TRANSITIONS IN HEALTH, EMPLOYMENT, SOCIAL ENGAGEMENT AND INTERGENERATIONAL TRANSFERS IN SINGAPORE STUDY (THE SIGNS STUDY) – II

Cross-Sectional and Longitudinal Analyses of Key aspects of Successful Ageing

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A Chan and R Malhotra, the Principal Investigator (PI) and Co-PI, of THE SIGNS Study respectively, oversaw the data collection, and contributed to the development of the study questionnaires, development of data analysis plans, interpretation of analysis findings, and writing or editing of all chapters in the report. A Visaria contributed to the development of the study questionnaire, conducted interviewer training, and wrote the methodology chapter. A Visaria and BJSC Seng contributed to preparation of fieldwork material and supervised the data collection. PD Sung, BJSC Seng and YW Tan conducted the data analysis for the chapters providing cross-sectional and longitudinal findings and contributed in writing these chapters.

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Chapter 1. Introduction

In 2015, the Singapore Ministry of Health (MOH) commissioned the Centre for Ageing Research and Education (CARE), Duke-NUS Medical School, to conduct a longitudinal study on productive and active ageing in Singapore. In partnership with the MOH, CARE developed the *Transitions in Health, Employment, Social Engagement, and Intergenerational Transfers in Singapore Study* (THE SIGNS Study). The goal of this longitudinal study is to provide evidence for policy makers interested in promoting productive and active ageing among the older population in Singapore.

This report is a synopsis of the results from THE SIGNS Study, which began in 2016. Two waves of data were collected, in 2016-2017 (wave 1; THE SIGNS Study - I) and in 2019 (wave 2; THE SIGNS Study - II). Using these data, we are able to begin constructing a picture of how older persons (Singapore citizens and permanent residents aged 60 years or older at baseline, in 2016-2017) have aged over time. The report describes demographic characteristics, physical and mental health status, health behaviors, health care utilisation, social engagement, provision and receipt of transfers, work and retirement status, volunteering, and lifelong learning at wave 2, and how they have changed over time, from wave 1 to wave 2. The report also includes findings from a module on technology use among older adults in wave 2.

Singapore's population is ageing rapidly. Recent estimates suggest that by 2030, approximately twenty-three percent of the population will be above the age of 65 years. Longevity has been increasing steadily in Singapore; average life expectancy at birth is currently 84 years, one of the highest in the world. Concomitantly, fertility rates are at record low levels (1.14 children per woman, on average). Family sizes have been shrinking since the early 1980s and the proportion of persons aged 65 years or older to those aged 15-64 years has been increasing steadily over time. These trends suggest that there will be fewer individuals to support older persons if older persons do not become more self-sufficient. Self-sufficiency is typically described in economic terms, however, a large part of self-sufficiency relies on having good health and strong connections to society. In fact, successful ageing can be described as having purpose and meaning in life, good health, and financial stability. Taking this broader view of successful ageing, our research group at CARE designed THE SIGNS Study to track how successfully older Singaporeans are ageing.

This report includes both a description of the status quo observed in THE SIGNS Study – II, in 2019, and a summary of changes in older adults' characteristics over time, from 2016-2017 to 2019. The methodology of the survey and a brief description of various scales used in the survey are presented in the next chapter. This is followed by chapters on demographic characteristics, physical and functional health, psychological health, health behaviours, social engagement, provision and receipt of transfers, work and retirement, lifelong learning, volunteering, and technology use. In all our analyses we acknowledge the presence of age and cohort effects such that the young-old will differ in outcomes compared to the oldest-old. We thus stratify our descriptive analyses by age categories: 62-69, 70-79, and 80+. We are also cognizant of the fact that men and women, and different ethnic groups age differently. Thus, our analyses include stratification by gender and ethnicity. We now summarise and discuss some key findings.

Demographic characteristics. A relatively high proportion of older Singaporeans continue to live with at least one child (56%). This percentage, however, has been decreasing since the 1990s when the proportion of older adults living with at least one child was 75%. Conversely, the proportion of older adults living in a 2-person household with a spouse only has been steadily increasing; currently 27% of older adults live with their spouse only.

Living alone. In 2019, almost 11% of older Singaporeans lived alone or only with a foreign domestic worker; this proportion was highest among those aged 80 and above (14%), higher for females (13%) compared to males (8%), and was highest among the Chinese (11%). And, this proportion increased from wave 1 to wave 2. Over time, a higher proportion of older adults aged 62-69 years and females reported living alone or only with a foreign domestic worker. These data suggest a shift in the living arrangements of older persons, and has implications for the type of support available to older adults. Older adults are increasingly becoming caregivers to older spouses. Caregiving presents unique challenges depending on the age of the caregiver and we are only beginning to understand the needs of older caregivers in order to develop more targeted support services. There are also important implications for social support and social engagement. Older individuals living alone may be more isolated and less socially engaged unless efforts are made on the part of individuals and their families to retain social connections.

Physical and functional health. THE SIGNS Study captures data on self-reported health status, number of chronic diseases, activities of daily living, and instrumental activities of daily living. The five most common chronic diseases (based on self-report) among older Singaporeans are hypertension (59%), high cholesterol (52%), joint pain, arthritis, or nerve pain (27%), diabetes (26%), and renal/kidney or urinary tract ailments (8%). Overall, the mean number of chronic diseases reported by older Singaporeans increased from 2.14 in wave 1 to 2.41 in wave 2. All age groups, both genders and all ethnic groups reported an increase. The mean number of ADL difficulties reported by older Singaporeans also increased from 0.22 to 0.36 over the study period.

Psychological health. THE SIGNS Study includes measures of the extent of depressive symptoms, personal mastery, psychological resilience (only in wave 2), and quality of life. While there was no change in the extent of depressive symptoms over time, we note a significant decrease in personal mastery and a significant increase in quality of life of older Singaporeans over time. These findings highlight the need to simultaneously gauge various facets of psychological health among older adults, as not all facets seem to be changed in the same manner among older Singaporeans.

Cancer screening. More than 43% of older Singaporeans, across age and ethnic groups, had never undergone screening for colorectal cancer. The proportion of those who had undergone screening within the last year was lower at older ages and was higher among males. About 44% of older Singaporean women had never undergone a Pap smear test. Among those aged 62-69 years, only 30% had undergone the test within the last 3 years. Nearly 38% of older Singaporean women had never had a mammogram. Among those aged 62-69 years, only 33% had undergone the test within the last 2 years. These findings point to a clear need for increasing the uptake of recommended cancer screening among older Singaporeans.

Healthcare use. In the 3 months prior to their survey, 47% of older Singaporeans had visited a doctor at a polyclinic at least one time, whereas 27% had visited a private general practitioner. A higher proportion had consulted specialists at a specialist outpatient clinic, compared to private practice, overall and across age groups, gender and ethnicity. About 12% of older Singaporeans had consulted Traditional Chinese Medicine (TCM) practitioners or traditional healers.

Provision and receipt of transfers. One of the ways in which older adults receive support is through intra- or inter-generational transfers, that is, transfers from the same or other generations within their family. We note that the proportion of older Singaporeans who reported receiving monetary support decreased from 64% in wave 1 to 57% in wave 2. The proportion of older Singaporeans receiving housework help decreased from 57% to 51% and receipt of material support decreased from 61% to 54%.

Older adults also provide transfers. The most prevalent types of transfer that older adults provide in wave 2 are emotional support (47%) and housework help (43%). Over time, we see an increase in the proportion of older adults providing emotional support (43% to 47%) among those who responded to both waves. Thus, older adults are receiving less transfers but are maintaining or increasing their contributions to the family in terms of housework help and emotional support.

Work and retirement. Over time, the proportion of older adults in the labour force decreased, as expected. In 2019, 18% of older Singaporeans aged 62 years and older worked full-time, while about 14% worked part-time. Fewer older females worked full-time (11%) compared to males (27%). Females almost twice as likely to retire early (46%) compared to males (25%) and the most likely cited reason for early retirement is caregiving.

Lifelong learning. The proportion of older adults engaged in lifelong learning declined over the study period. In 2019, 12% of older adults reported having attended a course and/or training in the past 12 months. The proportion of those who took courses/trainings for only job-related reasons was the highest among those aged 62-69 years (45%), while the proportion of those who took courses/trainings for only non-job-related reasons was the highest among those aged 80 years and above (81%). Males (56%) were thrice as likely than females (18%) to take courses/trainings for only job-related reasons, while females (74%) were almost twice as likely than males (42%) to take courses/trainings for only non-job-related reasons.

Volunteering. There was no change in the proportion of older Singaporeans who volunteered formally over time. In 2019, 14% of older Singaporeans reported being engaged in formal volunteering in the prior 12 months. Among those who had volunteered formally in the last 12 months, the three most common ways of volunteering were organising or helping to run an activity or event (46%), visiting people (39%), and befriending or mentoring people (35%).

Approximately 16% of older Singaporeans engaged in informal volunteering in the prior 12 months. The proportion decreased with age, decreasing sharply after 79 years of age. Only 5% of those aged 80 years and above had engaged in informal volunteering in the prior 12 months compared to 18% of those aged 70-79 years. The proportion of older Singaporeans engaged in informal volunteering decreased from wave 1 to wave 2.

Technology use. In wave 2, we included questions on technology use. We found that 65% of older Singaporeans used a smartphone either daily or most days a week. This proportion declined sharply with age from 67% of those aged 70-79 years to 25% among adults aged 80 years and above. About 13% of older Singaporeans had used the internet to get information among their own health or to help manage their health conditions in the last month. Again, this proportion declined with age, from one-fifth (22%) among those aged 62-69 years to only 2% among those aged 80 years and above. Less than 1% of older Singaporeans had used an app to remind them to take their prescription medications.

The findings from THE SIGNS study raise several interesting points. While ageing is associated with an increase in number of chronic illnesses, we also see a decline over time in personal mastery, i.e. a sense of control over one's life. At the same time, older adults report a higher quality of life over time and there was no change in the extent of depressive symptoms. This finding suggests that different aspects of psychological well-being may have different antecedents and pathways, and emphasises that a multi-dimensional approach may enable a more complete understanding of the well-being of older adults.

We note that cancer screening is not the norm for most older adults. About 36% of the older men in our cohort have never undergone colorectal screening although colorectal cancer is a major

cause of death in Singapore. Nearly 38% of older women had never had a mammogram although breast cancer is a major health risk in Singapore. Almost half of older women in our sample have never undergone a pap smear test.

An overview of the social engagement of older persons suggests that older Singaporeans are not very involved in social activities. Older Singaporeans are most involved in religious activities. Two-thirds of older adults visit places of worship at least weekly or occasionally. In stark contrast, only 23% attend neighbourhood events, 14% engage in formal volunteering, and 16% engage in informal volunteering. Similarly, a small proportion (12%) of older adults engage in lifelong learning. Approximately 33% of older adults work either full or part-time, thus work seems to be one of the main activities outside of the home. These findings highlight the need for further programming within the Singapore context to engage older Singaporeans in social activities outside of the home.

Policies and programmes for ageing in Singapore are increasingly informed by rigorously collected data and analyses. THE SIGNS Study provides evidence for policy making at a broad level for older persons aged 60 years and over by collecting data on a number of important domains of health, well-being, and engagement. *More importantly, the data allow for analyses of specific subgroups of older persons, for example, analyses of characteristics and behaviours of the oldest old (80+), that can be translated into more targeted policies and programs.* This report is the first step in producing data towards that aim. In subsequent work, we will delve more deeply into the causes and outcomes of specific characteristics and behaviours of older adults in Singapore.

Chapter 2. Methodology

THE SIGNS Study – II, conducted in 2019, is the second wave of a nationally representative longitudinal study of community-dwelling older (aged 60 years or older) Singapore citizens and permanent residents. The first wave, THE SIGNS Study – I, was conducted in 2016-2017.

At the time of THE SIGNS Study – I, 4117 (90.5%) out of the total 4549 respondents (index older adult or a proxy respondent on his/her behalf) had consented to be re-contacted for wave 2, i.e. were potential respondents for THE SIGNS Study – II. These 4117 potential respondents were first mailed letters of invitation for THE SIGNS Study – II, in two batches about 12 weeks apart, informing them that they had participated in THE SIGNS Study – I in 2016-2017, that they had consented to being re-contacted for wave 2, and giving them phone numbers, postal and e-mail addresses to contact in case they wished to opt out. All respondents were also sent a one-page flyer highlighting some descriptive findings from THE SIGNS Study – I, on social networks, living arrangements, physical activity, employment, participation in volunteering and lifelong learning among older adults in Singapore. All material was sent in the four official languages of Singapore: English, Mandarin Chinese, Malay, and Tamil.

Interviewers were required to make a first contact attempt within 6 weeks of the letter and flyer having been mailed out. Interviewers were also required to make 3 attempts to meet a potential respondent. If a respondent remained uncontactable after 3 visits, a phone call was placed to the number of the index older adult or his/her proxy respondent, shared at the time of wave 1, to inform them about the study and asking for an appointment for the interview. At the time of attempting to contact a potential respondent, if the interviewer was informed that the index older adult had passed away, the interviewer asked if a next-of-kin was available to answer a decedent questionnaire. The criteria for a next-to-kin to be eligible was that they needed to be a family member who could answer questions about the index older adult's living and care arrangements and health status primarily during the last month before he/she died, and a few questions about the date, location, and cause of death.

As described in Table 2.1 below, 315 index older adults remained completely uncontactable. A total of 3599 potential respondents or their family members were contacted at least once during the fieldwork. Of them, 712 potential respondents or their family members refused to participate. This included potential respondents who were alive: 243 index older adults who were refused when spoken to by an interviewer, 43 index older adults who refused over the phone or by e-mail, 14 who were reported as having been institutionalised but a proxy respondent refused to participate on their behalf, and 412 refusals over the phone or by e-mail where it was not possible to ascertain if the person refusing participation was the index older adult himself/herself or someone of their behalf and therefore if the index older adult was alive or deceased.

Table 2.1 Calculation of the survey response rate for THE SIGNS Study - II

A	Wave 1 respondents	4549
B	Wave 1 respondents who consented to be re-contacted for wave 2, i.e. potential respondents	4117
C	Potential respondents who were uncontactable after 4 home visits and via phone	315
D	Potential respondents who were reported during wave 2 fieldwork as deceased, and a next-of-kin was unavailable for the decedent questionnaire	80
E	Potential respondents who were reported during wave 2 fieldwork as deceased, and next-of-kin completed the decedent questionnaire	123

F	Total deceased potential respondents as ascertained during wave 2 fieldwork (D+E)	203
G	Potential respondents who were not reported as deceased and where the respondent and/or a family member was contacted (B-C-F)	3599
H	Refusal to participate	712
I	Successful interviews	2887
J	Response rate of wave 2 respondents as a % of wave 1 respondents (I/A*100)	63.5%
K	Wave 2-specific successful interviews as a % of potential respondents who could be contacted (I/G*100)	80.2%

In a majority of the 2887 completed interviews (84%), respondents were interviewed the first or second time that an interviewer visited their address (Table 2.2). All interviews were conducted face-to-face.

