement Village Opens in Singapore in December,” Text, *The Straits Times*, (November 8, 2015), <http://www.straitstimes.com/singapore/first-retirement-village-opens-in-singapore-in-december>.

<sup>49</sup> Frank Oswald et al., “Relationships between Housing and Healthy Aging in Very Old Age,” *The Gerontologist* 47, no. 1 (February 2007): 96–107; Liliane Rioux, “The Well-Being of Aging People Living in Their Own Homes,” *Journal of Environmental Psychology* 25, no. 2 (June 2005): 231–43, doi:10.1016/j.jenvp.2005.05.001.

<sup>50</sup> Committee on Ageing Issues (CAI), “Report on the Ageing Population,” 23.

<sup>51</sup> Chong et al., “Successful Aging in a High-Density City-State A Review of Singapore's Aging Policies and Urban Initiatives,” 88.

<sup>52</sup> Building and Construction Authority, “Code on Accessibility in the Built Environment 2007” (Singapore: BCA, 2007); “Code on Accessibility in the Built Environment 2013” (Singapore: BCA, 2013).

an inclusive, liveable, and vibrant global city”.<sup>53</sup> Measures and improvements included commissioning more low-floor, wheelchair-accessible buses, and improving barrier-free access pathways, lifts and walkways to connect Mass Rapid Transit (MRT) stations, bus stops and interchanges. A “Green Man Plus” scheme was also implemented to allow elders and disabled pedestrians extended road-crossing time, while new “Car-Free or Car-Less Zones” initiatives promoted safety and walkability to benefit the elderly<sup>54</sup>.

An area of concern in transportation for the older population was elder pedestrian safety<sup>55</sup>. According to recent Singapore Police Force statistics (2010, 2011, 2012), senior pedestrians comprised about half of fatalities in road accidents, and majority of deaths resulted from jaywalking.<sup>56</sup> A variety of reasons for this issue could include environmental design causes: difficulty for elders with mobility issues to walk to distant designated crossings, lack of adequate road crossings connecting popular destinations, desire to avoid unpleasant walking experiences (hot weather, unsheltered paths), the lack of sufficient or appropriate audio-tactile crossing cues, as well as motorists’ negligence. In conclusion, planning for more inclusive accessibility is a multi-faceted transport and connectivity issue that requires greater coordination among various agencies.

### ***Integrated healthcare and eldercare mapping***

The CAI’s policy recommendation focused on creating a smooth transition between healthcare facilities in terms of medical and health services, as well as the integration of delivery from primary care to step-down and continuing care to promote ‘ageing-in-place’ for the elderly within their community<sup>57</sup>.

Prior to the CAI, the Eldercare Masterplan (2001-2005) established a network of community-based eldercare service centres privately run by VWOs. The number of ‘day care centres,’ ‘senior activity centres,’ ‘home medical services,’ and ‘home help services,’ increased dramatically from 1998 to 2005 in housing estates with a larger population of senior residents.<sup>58</sup> However, one of the downsides to this demographic clustering was the tendency of under-provision in communities with a smaller volume of potential clientele.<sup>59</sup>

In 2017, the MOH announced that it would implement a major restructuring of its healthcare sector from its current six clusters of regional health systems to three integrated clusters by

<sup>53</sup> Land Transport Authority, “Land Transport Masterplan 2008 - a People-Centred Land Transport System” (Singapore: LTA, 2008), 4.

<sup>54</sup> Land Transport Authority, “Land Transport Masterplan 2008 - a People-Centred Land Transport System”; “Land Transport Masterplan 2013” (Singapore: LTA, 2013).

<sup>55</sup> Chong et al., “Successful Aging in a High-Density City-State A Review of Singapore’s Aging Policies and Urban Initiatives,” 91.

<sup>56</sup> See Singapore Police Force annual reports, [www.spf.gov.sg/prints/tp\\_annual/2012/index\\_tp\\_12.htm](http://www.spf.gov.sg/prints/tp_annual/2012/index_tp_12.htm); [www.spf.gov.sg/stats/traf2010\\_concern.htm](http://www.spf.gov.sg/stats/traf2010_concern.htm). See also Singapore Road Safety Council (SRSC): [srsc.org.sg/advisories/children-senior-citizens-road-safety-accidents](http://srsc.org.sg/advisories/children-senior-citizens-road-safety-accidents).

<sup>57</sup> Committee on Ageing Issues (CAI), “Report on the Ageing Population,” ix.

<sup>58</sup> For an example of spatial distribution of various eldercare services within a mature housing estate, refer to: Chong et al., “Psychosocial Well-Being of the Elderly and Their Perception of Matured Estate in Singapore,” 267.

