



Healthy for 100? Healthy care in Singapore



Foreword

Singapore's healthcare system has achieved considerable success. The country is one of the healthiest in the world with a population that is ranked third globally for life expectancy.

That is great news except that while Singaporeans are living longer, its population has also begun ageing faster. The United Nations projects that our rate of ageing over the next two decades will be the fastest that any country has seen over such a period. By 2030, an expected 900,000, or one in four Singaporeans, will be over the age of 65.

Recognising the health challenges that come with an ageing population such as rising healthcare costs, the forward-looking Singapore government has started planning ahead to ensure the country's healthcare system remains accessible and affordable to its people. This is supported by the recognition that the health of a nation is not the sole responsibility of policymakers. Businesses, healthcare practitioners and individuals all have important roles to play.

As a life insurer serving nearly a third of the country's population, we have been reflecting on our own role in the healthcare ecosystem. How can we better collaborate with stakeholders in the ecosystem to ensure healthcare and insurance continue to remain affordable for future generations? At the same time, how can we support our customers in extending their health spans, so they can live well for longer?

A critical piece of the solution is harnessing technology to empower individuals to take charge of their health. It is with this in mind that we are investing in preventative healthcare solutions to motivate people to adopt healthy lifestyle habits as well as to support the early detection and intervention of chronic diseases.

We are also dedicated to raising awareness on the importance of investing in one's health through our research programme on longevity. This second edition of the series, Healthy for 100?, explores the opportunities and challenges that lie ahead for Singapore's healthcare system as its people live longer.

The insights are gleaned from interviews with over 200 healthcare practitioners in Singapore. We hope the discussions flowing from this piece of research will help to inspire concerted action from all stakeholders and pave the way for a healthier and happier Singapore.

Wilf Blackburn CEO, Prudential Singapore



Healthy for 100? Healthy care in Singapore examines the opportunities and challenges that lie ahead for Singapore residents, businesses, healthcare practitioners and policymakers as people live longer.



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About the research

Healthy for 100? Healthy care in Singapore is an Economist Intelligence Unit report commissioned by Prudential Singapore. It is part of the *Ready for 100* research programme, which examines the opportunities and challenges that lie ahead for Singapore residents, businesses, healthcare practitioners and policymakers as people live longer. This report, which focuses on opportunities and challenges for Singapore's healthcare system, is based on two strands of research:

- In March 2018 The Economist Intelligence Unit surveyed 203 healthcare practitioners in Singapore. It was conducted in parallel with a survey of 1,214 residents of Singapore, the results of which are presented and analysed in *Ready for 100? Preparing for longevity in Singapore.*
- This report examines the results of the healthcare practitioners' survey. The respondents were split evenly between men and women. Twenty-five per cent were nurses, 31% were general physicians, 19% were specialist physicians and 26% were senior management and administration. (Due to rounding, figures may not equal 100%.) Forty per cent provide their services at polyclinics or family clinics, while 35% provide at general hospitals, 21% at community hospitals and 4% at specialist hospitals or institutions. Seventy-nine per cent of practitioners have patients 50 years old and above making up 41-100% of their patient population.

- In addition to the survey, we conducted a series of in-depth interviews with senior government officials, business executives and other experts. Our thanks are due to the following individuals (listed alphabetically by surname) for their time and insights:
- Angelique Chan, executive director, Centre for Ageing Research and Education and Duke-NUS Medical School
- Janice Chia, founder and managing director, Ageing Asia
- Dr Jeremy Lim, partner and head of health and life sciences Asia Pacific, Oliver Wyman
- Dr Lim Wee Shiong, senior consultant, Institute of Geriatrics and Active Ageing, Tan Tock Seng Hospital
- Phua Tien Beng, chief executive officer, Singapore operations division of Parkway Pantai
- Tan Hwee-Pink, associate professor of Information Systems, Singapore Management University

The report was written by Paul Kielstra and edited by Charles Ross, with editorial support from HuiQi Yow. The Economist Intelligence Unit bears sole responsibility for its content. The findings and views expressed in the report do not necessarily reflect the views of the sponsor.

Executive summary

Singapore's population is both ageing rapidly and living longer. In 2015 11.7% of Singaporeans were 65 or older and the UN estimates that by 2035 this will more than double to 26.6%. Further, life expectancy has risen to 83.1 years in 2017—from 76.9 in 1997.