Table 2.2 Interviewer visits for completed interviews (N=2887)

Visit number	Number of completed interviews	%
1	1375	47.6
2	1052	36.4
3	319	11.1
4	106	3.7
5	35	1.2

THE SIGNS Study – II consisted of three types of questionnaires: (1) a **screener**, including the Abbreviated Mental Test – Singapore[1], to ascertain if the index older adult would answer the main questionnaire, or a proxy respondent would do so on his/her behalf, (2) a **main questionnaire** to be answered by the index older adult or a proxy respondent on his/her behalf, with an optional **anthropometry and performance measurement module** for the index older adult, and (3) a **decedent questionnaire** to be answered by a next-of-kin individual if the index older adult had passed away in the inter-survey period. There were two criteria for a proxy respondent to be approached to answer the main questionnaire: (i) if the index older adult was unable to participate in the study due to a physical or psychological issue such as hearing or speaking difficulty, memory loss or dementia, current sickness, etc. (n=156). (ii) if the index older adult answered fewer than 5 questions correctly on the Abbreviated Mental Test – Singapore[1] in the screener (n=67).

At the end of data collection for THE SIGNS Study – II, there were 2887 respondents who had answered the main questionnaire and 123 next-of-kin who had answered the decedent questionnaire (of the 203 index older adults who had passed away). Of the 2887 respondents to the main questionnaire, 7.7% (n=223) were proxy respondents, the rest being index older adults. The proxy respondent had to be aged 21 years and above, be either a family member or someone who had been living with the index older adult, and have been helping the index older adult in his/her daily living for some time. The index older adult remained eligible to participate in the anthropometry and performance measurements.

The English, Mandarin, and Malay version of the screener as well as the two questionnaires were programmed in Qualtrics, whereas the Tamil translations were retained in paper form only. Our programming in Qualtrics allowed interviewers to start administering the survey in one of the three languages, and then see translations for specific questions or modules by choosing a different language from a drop-down menu. Interviewers could also use paper copies of the questionnaire if they faced technical issues with their tablets. Only 12 of the 2887 main questionnaires were answered on paper, with the rest, including all decedent questionnaires, entirely on Qualtrics.

The anthropometry and performance measurements included blood pressure, weight, hand grip strength, and walking speed. Blood pressure was measured using Omron digital blood pressure monitors (Model No. HEM-762), weight using Omron digital weight scales (Model No. HN-286), and hand grip strength using Tanita hand grip meters (Model No. 6103). Prior to each measurement, interviewers explained how it would be conducted, asked questions specifically related to factors which would preclude the measurement (for example, if the index older adult had a rash, swelling, wound, or bruise on the arm), and also demonstrated how blood pressure, hand grip strength and walking speed would be measured. Measurements were taken when index older adults confirmed that they understood the instructions and felt it was safe to do the test. Blood pressure was measured on the left arm, unless the index older adult had a health condition that prevented it, in which case it was conducted on the right arm. Measurements were taken thrice at about a 1-minute interval between readings. Wherever used in this report, the blood pressure data pertains to the average of the second and third readings. Hand grip strength data used in this report pertains to the measurements of the dominant hand. At least two anthropometry and performance measurements were collected for 98.4% of the index older adults.

Respondents were given tokens of appreciation for their participation in the survey in the form of S$30 shopping vouchers if they answered the main questionnaire only, and S$50 if they both answered the main questionnaire and participated in the anthropometry and performance measurements. Respondents to the decedent questionnaire were given S$30 shopping vouchers.

THE SIGNS Study – I had followed a split questionnaire design whereby one of two versions of the main questionnaire were randomly assigned to the respondent at the time of interview. In THE SIGNS Study – II, the research team decided to field a single version of the questionnaire so that follow-up information after wave 1 would be available for all index older adults who participated. A majority of the questions from wave 1 were repeated in wave 2 in order to enable the study of changes over time in variables of interest. The research team added some additional questions in wave 2, for example, the educational attainment of the index older adults' children, whether and to what extent index older adults provided care to anyone, the 10-item Connor-Davidson resilience scale, falls in the past year, A&E visits in the past year, knowledge and management of health conditions, limitations in physical function, sleep patterns, and technology use in daily lives and for health information. Some questions on ethnicity, highest educational attainment, religion, occupation, literacy in any language and the Health Literacy Test, and the measurement of height were omitted from wave 2.

In order to account for the differential probability of attrition among respondents between waves 1 and 2, we calculated attrition-adjusted weights that may be used for conducting cross-sectional analysis of THE SIGNS Study wave 2 data. We used logistic regression to compute the probability of continuing between waves 1 and 2, i.e. not being lost to follow-up due to refusal of consent at the time of wave 1 to be re-contacted for wave 2, remaining uncontactable or refusing to participate at the time of wave 2, or death between waves 1 and 2. The covariates included in the analysis related to the respondents' wave 1 characteristics in terms of demographics (age, sex, ethnicity, living arrangement), socioeconomic status (educational attainment, housing type, employment status), physical health status (number of chronic physical ailments, any health-related difficulties with activities of daily living (ADL) and instrumental ADLs, and self-rated health), as well as the respondents' nationality status (whether Singapore citizen or permanent resident), whether the respondent himself/herself or a proxy respondent had answered the questionnaire, and the number of home visits it had taken interviewers to successfully interview. The predicted probabilities generated from this analysis were inversed, in order that observations with a lower probability of continuation in the study were 'up-weighted' and those with a

higher probability were 'down-weighted', and multiplied with the cross-sectional sampling weights for wave 1, to yield the attrition-adjusted weights.

SCALES USED IN THE SIGNS STUDY – II

Social networks outside the household were measured using the 12-item Lubben Social Network Scale – Revised (LSNS-R)[2]. LSNS-R asks respondents about the number of and frequency of contact with relatives and friends outside the household. It asks six questions about the network size: (i) how many relatives/friends did the respondent see or hear from at least once a month; (ii) how many they felt at ease with to talk about private matters; and (iii) how many they felt close to such that they could call on them for help. Respondents answered on a 6-point scale corresponding to the responses of none, 1, 2, 3 to 4, 5 to 8, and 9 or more. The score for each item can range from 0 for none, to 5 for the response of 9 or more. The scale also asks respondents about the frequency of contact: (i) how often did the respondent see or hear from relatives/friends with whom they had the most contact; (ii) how often would one of their relatives/friends talk to the respondent when the relative/friend had an important decision to make; and (iii) how often was one the respondent's relatives/friends available when the respondent had an important decision to make. Responses are on a 6-point scale - never, seldom, sometimes, often, very often, and always. The score for each item can range from 0 for never to 5 for always. LSNS-R thus has scores from 0 to 60, lower scores indicating a greater extent of social isolation.

Loneliness was assessed using the Three-item Loneliness Scale.[3] It asks respondents how often they (i) felt they lack companionship; (ii) felt left out; and (iii) felt isolated from others. Respondents answered on a 5-point scale: never (scored as 0), rarely (1), occasionally (2), fairly often (3), or always (scored as 4). The total scores can range from 0 to 12, higher scores indicating a greater extent of loneliness.

Depressive symptoms were assessed using the 11-item Centre for Epidemiologic Studies-Depression (CES-D) scale.[4] Respondents were asked to what extent in the past week had the eleven statements pertaining to appetite, sleep, sadness, energy, effort, loneliness, etc. been true for them. Response options included none/rarely (corresponding to a score of 0), sometimes (1) and often (2) and score are totaled including for 2 items where they are reverse-scored. The total scores can range from 0 to 22, higher scores indicating a greater extent of depressive symptoms. A score of 7 and above indicates clinically relevant depressive symptoms.[5]

Personal mastery, the extent to which individuals feel in control of their lives, was assessed using the 5-item Pearlin Mastery Scale.[6] Respondents were asked how strongly they agreed or disagreed with statements that related to control over things, resolution of problems, changing important things in their lives, feeling helpless in dealing with problems, and feeling of being pushed around. Response choices included strongly agree (scored as 0), agree (1), disagree (2), and strongly disagree (3). The total score can range from 0 to 15, higher scores indicating greater personal mastery.

Quality of Life (QOL) was measured using the CASP-12 scale,[7-8] which comprises of 12 questions assessing four domains: Control, Autonomy, Self-realization, and Pleasure. Respondents were presented with statements pertaining to each of these domains and asked to respond how often they felt that way. Response choices included often (corresponding to a score of 3), sometimes (2), not often (1), never (corresponding to a score of 0). The total score can range from 0 to 36, higher score indicating a higher quality of life.

Psychological resilience was assessed in THE SIGNS Study – II using the 10-item Connor-Davidson Resilience Scale (CD-RISC-10).[9-10] Respondents were presented with a set of 10 statements about coping with adversity, and asked to respond how much they agree with the statements in their own context. The statements pertain to adapting to changes, staying focused and organised under pressure,

recovering from illness or injury, not being discouraged by failure, being able to handle sadness, fear, etc. Respondents could choose from one of five answers: not true at all, rarely true, sometimes true, often true, and true nearly all the time, corresponding to scores of 0, 1, 2, 3, or 4 respectively. Each of the 10 statements thus received a score between 0 and 4, and a total CD-RISC-10 score for each respondent ranged between 0 and 40. Higher scores indicate greater psychological resilience.

Physical function was assessed based on Nagi's measures of physical function, a set of 9 questions about difficulty in performing tasks involving the upper or lower extremities.[11] These included walking a distance of 200 to 300 metres, climbing 10 steps without resting, standing without sitting for 2 hours, continuous sitting for 2 hours, stooping or bending knees, raising arms above one's head, extending arms out in front as if to shake hands, grasping with fingers or moving fingers easily, and lifting an object weighing approximately 5 kilograms.

Physical activity was measured using the WHO Global Physical Activity Questionnaire (GPAQ).[12] The GPAQ asks respondents about the time they spent in a typical week in vigorous and moderate activities at work and leisure, as well as during travel and sedentary behaviour. Respondents whose total physical activity Metabolic Equivalent (MET) minutes per week were greater or equal to 600 were classified as meeting the WHO recommendation on physical activity for health.

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Chapter 3. Cross-Sectional Findings from THE SIGNS Study - II

This chapter reports descriptive statistics of older Singaporeans' physical and psychological health, health behaviours, social engagement, provision and receipt of transfers, work and retirement, lifelong learning, volunteering and technology use, overall and by cohort, gender and ethnicity based on findings from THE SIGNS Study - II conducted in 2019.

3.1. Demographic Characteristics

This section provides a description of the age, gender, ethnicity, educational level, living arrangement, housing type, marital status, number of living children, household income adequacy of THE SIGNS Study – II participants.

Table 3.1.1 Age Group by Gender and Ethnicity

	Total	Gender		Ethnicity			
		Male	Female	Chinese	Malay	Indian	Others
Age Group (weighted %)							
n	2887	1345	1542	2180	398	287	22
62-69 years	41.2	42.6	40.0	40.5	43.4	45.5	47.4
70-79 years	37.7	39.7	35.9	38.5	35.5	30.9	33.9
80 years and above	21.1	17.8	24.1	21.0	21.1	23.6	18.8

Older Singaporeans aged 62-69 years formed the highest proportion (41%), followed by those aged 70-79 years (38%) and those aged 80 years and above (21%). Across the three major ethnic groups, the Chinese had the lowest representation in the youngest age group (41%, aged 62-69 years) as well as in the oldest age group (21%, aged 80 years and above), while Indians had the lowest representation in the 70-79 years age group (31%).

Table 3.1.2 Gender by Age Group and Ethnicity

	Total	Age Group (years)			Ethnicity			
		62-69	70-79	80 & above	Chinese	Malay	Indian	Others
n	2887	1110	1022	755	2180	398	287	22
Gender (weighted %)								
Male	46.7	48.2	49.2	39.3	46.8	40.8	52.1	60.1
Female	53.3	51.8	50.8	60.7	53.2	59.2	47.9	39.9

Overall, there were more females (53%) compared to males (47%). Within age groups, there was a much higher proportion of females (61%) aged 80 years and above compared to males, reflecting the higher life expectancy of females in Singapore. Among the three major ethnic groups, Indians had the highest representation for males (52%) while Malays had the highest representation for females (59%).

Table 3.1.3 Ethnicity by Age Group, Gender and Ethnicity

		Age Group (years)			Gender	
	Total	62-69	70-79	80 & above	Male	Female
n	2887	1110	1022	755	1345	1542
Ethnicity (weighted %)						
Chinese	82.8	81.5	84.6	82.3	82.9	82.7
Malay	9.7	10.2	9.1	9.7	8.5	10.8
Indian	6.1	6.7	5.0	6.8	6.8	5.4
Others	1.4	1.6	1.3	1.3	1.8	1.1

Majority of the older Singaporeans were Chinese (83%), followed by Malays (10%), Indians (6%) and Others (1%). The weighted distribution of ethnicity by age-group and gender in THE SIGNS Study – II participants mirrors the national distribution.

Table 3.1.4 Education Level by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Education Level (weighted %)										
No formal education	27.6	13.5	27.2	55.7	14.0	39.5	28.7	27.4	19.2	2.0
Primary	30.5	32.3	32.6	23.1	34.4	27.0	30.5	31.3	34.0	11.8
Secondary	29.2	39.3	26.5	14.4	35.1	24.0	27.9	36.6	35.0	32.3
Tertiary	12.6	14.9	13.6	6.3	16.4	9.3	13.0	4.1	11.2	53.9

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

More than one-quarter (28%) of older Singaporeans had no formal education, while 60% had primary or secondary education (with nearly equal numbers having primary education (31%) and secondary education (29%)), and only 13% had tertiary education. By age-group, the younger cohorts had higher educational attainment – about 54% of those aged 62-69 years had secondary or tertiary education, compared to 40% of those aged 70-79 years, and 21% of those aged 80 years and above. Females were more likely to have no formal education (40%), versus males (14%), and less likely to have any of the higher levels of education. Among the three major ethnic groups, the Chinese had the highest proportion of those with no formal education as well as those with tertiary education.

Table 3.1.5 Detailed Living Arrangement (living alone or with foreign domestic worker only combined in to one category) by Age Group, Gender and Ethnicity

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Detailed Living Arrangement (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Alone or with foreign domestic worker only	10.8	7.3	13.0	13.6	7.9	13.4	11.0	8.9	8.8	18.7
With spouse only	27.1	27.3	31.9	18.2	33.4	21.6	27.9	21.6	26.1	25.5
With child only	20.6	10.1	17.0	47.6	7.9	31.8	20.0	27.4	22.8	2.1
With child and spouse	35.8	47.7	32.8	17.7	45.7	27.1	35.4	38.6	36.4	37.2
With others only	5.7	7.5	5.3	2.9	5.1	6.2	5.8	3.5	5.9	16.6

Overall, the largest proportion of older Singaporeans lived with a child and spouse (36%), followed by those who lived with a spouse only (27%) and with a child only (21%). The proportion who lived alone or only with a foreign domestic worker (maid) was the highest among those aged 80 years and above (14%) and the lowest for those aged 62-69 years (7%). A higher proportion of females lived alone or with a foreign domestic worker (13%) compared to males (8%), and this proportion, across the three major ethnicities, was highest for the Chinese (11%), followed by Malays (9%) and Indians (9%).

Table 3.1.6 Detailed Living Arrangement by Age Group, Gender and Ethnicity

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Detailed Living Arrangement (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Alone	9.2	7.0	11.9	8.7	6.8	11.3	9.6	6.5	7.4	10.9
With spouse only	27.1	27.3	31.9	18.2	33.4	21.6	27.9	21.6	26.1	25.5
With child only	20.6	10.1	17.0	47.6	7.9	31.8	20.0	27.4	22.8	2.1
With child and spouse	35.8	47.7	32.8	17.7	45.7	27.1	35.4	38.6	36.4	37.2
With others only	7.3	7.9	6.4	7.8	6.2	8.3	7.1	5.9	7.3	24.4

Almost 9% of older Singapore live alone; this proportion was highest among those aged 70-79 years (12%), was almost double the proportion for females (11%) compared to males (7%), and was highest among the Chinese (9%) across the three major ethnic groups. Another 7% of older Singaporeans did not live with a spouse and/or child; this proportion was highest among those aged 60-69 years (8%) and those aged 80 years and above (8%). The proportion was slightly higher for females and was the highest among the Chinese and Indians across ethnicities.

