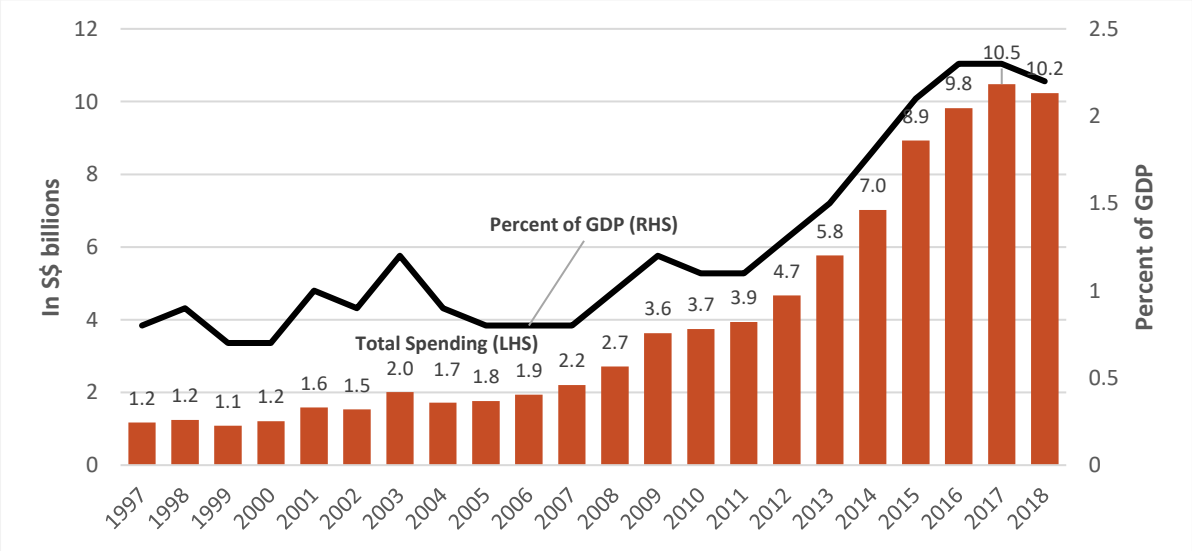
Providing Affordable Healthcare to the Elderly

Policymakers in developed countries are grappling with twin challenges. On the one hand, their populations are ageing and require more state-funded medical care. But, on the other, economic growth has slowed down and tax bases might shrink in the coming years as populations age. These trends will limit the growth in the tax revenues required to fund healthcare programmes.

These are serious challenges for both large and small economies. In the US, the biggest threat to the nation's balance sheet is the skyrocketing cost of healthcare brought about by an ageing population and the escalating cost of medical care (see **Box 1**). Singapore too has had to grapple with similar challenges (see **Exhibit 1**). Between 2011 and 2018 alone, the Singapore government's spending on healthcare more than doubled from $3.9 billion to $10.2 billion (or from 1.1 to 2.2 per cent of GDP).[1] By 2020, the government expects to spend more on healthcare than on every other area except defence.[2]

Exhibit 1: Healthcare Spending in Singapore, 1997 to 2017



Source: Singapore's Ministry of Finance

[1] Ministry of Finance, "Budget Speech," last modified February 19, 2018, https://www.singaporebudget.gov.sg/budget_2018/BudgetSpeech/pe.
[2] "Budget Speech."

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The Singapore government has been planning for the healthcare needs of an ageing population for decades. Through incremental changes, it has made progress in two broad areas: first, Singapore has developed a healthcare financing system[3] – colloquially known as the S+3Ms system – that helps Singaporeans to pay for a basic level of healthcare, especially in the hospital setting. Second, it has become a norm for the government to work with the private sector and community organisations to improve the accessibility, quality, and cost effectiveness of healthcare.

Singapore's innovations in these areas have been widely admired but also criticised. There continues to be concerns about a range of issues, especially the cost and affordability of medical care. By focusing primarily on Singapore's experience, this case study examines two closely related issues: the schemes that might help citizens to pay for healthcare as they age, and how healthcare costs can be managed so that healthcare is affordable for users, profitable for providers, and fiscally sustainable for governments.

Box 1: Healthcare Spending in America

Americans spend a significant amount of their incomes on healthcare, more so than any country in the world.[4] In 2017, they spent a total of US$3.5 trillion or about 18 per cent of GDP on medical care.[5] There is evidence that this financial burden, which is shared between employers, citizens and the government, has eroded the global competitiveness of American businesses, bankrupted millions of families, and strained the government's budget.[6] Indeed, the Obama Administration had repeatedly warned Americans that the biggest threat to the country's fiscal health was healthcare, and by a wide margin.[7]

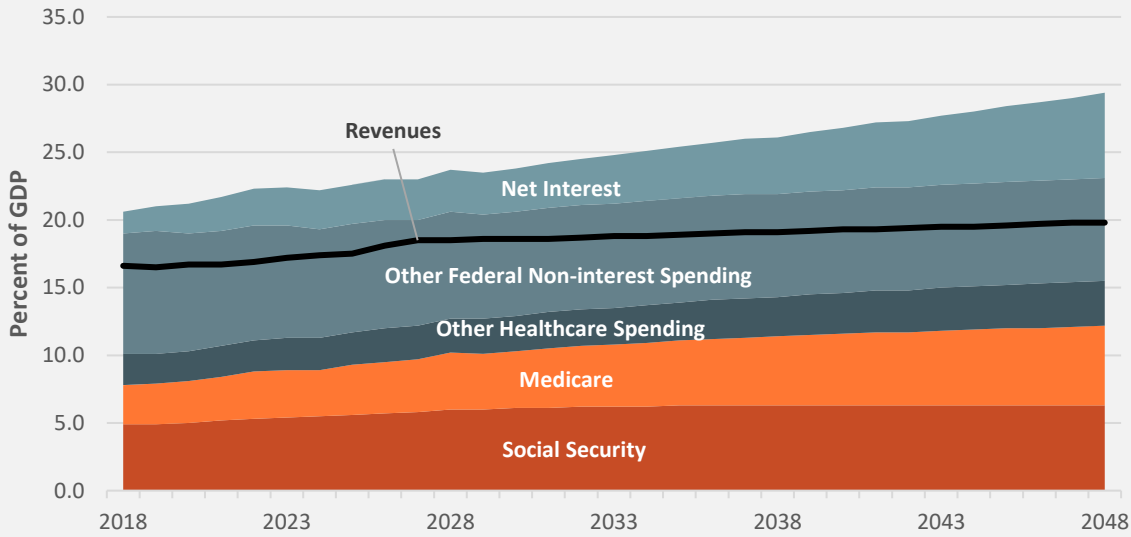
This threat has persisted. In 2018, the Congressional Budget Office (CBO)[8] projected that unless policies changed, federal spending on Medicare, a health insurance scheme for elderly Americans, would grow from almost 3 per cent of GDP in 2018 to almost 6 per

[3] This system comprises government subsidies – most of which are means-tested – as well as a health savings account (Medisave), a catastrophic insurance scheme with co-payment features (MediShield Life), and a severe disability insurance scheme (ElderShield, which will be enhanced and renamed CareShield Life in 2020).
[4] The US spends almost 22 per cent more per capita than Switzerland, the OECD country with the second highest healthcare expenditure per capita. OECD Data, "Health Spending," last modified 2018, https://data.oecd.org/healthres/health-spending.htm.
[5] Centers for Medicare and Medicaid Services, "National Expenditure Data," last modified November 12, 2018, https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nationalhealthaccountshistorical.html.
[6] See Atul Gawande, "The Cost Conundrum," *New Yorker*, June 1, 2009, https://www.newyorker.com/magazine/2009/06/01/the-cost-conundrum.
[7] "Obama's Remarks at the White House Health Care Forum," *The New York Times*, March 5, 2009, https://www.nytimes.com/2009/03/05/us/politics/05obama-text.html.
[8] The Congressional Budget Office (CBO) is a nonpartisan institution that produces independent analyses of budgetary and economic issues to support the Congressional budget process in the US.

cent by 2048. In contrast, spending on Social Security, a tax-funded pension scheme, would grow from about 5 per cent to about 6 per cent (see **Exhibit 2**).[9]

Healthcare spending is projected to grow much faster not only because of an ageing population and but also because of the escalating cost of healthcare per person. The CBO has repeatedly warned that unless the US government raised taxes, reduced its spending or did both, debt would soar, and economic growth would slow down. But these policy options are politically difficult to implement and cannot significantly curb the rapid growth in medical costs. So, the debate rages on in America on what can be done to resolve this cost conundrum.

Exhibit 2: US' Federal Revenues and Spending



Source: CBO

Living Longer, But Not Healthier

Singapore's population is ageing rapidly. In 1970, a tourist visiting Singapore would have hardly seen an elderly person. But by 2017, 13 per cent of Singapore's residents were 65 years old or older.[10] And, by 2030, one in five, or 960,000 residents, will be seniors (see **Annex A** for population projections).[11]

[9] CBO, "Long-Term Budget Outlook," last modified June 26, 2018, https://www.cbo.gov/publication/53919.
[10] DOS, "M810611 – Key Indicators on the Elderly, Annual," last modified January 2, 2019, https://www.tablebuilder.singstat.gov.sg/publicfacing/createDataTable.action?refId=14914.
[11] Various government speeches including "Speech by Dr Amy Khor Minister of State for Health at the Launch of the Temasek Cares-iCommunity@North Progamme, 23 July, at Khoo Teck Puat Hospital," last modified July 28, 2018, https://www.aic.sg/sites/aicassets/AssetGallery/Speeches/Launch%20of%20iCommunity@North%20on%2023%20Jul%2012.pdf.