However, for people to enjoy extended lifespans, they need well-supported healthspans. This requires concerted effort from both residents and healthcare providers.

- Singapore's rapid ageing will accelerate in the coming 15 years, shifting the country's disease load. In particular, a greater proportion of people will need to manage one or more chronic diseases.
- Although the government has policies to prepare for this change, survey respondents remain uneasy about whether Singapore's residents and other stakeholders are doing enough on prevention, the healthcare system and long-term care.
- Addressing the rise in chronic disease and multi-morbidity will require shifting attention to growing medical costs and fragmentation within the healthcare system. A shift toward person-centred, value-based care—where care is based on the needs of the patient and payment aligned to health outcomes—would go far toward meeting both requirements. The government is moving in that direction, but the transition will be challenging.

- Lifestyle modifications, in order to prevent many chronic diseases, have improved in recent years but too many people especially younger ones—are not proactive in these areas. In addition to its existing, substantial efforts, the government may wish to consider new kinds of initiatives and ones focused on younger people. Healthcare providers should also work more actively with individual residents on prevention.
- The price of long-term care is high and likely to grow increasingly beyond reach. The government is taking steps to put in place mandatory savings and insurance, but no simple funding panacea exists. Greater use of in-home medical technology could likely contribute to a potential solution.

Introduction: The fruits of achievement

Singapore has seen substantial health system and public health success in recent decades. Its already good average life expectancy has not only been growing, but has done so faster than that of other high-longevity countries. In 1997, for example, Singaporeans on average lived 76.9 years. By 2017 however, life expectancy had risen to 83.1 years. Two decades from now, the UN projects that the country will have an average longevity of 86.2.¹

This greater life span and a long-term decline in the birth rate (which has recently stabilised at the low level of about 1.2 births per female²) have together increased the proportion of the population aged 65 or over, or what the government calls "the silver generation". In 1995 just 6.4% of Singaporeans were in this group; by 2015, it was 11.7%. The UN projects that by 2035 this will more than double to 26.6%. By that year, one in 90 of the population will be 90 years old or older.³

The health system has, to date, coped well. Indeed, over the past decade and a half, healthy life years have risen very slightly faster than life expectancy itself.⁴

Now, though, ageing in Singapore is accelerating rapidly. In the coming decades, its speed will be "historically unprecedented", according to Jeremy Lim, partner and head of health and life sciences, Asia Pacific, at Oliver Wyman. The country's percentage point increase in the population over 65 between 1995 and 2015 was the 17th quickest in the world. In the two following decades, the UN projects it to be the fastest that any country has seen over such a period, and more than three times the global average.

The transformed health challenge

Lim Wee Shiong, a senior consultant at the Institute of Geriatrics and Active Ageing in Tan Tock Seng Hospital, explains that the population ageing occurring in Singapore is part of a "worldwide success story and a worldwide health conundrum." The older population is not inherently unhealthy but has specific medical needs different from those Singapore has faced in the past, such as more co-existent chronic diseases and a greater prevalence of certain diseases such as dementia.

Janice Chia, founder and managing director at Ageing Asia, an ageing market consultancy social enterprise, agrees: "One of the biggest challenges facing Singapore is how we are going to prepare to help people living longer and therefore facing a longer duration of time when they have chronic diseases that need management."

Phua Tien Beng, CEO of the Singapore operations division of Parkway Pantai, one of the country's largest private hospital groups, adds that although Singapore engages in extensive long-term planning, ageing-related shifts would "add strain to the healthcare provision of any nation".

One measure of disease burden, Years Lived with Disability (YLD)—the average number of years lived with a disability or any longterm medical condition—illustrates how the chronic disease challenge has already grown. The accompanying charts show the steady rise in YLDs per 100,000 people of one of the most prevalent health issues for the ageing population in Singapore—cardiovascular disease. Between 1990 and 2016 almost a third more people became afflicted, with the figure rising from 356 YLDs per 100,000 in 1990 to 529 YLDs per 100,000 in 2016.

Adding to the complications that this growing incidence brings is the number of older individuals who develop more than one chronic condition—called multi-morbidity. Over half of Singapore's residents that are older than 60 fall into this category.⁵ Often this involves patients with not simply two diseases but more, adding to the complexity of providing care. Mr Phua explains that "if you look at anyone above 65, they probably have several chronic diseases such as diabetes, cancer, heart disease, high blood pressure, or high cholesterol, to name just a few."