<sup>59</sup> See, C.S. Chua, “Getting the Elderly to Remain Active” (Singapore: Institute of Policy Studies, 2010); Chong et al., “Successful Aging in a High-Density City-State A Review of Singapore’s Aging Policies and Urban Initiatives,” 92.

2018.<sup>60</sup> These structural improvements would include a geographical reorganisation of its existing clusters, to offer a fuller range of services, encompassing acute hospital care, primary care and community care, including a medical school within each cluster<sup>61</sup> (see Annex, Figure 3). This implementation would result in several polyclinics being transferred across their existing six groups, so that every cluster would have a better distribution of primary care services, and “different types of public healthcare facilities near one's home were more likely to come under the same management”.<sup>62</sup>

These changes could further improve the coordination that had thus far taken place between MOH (its public hospitals and polyclinics) and MSF (previously MCYS) through the Community Case Management Services (CCMS) in various VWOs since the early 2000s.<sup>63</sup> The CCMS provided integrated case management services for frail, at-risk, and low-income elders (and their caregivers) through a post-hospitalisation support system of medical, homecare, mobility devices, and financial and social services to enable them to live at home in optimal health. These CCMS typically operated within designated geographical boundaries, and served clientele who lived within their cluster of designated hospital systems.

However, there were still gaps between this ‘vertical integration’ of the healthcare sector that might yet require further tweaking and deliberation. This public healthcare sector structural change only affected the public healthcare components of the ecosystem, but lacked formal regulations involving the private or VWO sectors, as patients were still free to move across clusters to seek different levels of healthcare and services.<sup>64</sup>

Lastly, a recent addition to the eldercare landscape of Singapore was the introduction of new mega, multi-storey nursing home facilities within public housing estates to tackle the rising numbers of elderly, rise of dual income and decline of extended families, and increase in age-related degenerative disorders due to increased longevity. Some examples included the Lion's Home for the Elders in Bishan, Ren Ci Nursing Home in Bukit Batok, and St Andrew's Nursing Home in Buangkok<sup>65</sup> (see Annex, Figure 4). However, this move received mixed, and often negative, ‘Not in My Backyard’ (NIMBY) responses from neighbouring residents. Their concerns ranged from the perceived loss of privacy and public spaces, and the view that nursing homes are detrimental to the resale value of their properties.<sup>66</sup>

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<sup>60</sup> “Public Healthcare Sector to Be Reorganised into 3 Integrated Clusters, New Polyclinic Group to Be Formed, Health News & Top Stories - The Straits Times,” *The Straits Times*, January 18, 2017, <http://www.straitstimes.com/singapore/health/public-healthcare-sector-to-be-reorganised-into-3-integrated-clusters-new>.

<sup>61</sup> “Coming Soon to a Cluster near You: Seamless Healthcare,” Text, *The Straits Times*, (January 19, 2017), <http://www.straitstimes.com/singapore/health/coming-soon-to-a-cluster-near-you-seamless-healthcare>.

<sup>62</sup> Ibid.

<sup>63</sup> Some examples include Tsao Foundation's Hua Mei CCMS, Fei Yue Cluster Support, Agency for Integrated Care's (AIC) CCMS, etc.'

<sup>64</sup> Jeremy Lim, “Three-Cluster Health System: It's about Integration, Not Competition,” Text, *The Straits Times*, (January 21, 2017), <http://www.straitstimes.com/opinion/three-cluster-health-system-its-about-integration-not-competition>.

<sup>65</sup> Nadia Jansen Hassan, “Ren Ci Nursing Home in Bukit Batok Officially Opens,” *Channel NewsAsia*, January 22, 2016, <http://www.channelnewsasia.com/news/singapore/ren-ci-nursing-home-in-bukit-batok-officially-opens-8198778>; “St Andrew Nursing Home (Buangkok),” accessed June 28, 2017, <http://www.samh.org.sg/sanh>.

<sup>66</sup> Sze Meng Khoo et al., “Nimby Syndrome in Singapore : A Study on Eldercare Facilities,” 2013, <https://repository.ntu.edu.sg/handle/10356/52132>.

One of the methods in which such developments had sought to soften residents' stance was to initiate the sharing of common spaces and facilities for residents. In one example, Ren Ci Nursing Home allowed neighbouring HDB residents to use its multi-purpose hall and gymnasium after working hours.<sup>67</sup> This tension over urban public spaces, particularly in residential estates, remains an ongoing challenge among the government, public, and private stakeholders in the domain of providing eldercare facilities for seniors.