Table 3.1.7 Housing Type by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**62-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
Housing Type (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
1-2 room	7.7	6.7	8.6	8.1	8.5	6.9	7.2	11.0	7.8	13.4
3 room	24.4	23.3	24.2	26.7	23.5	25.1	24.4	27.0	24.0	5.4
4 room	36.1	38.6	35.0	33.1	36.4	35.8	35.6	39.3	36.9	37.2
5 room & above	22.7	23.6	23.1	20.4	23.0	22.5	23.1	20.6	21.9	19.9
Private housing	9.2	7.9	9.1	11.8	8.6	9.6	9.7	2.1	9.4	24.0

The largest proportion resided in 4 room Housing Development Board (HDB) flats, overall and in each age group, gender and ethnicity. A greater proportion of Malays (11%) resided in 1-2 room HDB flats as compared to Indians (8%) and Chinese (7%).

The distribution of house ownership by age group, gender and ethnicity is provided in Appendix Table A3a.

Table 3.1.8 Marital Status by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**62-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
Marital Status (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Married	64.3	76.3	65.8	38.2	80.3	50.3	64.6	61.4	64.4	62.7
Widowed	23.8	10.0	21.8	54.5	9.2	36.6	23.1	31.9	26.2	4.0
Separated from spouse	0.4	0.5	0.4	0.3	0.7	0.2	0.4	0.7	0.8	0.0
Divorced	3.4	3.7	3.8	1.9	3.0	3.7	3.4	3.1	2.2	7.9
Never married	8.0	9.5	8.1	4.8	6.7	9.1	8.5	2.9	6.4	20.1

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Majority of older Singaporeans were currently married (64%), while 24% were widowed, and 3% divorced. The proportion of those who had never married was 8% overall, and highest for those aged 62-69 years (10%), followed by those aged 70-79 years (8%) and 80 years and above (5%). More than a third of the females were widowed (37%) compared to males (9%), indicating both the higher life expectancy of females and the spousal age gap.

Table 3.1.9 Number of Living Children by Age Group, Gender and Ethnicity

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Number of Living Children										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Mean	2.6	2.0	2.5	3.8	2.4	2.7	2.5	3.4	2.7	1.6
SD	1.7	1.2	1.5	2.3	1.5	1.9	1.7	2.2	1.5	1.1

On average, older Singaporeans had 2.6 living children (comprising adopted and biological children), the number being higher among those among those aged 80 years and above (3.8) compared to those aged 62-69 years (2.0). Across ethnicities, Malays had the highest average number of living children (3.4) followed by Indians (2.7) and Chinese (2.5).

The distribution of the number of persons living in the household by age group, gender and ethnicity is provided in Appendix Table A3b.

Table 3.1.10 Total Monthly Household Income by Age Group, Gender and Ethnicity

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Total monthly household income (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
<$500	13.1	7.8	15.4	19.1	13.4	12.8	13.2	13.1	14.4	0.0
$500-$999	12.0	9.4	14.6	12.3	8.9	14.7	12.3	10.4	8.2	18.5
$1000-$1999	19.5	21.6	20.8	13.4	18.4	20.5	19.6	18.3	19.6	24.2
$2000-$2999	9.7	11.3	8.8	8.1	10.5	9.0	9.4	12.1	11.7	2.3
$3000-$3999	6.9	8.0	5.4	7.4	8.7	5.3	6.6	8.8	7.9	5.4
$4000-$4999	5.0	6.3	4.3	3.7	6.5	3.7	4.8	5.8	6.5	5.4
≥$5000	17.0	24.0	13.2	10.2	20.8	13.7	17.3	11.9	14.2	42.1
Don't know/ Refused	16.8	11.6	17.5	25.7	12.8	20.2	16.7	19.6	17.4	2.1

Overall, the largest proportion for total monthly household income comprised of those who reported $1000-$1999 (20%), followed by those who reported $5000 or more (17%). Approximately 17% did not know or did not share their total monthly household income.

Table 3.1.11 Income Adequacy by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**62-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
Income Adequacy (%)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Enough money, with some left over	26.9	30.3	25.7	22.2	26.4	27.3	26.5	31.6	20.1	43.1
Just enough money, no difficulty	54.3	53.9	55.4	53.1	57.6	51.4	55.8	48.0	48.0	36.9
Some difficulty to meet expenses	13.1	11.3	14.4	14.5	12.8	13.4	12.2	13.2	24.5	20.0
Much difficulty to meet expenses	3.8	3.7	3.1	5.2	2.5	4.9	3.4	6.0	6.3	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Respondents were asked if they thought they had adequate income to meet their household monthly expenses. Overall, about 27% of older Singaporeans reported that they had enough money with some left over, however this proportion declined with age, from 62-69 years (30%) to 80 years and above (22%). Just over half of all older Singaporeans, overall and in all age groups, reported having just enough money and no difficulties. The proportion with some or much difficulty in meeting expenses increased with age, being 20% among those aged 80 years and above compared to 15% among those aged 62-69 years. A higher proportion of males (84%) reported enough money with some left over or just enough with no difficulties compared to females (79%). Among the three major ethnic groups in Singapore, the proportion of any difficulty was highest among Indians (31%), followed by Malays (19%) and Chinese (16%).

3.2. Physical and Functional Health

This section details the distribution of self-rated health, the overall number of and top 5 chronic diseases diagnosed, difficulty with activities of daily living (ADLs) and instrumental ADLs (IADLs), body mass index (BMI), blood pressure values and hand grip strength by age group, gender and ethnicity.

Self-rated health

Table 3.2.1 Self-Rated Health, Overall and By Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Self-Rated Health (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Excellent	4.2	5.1	4.2	2.4	5.2	3.3	4.2	3.1	5.0	9.2
Very Good	18.7	21.0	20.0	11.9	20.7	16.9	19.3	15.9	15.7	13.3
Good	41.0	45.9	38.8	35.6	39.1	42.7	39.9	43.4	47.3	63.5
Fair	28.8	23.9	30.7	34.8	29.3	28.3	29.1	30.3	25.4	14.0
Poor	7.1	4.1	6.0	15.1	5.5	8.6	7.3	7.3	5.8	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

About 36% older Singaporeans reported their health to be fair or poor. The proportion reporting their health to be fair or poor increased with age, reaching 50% among those aged 80 years and above. This proportion was slightly higher for females (37%) compared to males (35%), and for Malays (38%) compared to Chinese (36%) and Indians (31%).

The distribution of self-reported vision and hearing status by age group, gender and ethnicity is provided in Appendix Table A4a.

Chronic Diseases

Participants were presented with a list of chronic diseases and first asked if they had ever been diagnosed with any of the chronic disease. If they had been diagnosed with a chronic disease(s), participants were asked if they had been hospitalised or had gone to the Accident & Emergency Department (A&E) in the past 6 months. If the response was yes, participants were asked for the number of A&E visits, the number of hospital admissions with at least one night spent in the hospital, and the number of hospital admissions as a result of an A&E visit. Those who reported having High Blood Pressure or Hypertension, High Blood Cholesterol or Lipids, or High Blood Sugar or Diabetes, were also asked if they were taking their prescribed medications for the specified condition.

Table 3.2.2 Number of Chronic Diseases (Mean, None/At Least One and Categorized) by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Number of Chronic Diseases										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Mean	2.5	2.1	2.6	3.1	2.4	2.6	2.4	2.8	3.3	2.4
SD	2.0	1.9	2.0	2.1	2.0	2.0	1.9	2.1	2.4	2.0
Number of Chronic Diseases (weighted %)										
None	14.9	20.9	12.3	7.9	16.9	13.1	15.7	12.3	6.7	20.2
At Least 1	85.1	79.1	87.7	92.1	83.1	86.9	84.3	87.7	93.3	79.8
0	14.9	20.9	12.3	7.9	16.9	13.1	15.7	12.3	6.7	20.2
1	18.9	23.4	17.5	12.6	20.5	17.4	19.5	15.4	15.0	22.7
2	20.9	20.5	20.1	22.8	20.1	21.6	21.3	19.4	18.8	13.0
≥3	45.4	35.2	50.1	56.7	42.5	47.9	43.5	52.9	59.4	44.1

Chronic disease status was based on self-report of 'ever diagnosed' by a health professional for a list of health conditions/diseases. About 45% of older Singaporeans reported that they ever had 3 or more chronic diseases. This proportion increased with age, reaching 57% among those aged 80 and above, was greater among females (48%) compared to males (43%), and was the highest amongst Indians (59%).

The top 5 chronic diseases ever diagnosed were 1) High Blood Pressure or Hypertension, 2) High Blood Cholesterol or Lipids, 3) Joint Pain, Arthritis, or Nerve Pain, 4) High Blood Sugar or Diabetes, and 5) Renal/Kidney or Urinary Tract Ailments.

Table 3.2.3a High Blood Pressure or Hypertension by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
High Blood Pressure or Hypertension										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	58.5	48.2	62.7	70.9	58.5	58.4	58.1	60.4	64.6	38.1
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	1729	550	650	529	795	934	1293	242	185	9
Yes	1.5	1.8	1.1	2.0	1.5	1.6	1.5	2.9	0.7	0.0
Number of A&E visits in the past 6 months										
Mean	0.7	0.9	0.7	0.5	0.7	0.7	0.7	0.8	1.0	0.0
SD	0.7	0.9	0.5	0.5	0.9	0.5	0.8	0.5	0.0	0.0
Number of hospital admissions in the past 6 months										
Mean	0.8	0.8	0.7	0.7	0.9	0.7	0.6	1.2	1.0	0.0
SD	0.8	1.1	0.5	0.8	1.0	0.7	0.8	0.6	2.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.9	0.8	1.0	0.8	0.7	1.0	0.8	1.0	0.0	0.0
SD	0.4	0.5	0.0	0.4	0.5	0.0	0.4	0.0	0.0	0.0

More than half (59%) of older Singaporeans had been diagnosed with hypertension, with the highest proportion among those aged 80 years and above (71%). Of those diagnosed, about 2% had been hospitalised or gone to A&E due to the condition within the prior 6 months. Among those who were hospitalised or gone to the A&E for the condition, the average number of A&E visits was 0.7, the average number of hospital admissions was 0.8, and the average number of hospital admissions in the prior 6 months via A&E was 0.9.

Table 3.2.3b Prescription Medication for High Blood Pressure or Hypertension by Age Group, Gender, Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Taking prescribed medication for high blood pressure (weighted %)										
n	1729	550	650	529	795	934	1293	242	185	9
Yes	95.3	94.3	97.1	93.8	93.2	97.3	95.6	96.9	94.1	66.9
No	3.3	3.3	2.3	4.6	5.4	1.4	3.2	1.7	4.5	19.0
Not taking regularly	0.8	1.5	0.3	0.6	1.2	0.5	0.8	0.4	1.4	0.0
Not prescribed medication	0.6	0.8	0.2	0.9	0.3	0.8	0.4	1.1	0.0	14.0

About 95% of older Singaporeans diagnosed with hypertension reported that they were taking prescribed medication for the condition. This proportion was highest among those aged 70-79 years (97%) compared to those aged 62-69 years (94%) as well as those aged 80 years and above (94%). Compared to males (93%), the proportion was higher among females (97%). Among the three major ethnic groups, the Malays (97%) and Chinese (96%) had marginally higher proportion taking prescribed medication for high blood pressure than Indians (94%).

Table 3.2.4a High Blood Cholesterol or Lipids by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
High Blood Cholesterol or Lipids										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	51.5	45.5	54.6	57.4	47.3	55.1	50.6	58.7	57.1	29.1
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	1534	522	574	438	655	879	1129	232	166	7
Yes	0.5	0.3	0.2	1.4	0.8	0.3	0.5	0.7	0.4	0.0
Number of A&E visits in the past 6 months										
Mean	0.8	1.3	0.0	0.7	0.9	0.5	0.7	1.1	1.0	0.0
SD	0.6	0.7	0.0	0.5	0.6	0.6	0.5	1.4	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.5	1.3	0.0	0.4	0.6	0.4	0.5	1.1	0.0	0.0
SD	0.7	0.7	0.0	0.5	0.7	0.6	0.5	1.4	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.6	0.7	0.0	0.6	0.5	1.0	0.4	2.0	0.0	0.0
SD	0.9	1.3	0.0	0.7	1.0	0.0	0.6	0.0	0.0	0.0

About half of older Singaporeans had been diagnosed with high blood cholesterol or lipids. The proportion diagnosed with the condition increased with age and was higher among females (55%) compared to males (47%). Among the three major ethnic groups, the proportion was highest among Malays (59%) and Indians (57%), followed by Chinese (51%). Of those who had been diagnosed with the condition, the proportion of hospitalisations and A&E attendance in the prior 6 months was 0.5%.

Table 3.2.4b Prescription Medication for High Blood Cholesterol or Lipids by Age Group, Gender, Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Taking prescribed medication for high cholesterol (weighted %)										
n	1534	522	574	438	655	879	1129	232	166	7
Yes	91.3	89.6	92.9	91.2	90.2	92.1	91.3	93.1	89.5	81.7
No	6.4	7.9	5.4	6.1	8.9	4.6	6.4	5.1	7.8	18.3
Not taking regularly	0.5	0.3	0.3	0.9	0.4	0.5	0.4	0.0	2.1	0.0
Not prescribed medication	1.7	2.2	1.2	1.8	0.4	2.7	1.8	1.9	0.6	0.0

About 91% of those who had been diagnosed with high blood cholesterol were taking prescribed medication for the condition.

Table 3.2.5a High Blood Sugar or Diabetes by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
High Blood Sugar or Diabetes										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	26.4	24.0	27.6	28.9	27.0	25.9	24.0	35.2	46.5	18.5
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	809	289	292	228	383	426	527	138	139	5
Yes	2.2	1.7	1.7	3.8	2.5	1.8	1.5	3.4	4.0	20.0
Number of A&E visits in the past 6 months										
Mean	0.9	1.1	0.7	0.8	1.1	0.6	0.9	0.5	1.2	1.0
SD	0.5	0.4	0.5	0.6	0.3	0.7	0.6	0.6	0.4	0.0
Number of times hospitalised in the past 6 months										
Mean	0.8	0.9	0.4	0.9	0.9	0.7	0.8	0.5	0.8	1.0
SD	0.6	0.7	0.5	0.5	0.5	0.7	0.6	0.6	0.8	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.0	1.2	1.0	1.0	1.0	1.2	1.0	1.0	1.3	1.0
SD	0.5	0.4	0.0	0.6	0.5	0.4	0.6	0.0	0.6	0.0

One in four (26%) of older Singaporeans reported having ever been diagnosed with high blood sugar or diabetes. The proportion increased with age, was higher among males versus females, and was the highest for Indians across ethnicities.

Table 3.2.5b Prescription Medication for High Blood Sugar or Diabetes by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Taking prescribed medication for high blood sugar or diabetes (%)										
n	809	289	292	228	383	426	527	138	139	5
Yes	89.7	91.3	91.0	84.7	90.6	88.8	88.8	91.6	94.3	80.0
No	7.4	5.9	6.7	10.8	7.7	7.0	8.2	6.4	3.2	0.0
Not taking regularly	0.1	0.4	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0
Not prescribed medication	2.7	2.4	1.9	4.4	1.3	3.9	2.6	2.0	2.5	20.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Among older Singaporeans who had been diagnosed with diabetes, 90% reported taking their prescribed medication. The proportion was slightly higher among males (91%) compared to females (89%). The proportion was higher for those aged 62-69 years and 70-79 years, compared to those aged 80 and above, and was higher for Indians and Malays across ethnicities.