With each passing decade, Singapore's seniors can expect to live longer. But even as their lives gets longer, they might not get healthier. Over the years, Singapore's Health Ministry had found that the prevalence of chronic conditions like high blood pressure, high cholesterol and diabetes had been increasing since 1992 (see **Exhibit 3**). These conditions have their genesis in two other chronic problems: obesity and smoking. While the prevalence of daily smoking had fallen since 1992, the reverse had happened for obesity. In 2017, more than a third of adults aged 18 to 69 years old were overweight. About 9 per cent were obese.[12]

Exhibit 3: Prevalence of chronic conditions and other risks factors amongst Singapore residents aged 18 to 69 years

Condition or Risk Factor	National Health Survey				National Population Health Survey
	1992	1998	2004	2010	2017
Overweight (including the obese)	26.2%	30.5%	32.5%	40.1%	36.2%
Obesity	5.1%	6.0%	6.9%	10.8%	8.7%
Daily smoking	18.3%	15.2%	12.6%	14.3%	12.0%
Diabetes mellitus	7.3%	7.4%	7.0%	8.3%	8.6%
High blood pressure	16.1%	21.5%	20.1%	18.9%	21.5%
High cholesterol				25.2%	33.6%
Sufficient total physical activity					81.0%

Source: Ministry of Health
Notes (from source): The findings of different surveys are not directly comparable and should be interpreted with caution because of differences in survey methodology.

Seniors also face the risk of becoming severely disabled. The Health Ministry had predicted that one in two healthy Singaporeans aged 65 could become severely disabled in their lifetimes,[13] losing the functional ability to perform activities of daily living like washing, dressing, eating, going to the toilet, walking and transferring (say, from a bed to a chair).

The implication of these trends is that seniors might live longer in future but might also spend these additional years living with diseases and disabilities.[14] Consequently, they

[12] Ministry of Health (MOH), "Executive Summary on National Population Health Survey 2016/17," last modified August 25, 2018, https://www.moh.gov.sg/resources-statistics/reports/national-population-health-survey-2016-17.
[13] MOH, "ElderShield Review Committee Report," last modified 25 May 2018, https://www.moh.gov.sg/docs/librariesprovider6/resources/eldershield-review-committee-report.pdf.
[14] One worldwide assessment that corroborates this is the Global Burden of Disease Study conducted by the Harvard School of Public Health and the Institute for Health Metrics and Evaluation at the University of Washington. For a summary, see Harvard School of Public Health, "Study finds years living with disease, injury

would use more healthcare than younger residents,[15] and might even require continuous long-term care. This raises a host of issues for policymakers, perhaps the most basic being: what should be the policy principles for providing healthcare to the elderly?

Finding and Refining Principles through High-Level Committees

The Singapore government began its search for these principles early. In 1982, it set up the Committee on the Problems of the Aged. This was the government's first high-profile attempt at confronting the challenges of an ageing population, but it was by no means its first time thinking about the issues involved. Indeed, the Committee's terms of reference made it clear that the government already had at least three rudimentary principles for how it should provide healthcare to the elderly: First, it will focus on health promotion so that seniors can live healthily in the community (instead of in institutions) for as long as possible. Second, the government will place the responsibility of caring for seniors on their families.[16] And third, it will support community organisations that provided long-term care services to seniors but will not itself directly provide these services.[17]

The Committee's survey was limited in scope; it did not comment on the healthcare financing system, on healthcare affordability or overall medical costs. These tasks were taken up by the other committees set up in the 1990s. The first of these was the Ministerial Committee behind the famous 1993 White Paper, *Affordable Health Care*. The White Paper set out the government's healthcare philosophy which was based on five objectives:[18]

1. Nurture a healthy nation by promoting good health;
2. Promote personal responsibility for one's health and avoid over-reliance on state welfare or medical insurance;
3. Provide good and affordable basic medical services to all Singaporeans;

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increasing globally," last modified on December 13, 2012, https://www.hsph.harvard.edu/news/press-releases/global-disease-burden-health-perceptions/.

[15] In 2017, the elderly accounted for 35 per cent of resident hospital discharges, and 50 per cent of total resident patient days making them the largest consumers of healthcare. See DOS, "M810611 – Key Indicators on the Elderly, Annual".

[16] This was already a norm then, but there were concerns that "Western values" would erode the younger generation's willingness to care for their ageing parents. See MOH, "Report on the Committee on the Problems of the Aged," last modified February, 1984, http://eservice.nlb.gov.sg/data2/BookSG/publish/f/f0be2e9a-d4c8-4cea-ad3d-230e5cda4afe/web/html5/index.html?opf=tablet/BOOKSG.xml&launchlogo=tablet/BOOKSG_BrandingLogo_.png&pn=1.

[17] For the terms of reference, see National Archives of Singapore (NAS), "Report of the Committee of the Problems of the Aged," last modified March 23, 1984, http://www.nas.gov.sg/archivesonline/data/pdfdoc/755-1984-03-23.pdf.

[18] MOH, "Affordable Health Care: A White Paper," last modified October 22, 1993, http://eservice.nlb.gov.sg/data2/BookSG/publish/4/4c3b0b9a-60e4-4a08-a575-2b731e4973bc/web/html5/index.html?opf=tablet/BOOKSG.xml&launchlogo=tablet/BOOKSG_BrandingLogo_.png&pn=3.

4. Rely on competition and market forces to improve service and raise efficiency, and
5. Intervene directly in the healthcare sector, when necessary, where the market fails to keep healthcare costs down

Some of these principles, like health promotion, reaffirmed those set out by the 1982 Committee. But others provided a clear articulation of who will pay for, provide, and manage the overall cost of healthcare.

According to the White Paper, the healthcare financing system would depend on individual responsibility and family support. The government's role would be complementary: it would continue to subsidise the medical care provided in polyclinics[19] and public hospitals as well as provide a safety net for the indigent. But, otherwise, people had to save and buy medical insurance to pay for their and their dependents' healthcare. The government had already established Medisave (a health savings account) in 1984 and MediShield (a catastrophic insurance scheme with deductible and co-insurance features) in 1990. Those who had little savings and insufficient family support had recourse to Medifund, a safety net of last resort. Together, the subsidies, Medisave, MediShield and Medifund formed the "S+3Ms" system.

The provision of care was also envisioned as a shared responsibility, and the White Paper reaffirmed what was already in practice then. That is, the public sector would continue to provide affordable basic healthcare in the subsidised wards of public hospitals and in polyclinics. Community organisations would remain responsible for providing affordable long-term care to the elderly. And, the private sector would cater to the needs of those who wanted more medical care than the government or community could provide.

The authors of the White Paper were cognisant that the private sector could become the tail that wags the dog. Although the private sector provided about 20 per cent of hospital beds, its cost structure had a significant impact on the public sector's. As a result of steadily rising salaries in the private sector, the public sector had to increase the salaries of its doctors and medical staff. Such actions increased the overall cost of care. Therefore, the government saw itself playing an interventionist role to manage cost. While it would not fix prices (as this was deemed inefficient), it would control the supply of doctors and medical facilities to minimise supplier-induced demand. It would also discourage the take up of comprehensive insurance schemes without co-payments as these could drive up costs by encouraging over-servicing and over-charging by physicians as well as over-consumption by patients.

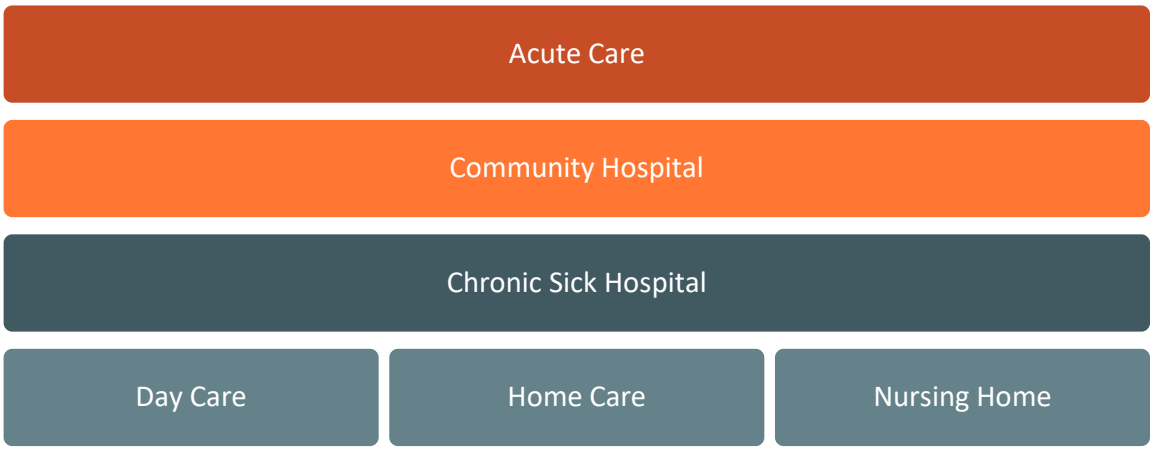
The White Paper was a very significant policy document. It set the direction for healthcare policy for decades. Subsequent committees largely conformed to its principles even as they

[19] Polyclinics provide primary care (or GP services). In 1993, the public sector had a 25 per cent market share in the primary care sector, while the private sector accounted for the remaining 75 per cent.

grappled with the emerging problems of a rapidly ageing population. One such committee was the 1999 Inter-ministerial Committee (IMC) on Healthcare Needs of the Elderly. The IMC considered multiple issues, the two most pertinent being where the elderly should go to receive medical care, and how to better pay for long-term care.

In answering the first question, the IMC was guided by the principles of keeping medical care affordable and overall costs down. Its recommendation was therefore to right-site care in the most cost-effective setting. But, for this to be possible, there had to be an adequate supply of services across the entire care continuum (see **Exhibit 4**). If there were gaps, seniors would be forced to accept either a higher- or lower-level of care than they required. This was indeed the situation in 1999. On any given day, about 120 patients who had been assessed as being fit for discharge were still staying in public hospitals because there were no vacancies in step-down or long-term care facilities and going back home was not feasible. That year, there was a shortage of 1,300 nursing home beds.[20]

Exhibit 4: Hierarchy of care in descending order of complexity and cost



Source: *Report of the IMC on the Healthcare Needs of the Elderly*

Given this shortage, the IMC urged the Health Ministry to "plan ahead and ensure that appropriate … long-term care services are available to meet the demand".[21] It also reaffirmed the established principle that community organisations or Voluntary Welfare Organisations (VWOs) should provide affordable long-term care services, with support from the government. When presenting the IMC's Report, the then Health Minister Yeo Cheow Tong explained,

> *"VWOs are in the best position to provide long-term care for the elderly…because, driven by altruism and community spirit, VWOs add warmth in their care of what can otherwise be a continuous grind of long-term care. They are also able to mobilise*

[20] MOH, *Report of the Inter-ministerial Committee on Healthcare Needs of the Elderly*, (Singapore: Ministry of Health, 1999), 36.
[21] MOH, *Report of the Inter-ministerial Committee on Healthcare Needs of the Elderly*, 36.