For such individuals, appropriate care requires not just expertise in specific conditions but also in how to simultaneously treat

¹ All life expectancy data from UN Population Division, "World Population Prospects: The 2017 Revision, File MORT/7-1: Life expectancy at birth (both sexes combined) by region, subregion and country, 1950-2100 (years)," 2017 and Economist Intelligence Unit calculations.

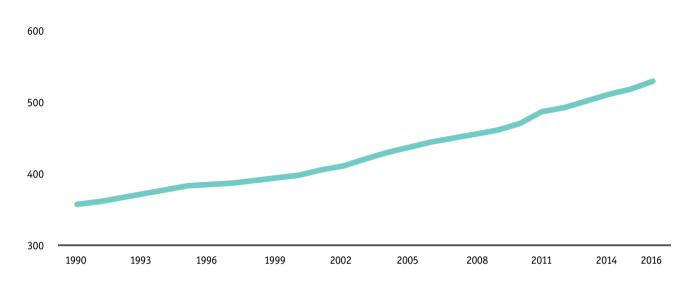
² Fertility rate, total (births per woman), https://data.worldbank.org/indicator/SP.DYN.TFRT.IN

³ All data on proportion of population over 65 from UN Population Division, "World Population Prospects: The 2017 Revision, File POP/9-1: Percentage total population (both sexes combined) by broad age group, region, subregion and country, 1950-2100," 2017 and Economist Intelligence Unit calculations.

⁴ Economist Intelligence Unit calculations based on UN Population Division, "World Population Prospects: The 2017 Revision, File MORT/7-1: Life expectancy at birth (both sexes combined) by region, subregion and country, 1950-2100 (years)," 2017 and World Health Organisation (Global Health Observatory), "Healthy life expectancy (HALE) Data by country," updated 2018.

⁵ Louisa Picco et al., "Economic burden of multimorbidity among older adults: impact on healthcare and societal costs," BMC Health Services Research, 2016.

Figure 1: Living with cardiovascular diseases in Singapore



YLDs per 100,000 people

Source: Institute for Health Metrics and Evaluation, GBD Compare Data Visualization, 2017

several diseases without unintended side effects or drug interactions. This typically requires care personalised to the individuals' specific situation.

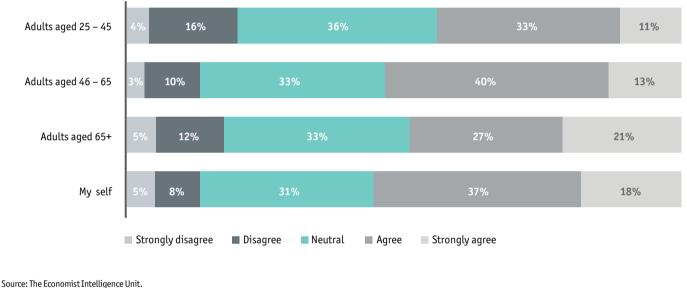
The issues are more than specifically medical ones, says Dr Lim Wee Shiong. Older people are at a higher risk of becoming what doctors call "frail", where they have fewer physical, cognitive, emotional and social resources to recover from health setbacks. Such individuals, he says, "have multiple interacting issues, including functional and social ones, which make care much more complex." Accordingly, notes Ms Chia, "ageing is not just a question of medical services but of whole-of-life wellness: how do you keep older persons engaged to be motivated to stay healthier and active?" This includes, among other things, providing the growing proportion of the population reaching older years with appropriate levels of long-term, social care and support—whether at home or in specialist facilities. Though not strictly a medical intervention, such care is essential in many cases for maintaining health and overall quality of life.

Unease despite substantial focus on health and healthcare

Neither the challenge of health in an ageing society nor its complexity is lost on Singapore's government. In 2016 policymakers set out three key shifts to the health system that they wished to see: from an emphasis on healthcare to one on health; from hospital provision to community-based care; and from a focus on quality to one on value. Similarly, its multi-year, S\$3bn Action Plan for Successful Ageing includes among its priority areas health and wellness,

Figure 2: Ready for 100?