Table 3.2.6 Joint Pain, Arthritis, Rheumatism or Nerve Pain by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Joint Pain, Arthritis, Rheumatism or Nerve Pain										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	27.3	20.5	29.8	36.0	20.7	33.0	26.5	30.5	35.0	18.2
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	811	234	309	268	283	528	586	116	105	4
Yes	4.1	4.8	3.8	3.8	4.4	4.0	3.8	3.9	8.2	0.0
Number of A&E visits in the past 6 months										
Mean	0.7	0.9	0.5	0.9	0.7	0.8	0.7	0.7	0.9	0.0
SD	0.7	0.7	0.5	0.9	0.7	0.7	0.8	0.5	0.3	0.0
Number of times hospitalised in the past 6 months										
Mean	0.7	0.8	0.4	1.0	0.6	0.7	0.6	1.8	0.5	0.0
SD	0.8	0.6	0.5	1.3	1.1	0.6	0.6	1.5	0.5	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.1	1.2	1.0	1.0	0.8	1.2	1.2	0.6	1.0	0.0
SD	0.4	0.4	0.0	0.6	0.5	0.4	0.4	0.6	0.0	0.0

More than 1 in 4 (27%) of older Singaporeans had ever been diagnosed with joint pain, arthritis, rheumatism, or nerve pain. This proportion increased with age, was higher for females versus males, and was the highest for Indians across ethnicities.

Table 3.2.7 Renal/Kidney or Urinary Tract Ailments by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Renal/Kidney or Urinary Tract Ailments										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	8.2	5.2	9.8	11.3	11.9	4.9	8.5	7.7	5.6	5.6
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	235	53	96	86	158	77	187	30	17	1
Yes	12.9	18.8	8.7	14.0	13.1	12.4	11.2	25.6	21.5	0.0
Number of A&E visits in the past 6 months										
Mean	1.9	1.2	0.9	3.7	2.2	1.2	2.0	1.5	2.1	0.0
SD	5.4	0.8	0.8	9.6	6.5	1.3	6.3	1.1	1.7	0.0
Number of times hospitalised in the past 6 months										
Mean	1.1	1.1	0.7	1.4	1.0	1.3	0.9	1.4	1.8	0.0
SD	0.8	0.6	0.6	1.1	0.7	1.2	0.6	1.0	1.8	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.1	1.1	0.7	1.5	0.9	1.7	0.9	1.6	1.8	0.0
SD	1.0	0.8	0.5	1.4	0.8	1.2	0.8	0.9	1.8	0.0

About 8% of older Singaporeans had ever been diagnosed with renal/kidney or urinary tract ailments; this proportion increased with age to about 1 in 10 among those aged 80 years and above, was significantly greater for males (12%) compared to females (5%), and was highest for the Chinese across ethnicities.

The distribution of other chronic diseases assessed from the survey participants, by age group, gender and ethnicity is provided in Appendix Tables A4c-A4w.

Activities of daily living (ADL) difficulty

ADL difficulty was assessed in terms of difficulty in performing daily self-care activities due to a health or physical condition without the assistance of a person or assistive device. Respondents were asked whether they found an activity difficult or not difficult (reported in Table 4.8.1) and among those who reported that an activity was difficult, they were asked how difficult it was for them to perform this activity by themselves (reported in Appendix Table A4w).

Table 3.2.8 ADL Difficulty by Age Group, Gender and Ethnicity

Difficulty in…	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
ADL Difficulty (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Taking a bath/shower	8.1	1.7	5.3	25.4	5.1	10.7	7.4	11.5	11.2	9.0
Dressing up	7.4	2.0	4.6	23.2	5.1	9.5	6.8	11.4	9.5	9.0
Eating	3.3	0.7	1.9	10.8	2.3	4.1	3.2	5.0	2.5	0.0
Standing up from a bed/chair; sitting down on a chair	7.0	1.5	4.7	21.5	4.6	9.0	6.5	10.6	6.2	9.0
Walking (around the house)	8.0	2.0	5.0	25.2	5.5	10.2	7.4	13.1	7.8	9.0
Using the sitting toilet	6.3	1.4	3.8	20.4	4.0	8.3	5.9	9.1	6.8	9.0
Number of ADL Difficulty(ies) (weighted %)										
No ADL difficulty	89.6	97.1	93.0	68.9	93.1	86.5	90.4	84.8	85.7	91.0
1-2 ADL difficulties	3.0	1.3	2.3	7.6	2.0	3.9	2.6	3.9	7.5	0.0
≥3 ADL difficulties	7.4	1.6	4.8	23.5	4.9	9.6	7.0	11.3	6.7	9.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Nearly 10% of older Singaporeans reported having at least 1 ADL difficulty. Of the ten-percent, 3% had difficulty with 1-2 ADLs while 7.4% had difficulty with 3 or more ADLs. The largest proportion was for difficulty in taking a bath/shower (8.1%), walking around the house (8%), and dressing up (7.4%), followed by difficulty in standing up from a bed/chair or sitting down on a chair (7%) and using the sitting toilet (6.3%). The proportion with any ADL difficulty increased with age, more than doubling from the 62-69 years age group to the 70-79 years age group, and rising steeply for those aged 80 years and above. More females (14%) reported any ADL difficulty compared to males (7%). Across ethnicities, this proportion was the highest amongst Malays (15%), followed by Indians (14%) and Chinese (10%).

Figure 3.2.8 Requirement of Assistance/Device for ADL by Gender

Need assistance/device for ADL activities (Weighted %)
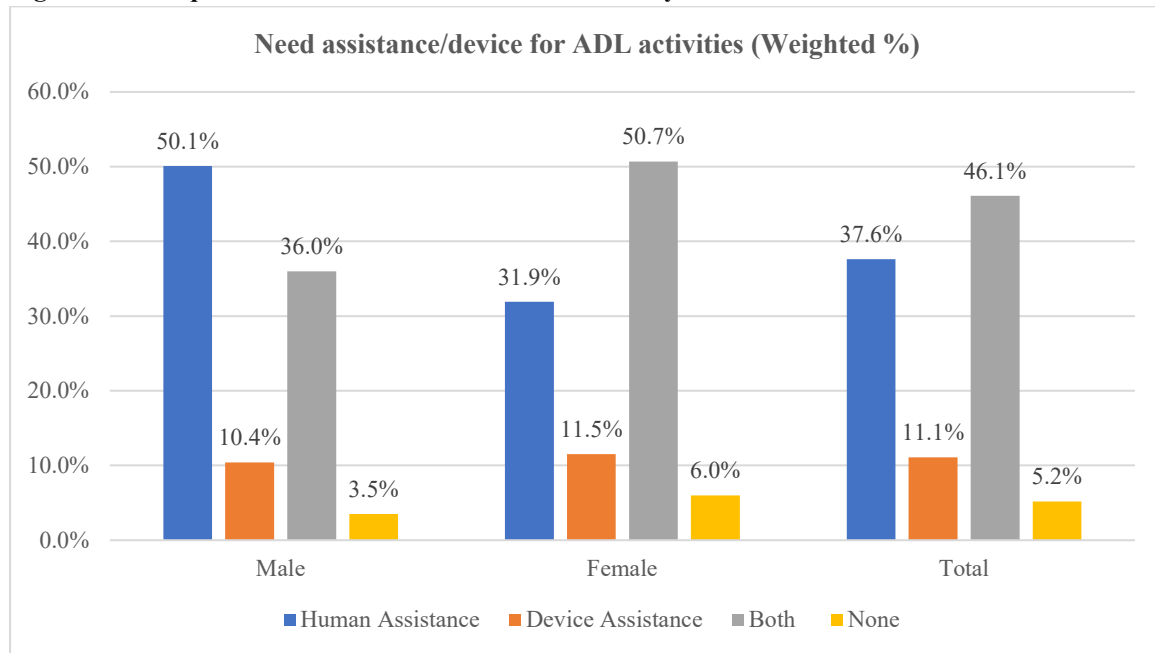
Among older Singaporeans who reported any ADL difficulty, a higher proportion of males (50%) needed human assistance in performing these activities compared to females (32%). On the other hand, the proportion of females needing assistance from both human and device was higher (51%) compared to males (36%).

The distribution of the requirement of assistance or device for ADL by age group, gender and ethnicity is provided in Appendix Table A4x.

Instrumental activities of daily living (IADL) difficulty

IADL difficulty was assessed in terms of difficulty in performing daily activities of independent living considered more complex than ADL, due to a health or physical condition and without the assistance of a person or assistive device. Respondents were asked whether they found an activity difficult or not difficult (reported in table 4.8.3) and among those who reported that an activity was difficult, they were asked how difficult it was for them to perform this activity by themselves (reported in Appendix Table A4y). Individuals who reported that they did not perform the activity due to a non-health reason (possibly due to gender roles etc.) were considered not to have difficulty due to a health/physical reason.

Table 3.2.9 IADL Difficulty by Age Group, Gender and Ethnicity

Difficulty in…	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
IADL Difficulty (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Preparing own meals	6.8	1.3	4.9	21.1	2.5	10.6	6.4	10.3	5.9	9.0
Leaving the home to purchase necessary items or medication	10.3	2.4	7.2	31.0	4.8	15.1	9.4	16.9	10.2	15.9
Taking care of financial matters e.g. paying utilities (electricity, water)	4.8	1.3	3.3	14.4	2.0	7.3	4.4	8.3	5.2	5.3
Using the phone	5.6	1.4	2.8	18.8	4.1	7.0	5.3	8.9	5.1	5.3
Dusting, cleaning up and other light housework	7.8	2.0	5.6	23.0	2.7	12.2	7.3	12.9	7.3	5.3
Taking public transport to leave home	13.2	3.3	9.9	38.5	7.4	18.3	12.0	24.1	12.7	10.6
Taking medication as prescribed	7.1	1.1	3.8	24.7	4.5	9.4	6.6	11.7	6.3	9.0
Number of IADL Difficulty(ies) (weighted %)										
No IADL difficulty	82.9	95.4	86.4	52.4	89.6	77.1	84.2	72.9	82.0	84.1
1-2 IADL difficulties	7.8	2.4	7.4	18.9	5.9	9.5	7.2	12.4	9.0	6.9
≥3 IADL difficulties	9.3	2.2	6.2	28.7	4.5	13.4	8.7	14.7	9.0	9.0

Just over 17% of older Singaporeans reported having at least 1 IADL difficulty. Of them, 8% experienced difficulty with 1-2 IADLs while 9% reported experiencing difficulty with 3 or more IADLs. The largest proportion for IADL difficulty was for taking public transport to leave home (13%) followed by leaving the home to purchase necessary items or medication (10%). The proportion reporting any IADL difficulty increased with age, was higher among females compared to males, and was highest among Malays across ethnicities.

Figure 3.2.9 Requirement of Assistance/Device for IADL by Gender

Need assistance/device for IADL activities (Weighted %)
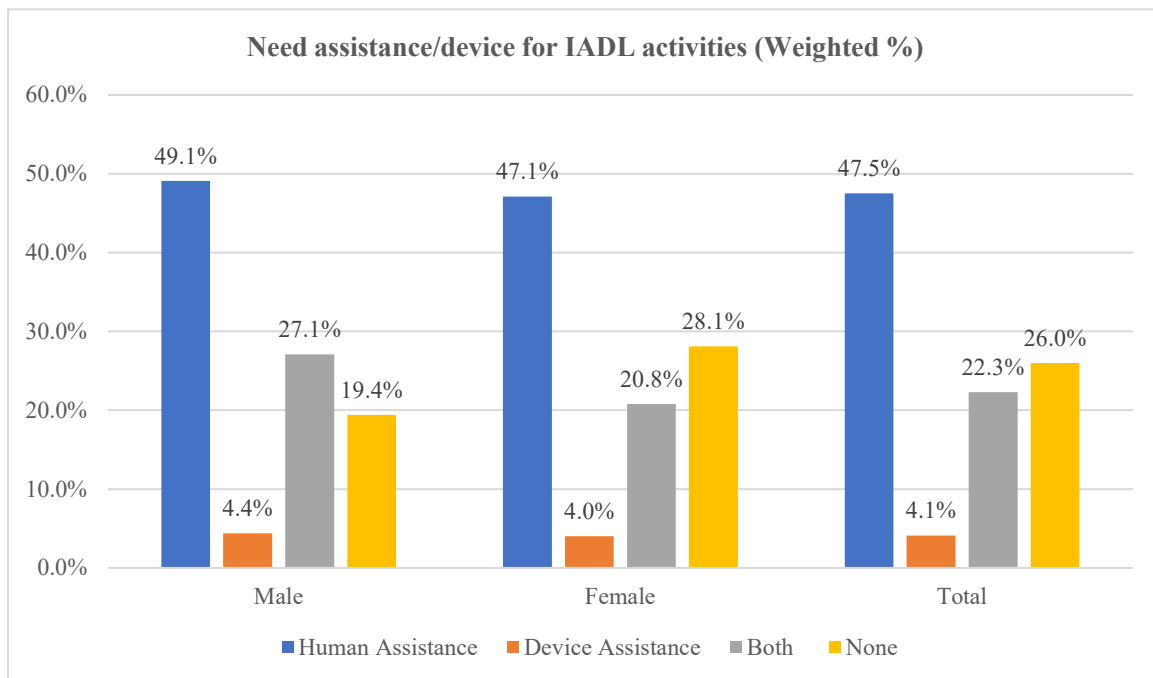
Among those with at least one IADL difficulty, a higher proportion of females (28%) than males (19%) did not need assistance to perform the activity. The proportion of those needing both human and device assistance to perform the activity was higher among males (27%) compared to females (21%).

The distribution of requirement of assistance or device for IADL difficulty by age group, gender and ethnicity is provided in Appendix Table A4z.

Hand Grip Strength

Hand grip strength was measured using a spring-type dynamometer for respondents who had not had surgery or experienced any injury, inflammation, pain or swelling on the hand being used for measurements. We defined 'low hand grip strength' for individuals based on their measured value being less than the single-year age- and gender-specific 20th percentile normative values of hand grip strength that have previously been defined for healthy older Singaporeans.

Table 3.2.10 Hand Grip Strength by Age Group and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Hand Grip Strength (Mean value for dominant hand from two measurements)										
n	2722	1075	984	663	1283	1439	2051	380	269	22
Mean	20.6	23.0	20.6	15.4	25.4	16.3	20.9	18.7	19.0	21.2
SD	7.3	7.1	6.8	6.0	6.8	4.6	7.3	7.1	6.7	8.3
Low Hand Grip Strength (weighted %)										
Low Hand Grip Strength	24.2	21.3	24.3	30.2	32.9	16.3	21.8	34.2	40.6	23.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

The average hand grip strength among older Singaporeans was 20.6kg. The average value decreased with age, was lower among females versus males, and was comparable across ethnicities. Around 24% reported low hand grip strength. The proportion with low hand grip strength increased with age, was higher among males compared to females, and was highest among Indians.

