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The Health and Social Impacts of An Ageing Population in Singapore, and Why It Matters

by **Mr Micah Tan & Professor Paulin Straughan**
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Introduction

Singapore's population is ageing rapidly, with the National Population and Talent Division estimating that about one in four Singaporeans will be aged 65 and above by 2030 (National Population and Talent Division 2022). It is anticipated that these demographic changes will have wide-reaching implications for the country that will span all sectors and dimensions of society. In this article, we focus in on two specific dimensions of the impact that an ageing population will have for society; health and social impacts. Using data from the Singapore Life Panel® (SLP) that has been running for the past seven years at the Centre for Research on Successful Ageing (ROSA), we provide evidence demonstrating some changes that are already occurring as a result of an ageing population. Yet, while we highlight two health and social implications of an ageing population, we concurrently demonstrate that such issues can and will influence other aspects of society. We thus emphasise that population ageing is a multidimensional issue, and that it is important for both policymakers and researchers to adopt multidisciplinary perspectives when addressing the problems anticipated to arise from an ageing population.



The evolving healthcare needs of an ageing population

One of the key implications of an ageing population is that the health profiles of the population will evolve, with a greater proportion of the population being likely to suffer from chronic conditions. This is because our vulnerability to chronic conditions increases as we grow older, which means that as the average age of Singaporeans increases, a growing proportion of

Singaporeans will be at an increased risk of suffering from chronic conditions. This trend has been captured by the data collected in the SLP over the past seven years. From the monthly data that we collect from our population representative panel of about 7,000 respondents aged between 57–77 in 2022, we have been able to track the health conditions – particularly with regards to chronic conditions – of multiple cohorts over the past five years. Our data provides empirical evidence that both the likelihood of having at

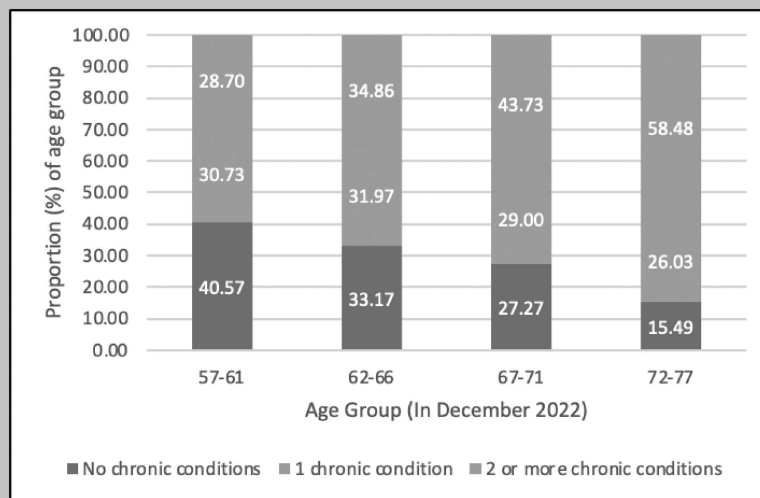


Figure 1: Proportions of respondents with no chronic conditions, one chronic condition, or two or more chronic conditions by age group

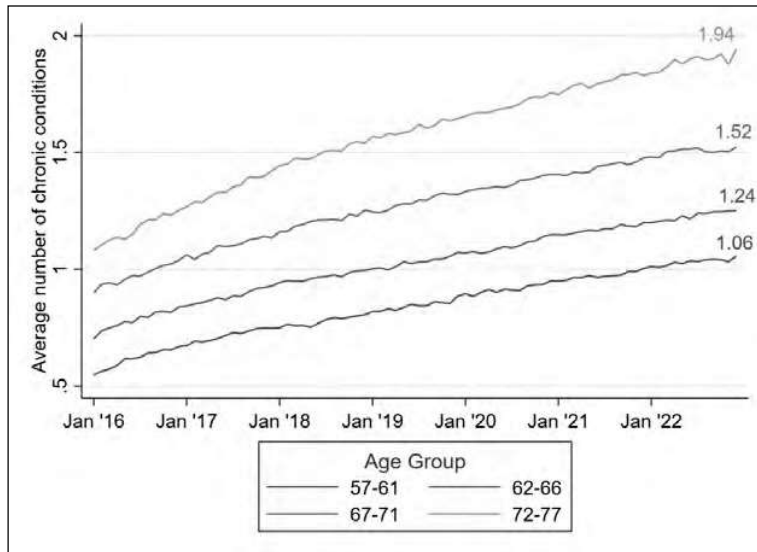


Figure 2: The average number of chronic conditions respondents have by age group, from January 2016 to December 2022 (age groups are defined by respondents' ages in 2022)