### ***Opportunities and space for active lifestyles and well-being***

Encouraging strong family ties and seniors to remain healthy and engaged in their communities through the provision of programmes and services, was another recommendation that the CAI promoted as the first line of support for the elderly.<sup>68</sup> This would help reduce isolation of the elderly person within the home and community, as one's social network naturally dwindles with age and loss of family members and friends. A \$10 million "GO! (Golden Opportunities!) Fund" was set up to seed various programmes and activities for seniors and by seniors.<sup>69</sup> This included the activation of the PA in outreach efforts through a 2008 "Wellness Programme" in 12 pilot sites within selected CCs in various housing estates, and subsequently over 87 constituencies island-wide by 2015.<sup>70</sup> These included mobile health screening for chronic diseases and health talks organised for seniors (co-organised with the Health Promotion Board) which capitalised on the island-wide location of CCs. Through the PA Senior Citizens' Executive Committees (SCECs) network, PA hosted over 400 Senior Citizens' Clubs, events and activities to engage and promote senior participation, particularly with other community stakeholders like regional libraries and childcare centres.

Within public housing estates, two features were implemented. First, more elder-friendly sports facilities (fitness stations, rehabilitation equipment) were installed alongside public playgrounds to encourage intergenerational interactions in community. Second, the void decks of housing blocks were increasingly converted into spaces for Senior Citizens' Corners (SCCs) and Residents' Committee centres (RCs) where members could gather for events. These inter-agency and public sector initiatives within the urban fabric of Singapore's public housing heartlands helped to raise awareness of the importance of active ageing and elderly well-being.

At the same time, some debate had risen over the lack of ground-up civic participation coming from elderly themselves. These included the lack of outreach to seniors living in dispersed private housing estates, who did not fall within convenient distance to CCs and public parks to access these public programmes, and the reluctance of seniors to participate due to the perceived sense of exclusivity of clubs and committees. Furthermore, there were examples of community gardens initiated organically amongst groups of seniors, which were disbanded or left in limbo, due to difficulty or failure to obtain official approval from government agencies for the use of state land within HDB estates.<sup>71</sup>

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<sup>67</sup> "Residents Soften NIMBY Stance on Eldercare Centres," *TODAYonline*, April 14, 2014, <http://www.todayonline.com/singapore/residents-soften-nimby-stance-eldercare-centres>.

<sup>68</sup> Committee on Ageing Issues (CAI), "Report on the Ageing Population," v.

<sup>69</sup> *Ibid.*, 56.

<sup>70</sup> People's Association, "Nationwide Wellness Programme for All Seniors [Press Release]," Press Release, (May 24, 2010), <http://www.pa.gov.sg/highlights/nationwide-wellness-programme-151.html>.

<sup>71</sup> Kampung Senang Organic Farming in Tampines is mentioned as a successful example in the CAI "Report on the Ageing Population." Another example is the case of a farming community of largely senior residents along the

While active ageing policies and programmes could be successfully implemented, the challenge of civic participation and volunteerism remained, including that of making allowances for the ground-up development of activities, use of common spaces and facilities by future cohorts of seniors.

### **Urban futures of an ageing society**

In conclusion, the challenge of an ageing demographic for Singapore, and the world at large, is more than a social and population policy issue. As cities grow denser, more crowded, and increasingly inter-connected, the urban environment becomes a critical element in thinking about how to house, heal, and engage the ageing populace. The needs and demands of a healthier, better educated, richer, and older population point towards the importance of more collaboration between multi-agencies and the private sector to innovate on programmes, services, and typologies of housing and healthcare.

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periphery of Clementi Avenue 4 housing estate, which faced eviction. Channel News Asia, "Community Farm for Clementi Residents Launched," March 3, 2013, Channel News Asia edition.

### **Proposed discussion questions**

1. What are some qualities or desires of the future cohort of seniors that will affect the short- and long-term housing planning vision of Singapore (e.g. more studio apartments, retirement village model, group-living, others)? In designing housing policy, what are the various stakeholders' views and interests that should be taken into consideration?
2. What trade-offs could arise from changes in the leasehold structure of land and housing in the negotiation between the private and government sectors, and the general public? How can these demands be reconciled?
3. Share some experiences that you had in the urban environment that posed difficulties or constraints for mobility and accessibility for you and others. How did stakeholder coordination – or the lack of – affect the creation of an inclusive and barrier-free environment?
4. Do you think that the high-rise mega nursing home model is a viable future solution to the issue of a growing ageing Singapore population? What are the pros and cons of the model of dense old-age living?
5. Considering the increasing widespread use of smart technology and devices: What aspect of growing old in a highly urbanised environment will benefit from this? What will not? To what extent can technology help to address the ageing issue in Singapore?