Blood Pressure

Table 3.2.11 Blood Pressure Values and hypertension by Age Group and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Systolic Blood Pressure (based on mean of last two of three readings)										
n	2816	1104	1005	707	1321	1495	2124	389	281	22
Mean	135.2	132.8	135.6	139.4	136.4	134.1	135.0	136.7	134.7	138.0
SD	19.1	18.3	18.6	20.9	19.0	19.2	18.6	21.4	19.3	27.7
Diastolic Blood Pressure (based on mean of last two of three readings)										
Mean	72.9	75.1	72.5	68.9	73.8	72.1	72.6	74.8	73.0	77.1
SD	10.9	10.5	10.4	11.3	10.9	10.8	10.7	11.4	11.7	11.2
Hypertension (Systolic ≥ 140 mm Hg or Diastolic ≥ 90 mm Hg or taking prescribed antihypertension medication) (weighted %)										
n	2860	1107	1018	735	1333	1527	2163	393	282	22
%	70.8	61.5	74.6	82.2	71.2	70.5	70.5	73.2	76.6	44.2

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown

Mean values for systolic blood pressure increased with age while the mean values for diastolic blood pressure decreased with age. The mean systolic blood pressure values were higher for males compared to females, while the mean diastolic blood pressure values were marginally lower for females compared to males. Respondents were classified as having hypertension if the average value of the second and third systolic readings was greater than 140 mm Hg, or if the average value of the second and third diastolic readings was greater than 90 mm Hg, or if respondents with blood pressure measurements reported that they were currently on antihypertension medication. About 71% of older Singaporeans were considered having hypertension, with the proportion increased with age and it was the highest among those of Indian ethnicity.

3.3. Psychological Health

In this section, we describe depressive symptoms, personal mastery, psychological resilience, quality of life and cognitive status, overall and by age group, gender and ethnicity.

Depressive symptoms

These were assessed using the 11-item CES-D scale (detailed in Chapter 2: Methodology). A score of 7 and above was considered to represent clinically relevant depressive symptoms.

Table 3.3.1 Depressive Symptoms Status (Mean CES-D Score and Clinically Relevant Symptoms) by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Center of Epidemiologic Studies Depression (CES-D) Score										
n	2662	1097	988	597	1276	1386	2031	349	261	21
Mean	2.8	2.7	2.7	3.4	2.5	3.1	2.7	3.1	3.6	3.2
SD	3.1	3.0	3.1	3.5	2.8	3.4	3.1	3.4	3.5	2.6
Symptoms clinically relevant (weighted %)	11.6	10.3	11.6	15.4	8.3	14.6	10.8	14.4	18.3	11.6

About 12% of older Singaporeans had clinically relevant depressive symptoms. The prevalence of clinically relevant depressive symptoms increased with age, was higher for females (15%) compared to males (8%) and was the highest for Indians (18%) across ethnicities.

Personal Mastery

Mastery was assessed using the Pearlin Mastery scale (detailed in Chapter 2: Methodology). The total score can range from 0 to 15 with higher scores indicating greater personal mastery.

Table 3.3.2 Personal Mastery (Pearlin Mastery Score – Mean and Tertile) by Age Group, Gender and Ethnicity

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Pearlin Mastery Score										
n	2649	1093	985	571	1270	1379	2023	349	256	21
Mean	8.8	9.0	8.8	8.4	8.7	8.9	8.9	8.5	8.3	8.7
SD	2.0	2.1	2.0	1.9	1.7	2.2	2.0	2.0	2.0	2.1
(weighted %)										
Lowest tertile	37.2	34.7	37.3	43.8	39.6	35.0	35.3	43.9	53.1	39.4
Middle tertile	55.7	55.9	56.5	53.2	56.8	54.6	57.5	50.4	41.0	46.0
Highest tertile	7.1	9.4	6.2	3.0	3.6	10.3	7.2	5.7	6.0	14.6

Higher score indicates higher levels of personal mastery.

More than 90% of older Singaporeans had a personal mastery score classified into the lowest or middle tertile of score distribution. This proportion increased with age, was higher among males compares to females, and was highest among Malays across ethnicities. Across age groups, gender and ethnicities, the proportion was highest in the middle tertile except for Indians who were more likely to be in the lowest tertile.

Psychological Resilience

Psychological resilience was measured using the 10-item Connor-Davidson Resilience Scale (CD-RISC-10). The score can range from 0 to 40, with higher scores indicating greater resilience.

Table 3.3.3 Psychological Resilience (Mean CD-RISC-10 Score) by Age Group, Gender and Ethnicity

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	2648	1096	983	569	1270	1378	2019	348	260	21
CD-RISC-10 Score										
Mean	27.8	28.4	27.8	26.2	27.2	28.3	27.8	27.6	27.7	27.5
SD	6.5	6.3	6.5	6.6	6.4	6.5	6.5	6.4	6.3	4.8

The average psychological resilience scores decreased slightly with age and were comparable across genders and ethnicities.

Quality of Life

This was assessed using the Control, Autonomy, Self-realization and Pleasure scale (detailed in Chapter 2: Methodology). The total score can range from 0 to 36, with a higher score indicating a higher quality of life.

Table 3.3.4 Control, Autonomy, Self-realization and Pleasure Scale (CASP) Score by Age Group, Gender and Ethnicity

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Control, Autonomy, Self-realization and Pleasure Scale (CASP) Score										
n	2658	1096	987	575	1276	1382	2027	349	261	21
Mean	28.0	29.0	28.0	25.6	28.1	27.9	28.1	27.6	27.7	28.7
SD	5.8	5.4	5.7	6.2	5.7	5.9	5.8	5.6	5.7	4.9

The average quality of life scores decreased with age and were comparable across genders and ethnicities.

Cognitive Status

This was assessed using the Abbreviated Mental Test (AMT) – Singapore (detailed in Chapter 2: Methodology), a cognitive status test.

Table 3.3.5 AMT score by Age Group and Ethnicity

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Abbreviated Mental Test (AMT) Score										
n	2747	1102	993	652	1298	1449	2094	363	269	21
Mean	9.3	9.7	9.4	8.0	9.7	8.9	9.3	9.1	9.1	9.8
SD	1.4	0.7	1.0	2.3	0.9	1.7	1.4	1.6	1.5	0.4

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Older Singaporeans aged 80 years and above had poorer cognitive function, indicated by the lower average AMT scores, compared to those in the younger age groups. Cognitive function was comparable across gender and ethnicities.

3.4. Health Behaviours and Healthcare use

This chapter provides the distribution, overall and by age group, gender, ethnicity, for smoking, physical activity, participation in cancer screenings (blood stool test, Pap smear test, and mammogram), prescription medication use, medication adherence, and contact with health professionals and services.

Smoking

Respondents were first asked if they had smoked at least 100 cigarettes in their lifetime, defining those who had not as 'never smoker'. Those who responded that they had were asked if they now smoked every day or on some days (defined as 'current smoker') or not at all (defined as 'ex-smoker').

Table 3.4.1 Smoking by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Smoking (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Never Smoker	76.5	77.0	73.5	81.1	53.5	96.7	77.2	72.8	78.0	57.5
Ex-smoker	12.9	10.3	14.3	15.2	25.7	1.6	13.0	11.0	13.3	17.4
Current smoker	10.5	12.7	12.0	3.4	20.6	1.5	9.7	15.5	8.6	25.2

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Three in four older Singaporeans were never smokers; this proportion was lower among those aged 60-69 (77%) and 70-79 years (74%) compared to those aged 80 years and above (81%). On the other hand, a higher proportion of those aged 62-69 years were current smokers (13%) compared to those aged 70-79 years (12%) and those aged 80 years and above (3%). Most females were never smokers (97%), compared to about half of the males (54%).

Physical Activity

Physical activity was measured using the Global Physical Activity Questionnaire (GPAQ) which asked respondents about the time they spent in a typical week in vigorous and moderate activities at work and leisure, as well as during travel and sedentary behaviour. Respondents whose total physical activity Metabolic Equivalent (MET) minutes per week were greater or equal to 600, were classified as meeting the World Health Organisation (WHO) recommendation on physical activity for health.

Table 3.4.2 Physical Activity by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Total Physical Activity (weighted %)										
n	2875	1106	1016	753	1339	1536	2170	398	285	22
Meets WHO recommendations	66.6	75.8	70.6	41.7	68.3	65.1	69.0	49.4	61.0	68.3
Does not meet WHO recommendations	33.4	24.2	29.4	58.3	31.7	34.9	31.0	50.6	39.0	31.7

Two in three older Singaporeans met the WHO recommendations on physical activity for health. This proportion decreased with age, was comparable between genders, and was the lowest among Malays (49%), compared to Indians (61%) and Chinese (69%).

Participation in Cancer Screening

Blood Stool Test

The MOH Clinical Practice Guidelines for Cancer Screening, 2010 and recommendations from the National University Cancer Institute, Singapore state that screening for colorectal cancer should be done annually among those aged 50 years and older.

Table 3.4.3 Blood Stool Test by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Last Blood Stool Test (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Within the last 1 year	27.5	30.4	28.3	20.5	36.4	19.8	28.1	20.5	30.8	25.2
More than 1 year ago	27.6	27.8	28.6	25.4	26.5	28.5	28.7	19.2	24.2	33.5
Never	43.3	41.1	42.2	49.6	36.2	49.5	41.9	57.3	40.1	41.3

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Nearly 43% of older Singaporeans overall, across age groups and ethnicities had never undergone screening for colorectal cancer; this proportion was higher for females (50%) versus males (36%). The proportion of those who had undergone the screening within the last year was the highest for those aged 62-69 years (30%) versus the 70-79 (28%) and 80 and above (21%) age groups. This proportion was higher among males (36%) compared to female (20%), and the highest among Indians (31%), followed by Chinese (28%) and Malays (21%).

Pap Smear Test

The MOH Clinical Practice Guidelines for Cancer Screening, 2010 and recommendations from the National University Cancer Institute, Singapore state that all women who have ever had sexual intercourse should undergo screening for cervical cancer through Pap smear test once every 3 years, starting at age 25 years till age 69 years (unless otherwise indicated).

Table 3.4.4 Pap Smear Test by Age Group and Ethnicity

	Total	**Age Group (years)**			**Ethnicity**			
		62-69	**70-79**	**80 & above**	**Chinese**	**Malay**	**Indian**	**Others**
Last Pap Smear Test (weighted %)								
n	1542	582	531	429	1170	216	147	9
Within the last 3 years	17.8	29.7	14.4	3.2	17.9	13.5	23.7	28.0
More than 3 years ago	34.5	38.4	38.0	22.6	35.1	32.6	28.9	30.9
Never	44.4	31.1	45.7	64.8	44.0	49.5	42.1	41.1

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Nearly 44% of older Singaporean women had never undergone a Pap smear test, the proportion increasing with age. Among those aged 62-69 years, only 30% had undergone the test within the last 3 years. Even among those aged 70-79 years and 80 years and above, 14% and 3% had undergone the test within the last 3 years; however, we are unable to comment on the appropriateness of this screening given lack of details on their reproductive and medical history. Across ethnicities, the proportion of women who had never undergone a Pap smear test was the highest for Malays.

Mammogram

For women aged 50 to 69 years, MOH Clinical Practice Guidelines for Cancer Screening, 2010 and recommendations from the National University Cancer Institute, Singapore state that all women should undergo screening for breast cancer through mammograms once every two years (unless otherwise indicated).

Table 3.4.5 Mammogram by Age Group and Ethnicity

	Total	Age Group (years)			Ethnicity			
		62-69	70-79	80 & above	Chinese	Malay	Indian	Others
Last Mammogram (weighted %)								
n	1542	582	531	429	1170	216	147	9
Within the last 2 years	20.8	33.2	18.1	4.1	21.0	14.5	23.3	58.9
More than 2 years ago	38.5	38.7	46.1	27.0	38.7	36.9	42.3	17.3
Never	38.2	27.3	34.8	61.5	37.9	44.9	32.3	23.8

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Nearly 38% of older Singaporean women had never had a mammogram, the proportion increasing with age. Among those aged 62-69 years, only 33% had undergone the test within the last 2 years. Even among those aged 70-79 years and 80 years and above, 18% and 4% had undergone a mammogram within the last 2 years; however, we are unable to comment on the appropriateness of this screening given lack of details on their reproductive and medical history. Across the three major ethnicities, the proportion of women who had never undergone a mammogram was the highest for Malays.

Prescription Medication Use and Adherence

Table 3.4.6 Prescription Medication Use by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Take prescription medications on a regular basis (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	76.4	67.1	82.1	84.6	76.6	76.3	76.0	76.8	84.5	67.1
Number of prescription medications among those who take prescription medications										
n	2238	756	842	640	1039	1199	1671	306	246	15
Mean	3.4	3.0	3.4	4.1	3.5	3.3	3.3	3.9	4.5	2.0
SD	2.4	2.2	2.3	2.6	2.4	2.3	2.3	2.4	3.1	0.9
Number of prescription medications (categories), weighted %										
1-4	75.5	81.5	76.0	65.4	72.8	77.9	76.9	69.7	62.3	100.0
≥5	24.5	18.5	24.0	34.6	27.2	22.1	23.1	30.3	37.7	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Nearly 3 in 4 of older Singaporeans took prescription medications on a regular basis; this proportion increased with age, was relatively similar between females and males, and was highest among Indians (85%). Among those who took prescription medications, 25% had polypharmacy (i.e. took 5 or more prescription medications on a regular basis). The proportion increased with age, was higher among males (27%) compared to females (22%), and was highest among Indians (38%).

Table 3.4.7 Medication Adherence by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Forget to take prescription medications at times (weighted %)										
n	2243	756	844	643	1042	1201	1674	306	248	15
Yes	22.9	25.4	22.9	19.2	23.6	22.3	22.4	24.9	25.7	25.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

The proportion of older Singaporeans who forgot to take their prescription medications at times decreased with age, was slightly higher among male (24%) compared to females (22%) and was highest for Indians (26%) among the three major ethnicities.

Healthcare Utilisation

Table 3.4.8 Healthcare utilisation by Age Group, Gender and Ethnicity

Healthcare provider	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Healthcare Utilisation (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
In the past 3 months, visited a …(weighted %)										
Private general practitioner (GP)	26.9	28.0	25.1	28.0	25.0	28.6	26.7	28.0	27.8	31.5
Doctor at a polyclinic	46.6	43.0	49.4	48.8	46.7	46.5	46.3	45.2	54.2	39.7
Doctor at a specialist outpatient clinic	23.3	19.1	25.4	27.9	23.9	22.8	23.2	22.7	24.7	26.8
Private specialist	2.7	2.6	2.7	3.0	2.4	3.0	2.7	1.6	4.2	9.1
Traditional Chinese Medicine (TCM) practitioner or traditional healer	12.0	12.7	13.3	8.3	9.6	14.1	14.1	1.3	1.3	7.5
In the past 6 months, visited a hospital emergency room (weighted %)										
Hospital emergency room	9.7	6.4	10.4	15.0	9.0	10.4	9.4	11.9	11.5	6.9
In the past 12 months, was admitted to nursing home (weighted %)										
Admitted to nursing home	1.7	0.8	1.1	4.4	1.3	2.1	1.8	1.0	1.6	0.0
In the past 12 months, was admitted to a hospital (weighted %)										
Admitted to a hospital	15.4	10.5	15.3	25.2	15.9	15	14.6	19	17.7	23.3

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Considering the 3 months prior to their survey interview (hereafter, past 3 months), health professionals whom older Singaporeans had visited at least 1 time were a doctor at a polyclinic (47%), followed by a private general practitioner (GP; 27%). A higher proportion had consulted specialists at a specialist outpatient clinic, compared to a private practice, overall and across age groups, gender and ethnicity. 12% of older Singaporeans had consulted Traditional Chinese Medicine (TCM) practitioners or traditional healers. Overall, 10% of older Singaporeans had visited a hospital emergency room in the past 6 months. Admission to a nursing home was low overall, about 2%.