Please indicate your response per age group to the following statement: Singaporeans are ready from a health and wellness perspective to live to 100. (% respondents, excludes "don't know" responses as these are 2% or less of the total respondents)



Note: Due to rounding, figures may not equal 100%.

healthcare, and aged care, with various policies to enhance each.⁶

Nevertheless, warns Dr Jeremy Lim, no straightforward roadmap exists for reshaping the multiple elements needed for healthy ageing as quickly as Singapore must do. "Healthcare policymakers, I suspect, are not familiar or comfortable with the challenge, which will require a lot of iteration and experimentation," he says. It is no surprise, given the difficulty of this transition, that Singapore's residents remain wary about what health and healthcare in a future with extended lifespans holds.

In an Economist Intelligence Unit survey of more than 200 clinicians and healthcare providers, only about half of respondents agree that, from a health and wellness perspective, the country's residents are ready to live to 100. Residents themselves are more concerned: 55% of those taking part in a separate general survey, also conducted by The Economist Intelligence Unit, admitted that they personally are not ready from a health and wellness perspective to reach that age.

Singapore has seen substantial health system and public health success in recent decades.

Resident readiness: Policy for better prevention

Limited progress

In the view of Tan Hwee-Pink, associate professor of Information Systems at Singapore Management University, the main healthcare challenge from population ageing "will be preventive self-care—taking matters into your own hands to prevent or prolong the onset of chronic conditions". Dr Lim Wee Shiong agrees, "the focus on disease prevention cannot be overemphasised—it is extremely critical from a long-term perspective. Good health when one is old does not happen by chance but is the consequence of preparation."

Ultimately, individuals need to play the main role in their own health. Seventy per cent in our survey of clinicians and healthcare providers agree that residents are responsible for supporting their own healthy ageing. Dr Lim Wee Shiong speaks for several interviewees when he says that, in an ageing society, "what cannot be denied is that I need to take ownership of my own health. It is not, in the end, my government's problem".

Rarely in the world does this happen spontaneously without encouragement though, and Singapore is no stranger to government support of individuals adopting healthy lifestyles. School-based health education, for example, dates back nearly a century to the colonial era and state antismoking campaigns to the mid-1980s. Since 2001 the Health Promotion Board within the Ministry of Health has driven a wide range of prevention programmes for people of all ages.

The government has stepped up efforts around the prevention challenges associated with population ageing, including healthy living elements of the Action Plan for Successful Ageing. Dr Jeremy Lim notes that the country now has "government-sponsored or supported senior activity centres to keep older people physically, mentally and socially active."

A particularly high-profile effort has been the the health ministry's "War on Diabetes," launched in 2016, which includes the "Eat, Drink, Shop Healthy Campaign" aimed at individual residents as well as grants to dining establishments to develop better meal options, working with beverage manufacturers to reduce the level of sugar in their products, and the S\$20 million three-year Healthier Ingredients Scheme to encourage food producers to develop better products. The government is now considering banning or taxing the sale of certain high sugar drinks⁷.

Such efforts are having an effect, says Angelique Chan, executive director at the Centre for Ageing Research and Education and Duke-NUS Medical School. In her experience, "Singaporeans have become very alert to disease prevention, especially in the last five years. More people are running than ever before. They are choosing healthier food options and counting calories."

However, survey results indicate that despite such progress, the picture of healthy living among Singaporeans remains ambiguous. According to those in our survey of healthcare providers, individual prevention efforts are common but far from universal. Between 27%

Figure 3: Getting wiser with age

Do you believe that Singaporeans in the following age groups are proactive about preventing these key agerelated diseases? (% respondents answering "very proactive" or "fully proactive", 4 or 5 on a scale of 1 to 5)

	Dementia	Heart disease	Osteoporosis	Diabetes	Cancer
25-45	27%	40%	30%	45%	43%
45-65	49%	65%	59%	66%	63%
65+	59%	65%	72%	69%	66%

Source: The Economist Intelligence Unit

7 Sugar tax to change behaviour, not boost revenues https://www.straitstimes.com/singapore/health/sugar-tax-to-change-behaviour-not-boost-revenues

and 72% of respondents believe that—depending on age group and the disease in question— Singaporeans are very or fully proactive on prevention. (One caveat is that these figures may be too optimistic, resulting from clinicians listening to what patients tell them rather than fully knowing how they behave.)