least one chronic condition increases over time and with age, as well as that the average number of chronic conditions that individuals suffer from also increases over time and with age. These trends are illustrated in the figures below. Figure 1 presents the proportions of respondents in each age group with no chronic conditions, one chronic condition, or two or more chronic conditions in December 2022. Figure 2 presents the average number of chronic conditions that respondents in each age group had since January 2016.

These figures illustrate the increased vulnerability

of older adults to developing chronic conditions as they age. From Figure 1, we see that the proportion of respondents within the ages of 72–77 that has not had a chronic condition (15.5%) is less than half of that of respondents within the ages of 57–61 (40.6%). Concurrently, we also observe that the proportion of respondents with two or more chronic conditions within the 72–77 age group (58.5%) is almost double the proportion for respondents within the ages of 57–61 (28.7%). On the other hand, Figure 2 demonstrates how the average number of chronic conditions respondents within

each age group has increased over time. Particularly, we see that respondents who were aged 72–77 in 2022 (or 66–71 in 2016) experienced steeper increases in the number of chronic conditions they had over the past six years, compared to respondents in other age groups.

Our data thus highlights the significant trends in ageing that we are already beginning to observe with respect to the health profiles and conditions of our population. These trends have important implications for the general well-being of Singaporeans, as more Singaporeans are expected to be experiencing poorer health. On a societal level, however, this also has important considerations for health policy – healthcare systems in Singapore will need to evolve so as to accommodate an increased need for chronic and long-term care that focuses on addressing chronic disease, as compared to current models that place a focus on addressing acute diseases.

Beyond health and well-being concerns, this is likely to have significant economic implications as well as healthcare costs rise substantially to meet

the increased demand. The affordability of healthcare, as well as the economic sustainability of the healthcare system is thus likely to also become a serious issue should nothing be done to address this trend. This impact has also been captured by our data in the SLP – the chart below plots the average cumulative amount that respondents aged between 72–77 in 2022 spent on healthcare over the past seven years based on their chronic condition status in December 2022, with the dollar

values presented representing the average amount spent since July 2015 for each group as of December 2022.

As can be seen, respondents with multiple chronic conditions in December 2022 spent, on average, more on healthcare over the past seven years as compared to respondents with no chronic conditions, or just one chronic condition. Respondents with two or more chronic conditions had spent an average of \$12,148.16 on healthcare related expenditures since July

2015 in December 2022, while respondents with no chronic conditions or just one chronic condition spent \$7,134.29 and \$6,828.06 respectively. This thus highlights the significant economic impact that the population health implications of an ageing population can have as healthcare costs rise significantly due to the increased demand for long-term and chronic care.

These trends thus illustrate overall how the issue of population ageing spans multiple disciplines, and why the issues that arise from population ageing will require a whole-of-society approach to being addressed. While not presented here in this article, research conducted at ROSA has also illustrated how the public health of an ageing population is also very much a social issue by illustrating how social network resources influence rates of healthcare utilisation among older adults in Singapore. Such findings are important in understanding how best to enable preventive approaches to healthcare such as Healthier SG that are contingent upon positive healthcare behavior. The challenges of an ageing