The proportion with at least 1 visit to a *private GP* in the past 3 months was comparable (~28%) across age groups, gender and the three major ethnicities. The proportion with at least 1 visit to a *doctor at a polyclinic* in the past 3 months was also comparable (~47%) across age groups, gender and the three major ethnicities. The proportion with at least 1 visit to a *doctor at a specialist outpatient clinic* in the past 3 months increased with age, was similar for males and females. Among the three major ethnicities, it was the highest among Indians (25%), followed by Chinese (23%) and Malays (23%). The proportion with at least 1 visit to a *specialist doctor in private practice* was low, around 3% across age groups, gender and the three major ethnicities. The proportion who had consulted *Traditional Chinese Medicine (TCM) practitioners or traditional healers* in the prior 3 months was highest among those aged 70-79 years compared to the other age groups, was higher for female (14%) versus males (10%), and as highest for Chinese (14%) among the three major ethnicities. The proportion of older Singaporeans who had visited a *hospital emergency room* in the past 6 months increased with age, was comparable across gender, and was the highest for Malays (12%) and Indians (12%). The proportion of older Singaporeans admitted to a hospital increased with age.

3.5. Social Engagement

This section looks at the distribution of living alone or only with a foreign domestic worker, reasons for living alone, loneliness, social network, religiosity and attendance of social activities, overall and by age group, gender and ethnicity.

Living Alone or only with a foreign domestic worker

Table 3.5.1a Living Alone or only with a foreign domestic worker by Age Group, Gender and Ethnicity

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Living Arrangement (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Living alone or only with a foreign domestic worker	10.8	73	13.0	13.6	7.9	13.4	11.0	8.9	8.8	18.7

Almost 11% of older Singapore live alone or only with a foreign domestic worker/maid; this proportion was highest among those aged 80 and above (14%), was almost double the proportion for females (13%) compared to males (8%), and was highest among the Chinese (11%) across three major ethnicities.

Figure 3.5.1b Reasons for Living Alone or only with a foreign domestic worker

Reasons for Living Alone
(n=327)

Befriending or mentoring people	55%
In order to maintain independence	27%
Never had children	19%
Outlived family members	17%
Educating / teaching / coaching	13%
Others	13%
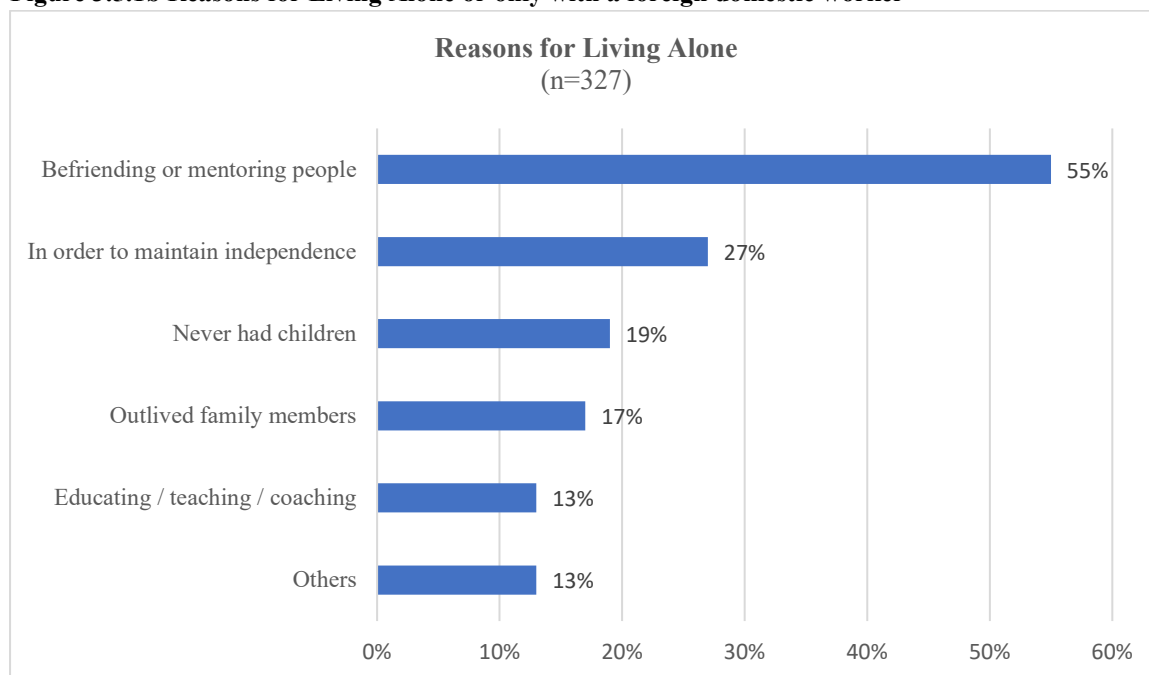
Percentages exceed 100% as multiple responses were allowed

Loneliness

Loneliness was assessed using the Three-Item Loneliness Scale (detailed in Chapter 2: Methodology). Those with scores of 0, 1-3 and 4 and above, were classified as not lonely, sometimes lonely and mostly lonely, respectively.

Table 3.5.2 Loneliness by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Loneliness (weighted %)										
n	2654	1095	982	577	1272	1382	2024	348	261	21
Not Lonely	69.8	70.3	70.0	67.7	72.4	67.4	71.7	61.4	57.3	65.3
Sometimes Lonely	19.5	20.2	19.5	17.4	18.9	20.0	18.5	26.3	24.4	10.7
Mostly Lonely	10.8	9.5	10.5	14.8	8.8	12.6	9.8	12.3	18.3	24.1

More than a quarter (30%) of older Singaporeans reported being sometimes or mostly lonely. The proportion of those who were mostly lonely increased with age, was higher for females (13%) relative to males (9%), and as highest for Indians (18%) among the three major ethnicities.

Social Network outside the household

Social network outside the household was assessed using the Lubben Social Network Scale Revised (LSNS-R) (detailed in Chapter 2: Methodology). The score ranges from 0 to 60, and the distribution of the continuous scale as well as a categorization by tertiles is presented below. A higher mean score and tertile indicate a greater extent of social network outside the household.

Table 3.5.3 Lubben Social Network Scale Revised (LSNS-R) Score (Continuous and Tertiles) by Age Group, Gender and Ethnicity

	Total	Age Group			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Lubben Social Network Scale Revised (LSNS-R) Score										
n	2651	1095	984	572	1269	1382	2023	349	258	21
Mean	26.8	27.7	27.3	23.5	27.1	26.5	26.5	28.4	28.3	27.7
SD	11.3	11.4	11.4	10.5	11.3	11.3	11.3	11.0	11.3	12.0
weighted %										
Lowest tertile	34.2	31.5	32.8	45.1	32.4	35.9	35.3	26.7	31.1	30.0
Middle tertile	33.5	33.6	33.6	33.1	33.0	34.0	33.3	36.4	31.6	37.3
Highest tertile	32.3	34.9	33.7	21.8	34.6	30.2	31.4	37.0	37.3	32.6

The extent of social network outside the household, exemplified by the mean score of LSNS-R and the proportion in the highest LSNS-R tertile, was the highest among older Singaporeans aged 62-69 years, and declined with age. Males had a larger proportion in the highest tertile compared to females, indicating that males had a greater extent of social network outside the household. Among the ethnicities, Malays and Indians were the most networked with a similar proportion of Malays and Indians (37%) in the highest tertile.

Social Activities

The frequency of participation in four distinct types of social activities was assessed.

Table 3.5.4 Attendance of Social Activities by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Attend Residents' Committee (RC) / Neighbourhood Committee (NC) / Community Club (CC) / Community Development Council (CDC) / Neighbourhood event (weighted %)										
At least weekly	7.9	8.9	8.8	4.2	5.6	9.9	8.5	3.8	6.6	7.6
Occasionally	14.6	17.0	15.2	8.9	11.5	17.4	14.9	12.3	15.6	9.0
Not at all	76.8	73.5	75.2	86.1	82.2	72.0	75.9	83.7	76.6	83.4
Attend Senior Activity Centre for exercise/activities (weighted %)										
At least weekly	8.3	6.3	10.1	9.2	6.4	10.1	8.6	6.8	7.9	3.6
Occasionally	6.8	7.2	7.7	4.4	6.7	6.9	7.0	5.7	5.5	5.5
Not at all	84.1	85.8	81.2	85.9	86.0	82.4	83.5	86.9	86.0	90.8
Attend church, mosque or other places of worship (weighted %)										
At least weekly	23.8	27.0	24.0	17.2	23.9	23.7	18.5	50.9	44.6	61.1
Occasionally	45.8	51.8	48.0	30.2	46.4	45.3	50.2	15.4	37.5	29.1
Not at all	30.3	21.2	27.9	52.6	29.6	31.0	31.3	33.8	17.1	9.8
Go for a walk (for exercise purpose) (weighted %)										
At least weekly	60.1	62.1	64.6	48.2	70.1	51.3	61.4	45.2	67.8	56.1
Occasionally	7.3	9.1	6.7	5.0	6.3	8.2	7.2	9.8	6.2	5.4
Not at all	32.3	28.6	28.3	46.5	23.4	40.1	31.2	44.9	25.2	38.4

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

A greater proportion of older Singaporeans attended a church, mosque or other place of worship at least weekly or occasionally (70%) compared to the other two social activities. The proportion who attended places of worship at least weekly decreased with age, was comparable between genders, and was the highest among Malays (51%) among the three major ethnicities.

Older Singaporeans who attended neighbourhood events at least weekly or occasionally was the highest among those aged 62-79 years, females, and Chinese (9%) compared to Indians (7%) and Malays (4%).

The proportion of older Singaporeans who attended senior activity centres for exercise or activities at least weekly or occasionally was highest among those aged 70-79 years, females, and Chinese. Finally, those aged 62-79 years were more likely to go for a walk for exercise at least weekly. This proportion was higher among males and Indians.

Religious participation remains the most prominent social activity among older Singaporeans relative to the other three activities. The distribution of attendance of religious services, praying in private places and importance of religion in life by age group, gender and ethnicity is provided in Appendix Table A7a.

3.6. Provision and Receipt of Transfers

In this section, we provide descriptive statistics on provision and receipt of transfers and their distribution overall and by age group, gender and ethnicity.

Table 3.6.1 Provision of Transfers by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Provision of transfers to family members (including spouse), relatives, friends, or a foreign domestic worker in the past 12 months (weighted % of those who provided)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Monetary support	19.5	30.3	15.9	5.1	28.5	11.7	18.2	23.4	27.4	38.9
Housework help	43.2	55.4	43.3	19.2	48.5	38.5	44.8	35.0	34.7	37.2
Material support	37.0	48.6	36.3	15.7	38.1	36.1	37.7	30.9	36.6	43.0
Emotional support	47.4	57.1	46.7	29.8	48.8	46.2	47.4	41.8	49.4	75.8

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

The most prevalent type of provision of transfers was the provision of emotional support (47%) followed by housework help (43%). In general, the proportion of older Singaporeans providing support and/or help decreased with age. Males were more likely to provide support compared to females; the greatest difference was for monetary support where males were more than twice as likely (29%) than females (12%).

Table 3.6.2 Receipt of Transfers by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Receipt of transfers to family members (including spouse), relatives, friends, or a foreign domestic worker in the past 12 months (weighted % of those who received)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Monetary support	57.4	49.2	57.5	73.1	47.3	66.3	57.5	62.9	46.9	57.3
Housework help	50.7	47.3	47.0	64.0	58.9	43.5	49.7	54.9	55.8	55.9
Material support	53.5	46.3	52.5	69.3	45.6	60.4	53.8	53.8	51.9	42.4
Emotional support	60.5	56.2	59.3	71.1	54.1	66.1	60.3	62.6	60.4	59.6

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

At least half of older Singaporeans received transfers of support and/or help in the prior 12 months; the receipt of transfers increased with age. Regarding gender differences, females were more likely to receive monetary, material and emotional support, whereas males were more likely to receive housework help. Among the three major ethnicities, Malays reported having the greatest proportion which received monetary and emotional support, and both Malays and Chinese had the greatest proportion receiving material support. Indians were the most likely to receive housework help.

3.7. Work and Retirement

This section describes the current work status, reasons to be working, early retirement, reasons for early retirement, overall and by age group, gender and ethnicity.

Table 3.7.1a Current Work Status by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Current Work Status (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Working full-time	18.3	30.8	13.7	2.3	27.0	10.8	18.2	17.2	20.4	22.7
Working part-time	14.3	20.9	13.6	2.6	14.9	13.8	14.9	7.9	13.5	28.2
Retired and/or not working	59.1	45.8	65.6	73.4	57.6	60.4	59.3	59.9	56.7	49.1
Never worked	8.3	2.4	7.2	21.7	0.5	15.1	7.6	15.0	9.4	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Approximately a fifth (18%) of older Singaporeans worked full-time, while about 14% worked part-time. Both proportions declined with age. A lower proportion of females worked full-time (11%) and part-time (14%) compared to males (27% and 15% respectively). About 8% of older Singaporeans had never worked, comprising 22% of those aged 80 years and above compared to only 2% of those aged 62 to 69 years. Between the two genders, there is a sharp contrast for having never worked – this proportion was 15% for females versus almost 1% for males. Among the three major ethnicities, Chinese (15%) and Indians (14%) worked part-time compared to Malays (8%). A slightly higher proportion of Indians (20%) did full-time work compared to the Chinese (18%) and Malays (17%).

The distribution of current engaged occupation by age group, gender and ethnicity is provided in Appendix Table A9a.

Figure 3.7.1b Reasons to Be Working

Reasons to be working*
(n=896)

Income 29%
Keep busy / to pass time 29%
Maintain good health 22%
Enjoy working 17%
Social contact 12%
Contribute to society 8%
Help with family members/friends/business 4%
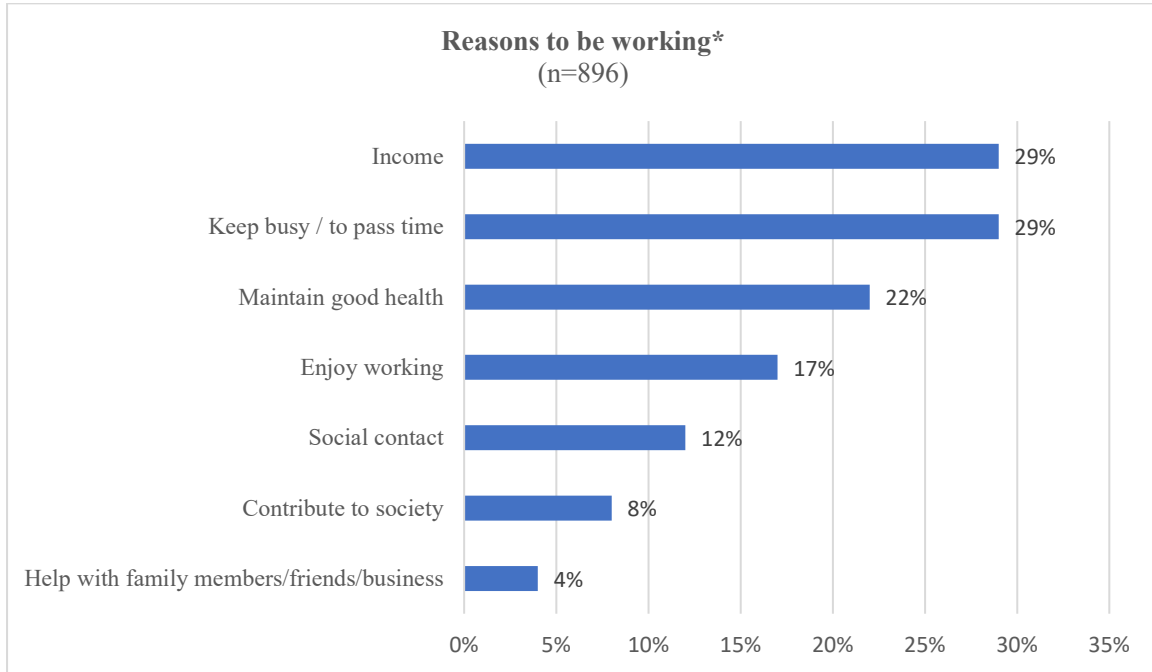
*Asked only to participants who are working full-time or part-time
Percentages exceed 100% as multiple responses were allowed.