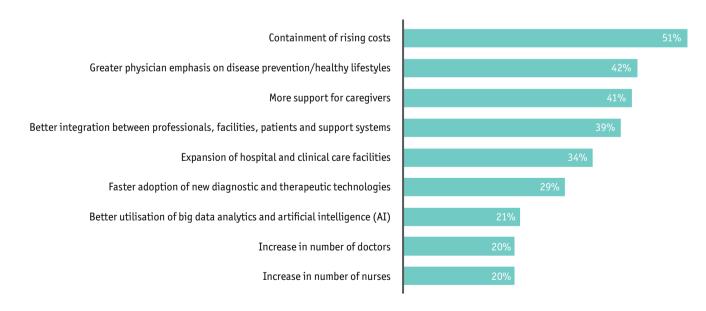
Taken at face value, the responses highlight two potential areas where progress is needed. First, even among older Singaporeans, a significant minority needs to become more engaged in prevention. "There is a knowledge-practice gap," says Dr Lim Wee Shiong. "People know what they need to do, but they don't do it."

A more worrying issue is the lack of such effort among those younger than 45, where under half are perceived to be very or fully proactive for every condition covered in the survey. These results do not surprise Mr Phua, who says "it is extremely difficult to communicate to someone who is 30 today the risks of disability later in life." Dr Chan agrees. Even after recent improvements, "young Singaporeans are not very active in disease prevention. They do not think about ever being disabled or ill."

Respondents in the general population survey further reflect a disconnect between aspiration and reality, reporting that their main strategies for disease prevention are healthy eating (cited by 68%) and physical activity (46%). However, each day, 73% of those surveyed consume at least one serving of sweets, cakes or similar; 61% at least one salty snack; and 69% at

Figure 4: Strategic planning

Which of the following strategies could best help Singapore prepare for the future demands of the ageing population? (% respondents, excludes "did not answer" responses)



Source: The Economist Intelligence Unit

8 The WHO recommends that adults do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week. In our survey, only 12% said that they exercised for 20 minutes or more every day.

least one sugary drink. Meanwhile, only 12% report getting the World Health Organisation-recommended level of exercise.⁸

Looking for new ideas

Dr Chan adds that officials are discussing having healthy living programmes—currently focused on people in their 50s—that include younger generations. The hope is to create a "cradle to grave" approach to prevention.

Mr Tan warns, though, that more of the same in the area of prevention may be insufficient for this age group: "Despite various campaigns on reducing sugar intake, cutting down on smoking, drinking more water, and keeping an active and healthy lifestyle, obesity is increasing among our kids." His concern is that "Singapore's healthcare system tends to go for tried and tested approaches."

He suggests that it should consider something bolder, such as copying private insurers and encouraging active lifestyles by, possibly, allowing people to buy fitness devices using money in mandatory Medisave accounts, or crediting those accounts if people do a certain level of exercise daily.

The healthcare system also has a major role to play. Mr Phua explains that "in the healthcare business, the goal is to make everyone concerned about their own health." The respondents in our survey of healthcare providers agree. For example, 84% say that, to prepare for the ageing population, Singapore's health system should place greater emphasis on preventative care. Similarly, when asked which health strategies would best help Singapore prepare for ageing, a greater physician emphasis on disease prevention and healthy lifestyles was amongst the top three choices (42%).

This involves working with doctors and the patients themselves, including sharing information that providers might have previously considered their own. Parkway Pantai, for example, is creating a digital health platform so that patients can see all of their relevant health information in one place and "make informed decisions to prevent diseases", says Mr Phua.

The survey data further back up the perceived need for such co-prevention: 79% say that patients should visit their physicians to set up preventative care plans compared with only 10% who say patients should only visit their physicians to diagnose and treat disease.

The hope is to create a "cradle to grave" approach to prevention. Ultimately, individuals need to play the main role in their own health.

Health system readiness

As noted earlier, Singapore's rapidly increasing longevity indicates that the health system has numerous strengths. As Dr Chan puts it, "the healthcare system is very good. We Singaporeans are lucky in that sense."

Nevertheless, the acceleration of ageing presents a bigger health system challenge than in the past-one which survey respondents believe necessitates reform: 83% agree that the higher volume of older patients in the near future will require change in how medicine is practised. Accordingly, 71% of respondents' organisations are already looking at strategies to improve patient care for the elderly.