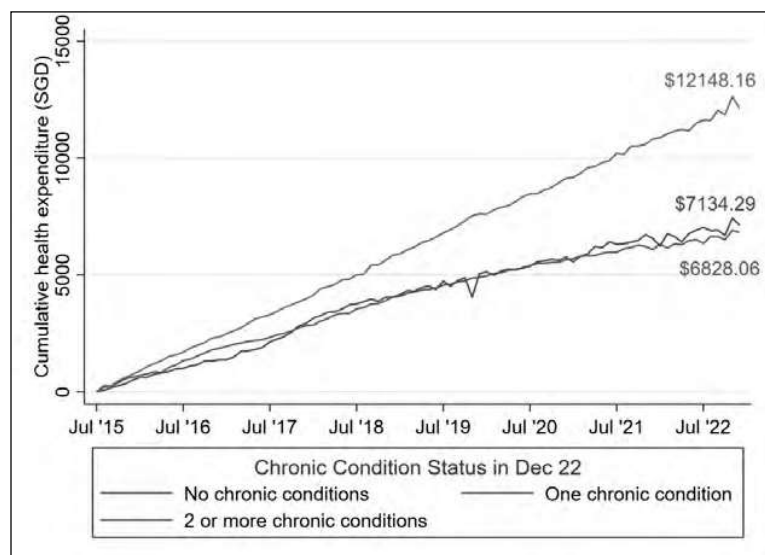


Figure 3: Cumulative healthcare expenditure¹ of respondents since July 2015, limited to respondents aged between 72–77 in 2022 to control for age effects.

¹ Healthcare expenditure includes money spent on prescription medications, other medications, outpatient services, and hospital services.

population thus cannot be viewed in isolation, and will require multi-sector responses.

Social implications of an ageing population

Another key trend of concern arising from an ageing population is the rise in number of older adults who are socially isolated, be it objectively in terms of their living arrangements (i.e, living alone), or subjectively in terms of their feelings of loneliness. This issue has been raised as a key concern by scholars of ageing world-wide who have also noted the negative impact that social isolation can have on health outcomes among older adults (Cornwell and Waite 2009; Hawton et al. 2011) including living alone, having a small social network, infrequent participation in social activities, and feelings of loneliness. However, multiple forms of isolation are rarely studied together making it difficult to determine which aspects of isolation are most deleterious for health. Using population-based data from the National Social Life, Health, and Aging Project, we combine multiple indicators of social

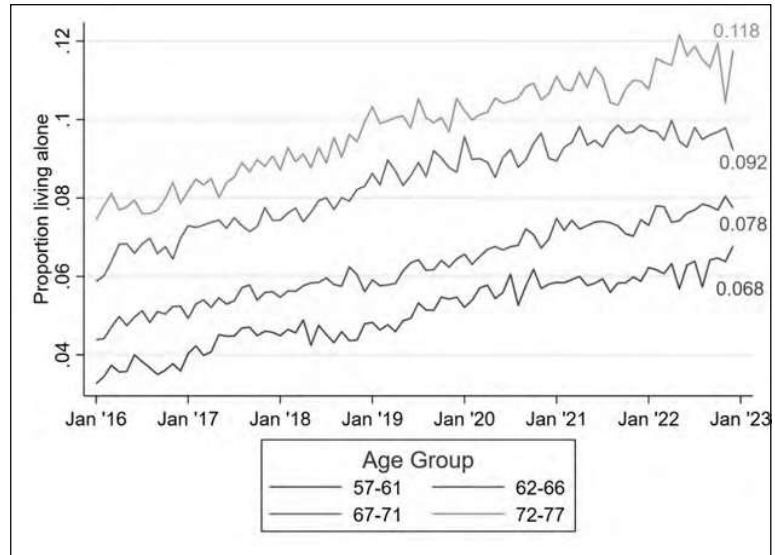


Figure 4: Average proportions of respondents within each age group that live alone since January 2016. Values displayed on the right hand of the chart reflect proportions in December 2022.

isolation into scales assessing social disconnectedness (e.g., small social network, infrequent participation in social activities. It has been illustrated, for instance, that both forms of social isolation are independently associated with poorer self-rated physical and mental health. One possible mechanism that has been identified that explains this effect of social isolation on health outcomes is the fact that socially disconnected individuals may have lower access to resources such as health information and other resources such as

transportation that enable pro-health behaviors (Lin 2001). Thus, social isolation among older adults is an issue of significant concern given the implication that it can have on their well-being outcomes.