All survey participants who were working either full-time or part-time were asked about their reasons for working. The most common reason for working was reported to be income and keep busy/to pass time (included in 29% of the responses), and maintaining good health (21%). Enjoy working, social contact and contribution to society were included in 18%, 11% and 8% of the responses respectively.

Table 3.7.2a Early Retirement among Retired/Not Working by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Early Retirement (weighted %)										
n	1751	503	679	569	801	950	1331	245	163	12
Yes	36.2	45.7	35.8	25.1	24.9	45.6	35.4	45.5	31.1	35.0

Older Singaporeans who reported that they had retired or were currently not working were asked if they had retired early. The proportion of those who reported that they had retired early was 36% overall and decreased with age. Females were almost twice as likely (46%) to have retired early compared to males (25%). Among the three major ethnicities, Malays (46%) were most likely to have retired early, followed by the Chinese (35%) and Indians (31%).

Figure 3.7.2b Reasons for Early Retirement among Retired/Not Working
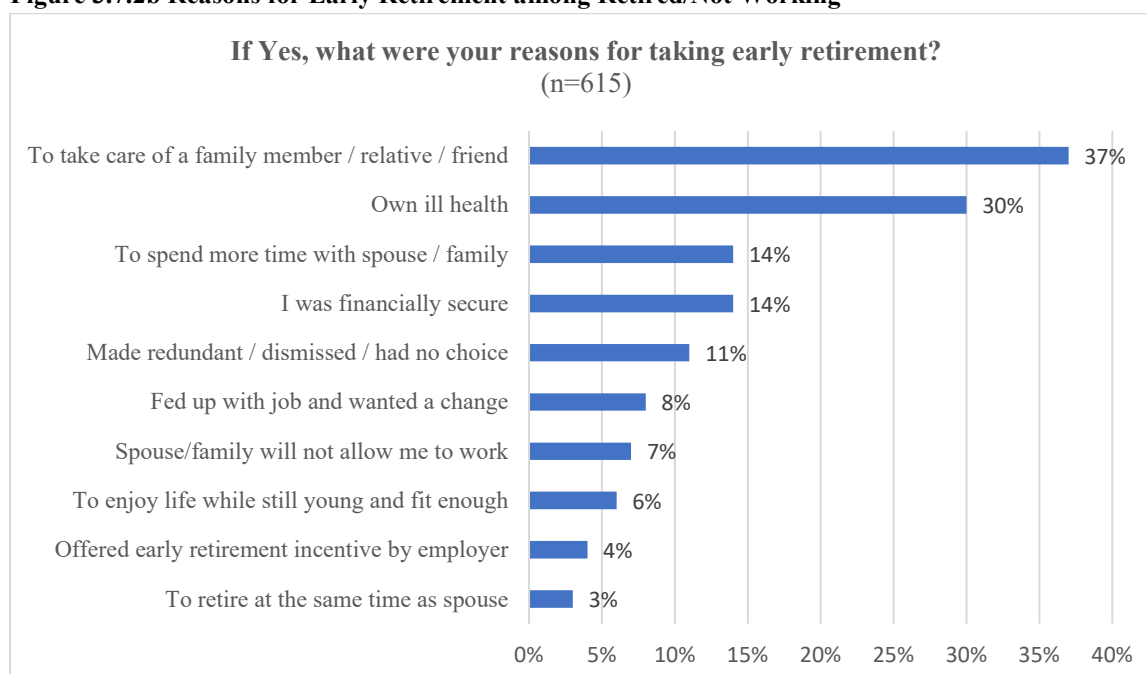
*Asked only to participants who are retired and/or not working, and who took early retirement
Percentages exceed 100% as multiple responses were allowed.

Respondents who reported that they had retired early were asked their reasons for taking early retirement. The most frequently cited reason was caregiving responsibilities specifically taking care of a family member, relative, or friend (37%), followed by the respondents own ill health (30%). Reasons related to the workplace, i.e. made redundant/had no choice (11%), fed up with job and wanted a change (8%), and offered early retirement incentive (4%) when combined, formed the third most frequently cited reason.

The proportion of employment seeking among the retired or not working, and reasons for doing or not doing so, is provided in Appendix Figures A9b-A9c. The proportion of those who never worked and their reasons for not seeking employment is provided in the Appendix Figures A9d-A9e.

3.8. Lifelong Learning

In this section, we describe the distribution of the number of courses/trainings taken in the last 12 months and primary reason for course/training engagement, overall and by age group, gender and ethnicity.

Table 3.8.1 Number of Courses/Trainings Taken by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Number of courses/trainings taken in the last 12 months (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
None	88.1	83.2	87.9	98.1	87.8	88.4	88.1	90.5	85.9	79.8
1	7.0	9.6	7.4	1.1	7.6	6.5	7.0	6.4	7.5	5.8
2	3.1	4.5	2.9	0.6	3.1	3.1	2.9	2.4	4.7	9.0
3 or more	1.7	2.7	1.5	0.1	1.4	2.0	1.7	0.7	1.9	5.4

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Nearly 9 in 10 (88%) of older Singaporeans did not take any course/training in the prior 12 months. The 12% who took comprised 7% who took only 1 course/training, 3% who took 2 courses/trainings, and 2% who took 3 or more courses/trainings. The proportion who took any courses/trainings declined with age. The proportion of those who took only 1 course/training was marginally lower for females (7%) than males (8%), but the gender distribution was similar among those who took 2 or more courses/trainings (3.1%). Indians were the most likely to have taken any courses/trainings compared to Chinese and Malays.

Table 3.8.2 Primary reason for Course/Training Engagement by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Primary reason for Course/Training Engagement (weighted %)										
n	323	188	119	16	159	164	242	37	39	5
Only Job-related	36.1	45.0	23.7	18.7	55.8	18.0	32.3	48.7	59.4	55.5
Only non job-related	58.4	49.0	71.3	81.3	41.9	73.7	62.2	46.3	33.1	44.5
Both job and non job-related	5.4	6.0	5.1	0.0	2.3	8.3	5.4	5.0	7.5	0.0

The proportion of those who took courses/trainings for only job-related reasons was the highest among older Singaporeans aged 62-69 years (45%), while the proportion of those who took courses/trainings for only non-job-related reasons was the highest among those aged 80 years and above (81%). Males (56%) were thrice as likely than females (18%) to take courses/trainings for only job-related reasons, while females (74%) were almost twice as likely than males (42%) to take courses/trainings for only non-job-related reasons. A greater proportion of Indians (60%) and Malays (49%) took

courses/trainings for only job-related reasons relative to the Chinese (32%), while the Chinese (62%) were most likely to take courses/trainings for only non-job-related reasons among the ethnicities.

3.9. Volunteering

This section details formal and informal volunteering, overall and by age group, gender and ethnicity.

Formal Volunteering

Table 3.9.1a Frequency of Formal Volunteering by Age Group, Gender and Ethnicity

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
	Formal volunteering in the past 12 months (weighted %)									
n	2887	1110	1022	755	1345	1542	2180	398	287	22
At least once a week	4.9	6.0	5.5	1.5	5.4	4.4	4.8	3.2	5.5	15.9
Less than once a week but at least once a month	3.3	4.1	3.5	1.1	3.1	3.4	3.4	1.8	4.0	5.4
Less than once a month	3.5	4.1	3.8	2.0	4.2	3.0	3.4	3.6	4.3	7.3
One-off	2.5	3.8	2.2	0.5	2.3	2.6	2.2	2.4	4.0	10.7
None	85.5	81.7	84.5	94.6	84.6	86.3	85.9	88.1	81.9	60.6

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

About 14% of older Singaporeans engaged in formal volunteering in the prior 12 months. The proportion decreased with age, was comparable between genders, and was similar among the three major ethnicities. Those who were not among the three major ethnicities were most likely to engage in formal volunteering at least weekly (16%) or at least once a month (21%).

Figure 3.9.1b Types of Formal Volunteering

In the last 12 months, have you given any unpaid help to a friend, neighbor or someone else who was NOT a relative, in any of the ways shown below?
(n=407)

Organizing or helping to run an activity or event	46%
Visiting people	39%
Befriending or mentoring people	35%
Raising or handling money / taking part in sponsored…	23%
Other practical help (e.g. helping out at school/shopping)	22%
Educating / teaching / coaching	21%
Providing information / counselling	20%
Leading the group / member of a committee	18%
Providing transport / driving	10%
Representing	8%
Campaigning	5%
Secretarial / admin or clerical work	5%

Percentages exceed 100% as multiples responses were allowed

Among survey participants who had volunteered formally in the last 12 months, the three most common ways of volunteering were organising or helping to run an activity or event (46%), visiting people (39%), and befriending or mentoring people (35%)

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Informal Volunteering

Table 3.9.2a Frequency of Informal Volunteering by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Informal volunteering in the past 12 months (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Everyday	1.0	1.3	1.2	0.1	0.6	1.3	0.7	2.1	1.2	6.4
At least once a week	2.3	2.5	3.0	0.9	2.6	2.0	2.2	1.6	5.3	0.0
Less than once a week but a least once a month	2.2	2.6	2.6	0.6	2.6	1.8	2.1	1.1	4.8	5.7
Less than once a month	6.1	7.6	6.5	2.1	9.9	2.6	6.0	5.4	6.5	11.3
One-off	3.6	3.9	4.5	1.1	3.2	3.8	3.4	3.2	4.0	10.7
None	83.9	80.9	81.4	94.1	80.2	87.1	84.4	85.9	77.8	65.8

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

About 16% of older Singaporeans engaged in informal volunteering in the prior 12 months. The proportion decreased with age, decreasing sharply among those aged above 80 years old; only 5% of those aged 80 years and above had engaged in informal volunteering in the prior 12 months compared to 18% of those aged 70-79 years of age. Females were more likely to engage in informal volunteering relative to males. Similar to formal volunteering, those who were not among the three major ethnicities were most likely to have engaged in informal volunteering.

Figure 3.9.2b Types of Informal Volunteering

In the last 12 months, have you given any <u>unpaid</u> help to a friend, neighbor or someone else who was NOT a relative, in any of the ways shown below?
(n=474)

Type	Percentage
Doing shopping/collecting pension or paying bills	31.0%
Cooking/cleaning/laundry/gardening or other routine…	21.0%
Keeping in touch with someone who has difficulty…	20.0%
Transporting or escorting someone	17.0%
Writing letters or filling in forms	14.0%
Representing someone	10.0%
Sitting with or providing personal care…	9.0%
Babysitting or caring for children	9.0%
Looking after a property or a pet for someone who is…	8.0%
Decorating or doing any kind of home or car repairs	6.0%

Percentages exceed 100% as multiple responses were allowed.

Among respondents who had volunteered informally in the last 12 months, the three most common ways of volunteering were helping a person in shopping, collecting pension or paying bills (31%), helping cooking/cleaning/laundry/gardening or other routine household jobs (20%), and keeping in touch with someone who has difficulty getting out and about, such as visiting in person, telephoning or emailing (20%).

3.10. Technology Use

This section details the technology device utilisation and activities, phone and app utilisation, and device and app utilisation for health reasons overall and by age group, gender and ethnicity.

Table 3.10.1 Technology Device Utilisation by Age Group, Gender and Ethnicity

Every day or on most days, I use…	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Technology Device Utilisation (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Smartphone	65.3	84.5	66.6	25.3	74.2	57.5	66.9	51.8	59.5	87.2
Laptop Computer	12.5	19.8	10.8	1.4	18.9	6.9	12.4	6.0	17.4	40.6
Desktop Computer	9.5	15.0	8.4	0.9	13.2	6.3	9.8	4.6	11.1	17.9
Tablet	14.1	21.3	12.1	3.5	15.5	12.8	14.5	9.0	13.4	24.8
Pedometer	6.2	9.9	5.2	0.8	6.7	5.8	7.1	1.0	3.2	4.3
Smart watch	1.2	1.9	1.1	0.1	1.7	0.7	13	0.0	1.5	3.7

Overall, technology device utilisation among older Singaporeans declined dramatically with age and was higher among males compared to females. A greater proportion of older Singaporeans (65%) used a smartphone either every day or most days a week than any other device. The proportion of older Singaporeans who used a smartphone declined sharply with age, particularly among those aged 80 years and above; from 67% of those aged 70-79 years who used a smartphone regularly to only 25% of those aged 80 years and above. Regular smartphone utilisation was high across all ethnicities, though was the lowest for Malays (52%). Tablets (14%), followed by laptop computers (13%) and desktop computers (10%) were also utilised by older Singaporeans. While the gender gap, favouring males, was significant for both types of computers, it was much narrower for tablet use. Only about 6% of older Singaporeans utilised a pedometer and only 1% utilised a smartwatch.

Table 3.10.2 Technology Activities by Age Group, Gender and Ethnicity

Every day or on most days, I …	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Technology Activities (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Read or send an e-mail	23.9	37.4	20.2	3.9	31.3	17.3	24.4	14.0	27.1	44.9
Surf the internet	28.1	44.9	23.1	4.3	33.1	23.6	28.4	21.4	27.9	53.5
Instant message	42.6	63.2	39.4	7.9	46.5	39.1	42.9	37.0	40.7	67.6
Use online social networks	31.7	48.7	28.1	4.9	33.0	30.6	32.3	24.7	30.7	47.8
Video call	27.6	41.1	25.3	5.5	30.2	25.4	27.7	22.6	28.2	54.4

Participation in regular technology activities declined with age, was higher among males compared to females, and was lowest among Malays. Older Singaporeans were mostly likely to use technology to send instant messages (43%) and use online social networks to view, read or post content (32%) followed by surfing a website on the internet (28%) and video calling (28%).

Table 3.10.3 Device Utilisation for Health Reasons by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Device Utilisation for Health Reasons in past 1 month (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	13.1	21.6	10.4	1.6	13.1	13.1	13.5	8.5	15.7	13.4

About 13% of older Singaporeans had used the internet on a phone, tablet or computer to get information among their own health or to help manage their health conditions in the prior 1 month. The proportion declined with age, from about one-fifth (22%) of those aged 62-69 years who used a device for health reasons for the prior month to only 2% of those aged 80 years and above. Among the ethnicities, Indians (16%) and Chinese (14%) were most likely to use a device for health reasons compared to Malays (9%).

Table 3.10.4 Phone or Tablet App Utilisation for Health Reasons by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Phone or Tablet App Utilisation for Health Reasons in past 1 month (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	6.8	11.2	5.6	0.6	5.9	7.7	6.9	5.8	7.8	5.8

About 7% of older Singaporeans used a phone or tablet app to get more information or help manage a specific ailment(s) or condition(s). The proportion declined with age, was higher among females, and was higher among Chinese and Indians compared to Malays.