> *community participation. Their continued participation will strengthen community spirit and enhance the bonds between Singaporeans."* [22]

The second major concern of the IMC was to develop a comprehensive system for financing the healthcare of the elderly. Seniors not only used more hospital services but sometimes required continuous long-term care too. But the healthcare financing system presented in the 1993 White Paper was too hospital-centric, that is to say, it enabled Singaporeans to pay for subsidised care in public hospitals but was inadequate for financing continuous long-term care.

In keeping with the principle of individual responsibility, the IMC recommended that the government introduce a long-term care insurance scheme. It reasoned that at any given time, only a small group of seniors (about 8 per cent) would require some form of continuous long-term care. Therefore, instead of saving to pay for long-term care – which would be inefficient – citizens should risk-pool and buy long-term care insurance. Such an insurance, the IMC explained, would be better than schemes funded by taxes or an endowment fund:

> *"The Government could provide a comprehensive financing scheme supported by general taxation … similar to Medicare and Medicaid in the United States. However, this will be very costly and is unlikely to be sustainable in the long run, as tax revenue from a relatively smaller workforce will not be able to support an increasingly aged population…The Government could (also) set up an endowment fund to finance long-term care, similar to Medifund for acute medical care. The fund will have to be built up over several years, and then only if there are budgetary surpluses. As such, it is likely the amount will be sufficient to help only the indigent elderly."*[23]

Of course, this was not to suggest that the government did not have any tax-funded long-term care schemes in 1999. Back then, it provided long-term care subsidies to most patients receiving care in VWOs, regardless of their financial ability. A means-test was only applied to patients in nursing homes, where only families with a household monthly income of $2,000 or less received subsidised care.

The IMC disagreed with this approach. It argued that a better principle was to disburse limited public funds according to means, and to implement means-testing for all long-term care subsidies. But, it urged the government to extend these means-tested subsidies to some middle-class households – that is households with monthly incomes that were slightly

[22] NAS, "Report of the Inter-Ministerial Committee on the Healthcare Needs of the Elderly: Minister's Statement," last modified March 6,1999, http://www.nas.gov.sg/archivesonline/speeches/view-html?filename=1999030604.htm.
[23] MOH, *Report of Inter-ministerial Committee on Healthcare Needs of the Elderly*, 56-57.

higher than $2,000 – as these families required financial assistance to cope with the long-term cost of eldercare too.

The recommendations of the IMC were taken up by the government. The government began applying a means-test for its long-term care subsidies. And in 2002 it introduced ElderShield as a basic long-term care insurance scheme, targeted at those who became severely disabled[24] especially in their old-age. Like MediShield, ElderShield was not compulsory and its premiums could be paid using Medisave. To encourage good take-up, ElderShield was implemented on an opt-out basis. Premiums were also kept affordable, but this meant that ElderShield could only pay out modest benefits – $300 for 60 months. This sum was only adequate for institutional care when it was complemented with long-term care subsidies from the government. In other words, those who could not qualify for means-tested subsidies had to complement their ElderShield coverage with private disability insurance plans, savings or both.

The government also implemented a five-year Eldercare Masterplan. The Masterplan laid out its development plans for ensuring that there was adequate supply of community-based services for the elderly (see **Exhibit 5** for the progress made). As that Masterplan neared its fifth year, the government set up a new committee, the Committee on Ageing Issues (CAI), to provide fresh recommendations on how to prepare for an ageing society. There was a special significance to the CAI's work: it laboured under the knowledge that in 2012 Singapore's first batch of baby boomers[25] would be turning 65. From then on, Singapore would experience an unprecedented and profound demographic shift.[26]

Exhibit 5: Community-based long-term care services, 1998 and 2005

		1998	2005
Healthcare Services	Nursing Homes	23 VWO Homes 24 Private Homes	28 VWO Homes 28 Private Homes
	Day Rehabilitation Centres	20 centres	25 centres
	Day Care Centres for Dementia	3 centres	6 centres
	Home Medical Services	3 VWOs	10 VWOs
	Home Nursing Services	2 VWOS	14 VWOs
Social Services	Sheltered Homes	19 Homes	18 Homes
	Day Care Centres	11 centres	18 centres
	Befriender Service	1 VWO	1 VWO

[24] Under the ElderShield scheme, a person was deemed severely disabled if she cannot perform three of the following six Activities of Daily Living: washing, dressing, eating, using the toilet, walking and transferring (say, from a bed to a chair).
[25] The CAI defined baby boomers as those born between 1947 and 1964.
[26] Ministry of Social and Family Development (MSF), "Report of the Committee on Ageing Issues, 2006" last modified n.d., https://www.msf.gov.sg/publications/Pages/Report-of-the-Committee-on-Ageing-Issues-2006.aspx.

		1998	2005
	Home Help Services	2 VWOs	8 VWOs

Source: Report of the CAI

Patient-Centric, Innovative and Integrated Care

The CAI grappled with some of the same questions as its predecessors: Who should provide care? How can care be delivered cost-effectively? Who should pay for care, and how should they do so? What was different about the CAI was that in answering these questions, it compelled everyone to see these issues in a very different light.

The first thing that it did differently was to develop new categories for perceiving the elderly. Seniors were not described as a single homogenous bloc. Rather, the group included those who might develop chronic conditions or become disabled; those who were better educated, financially secure, and had higher expectations for the types and quality of eldercare; the old-old who were 85 or older and may not have adequate savings to pay for healthcare, and those who were single, living alone or with very small families.

These more fine-grained categories were indicative of the second distinctiveness of the CAI: its perspective. Instead of looking at the issue of healthcare for the elderly from just the standpoint of a policymaker, the CAI took a more elderly-centric view. It began at the level of a senior seeking to age-in-place. From there, it wondered what healthcare and personal care needs different categories of seniors might have, and how the government, private sector and community organisations could meet these diverse needs.

The CAI did not recommend fundamentally different roles for these three sectors. But it parted ways with earlier committees in the strong emphasis that it placed on primary care, innovation and integration.

Where earlier committees had either focused on the acute or long-term care sectors, the CAI focused on strengthening the primary care sector. It reasoned that as the population aged, not only would there be more demand for health screenings and disease prevention, but seniors would also require ongoing care for chronic conditions like diabetes, high cholesterol, and high blood pressure. General practitioners (GPs) could manage these conditions adequately, conveniently and inexpensively relative to the specialist outpatient clinics in hospitals.[27]

[27] At the time, chronic conditions accounted for the bulk of the workload in polyclinics and public hospitals. See MOH, "MOH Budget Speech (Part 2) – Transforming Healthcare," last modified March 6, 2007, https://www.moh.gov.sg/news-highlights/details/moh-budget-speech-(part-2)---transforming-healthcare.

The CAI did not stop there, it urged the government to work with GPs to develop new models for delivering primary care that would be more patient-centric and outcome driven. Indeed, the CAI urged the government to work will all sectors – private and people – to develop more innovative care models across the care continuum.

The CAI was also concerned about integration. Seniors often required a continuum of care. They might become ill, visit their GPs, get referred to a hospital, and require follow-up care in a step-down facility upon discharge. Navigating this care continuum was not intuitive. Indeed, many seniors and their caregivers reported feeling stressed when navigating the step-down care landscape. Sometimes, they failed to obtain adequate follow-up care, resulting in readmissions into hospitals. The CAI therefore recommended that the government do more to link the elderly and their caregivers to the appropriate follow-up care in the community. It also urged the government to allow service providers to deliver both nursing and personal care within their premises so that the elderly can recover or age within one residential facility instead of moving from facility to facility as their needs changed.

Like the committees that came before it, the CAI also considered the adequacy of the healthcare financing system. While it acknowledged that S+3Ms system was generally adequate for people seeking care in the subsidised wards of public hospitals, it also highlighted three areas of concern: First, those aged 65 and above in 2006 did not have sufficient savings in their Medisave to pay for healthcare. On average, they had $5,300 which was barely enough for them to pay for their MediShield premiums.[28] Second, coverage was still too hospital-centric; patients could not use their Medisave to pay for outpatient treatments for chronic conditions. There were concerns that seniors would forego treatment altogether, leading to even more serious diseases and expensive treatments in future. Third, the CAI felt that the benefit of the ElderShield scheme – $300 for 60 months – was inadequate, especially in relation to the premiums that policyholders had to pay. In addition, few appeared to have benefitted from the scheme.[29]

Some of the Reforms of the Previous Decade

When Khaw Boon Wan was still Health Minister,[30] he often reminded his parliamentary colleagues that healthcare reforms took decades and even then, it would always be work-in-progress.[31] Khaw's implicit view about healthcare was that there were few final solutions to

[28] "Report of the Committee on Ageing Issues, 2006".
[29] The CAI reported, "So far, the claims experience has been relatively low. Out of 710,000 policyholders, only 1,350 policyholders have benefited from ElderShield payouts." See "Report of the Committee on Ageing Issues, 2006".
[30] Khaw Boon Wan was Singapore's Health Minister from August 2004 to May 2011.
[31] See the various Committee of Supply speeches that Khaw delivered during his term as Health Minister at www.moh.gov.sg.

be found to the problems of providing affordable and cost-effective healthcare. He did not believe that Singapore's healthcare system was perfect, only that it was "actually not bad",[32] and could be made better through sustained, incremental improvements – or what he called "quiet revolutions".[33]

After the CAI had completed its work in 2006, significant changes were made to both the healthcare financing and delivery systems. These changes were made under Khaw and his successor, Gan Kim Yong. We examine the reforms in three areas below.[34]

(i) Improving the affordability and accessibility of primary care

In the early 2000s, there were some who felt that the primary care sector had been neglected by the government. This group argued that the government had focused its resources on hospital practice and specialists, leaving family care to run its own course for 30 years. It also complained that the universal subsidies provided at government-operated polyclinics were difficult to compete with. Some private GPs had started offering aesthetic treatments in their clinics to make money.[35]

For this group, the measures taken to develop the primary care sector in the late 2000s was a welcomed change. One of the key pillars in this effort was financing; specifically financing that enabled patients to receive care at the GP clinics near their homes but still pay polyclinic prices. This was achieved with the help of two schemes.