A key issue with social isolation within the context of population ageing is the fact that as individuals age, they are more likely to become socially isolated. As such, as more of the population becomes older, we are likely to see a greater proportion of Singaporeans who are socially isolated. This is due to a range of factors, including the likelihood

of experiencing a loss of social contacts in the form of colleagues as older adults transition into retirement, as well as the fact that many older adults experience shrinking social networks as more of their acquaintances and friends pass on with age (Wrzus et al. 2013). This is a trend that has been captured by our SLP data over the last seven years as the following chart demonstrates.

As can be seen, the proportion of respondents living alone increases with age, with those aged 73–78 having the greatest proportion of respondents living alone (0.118 or 11.8% in December 2022), compared to respondents within the ages of 58–62 (0.068 or 6.8% in December 2022). Furthermore, we observe that for every age group, the proportion of respondents living alone has increased over the past six years. This succinctly captures the trend where a growing proportion of the population becomes more socially isolated as they age.

Our data has also captured the impact that being socially isolated can have on the well-being of our respondents. The charts below illustrate the differences in the overall

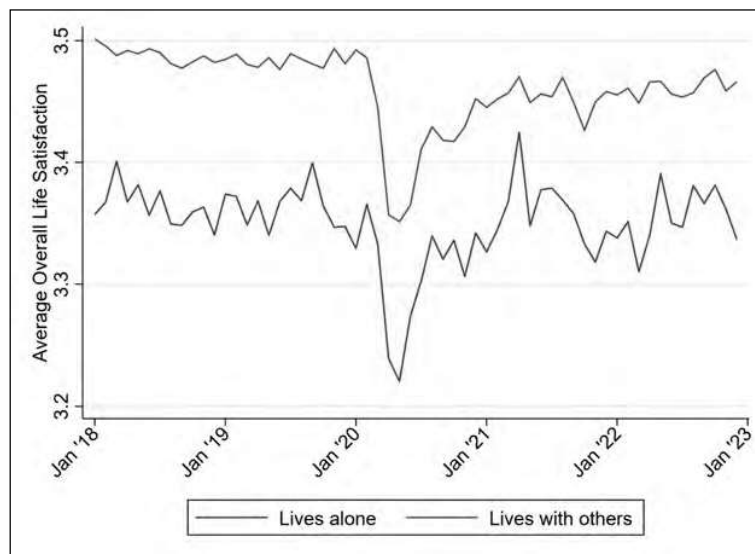


Figure 5: Average Overall Life Satisfaction² of respondents since January 2018 by living arrangement (lives alone or lives with others)

life satisfaction and subjective health status between respondents who live alone and respondents who live with others over the past five years.

From these charts we can observe that respondents who live with others historically report higher levels of overall life satisfaction (a key indicator of subjective well-being), and subjective health status (a key indicator of physical health status) as compared to respondents who live alone. As such, we can observe how

social isolation can have an impact on not just the social, but the mental and physical well-being of older adults. This illustrates once again the multi-dimensional nature of the issue of an ageing population as it shows that an anticipated social implication of an ageing population will likely have health impacts as well. It also highlights that the rising proportion of Singaporeans who are likely to be socially isolated as the population ages will be an important point of

² Overall Life Satisfaction is measured using a single item asking respondents to rate, on a five-point scale ranging from "Very Satisfied" to "Very Dissatisfied", how satisfied they are with their life as a whole. A higher score reflects better well-being.