Among respondents, the two overarching, and connected, areas requiring attention are cost and fragmentation of treatment.

Cost

Nearly half of survey respondents (49%) say that Singaporeans are, to some degree, unprepared for the health-related expenses of living to 100. Not surprisingly, the healthcare strategy that they named as most likely to help Singapore prepare for an ageing population is not new technology or specific medical interventions, but simply containment of rising costs (51%).

Dr Jeremy Lim explains that this is "a very legitimate concern. Singapore, like the rest of the world, has seen healthcare inflation far outpace general inflation."

On the other hand, he warns that the issue can be overblown from the perspective of the patient, though not the government's. A combination of mandatory savings into Medisave accounts and enrolment into Medishield Life insurance for high-cost interventions covers much of the expense of outpatient and hospital care, especially for individuals willing to stay in wards rather than private rooms while inpatients. Moreover, for older residents, age-based subsidies and grants greatly reduce Medishield Life premiums.

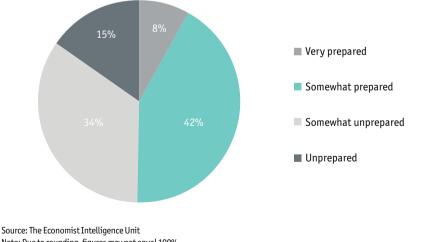
As such, the government is sufficiently concerned to be taking policy initiatives to address rising costs. One was making Medishield Life mandatory in 2015 (the programme it replaced had been optional). In the 2018 recent budget, the government also announced measures to crack down on those who do not pay their Medishield premiums and to require private insurers, as of 2021, to include at least a 5% co-pay in any supplementary coverage policies so that Singaporeans would be more careful of cost when making healthcare choices.9

Integration

The second biggest concern of providers in our survey is the health system's ability to cope

Figure 5: Paying the bill

From a financial perspective, how ready are Singaporeans to cover the costs of medical care needed to live to 100? (% respondents, excludes "don't know" responses as these are 2% or less of the total respondents)



Note: Due to rounding, figures may not equal 100%.

9 "Massive increase in premium rates for Medishield rider - SGs liable to be arrested for not paying premiums," The Online Citizen, 26 March 2018.

with age-related disease (42%). A large part of the problem is structural, Dr Chan notes. "Traditionally the healthcare system has centred around provision of acute care, and we have become excellent in that." However, she adds, care for chronic conditions requires different approaches.

As a result, 39% of respondents identify better integration of care around the patient as a key strategy to prepare for ageing. Almost as many cited improved prevention (42%) and better caregiver support (41%). Eighty-one per cent say multi-morbidity will drive a need for greater integration among medical specialties but only 64% of health providers surveyed currently think they work for well-integrated organisations.

A key part of the necessary integration, explains Dr Chan, is for Singapore's public system to move from a still relatively fragmented primary care system to one where general practitioners can take care of patients over their life course.

Dr Lim Wee Shiong agrees, saying that there needs to be "an emphasis on primary care as the cornerstone of our healthcare system. Increasingly, as you talk about an ageing population with multiple comorbidities, you need to go back to the basics of primary care, with a physician who knows the person and their family, as well as understands their underlying psycho-social needs." This requires both more time for interacting with patients "and a cultural change toward a different mental model of care," says Dr Chan. This will involve new behaviour on the clinicians' side, including spending more time with each patient.

It will also require some patients to change. Dr Jeremy Lim notes that many still do not wish to be engaged in their own disease management but come to their doctors seeking "a magic bullet". Dr Lim Wee Shiong adds that it will also be necessary to discourage the too common tendency among patients to bypass primary care physicians and head straight for hospital specialists.

New funding models will also be necessary, he adds. Currently, Singapore's healthcare is funded mainly based on traditional feefor-service remuneration, which rewards interventions and resource use rather than a range of activities consistent with integrated, patient-centred care. "There is not a lot of reimbursement for telemedicine or patient education," says Dr Jeremy Lim, "and no outcomes-based funding."

Parkway Pantai, says Mr Phua, provides an example of what integrated care might look like in practice. As a large private provider, it has the capacity to give the necessary "integrated healthcare from primary care, through hospital care, back into the community and possibly even at home." This makes it easier for the patient and also saves costs, as they can reduce the time in hospital where the most intensive and costly care occurs—and recuperate at home or allow other interventions to take place in the community.