The first was allowing patients to use their Medisave to pay for outpatient treatments for chronic conditions. The Health Ministry took a cautious approach when designing this scheme because, at the time, Medisave had been sized to help patients pay for hospitalisation, not outpatient care. So, when the scheme was first introduced in 2006, only four chronic conditions were covered – diabetes, high blood pressure, high cholesterol and stroke.[36] To safeguard against overuse, the Health Ministry set an annual Medisave withdrawal limit of $300 and also required patient to pay a percentage of their bills in cash.

But, liberalising the use of Medisave alone could not make private GPs as cost-competitive as polyclinics. Family physicians in private practice simply could not provide subsidised treatments. And, this was an important handicap. In the late 2000s, even as polyclinics

[32] MOH, "MOH Budget Speech (Part 2) – Transforming Healthcare," last modified March 6, 2007, https://www.moh.gov.sg/news-highlights/details/moh-budget-speech-(part-2)---transforming-healthcare.
[33] MOH, "From Moment to Moment," last modified March 9, 2010, https://www.moh.gov.sg/news-highlights/details/from-moment-to-moment.
[34] For the sake of brevity and diversity, the reviews of MediShield and ElderShield were omitted from the following discussion even though there were significant. For more information on these reviews see www.moh.gov.sg.
[35] Prof Chee Yam Cheng, "Primary Care Partnership Scheme," *SMA News*, Vol 40 (09), 9-10.
[36] MOH, "Medisave for Chronic Disease Management Programme," last modified August 28, 2006, https://www.moh.gov.sg/news-highlights/details/medisave-for-chronic-disease-management-programme.

found themselves struggling to cope with their patient loads, private GPs were experiencing a fall in theirs.[37]

This trend was deemed to be inefficient by some, including Halimah Yaacob, who was then a Member of Parliament (MP). She called on the Health Ministry to consider extending the Primary Care Partnership Scheme (PCPS) to more low-income patients.[38] The PCPS was a portable subsidy scheme that the Health Ministry had introduced in 2000 to bring affordable healthcare closer to the elderly poor's homes. The scheme enabled these seniors to visit private GPs close to their homes for treatment for acute conditions like cough and cold and pay polyclinic prices.[39] The idea of extending the PCPS was not exactly new. The Health Ministry itself had been considering extending it to cover some chronic illnesses.[40]

The impetus to take action came when the economy began showing signs of trouble as a result of the mortgage crisis playing out in the US. To provide relief to Singaporeans, the Health Ministry expanded the PCPS in 2009 in two ways. It extended the scheme to more elderly patients aged 65 and older, and it also began covering treatments for three common chronic conditions – diabetes, high cholesterol, and high blood pressure.[41]

These were just the beginnings of more far-reaching reforms. Through very gradual changes spread over 13 years, the Health Ministry expanded Medisave's use to the outpatient treatment for 20 chronic conditions. It also raised the annual Medisave withdrawal limit to $500 and set the cash co-payment at 15 per cent of the medical bill.[42]

The PCPS underwent more profound changes. Indeed, the direction of the reforms were surprising because they had been dismissed by the Health Minister when they were first raised by Opposition MP, Low Thia Kiang, in 2011. Low had urged the government to expand the PCPS to younger Singaporeans; relax its income criteria and tier the subsidies by income so that more can benefit from the scheme, even if at a lower level of subsidies.[43] None of these suggestions were deemed suitable or meritorious.[44]

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[37] See Singapore Parliamentary Debates, Official Report, 3 March 2008, Vol. 84, Col. 1717 (Halimah Yaacob).
[38] See Singapore Parliamentary Debates, Official Report, 3 March 2008, Vol. 84, Col. 1717 (Halimah Yaacob).
[39] MOH, "MOH Budget Speech (Part 3) – The Elderly Chronic Sick," last modified March 7, 2006, https://www.moh.gov.sg/news-highlights/details/moh-budget-speech-(part-3)---the-elderly-chronic-sick.
[40] "MOH Budget Speech (Part 3) – The Elderly Chronic Sick".
[41] The scheme was extended to include elderly patients with monthly household income of $800 per capita. Previously the threshold was $700. See MOH, "Be Like an Ox," last modified January 13, 2009, https://www.moh.gov.sg/news-highlights/details/be-like-the-ox.
[42] A patient could use her account or her family members' account (up to a limit of 10 accounts) to pay for treatment. Since the withdrawal limit was applied to the Medisave account holder and not the patient, the actual amount of Medisave savings used by a patient per year could be higher than $500 (but had to be lower than $5,000). See MOH, "Chronic Disease Management Programme," last modified September 24, 2018, https://www.moh.gov.sg/policies-and-legislation/chronic-disease-management-programme-(cdmp).
[43] Singapore Parliamentary Debates, Official Report, 4 March 2011, Vol. 87, Col. 3744-3746 (Low Thia Khiang).
[44] Singapore Parliamentary Debates, Official Report, 4 March 2011, Vol. 87, Col. 3769-3770 (Khaw Boon Wan).

But, five months and a bruising general election later, the government decided to reform the PCPS along lines that were broadly similar to Low's suggestions. The scheme's minimum age was lowered from 65 to 40, and the per capita monthly household income ceiling was raised from $800 to $1,500, effectively including some middle-income households in the pool of beneficiaries. The reformed scheme, which was renamed the Community Health Assist Scheme (CHAS), also featured tiered subsidies with the lower income groups (or blue card patients) receiving a higher level of subsidies (see **Annex B** for details).[45]

While politics might have been one reason for the policy change, another was the recognition that people were contracting chronic diseases at an earlier age and needed additional support much earlier in life.[46] Indeed, within a short span of time, the age criteria for CHAS was removed altogether so that all members of qualifying households could benefit from the scheme.[47] In 2018, the government went a step further by announcing that it would be eliminating the income criteria as well. In other words, all Singaporeans with chronic conditions would benefit from CHAS (even if the benefits continued to be tiered according to means).[48]

Implementing these schemes did present at least three challenges. First, the Health Ministry had to persuade private GPs to accept payments from Medisave and CHAS. While most GPs were accepting of these new modes of payment, some were resistant. Second, the government had to audit participating GPs on a regular basis to ensure that they were complying with the rules of the schemes. In recent years, some GPs were removed from the CHAS programme because they had made claims with either no relevant supporting documents or for treatments that were not performed.[49] Third, the government had to monitor GP charges. One reason for doing this was to respond to complaints from patients. Between 2013 and 2015, there were about 150 complaints related to GP charges (out of a

[45] MOH, "Booster Shot for Healthcare," last modified. August 15, 2011, https://www.moh.gov.sg/news-highlights/details/booster-shot-for-healthcare.
[46] Prime Minister's Office (PMO), "Prime Minister Lee Hsien Loong's National Day Rally Speech (English)," last modified 14 August 2011, https://www.pmo.gov.sg/Newsroom/prime-minister-lee-hsien-loongs-national-day-rally-2011-speech-english.
[47] PMO, "Prime Minister's Lee Hsien Loong's National Day Rally 2013 (English)," last modified August 18, 2013, https://www.pmo.gov.sg/Newsroom/prime-minister-lee-hsien-loongs-national-day-rally-2013-english.
[48] For the announcement itself see PMO, "National Day Rally 2018," last modified August 18, 2018, https://www.pmo.gov.sg/Newsroom/national-day-rally-2018. For the benefits, see CHAS, "CHAS Subsidies," last modified n.d., https://www.chas.sg/content.aspx?id=636.
[49] MOH, "Suspension of CHAS Participation for 10 Access Medical Clinics," last modified October 8, 2018, https://www.moh.gov.sg/news-highlights/details/suspension-of-chas-participation-for-10-access-medical-clinics, and MOH, "Notices of Suspension of CHAS Participation for Three Medical Clinics," last modified May 9, 2017, https://www.moh.gov.sg/news-highlights/details/notices-of-suspension-of-chas-participation-for-three-medical-clinics.

total of 5.8 million CHAS claims).[50] Another reason was to maintain the purchasing power of the CHAS subsidies.

(ii) Improving overall healthcare affordability through cohort-based subsidies

As we saw earlier in the case, the CAI was concerned about the elderly's ability to pay for healthcare. In 2006, those aged 65 and above had an average of $5,300 in their Medisave accounts. This was barely enough for them to pay for their MediShield premiums.[51] In addition, a significant proportion of the elderly were uninsured. Amongst those in their 60s, 18 per cent had no MediShield coverage.[52] And, amongst those in their 70s, 40 per cent did not have coverage. This was undesirable because the elderly generally needed more hospitalisation care than any other age group.

MediShield had several structural features that made universal and life-long coverage impossible. First, it operated on commercial terms so it did not provide coverage for pre-existing conditions, and for those who could not afford to pay their premiums. Second, its coverage stopped when the insured person reached the maximum coverage age or had fully utilised the lifetime claim limit.[53] And, third, it was not compulsory, so some people opted out or were never eligible for automatic coverage because they were never employed.[54]

So, while MediShield worked for a majority of Singaporeans, it left some vulnerable segments of the society – the poor, the very old, and the severely ill – unprotected. These groups had recourse to Medifund, but financial assistance was not as reassuring as insurance because the former was not an entitlement. There was also a perception that patients and their families would have to run down on their assets before they could receive help from Medifund.[55]

To deal with these limitations, the government significantly reformed MediShield in 2014, and renamed it MediShield Life. Apart from enhancing the benefits of the scheme, the government made it compulsory and provided lifetime coverage to everyone regardless of their age, claims history, prior health, and ability to pay.[56] Because premiums were highest

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[50] MOH, "Complaints by CHAS Cardholders Against CHAS Clinics," last modified July 12, 2016, https://www.moh.gov.sg/news-highlights/details/complaints-by-chas-cardholders-against-chas-clinics.

[51] At the time, to total premiums the elderly would have had to pay to remain insured from 65 to 79 years old (or the average life expectancy) was $5,075. See "Report of the Committee on Ageing Issues, 2006".

[52] "Report of the Committee on Ageing Issues, 2006".

[53] In 2014, the maximum coverage age was 92, and the lifetime claim limit was $300,000.