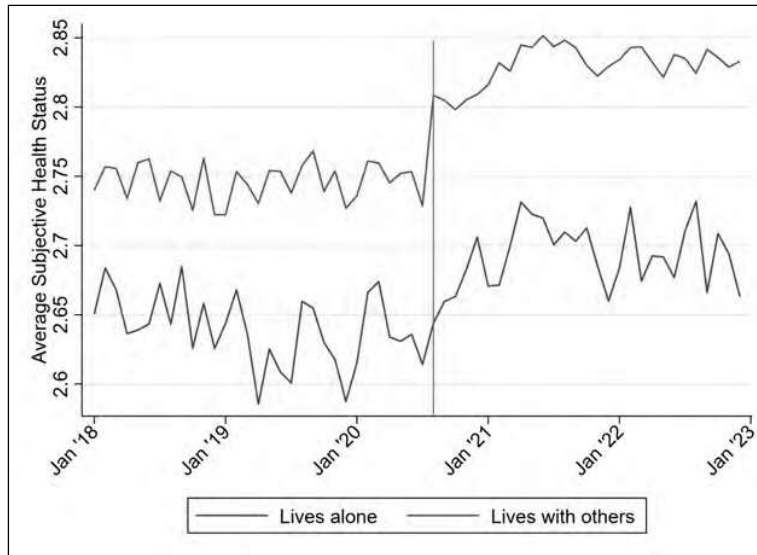


Figure 6: Average Subjective Health Status³ of respondents from January 2018 to December 2022 by living arrangement (lives alone vs lives with others)⁴

concern for efforts to enable successful ageing and improve older adult well-being.

Conclusion – how can we move forward?

In this article we have highlighted two significant implications of an ageing population – the rise in the proportion of individuals suffering from one or more chronic conditions, and the

rise in social isolation – and also discussed why these implications are a cause for concern for all segments of society. While the data that we collect at ROSA has enabled us to track and highlight these trends and implications, another very important aspect of the research being done at ROSA is also concerned with developing and identifying potential solutions that can address such implications.

Specific to the issues raised in this article, our research aims to enable effective responses in two key ways.

Firstly, ROSA’s research aims to discover ways in which the gap between the health-adjusted life expectancy (HALE)⁵ and the life expectancy (LE)⁶ of Singaporeans can be minimised. In other words, we endeavour to discover ways in which we can maximise the amount of time that Singaporeans spend their lives in good health by identifying social, psychological, economic, and lifestyle factors that can help to reduce the onset of chronic conditions. In line with national healthcare efforts, our research thus emphasises a preventive approach and advances pro-health interventions that can alleviate disruptions to everyday life due to chronic ailments.

Secondly, ROSA’s research aims to discover ways in which we can empower older adults themselves to address the issue of social isolation. This

³ Subjective Health Status is measured using a single item asking respondents to rate, on a 5-point scale ranging from "Excellent" to "Poor", how they would rate their health. A higher score reflects a better subjective health status.
⁴ The vertical red line denotes August 2020 when the order of the survey that we field monthly was amended. As a result of the revised order, we noticed an artificial inflation of the subjective health status. This likely explains the sharp increase in subjective health status observed in August 2020.
⁵ Health-adjusted life expectancy, or HALE, refers to the number of years that an individual can expect to live in full and good health.
⁶ Life expectancy, or LE, refers to the average period that an individual is expected to live, regardless of whether they live in good or poor health.

ROSA's research aims to discover ways in which the gap between the health-adjusted life expectancy (HALE) and the life expectancy (LE) of Singaporeans can be minimised.

work is driven by the idea that older adults should not be viewed as passive recipients of aid, but active citizens with the potential to contribute back to their communities. In this sense, we believe that tapping on the resources that older adults can provide for their communities would be a sustainable way to address the issue of social isolation. Similarly then, our research in this area aims to identify the social, psychological, economic, and lifestyle factors that can empower older adults to possess the agency to contribute to their communities.

ROSA thus leverages on our multi-disciplinary research team to support such holistic approaches to supporting successful ageing and addressing the issues

raised in this article. This is vital given the fact that such efforts will require a whole-of-society approach as we have demonstrated in this article. Researchers and policymakers who are actively working to address population ageing in Singapore will thus need to adopt multidisciplinary perspectives in understanding the issues that arise out of population ageing, and to establish cross-sector collaborations when developing interventions. Importantly, such new perspectives must also include a reconceptualisation of the way we think of older adults and move away from the impression that older adults are a burden by recognising older adults as a valuable resource that can be tapped on. Only in doing so can we truly enable 'successful ageing' in Singapore.

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