An integrated system also permits extensive, patient-centred integration. Typically, Mr Phua reports, a multi-morbid patient is assigned a team of specialists individually tailored to the particular range of conditions that person might have. "We are no longer in the days where one size can fit all," he says.

Public health systems are more constrained on resources, but the government is taking steps toward integration. The Agency for Integrated Care has engaged in numerous programmes in this direction over the past decade and the minister of health has also spoken publicly about the great importance of moving toward patient-centred treatment provision. These hold out the promise of not only providing better care but of helping to reduce inefficiencies—and therefore costs within the system.¹⁰

The most important shift in this direction, says Dr Lim Wee Shiong, has been the recent reorganisation of healthcare. This allows, in principle, closer coordination and integrated services between primary care, hospitals, long-term care, home care, and other service providers. He cites as an example the dementia shared care program between his hospital and government polyclinics. This led to the creation of dementia clinics in primary care

10 Gan Kim Yong (Minister of Health), "Integration of healthcare services paramount as Singapore ages," *Today*, 2 February 2018; "Q&A with Jason Cheah, CEO of the Agency for Integrated Care," *Straits Times*, 27 September 2013.

facilities, so that more patients could be treated in the community, with resultant cost savings and greater caregiver satisfaction.

The transition, however, will be far from simple because healthcare has to continue while new arrangements around care pathways, funding and other areas are trialled. As Dr Jeremy Lim says, it is like "reconfiguring an airplane in mid-flight". *The acceleration of ageing presents a bigger health system challenge than in the past*

Social readiness: Long-term care for older citizens

An expensive necessity

"Singapore is excellent for healthcare services," says Ms Chia, "but we would need to look at how to ensure a sustainable social health model." This refers to an approach which aims to incorporate the social, economic, and biophysical context of health, shifting the focus of care away from treatment and toward prevention and promotion of health.¹¹

The problem is as much one of social as demographic change. Dr Chan notes that while traditionally families in the country have looked after older relatives, the decline in fertility over recent decades has made this much less viable. "Families are smaller," she explains, "and if there are one or two children, both are likely to be working."

Already, only 35% of respondents in our healthcare provider survey say that their patients rely on family for caregiving. No reason exists to believe this will increase. Accordingly, "caregiving support is a huge issue in Singapore," says Dr Chan. "We are worrying about it a fair bit."

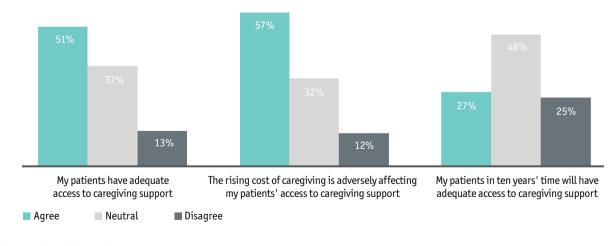
Again, the government is aware of the challenge, with long-term care policy evolving

rapidly. For example, health and social services are seeing increasing integration, with the Ministry of Social and Family Development transferring its programmes that support carers to the health ministry.

The government is also active in initiatives to make it easier for seniors to age at home. For example, in 2018 it announced a nationwide roll-out of its Community Networks for Seniors, one task of which is to link up health and social care provision with need. Most notably, from 2020, the previously optional long-term care insurance—Eldershield—will be replaced by the mandatory new CareShield policies. Cash

Figure 6: The cost of care

Please indicate your response to the following statements on Singaporeans' access to caregiving support outside a hospital or clinical setting. (% respondents)



Source: The Economist Intelligence Unit. Note: Due to rounding, figures may not equal 100%. payments will be provided to defray long-term care costs—whether at home or in a facility—in the event of a disability.

Nevertheless, concern about access to adequate care is substantial. Only 51% of our healthcare provider respondents agree that their patients currently have access to the caregiving support that they need. Worse still, 57% agree that the cost of caregiving outside of hospitals and clinical settings is adversely affecting access among their patients.

Looking ahead, just 26% are confident that their patients will have adequate access to caregiving

support in ten years' time. Not surprisingly, "More support for caregivers" is the third most recommended healthcare strategy to prepare for an ageing population (41%, just behind second place prevention at 42%).