[54] Singapore residents were automatically included in MediShield when they made their first contribution to Medisave. See MOH, "MediShield Coverage," last modified August 13, 2013, https://www.moh.gov.sg/news-highlights/details/medishield-coverage.

[55]This was a perception, not an actual criterion. For more details on the Medifund eligibility criteria, see MOH, "Medifund," last modified September 20, 2018, https://www.moh.gov.sg/cost-financing/healthcare-schemes-subsidies/medifund.

[56] See MOH, "MediShield Life Review Committee Report," last modified n.d., https://www.moh.gov.sg/medishield-life/what-is-medishield-life/medishield-life-review-committee.

for the elderly and their Medisave balances were low, the government had to devise ways to help them pay their premiums.[57]

It was in this context that the government introduced the Pioneer Generation Package (PGP) for Singaporeans aged 65 or older in 2014.[58] The package provided generous subsidies to this group of 450,000 seniors so that they could better afford outpatient care, pay for their MediShield Life premiums, and cover some of the cost of long-term care if they became disabled (see **Annex C** for details). The government fully paid for the scheme upfront by setting up an $8 billion fund. The Finance Ministry estimated that the capital sum and the interest earned on it would fully pay for the $9 billion package. "It is right and prudent to set aside monies today to pay for the Pioneer Generation Package, while we have sufficient resources to do so," the then Finance Minister Tharman Shanmugaratnam explained.[59]

Unlike most healthcare schemes, the PGP was not mean-tested. Benefits applied across the board, with the older cohorts receiving more help to pay for their higher MediShield Life premiums. Because this approach departed from the government's long-standing principle of targeting subsidies, it had to justify why the pioneers were an exceptional group. Two reasons were given: the exceptional needs of the pioneer generation, and their exceptional contributions to Singapore in the early years of independence. When announcing the PGP in 2013, Prime Minister Lee Hsien Loong said:

> *"One group which we need to take special care of is our pioneer generation. They are special. They are the ones who worked hard to build today's Singapore. The generation to independence: 60s, 70s, 80s. They made this place. They enabled us today to enjoy these facilities. They earned less than us. They had fewer safety nets when they were working. They brought up this generation and they paved the way for us to live a better life than themselves. That was their goal. They achieved it and I think we should know that and we should be grateful to them…So we will have a special Pioneer Generation Package…I think we owe it to them."*[60]

In 2018, the government announced another cohort-based package for elderly Singaporeans. This time it was the $8 billion Merdeka Generation Package (MGP) for the close to 500,000 Singaporeans born in the 1950s.[61] Like the PGP, the MGP was not means-tested. But its benefits were less generous than the PGP's because the merdeka

[57] "Prime Minister's Lee Hsien Loong's National Day Rally 2013 (English)".
[58] Strictly, the Pioneer Generation comprised all Singapore citizens who (a) were born on or before 31 December 1949 and (b) obtained citizenship on or before 31 December 1986.
[59] Ministry of Finance (MOF), "Budget Speech," last modified February 28, 2014, https://www.singaporebudget.gov.sg/budget_2014/pf.
[60] "Prime Minister's Lee Hsien Loong's National Day Rally 2013 (English)".
[61] MOF, "Budget Speech," last modified February 18, 2019, https://www.singaporebudget.gov.sg/budget_2019/budget-speech/d-a-caring-and-inclusive-society#s2.

generation[62] was deemed to be better off than the pioneer generation (see **Annex B** for details). Born at least a decade later, the merdeka generation had benefitted from an extra decade of economic growth. They were also generally better educated than the pioneers, had earned more and accumulated more savings in their Medisave. Again, the government made a case for the deservingness of this cohort of Singaporeans: "they were the earliest batches to serve National Service, build up our public services, and modernise our economy".[63]

For some policy observers, the MGP signalled a preference for cohort-based healthcare subsidies over permanent entitlement programme like the Medicare in the US. Such a preference had indeed been implied by the 1999 IMC. As we saw earlier, it had recommended against introducing permanent, comprehensive financing schemes funded by general taxation as those might be costly and unsustainable given the ageing population.

But some observers felt that cohort-based subsidies were incompatible with other values like equity. They were not persuaded that age was a legitimate criterion to use to justify unequal treatment. "70 per cent of Singaporeans should not be treated differently simply as a matter of birth year. For example, someone born in 1960 now will pay 25 per cent more for subsidised outpatient bills compared to someone born in 1959, who enjoys the MGP," said one commentator.[64]

Others suggested that the social security system itself, with healthcare financing as one of its pillars, might be inadequate. "The MGP, for yet another cohort of Singaporeans entering into retirement age, signals persistent unmet needs that mass education, near-universal housing ownership and mandatory savings from wages, did not once and for all resolve for everyone… It follows that we require a more systematic and durable solution than another one-time fix aimed crudely at a single age cohort."[65] The commentator argued that instead of one-off schemes, the government should "institutionalise a set of welfare principles based on the meeting of basic needs, and introduce practices to measure needs and set benchmarks – and to make these constant and predictable – so that all future cohorts of Singaporeans may enjoy peace of mind and a sense of security regardless of unpredictable risks."[66]

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[62] The merdeka generation comprised Singaporeans who (a) were born from 1 January 1950 to 31 December 1959, and (b) became citizens on or before 31 December 1996. It will also be extended to those were 65 and above in 2014, became citizens on or before 31 December 1996, and did not qualify for PGP.
[63] MOF, "Budget Speech," last modified February 18, 2019, https://www.singaporebudget.gov.sg/budget_2019/budget-speech/d-a-caring-and-inclusive-society#s2.
[64] Jeremy Lim, "Pioneer, Merdeka Generation Packages: Gig-economy generation may need more help," *The Straits Times*, February 21, 2019.
[65] Teo You Yenn, "Merdeka Generation Package: Time to move beyond one-time 'packages'," *The Straits Times*, February 22, 2019.
[66] "Merdeka Generation Package: Time to move beyond one-time 'packages'".

(iii) Managing cost by eliminating comprehensive insurance schemes

As a result of the changes described above and many others, the government's spending on healthcare more than doubled from $3.7 billion to $8.9 billion between 2010 and 2015. During this period, the government's share of national healthcare spending rose from 34 per cent to 47 per cent. "But we cannot simply keep increasing subsidy or insurance payout," the Health Minister warned in 2018 when sharing these figures with his parliamentary colleagues.[67] "Higher insurance payout will result in higher premiums, while higher subsidies will need to be funded. All these will be borne by Singaporeans eventually through higher premiums and higher taxes," he added.[68]

The Health Minister was alluding to the need to manage healthcare costs. In many ways, this was already the bread and butter of his Ministry. Its drive to right-site care, and to move treatments to the primary care sector were steps aimed at improving the cost-effectiveness of care. In addition to these measures, the Health Ministry also introduced a few others. In 2018, it established the Fee Benchmark Committee to provide a reference to guide doctors in setting reasonable fees, and to help patients in making informed choices about their care options.[69] It also set up the Agency for Care Effectiveness to provide guidance on cost-effective drugs and treatments. These measures were significant moves but they went mostly unremarked.

The measure that attracted the most public attention was the Ministry's move to ban full riders on Integrated Shield Plans (IP). An IP was an insurance product with two components. The first component was the basic MediShield Life portion managed by the government and sized to be adequate for care received in the subsidised wards of public hospitals. The second component was a top-up portion managed by a private insurer that offered additional coverage for treatment received in the non-subsidised wards of public and private hospitals. The design of the IP meant that anyone who was covered by it was really paying premiums to, and receiving benefits from, two different parties: a private insurer and MediShield Life.

Because IPs were integrated with MediShield Life, they had to comply with a few conditions. One of these was that they had to have co-payments features such as co-insurance and deductibles. But beginning in 2006 IP insurers started selling a new product called full riders that fully covered the co-insurance and deductible portions of the IP. So, in effect, anyone

[67] MOH, "Speech by Mr Gan Kim Yong, Minister for Health, at the Ministry of Health Committee of Supply Debate 2018," last modified March 7, 2018, https://www.moh.gov.sg/news-highlights/details/speech-by-mr-gan-kim-yong-minister-for-health-at-the-ministry-of-health-committee-of-supply-debate-2018.

[68] "Speech by Mr Gan Kim Yong, Minister for Health, at the Ministry of Health Committee of Supply Debate 2018."

[69] Before 2007, the Singapore Medical Association (SMA) used to publish fee guidelines for the same reasons. But they discontinued this practice when their lawyers advised them that it may be deemed anti-competitive by the Competition Commission of Singapore. For a short history see Wong Tien Hua, "Fee Guidelines: A Decade of Debate," *SMA News*, Jan 2018, 8-10.

with a full rider on their IP enjoyed first-dollar-coverage or "free" healthcare at the point-of-service. This was exactly the type of coverage that the authors of the 1993 White Paper thought would lead to over-servicing, over-charging and over-consumption. The logic underlying this view was that when patients bore little responsibility for cost, they may not look for the most cost-effective care, or may be over-charged or be given more care than they required by their physicians.

Having a rider did appear to lead to different behaviours. In a 2015 study, the Life Insurance Association (LIA) found that people with riders on their IPs were more likely to use private hospital services, where the average bills for both inpatient and outpatient care were several times larger than public hospital bills.[70] On top of that, the average bill sizes were growing much faster in private hospital (8.7 per cent a year) than in public hospitals (0.6 per cent a year).[71] What this meant was that patients with full riders could cause insurance claims to balloon because they were more likely to consume care in private hospitals where bills were not only absolutely higher but were also growing relatively faster than public hospital bills. The impact of this would be higher premiums not only for the riders, but also for IP plans including the MediShield Life component because it too was a payer of these bills.

This dynamic was already playing out in the IP market, where insurers had had to increase IP premiums by 80 per cent between 2015 to 2017 with older policyholders and those on private hospital plans experiencing higher increases.[72] To prevent the situation from getting out of hand, MOH mandated that all new riders on IP plans had to incorporate a co-payment rate of 5 per cent or higher.

IP insurers could, however, cap the co-payment at $3,000 if they wished to provide peace of mind to policyholders worried about facing very high co-payments. But, insurers could only do so for treatments that they had pre-authorised or that were provided by doctors that they had approved. In other words, insurers had to play a more active role in shaping the care options of their policyholders.[73] In theory, this could contain cost as providers might hesitate to over-charge or over-service lest they get blacklisted by insurers. Patients too might be prevented from over-consuming because their treatments had to be pre-authorised.