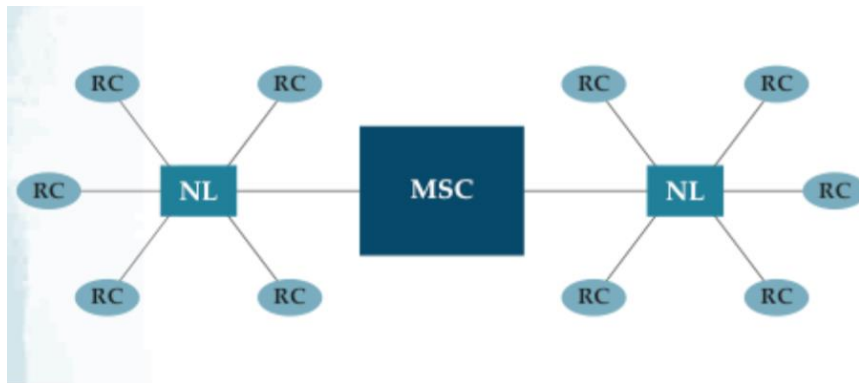
**Annex**

Figure 1. Schematic diagram of network for delivery of community-based services. The Multi-service Centre (MSC) which refers to Community Clubs (CCs), are connected with Neighbourhood Links (NL) or neighbourhood community service centres, that then link to the Resident Committee centres (RC). (Source: MCDS, Eldercare Masterplan AY2001-2005 Report, p. 6)



[illegible]

Figure 2. Proportion of Resident Population Aged 65 years and Over by Planning Area, June 2016. (Source: “Population Trends 2016”, Department of Statistics, Ministry of Trade & Industry, Republic of Singapore, p. 15).

**WEST****National University Health System**

- **General hospitals:** National University Hospital, Ng Teng Fong General Hospital
- **Community hospital:** Jurong Community Hospital
- **Primary care:** Bukit Batok Polyclinic, Choa Chu Kang Polyclinic, Clementi Polyclinic, Jurong Polyclinic, Queenstown Polyclinic, \*Bukit Panjang Polyclinic, \*Pioneer Polyclinic
- **National specialty centres:** National University Cancer Institute, Singapore; National University Heart Centre, Singapore; National University Centre for Oral Health, Singapore
- **Medical school:** Yong Loo Lin School of Medicine, National University of Singapore

**CENTRAL****National Healthcare Group**

- **General hospitals:** Tan Tock Seng Hospital, Khoo Teck Puat Hospital, \*Woodlands General Hospital (name to be confirmed)
- **Community hospitals:** Yishun Community Hospital, \*Woodlands Community Hospital (name to be confirmed)
- **Primary care:** Ang Mo Kio Polyclinic, Geylang Polyclinic, Hougang Polyclinic, Toa Payoh Polyclinic, Woodlands Polyclinic, Yishun Polyclinic, \*Sembawang Primary Care Centre
- **National specialty centre:** National Skin Centre
- **Specialised hospital:** Institute of Mental Health
- **Medical school:** Lee Kong Chian School of Medicine, Nanyang Technological University

**EAST****Singapore Health Services**

- **General hospitals:** Singapore General Hospital, Changi General Hospital, \*Sengkang General Hospital
- **Community hospitals:** Bright Vision Hospital, \*Outram Community Hospital, \*Sengkang Community Hospital
- **Primary care:** Bedok Polyclinic, Bukit Merah Polyclinic, Marine Parade Polyclinic, Outram Polyclinic, Pasir Ris Polyclinic, Sengkang Polyclinic, Tampines Polyclinic, \*Eunos Polyclinic, \*Punggol Polyclinic
- **National specialty centres:** National Cancer Centre Singapore, National Dental Centre Singapore, National Heart Centre Singapore, National Neuroscience Institute, Singapore National Eye Centre
- **Specialised hospitals:** KK Women's and Children's Hospital
- **Medical school:** Duke-NUS Medical School



NOTE: \*Future institutions

Source: MOH

Figure 3. Three clusters of Healthcare Sectors to be completed by 2018. (Source: Ministry of Health).



Figure 4. (Left) Lion's Home for the Elders in Bishan estate; (Right) Ren Ci Nursing Home Bukit Batok. (Source: Completed Healthcare Facilities, [https://www.moh.gov.sg/content/moh\\_web/home/pressRoom/resources/completed-healthcare-facilities.html](https://www.moh.gov.sg/content/moh_web/home/pressRoom/resources/completed-healthcare-facilities.html))

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