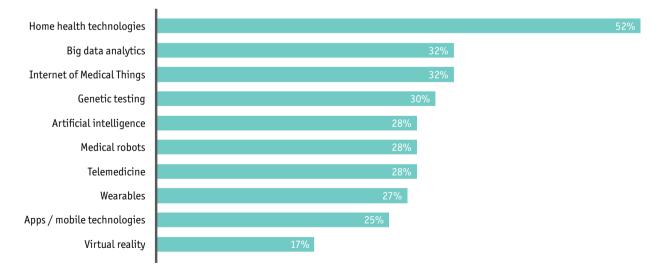
The maths make "the caregiving conundrum a particularly thorny one," says Dr Jeremy Lim. Professional and skilled help is expensive and, reports Ms Chia—a place in a nursing home run by a Voluntary Welfare Organisation in Singapore can cost about S\$2,400 per month on average according to a recent study published by the Lien Foundation.¹² This is over half of the country's median gross monthly income.¹³

Currently, Singapore's residents are casting about for affordable alternatives. Gigeconomy sites, such as CareGiverAsia.com, have been appearing. Dr Chan notes that a common practice has been for families to hire foreign domestic labour, which cost several hundred dollars per month, making it less expensive than institutional care.

However, the use of foreigners brings its own cultural challenges, notes Mr Tan. His parents do not speak English and he recently had to translate between them and foreign nursing staff at a local accident and emergency ward.

Figure 7: Getting technical

Which of the following technologies hold the greatest potential to positively impact the healthcare system's ability to care for the elderly? (% respondents)



Source: The Economist Intelligence Unit

12 "Cost a concern for seniors who want to 'age in place': Lien Foundation-NUS study", Channel NewsAsia, 14 Aug 2018 https://www.channelnewsasia.com/news/singapore/lien-foundation-cost-a-concern-seniors-who-want-to-age-in-place-10615662

13 Ministry of Manpower, "Summary Table: Income," 30 May 2018 puts the median full-time gross monthly income, including employer contributions to mandatory savings schemes, at S\$4,252.

Technology is part of the solution

Whatever combination of government policy and market solutions eventually addresses this need, information technology (IT) is likely to play a role. Although the healthcare provider survey respondents did not see the use of IT as a leading strategy on its own to prepare health systems for ageing, the kind of technology that they most expect to have a positive impact is, by far, home health technologies. Similarly, 77% say that greater investment in at-home technology to support chronic disease care will be needed as populations age.

The opportunities are substantial. Mr Tan says that "smart homes with unobtrusive and passive sensors have been shown to be effective in detecting events that require reactive care—for example, an elderly person living alone who may have fallen or fainted." Just as important, he adds, analysing data over time across a large enough population will allow indicators that help foresee the onset of, or complications from, certain chronic conditions. This in turn can allow early detection and potentially treatment in the community, thereby reducing the burden on acute care institutions.

How technology is used will likely vary by age, especially if not fully automated. Ms Chia explains that the generation currently over 80 on average has less education and may therefore be less comfortable with IT. For them, it may be a question of training caregivers to use the technology on their behalf. Those now in their 60s and 70s, though, she believes are more than sufficiently comfortable with IT to use it on their own. Singapore's increasing longevity is a substantial healthcare success.



Conclusion: The need to persevere

Singapore's increasing longevity is a substantial healthcare success. The resultant rapid ageing of the population, especially in the coming 15 years, will bring new health challenges as the burden of chronic diseases and multi-morbidity inevitably grows.

Singapore's government, healthcare system and, to some extent, its residents have begun to engage with the changes that will be necessary to reshape the interrelated areas of disease prevention, medical provision and long-term care into ones fit for an older society.

The commitment is undeniable and the direction of travel clear: healthier lifestyles from a younger age; lower cost, moreintegrated and patient-centred healthcare delivery; and appropriate ways to support seniors in living a fulfilling life including, where necessary, use of home health technologies and provision of appropriate long-term care.

The difficulty is getting there. Dr Jeremy Lim explains that "there is recognition that this is a wicked problem. With so many moving pieces it is really challenging which to do first or if all need to move in concert. I don't think we have cracked the code yet. Hopefully we will get it right."

If Singapore does, he adds, it will not benefit just the country. These are global problems and Singapore's adjustment to rapid ageing is an opportunity to show the world how it should be done.

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