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[70] Health Insurance Task Force, "Managing the Cost of Health Insurance in Singapore," last modified October 13, 2016, https://www.lia.org.sg/media/1350/report-by-health-insurance-task-force.pdf.
[71] The growth rate was for the period between 2012 and 2014. See "Managing the Cost of Health Insurance in Singapore."
[72] MOH, "Speech by Mr Chee Hong Tat, Senior Minister of State for Health at the MOH Committee of Supply Debate 2018," last modified March 7, 2018, https://www.moh.gov.sg/news-highlights/details/speech-by-mr-chee-hong-tat-senior-minister-of-state-for-health-at-the-moh-committee-of-supply-debate-2018.
[73] MOH, "COS Factsheet – Keeping Healthcare Cost Sustainable for All Singaporeans," last modified March 8, 2018, https://www.moh.gov.sg/docs/librariesprovider5/pressroom/current-issues/cos-2018-media-factsheet---keeping-healthcare-costs-sustainable-for-all-singaporeans.pdf.

Yet, it was unclear how much room for manoeuvre insurers actually had in selecting providers. The IP market was very competitive, with insurers selling nearly identical products. It was unclear if it was in any of their commercial interests to constrain the choices of their policyholders. Doing so could lead some of their policyholders to change insurers. And this might be especially true for policyholders who were the good risks – young, healthy, and with no fear of losing their coverage if they switched insurers.

Conclusion

There are some questions that torment policymakers across time and space. What principles should underpin how we provide care to the elderly? What schemes to introduce? How to manage the sector so that it is sustainable, that is to say affordable for patients, profitable for providers, and fiscally sustainable for governments?

In Singapore, healthcare policymakers seem to have accepted that they can only offer provisional answers to these questions. So, every few years, a new committee is set up, a review is completed, or new schemes are tested. All of these in the hope that through quiet revolutions, a system that can only ever be imperfect remains "actually not bad" for patients, providers, and payers.

Discussion Questions

1. What do you think should be the objectives of healthcare policymakers who focus on the elderly? What challenges do you think they face in meeting their objectives?

2. Singapore relies on community organisations to provide affordable long-term care, and GPs in private practice to provide primary care. What are the pros and cons of these approaches?

3. How can policymakers encourage the public, private and people's sectors to build a healthcare delivery system that provides cost-effective and seamless care?

4. Which of these are better and under what circumstances: (i) means-tested or universal subsidies; (ii) healthcare that is free at the point-of-service or that requires co-payments; (iii) cohort-based subsidies or permanent entitlement programmes; and (iv) portable subsidies or subsidies only for public-sector providers?

5. The case presents several long-term care financing schemes. Based on what you have learnt from it, how would you design a long-term care financing system?

Annex A: Scenarios of Future Population Growth and Change in Singapore

In 2007, the Institute of Policy Studies (IPS) embarked on a project to study scenarios of future population growth and change for Singapore for the period 2005 to 2050. This Annex presents four of these scenarios:[74]

(i) Total Fertility Rate (TFR) remained at 1.24 births per woman and there was zero net migration throughout the projection period (Constant low fertility, closed population)

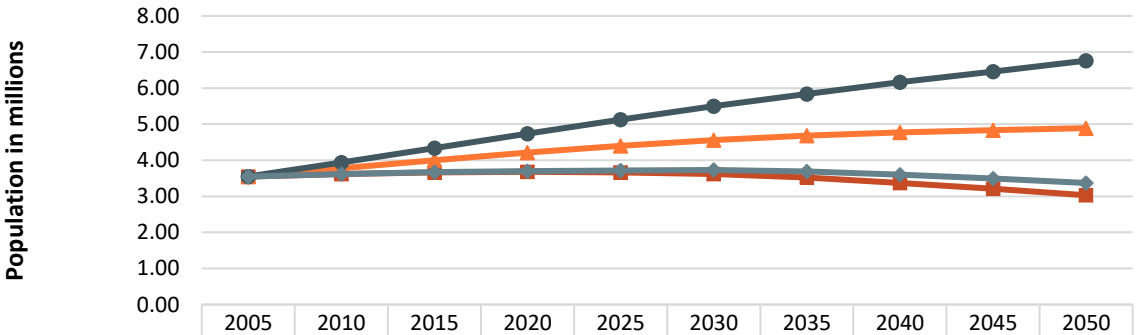
(ii) TFR remained at 1.24 births per woman and 30,000 net migrants were added annually throughout the projection period (Constant low fertility, low migration)

(iii) TFR remained at 1.24 births per woman and 60,000 net migrants were added annually throughout the projection period (Constant low fertility, medium migration)

(iv) TFR rose gradually from 1.24 to 1.85 births per woman by 2025 before stabilising at this level and there was zero net migration throughout the projection period (Rising fertility, closed population)

The mortality assumptions were common across all scenarios. Life expectancy at birth was assumed to increase from 77.4 years in 2005 to 79.7 years in 2050 for men, and from 81.3 to 84.6 years for women.[75]

Exhibit A1: Total resident population 2005 to 2050



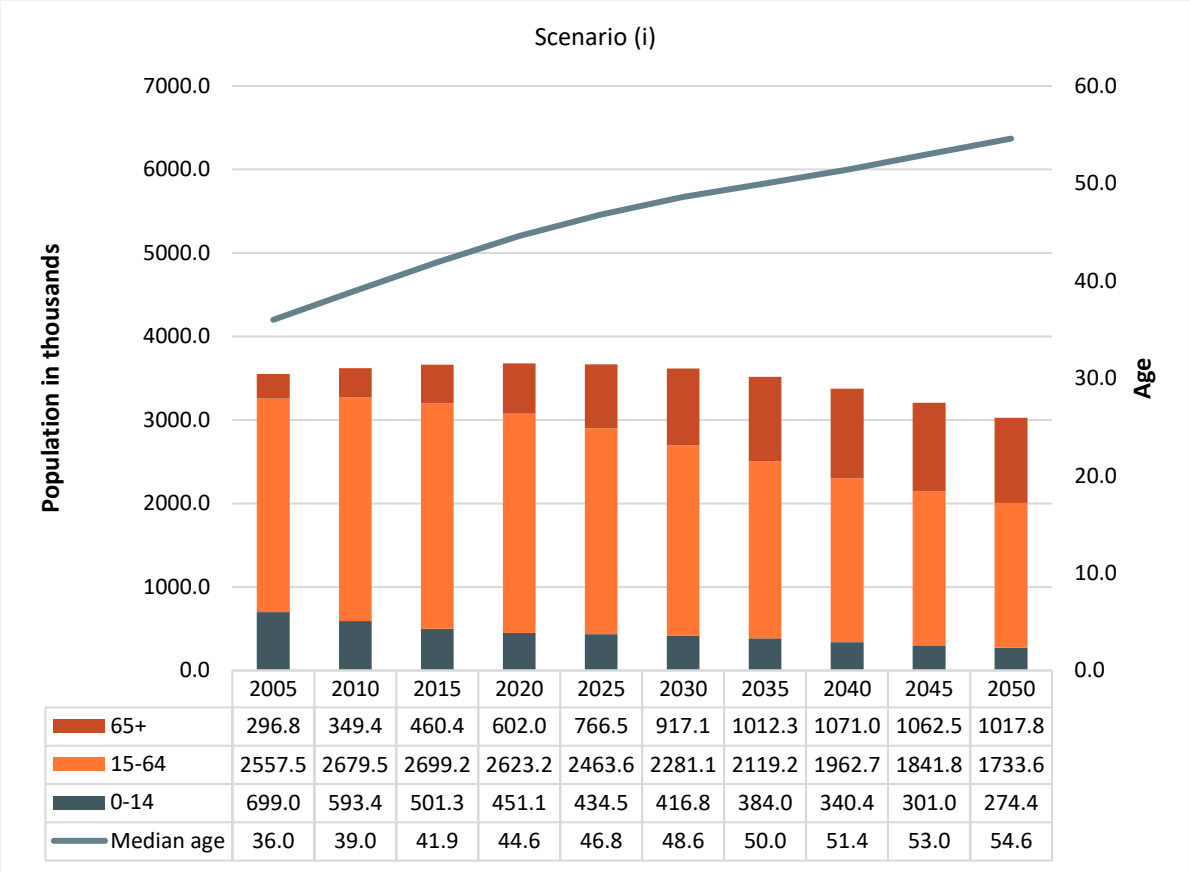
	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Scenario (i)	3.55	3.62	3.66	3.68	3.66	3.62	3.52	3.37	3.21	3.03
Scenario (ii)	3.55	3.78	4.00	4.21	4.40	4.56	4.68	4.77	4.83	4.89
Scenario (iii)	3.55	3.94	4.34	4.74	5.13	5.50	5.84	6.16	6.46	6.76
Scenario (iv)	3.55	3.62	3.67	3.70	3.72	3.73	3.69	3.60	3.49	3.37

Source: "Scenarios of Future Population Growth and Change in Singapore".

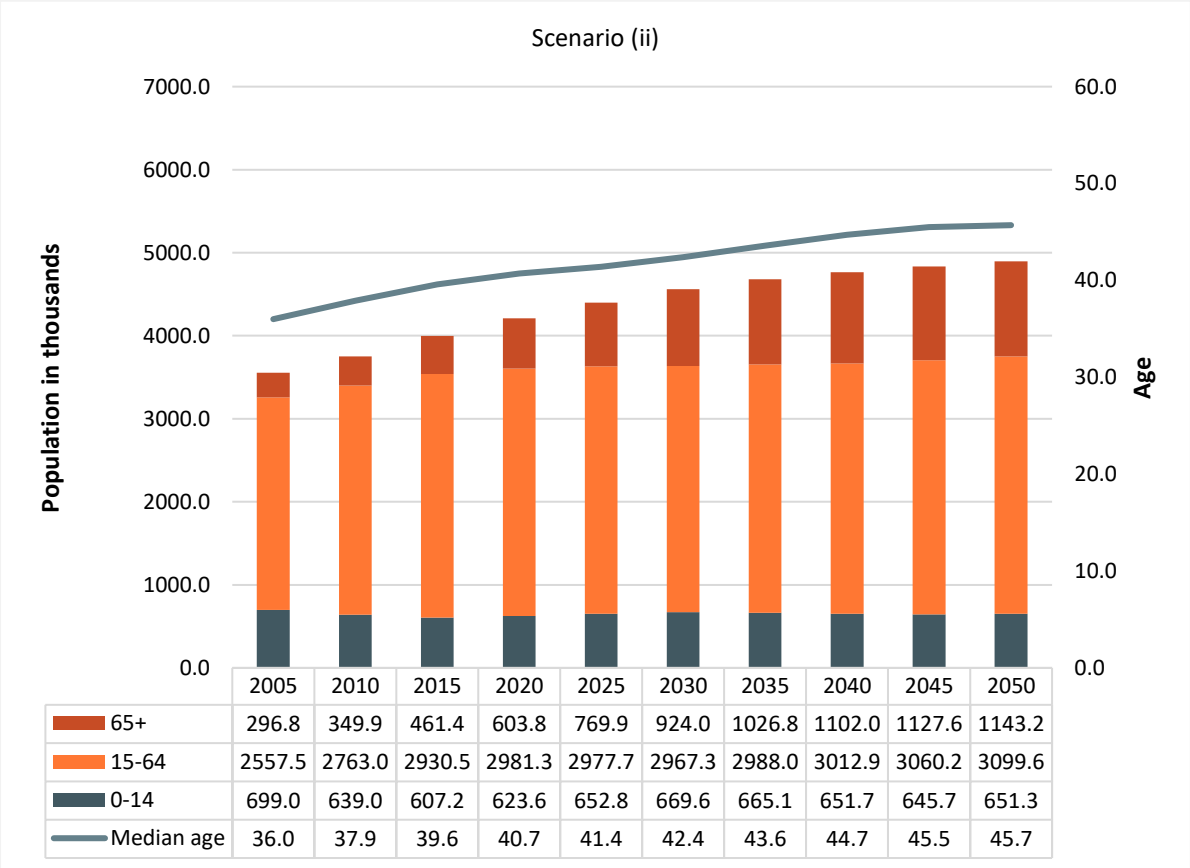
[74] This Annex reproduces IPS Demography and Family Cluster, "Scenarios of Future Population Growth and Change in Singapore," last modified September 9, 2011, https://lkyspp.nus.edu.sg/docs/default-source/ips/ips-project_scenarios-of-future-population-growth-and-change-in-singapore_report.pdf.

[75] These mortality assumptions were conservative. By 2017, the life expectancies at birth for men and women were already 80.7 and 85.2 respectively. See DOS, "M810501 - Life Expectancy By Sex, Annual," last modified January 2, 2019, https://www.tablebuilder.singstat.gov.sg/publicfacing/createDataTable.action?refId=13276.

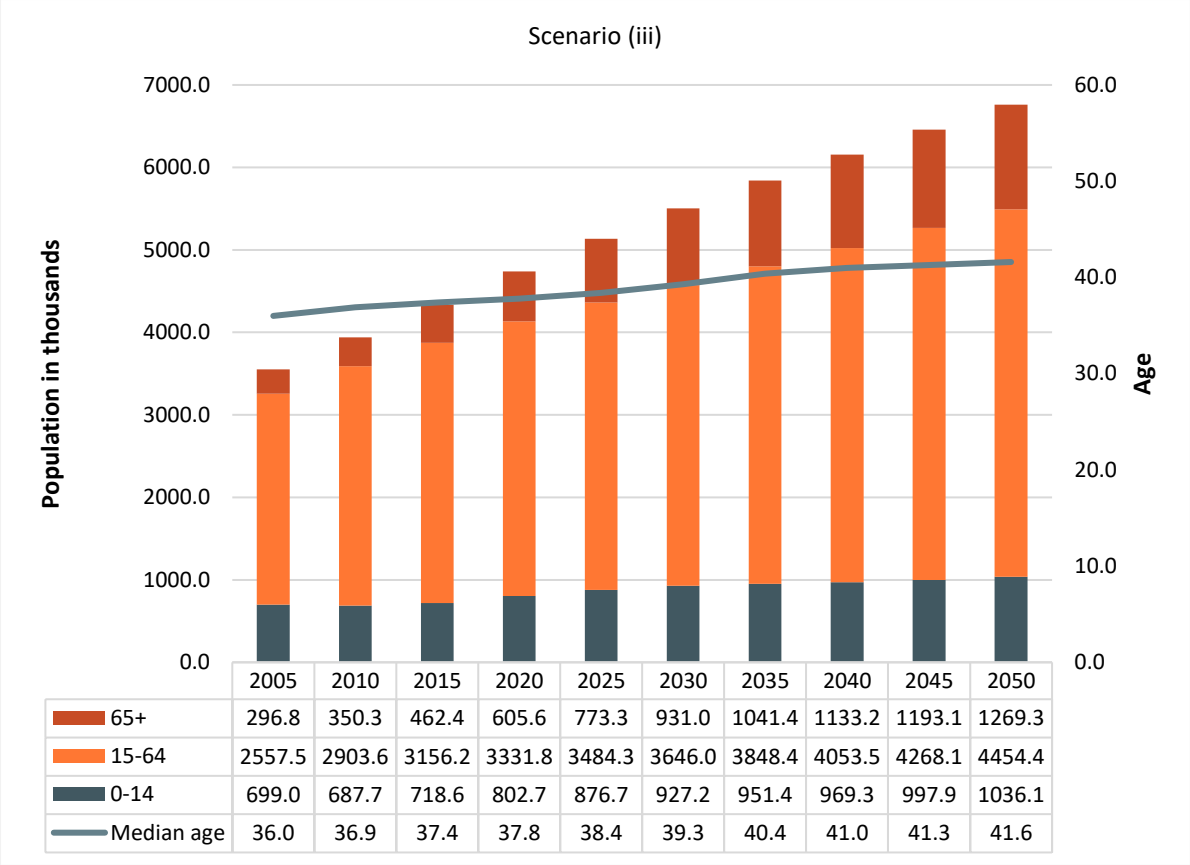
Exhibit A2: Age structure of the population



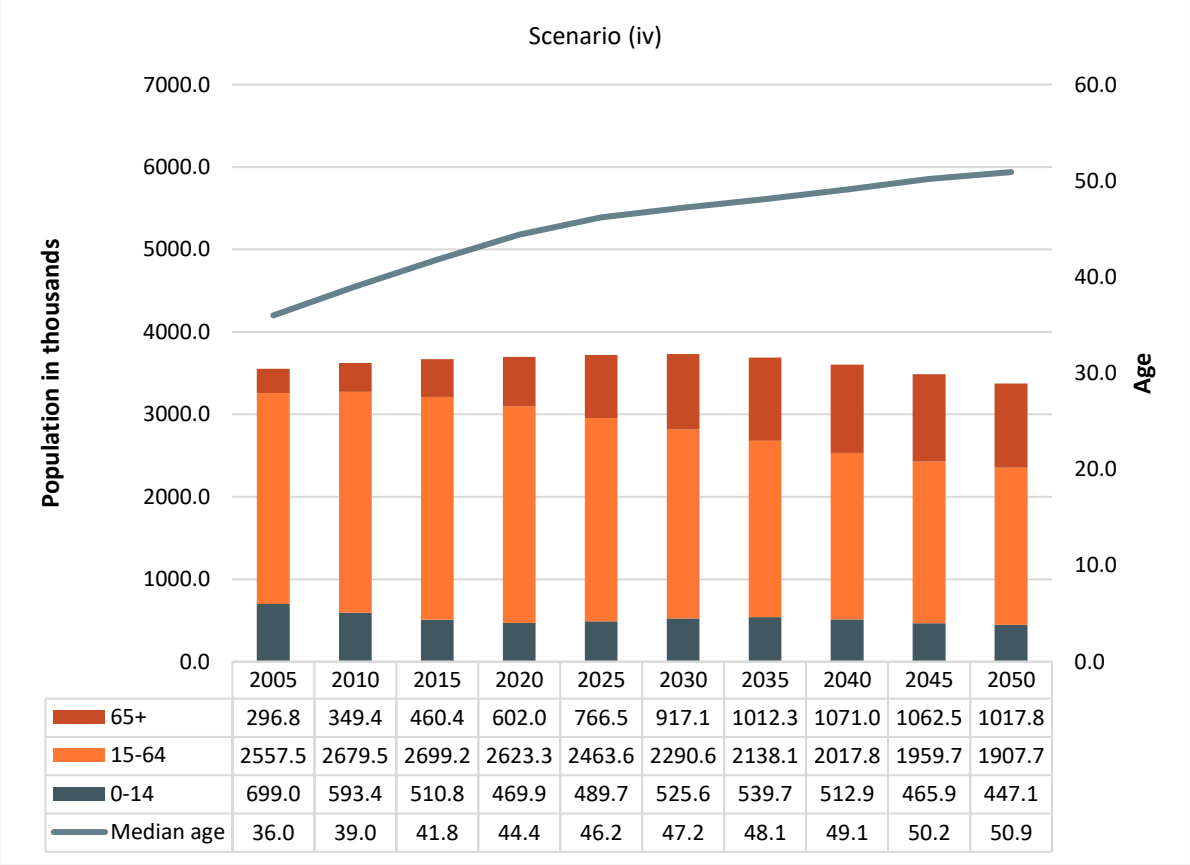
	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
65+	296.8	349.4	460.4	602.0	766.5	917.1	1012.3	1071.0	1062.5	1017.8
15-64	2557.5	2679.5	2699.2	2623.2	2463.6	2281.1	2119.2	1962.7	1841.8	1733.6
0-14	699.0	593.4	501.3	451.1	434.5	416.8	384.0	340.4	301.0	274.4
Median age	36.0	39.0	41.9	44.6	46.8	48.6	50.0	51.4	53.0	54.6



	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
65+	296.8	349.9	461.4	603.8	769.9	924.0	1026.8	1102.0	1127.6	1143.2
15-64	2557.5	2763.0	2930.5	2981.3	2977.7	2967.3	2988.0	3012.9	3060.2	3099.6
0-14	699.0	639.0	607.2	623.6	652.8	669.6	665.1	651.7	645.7	651.3
Median age	36.0	37.9	39.6	40.7	41.4	42.4	43.6	44.7	45.5	45.7



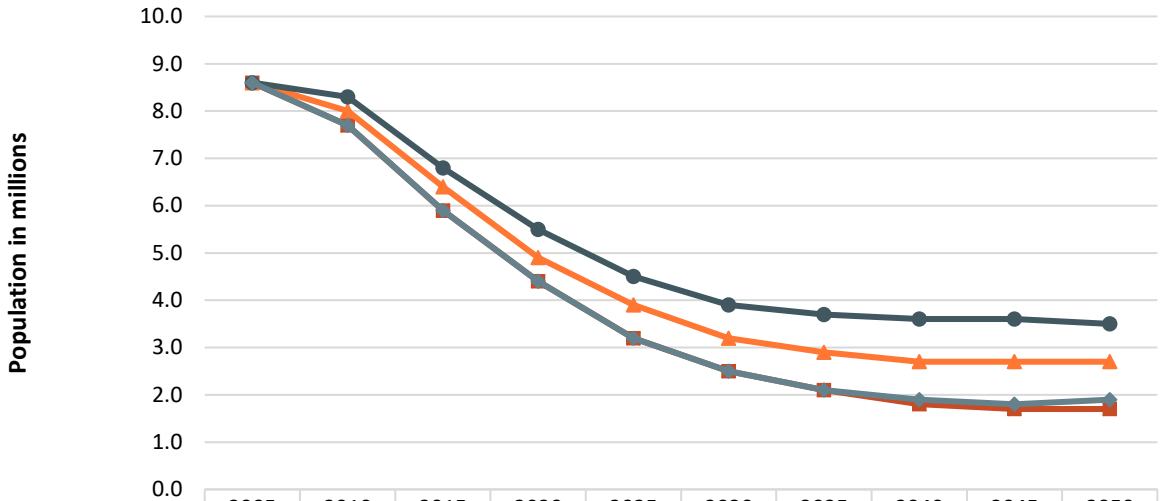
	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
65+	296.8	350.3	462.4	605.6	773.3	931.0	1041.4	1133.2	1193.1	1269.3
15-64	2557.5	2903.6	3156.2	3331.8	3484.3	3646.0	3848.4	4053.5	4268.1	4454.4
0-14	699.0	687.7	718.6	802.7	876.7	927.2	951.4	969.3	997.9	1036.1
Median age	36.0	36.9	37.4	37.8	38.4	39.3	40.4	41.0	41.3	41.6



	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
65+	296.8	349.4	460.4	602.0	766.5	917.1	1012.3	1071.0	1062.5	1017.8
15-64	2557.5	2679.5	2699.2	2623.3	2463.6	2290.6	2138.1	2017.8	1959.7	1907.7
0-14	699.0	593.4	510.8	469.9	489.7	525.6	539.7	512.9	465.9	447.1
Median age	36.0	39.0	41.8	44.4	46.2	47.2	48.1	49.1	50.2	50.9

Source: "Scenarios of Future Population Growth and Change in Singapore".

Exhibit A3: Potential old-age support ratio[76]



	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Scenario (i)	8.6	7.7	5.9	4.4	3.2	2.5	2.1	1.8	1.7	1.7
Scenario (ii)	8.6	8.0	6.4	4.9	3.9	3.2	2.9	2.7	2.7	2.7
Scenario (iii)	8.6	8.3	6.8	5.5	4.5	3.9	3.7	3.6	3.6	3.5
Scenario (iv)	8.6	7.7	5.9	4.4	3.2	2.5	2.1	1.9	1.8	1.9

Source: "Scenarios of Future Population Growth and Change in Singapore".

[76] This is the ratio of the population aged 65 and above to the population aged between 15 and 64 years old.

Annex B: Outpatient Benefits in Singapore Between 2006 and 2019

		PCPS (2006)	PCPS (2011)	CHAS (Jan 2012)		CHAS (from Nov 2019)			PGP (2015)*	MGP (2019)*
				Blue	Orange	Blue	Orange	Green		
Criteria										
Monthly household income per person (for households with income)		≤ $700	≤ $800	≤ $1,100	$901 - $1,500	≤ $1,100	$1,101 - $1,800	> $1,800	All Pioneers receive regardless of income or AV	All Merdeka generation seniors receive regardless of income or AV
Annual Value of home (for households with no income)		ND	ND	≤ $13,000	ND	≤ $13,000	$13,001 - $21,000	> $21,000		
Age		≥ 65	≥ 65	≥ 40	≥ 40	NA	NA	NA	NA	NA
Subsidies/Benefits										
Common illnesses		ND	Up to $18.50/visit	Up to $18.50/visit	NA	Up to $18.50/visit	Up to $10/visit	NA	Up to $28.50/visit	Up to $23.50/visit
Selected chronic conditions	Simple	ND	Up to $60/visit (ND on annual cap)	Up to $80/visit (ND on annual cap)	Up to $50/visit (ND on annual cap)	Up to $80/visit capped at $320/year	Up to $50/visit capped at $200/year	Up to $28/visit capped at $112/year	Up to $90/visit capped at $360/year	Up to $85/visit capped at $340/year
	Complex	ND				Up to $125/visit capped at $500/year	Up to $80/visit capped at $320/year	Up to $40/visit capped at $160/year	Up to $135/visit capped at $540/year	Up to $130/visit capped at $520/year
Selected dental services (subsidies are dependent on procedure)		ND	Up to $256.50/ procedure	Up to $256.50/ procedure	Up to $170.50/ procedure	$11 - $256.50/ procedure	$50 - $170.50/ procedure	NA	$21 - $266.50/ procedure	$16 - $261.50/ procedure
Recommended health screening under Screen for Life		NA	NA	NA	NA	Pay fixed fee of $2	Pay fixed fee of $2	Pay fixed fee of $5	Free	Pay fixed fee of $2

	PCPS (2006)	PCPS (2011)	CHAS (Jan 2012)		CHAS (from Nov 2019)			PGP (2015)*	MGP (2019)*
			Blue	Orange	Blue	Orange	Green		
Cost & Beneficiaries									
Cost	$1.5 million in 2006	ND	ND		ND			ND	ND
Number of people on the scheme	19,300 in 2006	12,565 (from 1 Jan to 30 Sep 2011)	38,000 in Jan 2012		ND		ND	450,000 pioneers in total	500,000 pioneers in total

Source: Ministry of Health
Notes: ND refers to no data; Screen for Life is a national health screening programme; * Seniors who do not qualify for PGP and MGP can still qualify for CHAS Blue, Orange or Green.

Annex C: Benefits of the PGP and MGP Schemes

1. PGP[77]

Benefits include:

(i) Outpatient Care

- Additional 50 per cent off subsidised services at polyclinics and public Specialist Outpatient Clinics (SOCs)
- Additional 50 per cent off subsidised medications at polyclinics and SOCs
- Subsidies at participating GP and dental clinics under CHAS (see **Annex B**)

(ii) MediShield Life Premium Support

- Support for paying premiums with special premium subsidies (see **Exhibit B1**) and Medisave top-ups (see **Exhibit B2**) so. that
    - Elderly born in 1934 or earlier: Premiums fully covered
    - Elderly born between 1935 to 1949 (inclusive) and were fully insured under MediShield: Pay half the amount of premiums for MediShield Life compared to what they used to pay for MediShield.

Exhibit B1: MediShield Life premiums and subsidies for pioneers

Age next birthday*	Pioneer Generation subsidies	Annual MediShield Life premiums ^	
		Before subsidies	After subsidies
66-80	40% - 54%	$540 - $865	$489 - $537
81 & above	54% - 60%	$1,123 - $1,190	$566 - $615

Notes: * Age next birthday refers to the pioneer's age on her next birthday after the policy renewal date; ^ Pioneers with serious pre-existing conditions had to pay an Additional Premium of 30 per cent.

Exhibit B2: Annual Medisave top-ups for pioneers

Year of birth	Pioneer Generation Subsidies
Born in 1934 or earlier	$800
Born in 1935 - 1939	$600
Born in 1940 - 1944	$400
Born in 1945 - 1949	$200

(iii) Pioneer Generation Disability Assistance Scheme (PG-DAS)

[77] Data for this section is from Ministry of Finance, "Overview," last modified n.d., https://www.pioneers.sg/en-sg/Pages/Overview.aspx#eligib%E2%80%8Ble.

- Life-long cash assistance of $100 each month for pioneers who permanently need assistance in at least three of these Activities of Daily Living:
    - Eating
    - Bathing
    - Dressing
    - Transferring
    - Using the toilet
    - Walking or moving around

Actual expenditures

	FY2015*	FY2016	FY2017
Outpatient benefits	$136,682,979	$130,042,539	$145,203,708
MediShield Life premium subsidies and Medisave top-ups	$239,605,875	$276,334,511	$269,014,595
PG-DAS	$16,819,058	$31,399,292	$37,996,500
Total	$393,152,912	$437,776,342	$452,214,803

Source: Pioneer Generation Fund's Audited Financial Statements
Notes: *Spending was for 9 March 2015 to 31 March 2016

2. MGP[78]

Benefits include:

(i) One-off top-up of the Passion Silver Card

- One-off $100 top-up, which can be used to pay for courses and active ageing programmes Community Clubs, access to public swimming complexes, public transport, and at other EZ-link merchants.

(ii) Outpatient benefits

- Additional 25 per cent off subsidised bills at polyclinics and public SOCs
- Subsidies at participating GP and dental clinics under CHAS (see **Annex B**)

(iii) MediShield Life premium subsidies

- Additional 5 per cent subsidy for annual premiums, increasing to 10 per cent after MG seniors turn 75 years old.
- Together with existing subsidies, MG seniors in lower-income or retiree households will receive up to 40 per cent subsidy off their MSHL premiums in 2019, and up to 60 per cent in future as they age.

(iv) Annual Medisave top-ups

- $200 top-up every year from 2019 to 2023

[78] MOF, "Merdeka Generation Package," last modified February 18, 2019, https://www.singaporebudget.gov.sg/budget_2019/budget-measures/merdeka-generation-package.

(v) Additional CareShield Life participation incentive

- Additional $1,500 participation incentive if the MG senior signs up for CareShield Life (the reformed ElderShield) when it becomes available in 2021. This is on top of the previously announced participation incentive of $2,500.

Actual Expenditures

At the time of writing, the scheme had not come into effect.