Table 3.10.5 Internet Utilisation for High Blood Pressure or Hypertension by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Currently use internet to get more information about or to help manage high blood pressure or hypertension (weighted %)										
n	1729	550	650	529	795	934	1293	242	185	9
Yes	6.6	11.3	5.8	1.5	7.4	5.9	6.6	6.2	6.5	14.0
Likelihood to use internet to get more information about or to help manage high blood pressure or hypertension (weighted %)										
n	1662	489	614	519	739	883	1215	227	172	8
Very likely	0.7	1.0	0.8	0.0	1.0	0.4	0.6	0.0	1.9	0.0
Somewhat likely	3.0	5.5	2.7	0.3	2.9	3.1	2.6	4.2	3.4	24.3
Somewhat unlikely	10.6	17.8	9.5	3.5	11.2	10.0	10.9	8.1	11.8	0.0
Very unlikely	84.6	74.7	85.4	95.1	84.3	84.8	85.0	86.6	77.4	75.7

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Only about 7% of older Singaporeans diagnosed with hypertension currently use the internet to get more information or to help manage their condition. The proportion declined with age, was higher among males compared to females, and was comparable among the three major ethnicities. Among older Singaporeans diagnosed with hypertension but not currently using the internet to get more information or to help them manage their condition, the proportion which reported that they were very unlikely to do so increased with age and was comparable between genders.

Table 3.10.6 App Utilisation for High Blood Pressure or Hypertension by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
In the last 1 month, used an app on a phone or tablet to get more information about or to help manage blood pressure or hypertension (weighted %)										
n	1729	550	650	529	795	934	1293	242	185	9
Yes	4.4	7.6	4.1	0.6	4.6	4.2	4.2	5.4	5.7	0.0
Recorded blood pressure values or readings in the app (weighted %)										
n	73	42	26	5	37	36	49	13	11	0
Yes	10.9	7.1	16.5	13.2	15.1	6.8	6.3	30.7	24.5	0.0
In the next 1 month, likelihood to use an app to get more information about or to help manage high blood pressure or hypertension (weighted %)										
n	1656	508	624	524	758	898	1244	229	174	9
Very likely	0.4	0.6	0.5	0.0	0.6	0.2	0.4	0.0	0.6	0.0
Somewhat likely	2.5	4.1	2.9	0.1	2.3	2.8	2.4	3.3	3.1	5.2
Somewhat unlikely	11.9	19.6	10.4	4.6	12.7	11.1	12.0	9.8	11.5	23.9
Very unlikely	84.3	74.3	85.5	94.8	83.6	84.9	84.4	86.5	81.7	71.1

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

About 4% of older Singaporeans diagnosed with hypertension used a phone or tablet app to get more information about or to help manage their condition in the past 1 month. This proportion declined with age. Among those who had used an app to help manage their condition, only about 11% had used the app to record their blood pressure values. The majority (96%) of those who had not used an app to get more information or help them manage their high blood pressure or hypertension were either somewhat unlikely or very unlikely to do so in the next 1 month.

Table 3.10.7 Internet Use for High Blood Sugar or Diabetes by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Currently use internet to get more information about or to help manage high blood sugar or diabetes (weighted %)										
n	809	289	292	228	383	426	527	138	139	5
Yes	7.8	11.1	8.0	2.1	9.3	6.4	8.1	6.8	7.7	0.0
Likelihood to use internet to get more information about or to help manage (weighted %)										
n	751	256	272	223	350	401	489	129	128	5
Very likely	0.5	0.7	0.5	0.2	0.7	0.3	0.5	1.1	0.0	0.0
Somewhat likely	3.4	7.5	1.4	0.8	4.9	2.1	3.6	2.7	2.4	12.5
Somewhat unlikely	11.9	17.9	10.8	5.0	12.1	11.8	12.4	7.7	14.8	0.0
Very unlikely	83.2	73.0	86.1	93.5	82.2	84.1	82.9	86.6	80.4	87.5

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

About 8% of older Singaporeans diagnosed with diabetes currently used the internet to get more information or help them manage their condition. This proportion declined sharply with age. Among older Singaporeans diagnosed with diabetes but not using the internet to get more information or to help them manage their condition, the proportion who reported that they were very unlikely to do so increased with age and was comparable between genders.

Table 3.10.8 App Utilisation for High Blood Sugar or Diabetes by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
In the last 1 month, used an app on a phone or tablet to get more information about or to help manage blood sugar or diabetes (weighted %)										
N	809	289	292	228	383	426	527	138	139	5
Yes	3.9	5.9	4.3	0.0	4.6	3.2	4.3	2.7	3.1	0.0
Recorded blood sugar values or readings in the app (weighted %)										
N	28	17	11	0	16	12	20	4	4	0
Yes	20.7	17.3	25.0	0.0	23.1	17.5	19.5	50.4	0.0	0.0
In the next 1 month, likelihood to use an app to get more information about or to help manage high blood sugar or diabetes (weighted %)										
N	781	272	281	228	367	414	507	134	135	5
Very likely	0.9	1.6	0.9	0.0	1.5	0.5	0.9	0.8	1.6	0.0
Somewhat likely	3.3	6.0	2.5	0.2	4.2	2.4	3.4	2.6	3.6	0.0
Somewhat unlikely	12.1	18.7	10.5	4.8	11.3	12.8	12.9	7.2	13.6	0.0
Very unlikely	83.2	73.3	85.5	94.7	83.0	83.4	82.4	89.0	80.5	100.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Almost 4% of older Singaporeans diagnosed with diabetes used a phone or tablet app to get more information about or to help manage their condition in the past 1 month; this proportion declined with age and was slightly higher in males (5%) compared to females (3%). Among those who did use an app to help them manage their condition, one-fifth (21%) used it to record blood sugar values. The majority (95%) of older Singaporeans diagnosed with diabetes who did not use an app in the past 1 month to get information or help them manage their condition were either somewhat unlikely or very unlikely to do so in the next 1 month.

Table 3.10.9 App Utilisation for Prescription Medication by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
In the last 1 month, used an app to remind when the take prescription medication (weighted %)										
n	2243	756	844	643	1042	1201	1674	306	248	15
Yes	0.5	0.7	0.4	0.3	0.3	0.7	0.5	0.6	0.0	0.0
In the next 1 month, likelihood to use an app to remind when the take prescription medication (weighted %)										
n	2232	751	840	641	1039	1193	1665	304	248	15
Very likely	0.3	0.7	0.1	0.0	0.3	0.3	0.3	0.5	0.8	0.0
Somewhat likely	1.7	2.8	1.8	0.1	1.9	1.6	1.6	2.1	3.5	0.0
Somewhat unlikely	11.6	16.4	10.5	6.2	10.9	12.3	12.2	9.0	11.1	0.0
Very unlikely	85.2	79.2	86.3	92.4	86.0	84.4	84.9	88.0	81.5	100.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Less than 1% of older Singaporeans who took prescription medications had used an app to remind them to take their prescription medications in the past 1 month. Among those who did not use an app to help them take their prescription medications, about 2% reported that they were very or somewhat likely to use an app in the next 1 month to remind them to take their prescription medications.

Chapter 4. Longitudinal Findings

(THE SIGNS Study-I to THE SIGNS Study-II)

This chapter summarises the key findings from the comparison between wave 1 (2016-2017) and wave 2 (2019) of THE SIGNS Study, overall and by age cohort, gender, and ethnicity.

4.1. Physical and Functional health

Table 4.1.1 Change in Self-Rated Health between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Self-rated health (1-5)[a]		Mean		Difference[c]	SE	Remark
Overall	2875	2.75	2.85	0.09***	0.02	Wave 2 < 1
Age (years) at wave 1						
60-69	1395	2.86	2.99	0.14***	0.02	Wave 2 > 1
70-79	942	2.68	2.79	0.10**	0.03	Wave 2 > 1
80 & above	538	2.61	2.57	-0.03	0.05	Wave 2 = 1
Gender						
Male	1341	2.74	2.92	0.18***	0.03	Wave 2 > 1
Female	1534	2.77	2.78	0.02	0.03	Wave 2 = 1
Ethnicity						
Chinese	2173	2.74	2.84	0.10***	0.02	Wave 2 > 1
Malay	396	2.77	2.82	0.05	0.05	Wave 2 = 1
Indian	284	2.81	2.89	0.08	0.05	Wave 2 = 1
Others	22	2.95	3.18	0.23	0.17	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a.   Self-rated health was measured by a single question "In general, would you describe your state of health as excellent, very good, good, fair or poor? We assign 1 to "poor," 2 to "fair," 3 to "good," 4 to "very good," and 5 to "excellent," so that a higher score indicates better self-rated health.

b.   T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.

c.   Difference is calculated by subtracting wave 1 mean from wave 2 mean.

Older Singaporeans who participated in both waves of THE SIGNS Study, in 2016-2017 (wave 1) and in 2019 (wave 2), generally assessed their health as "fair" or "good" at both waves. However, they reported better health in wave 2, compared to wave 1. Specifically, those aged 60-69 years and 70-79 years at wave 1 reported better health in wave 2 than in wave 1, while no change was observed among the oldest age group (80 years and above). Males also reported better health in wave 2 than in wave 1, while there was no change among females. The Chinese reported their health to be better in wave 2, compared to wave 1, while self-rated health remained unchanged for all other ethnic groups.

Table 4.1.2 Change in Number of Chronic Diseases between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Number of chronic diseases[a]		Mean		**Difference[c]**	**SE**	**Remark**
Overall	2885	2.14	2.41	0.27***	0.02	Wave 2 > 1
Age (years) at wave 1						
60-69	1399	1.85	2.08	0.23***	0.03	Wave 2 > 1
70-79	946	2.32	2.62	0.30***	0.04	Wave 2 > 1
80 & above	540	2.58	2.92	0.34***	0.06	Wave 2 > 1
Gender						
Male	1345	2.10	2.28	0.18***	0.04	Wave 2 > 1
Female	1540	2.18	2.53	0.36***	0.03	Wave 2 > 1
Ethnicity						
Chinese	2178	2.07	2.31	0.25***	0.03	Wave 2 > 1
Malay	398	2.15	2.51	0.35***	0.06	Wave 2 > 1
Indian	287	2.71	3.08	0.37***	0.09	Wave 2 > 1
Others	22	1.68	2.00	0.32	0.21	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. The number of chronic diseases was tabulated based on older Singaporeans' self-reporting if they have 'ever been diagnosed' of a condition/disease by a health professional, using a list of common conditions/diseases as a guide.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

The mean number of chronic diseases reported by older Singaporeans increased from 2.14 in wave 1 to 2.41 in wave 2. All age groups, both genders and all ethnic groups reported a higher number of chronic diseases in wave 2 compared to wave 1.

Table 4.1.3 Change in Number of Activity of Daily Living (ADL) Difficulties between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Number of ADL difficulties[a]		Mean		Difference[c]	SE	Remark
Overall	2885	0.22	0.36	0.14***	0.02	Wave 2 > 1
Age (years) at wave 1						
60-69	1399	0.08	0.10	0.02	0.01	Wave 2 = 1
70-79	946	0.18	0.32	0.13***	0.03	Wave 2 > 1
80 & above	540	0.64	1.09	0.45***	0.07	Wave 2 > 1
Gender						
Male	1345	0.13	0.23	0.10***	0.02	Wave 2 > 1
Female	1540	0.30	0.47	0.17***	0.03	Wave 2 > 1
Ethnicity						
Chinese	2178	0.20	0.33	0.12***	0.02	Wave 2 > 1
Malay	398	0.30	0.50	0.21***	0.06	Wave 2 > 1
Indian	287	0.24	0.40	0.16**	0.06	Wave 2 > 1
Others	22	0.27	0.45	0.18	0.23	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Considered ADLs included "Take a bath/shower", "Dress up", "Eat", "Stand up from a bed/chair; sitting down on a chair", "Walk (around the house)" and "Use the sitting toilet".
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

The mean number of ADL difficulties reported by older Singaporeans increased from 0.22 in wave 1 to 0.36 in wave 2. Those aged 70-79 years and 80 years and above reported a higher number of ADL difficulties in wave 2 compared to wave 1, while no change was observed for those aged 60-69 years. Both genders reported more ADL difficulties over time, with females experiencing a greater increase. The Chinese, Malays and Indians reported a higher number of ADL difficulties in wave 2 compared to wave 1.

Table 4.1.4 Change in Number of Instrumental Activity of Daily Living (IADL) Difficulties between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Number of IADL difficulties[a]		Mean		Difference[c]	SE	Remark
Overall	2885	0.41	0.53	0.12***	0.02	Wave 2 > 1
Age (years) at wave 1						
60-69	1399	0.12	0.15	0.03	0.02	Wave 2 = 1
70-79	946	0.38	0.49	0.10*	0.04	Wave 2 > 1
80 & above	540	1.23	1.61	0.39***	0.09	Wave 2 > 1
Gender						
Male	1345	0.25	0.26	0.01	0.03	Wave 2 = 1
Female	1540	0.56	0.77	0.21***	0.04	Wave 2 > 1
Ethnicity						
Chinese	2178	0.38	0.49	0.11***	0.02	Wave 2 > 1
Malay	398	0.59	0.81	0.23**	0.07	Wave 2 > 1
Indian	287	0.46	0.52	0.06	0.09	Wave 2 = 1
Others	22	0.32	0.55	0.23	0.21	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Considered IADLs included "Prepare own meals", "Leave the home to purchase necessary items or medication", "Take care of financial matters e.g. paying utilities (electricity, water)", "Use the phone", "Dust, clean-up and other light housework", Take public transport to leave home" and "Take medication as prescribed".
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

The mean number of IADL difficulties reported by older Singaporeans increased from 0.41 in wave 1 to 0.53 in wave 2. Those aged 70-79 years and 80 years and above reported a higher number of IADL difficulties in wave 2 compared to wave 1, while those aged 60-69 years did not show any change. Females reported more IADL difficulties in wave 2 than in wave 1, while no change was observed for males. Both the Chinese and Malays reported a higher number of IADL difficulties, but no change was seen for the Indians.

Table 4.1.5 Change in Body Mass Index (BMI) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Body Mass Index (BMI)[a]		Mean		Difference[c]	SE	Remark
Overall	2432	24.60	24.28	-0.32***	0.05	Wave 2 < 1
Age (years) at wave 1						
60-69	1242	25.11	24.89	-0.21***	0.06	Wave 2 < 1
70-79	809	24.31	23.85	-0.45***	0.10	Wave 2 < 1
80 & above	381	23.59	23.19	-0.40**	0.13	Wave 2 < 1
Gender						
Male	1064	24.19	23.85	-0.35***	0.06	Wave 2 < 1
Female	1368	24.92	24.61	-0.30***	0.08	Wave 2 < 1
Ethnicity						
Chinese	1850	23.94	23.71	-0.23***	0.05	Wave 2 < 1
Malay	321	26.76	25.95	-0.80**	0.24	Wave 2 < 1
Indian	242	26.71	26.43	-0.27*	0.12	Wave 2 < 1
Others	19	25.46	24.24	-1.22*	0.44	Wave 2 < 1

$* p < .05, ** p < .01, *** p < .001$ (two-tailed tests)

a.   BMI (weight in kilograms divided by height in meters squared) was calculated using measured weight and height of the survey participants.

b.   T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.

c.   Difference is calculated by subtracting wave 1 mean from wave 2 mean.

The average BMI of older Singaporeans decreased from 24.60 in wave 1 to 24.28 in wave 2. All age groups reported a lower BMI in wave 2 compared to wave 1. Both genders also reported a lower BMI, with males experiencing a larger decrease in BMI than females. All ethnic groups reported a decrease in BMI.

Table 4.1.6 Change in Systolic Blood Pressure between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Systolic Blood Pressure[a]		Mean		**Difference**[c]	**SE**	**Remark**
Overall	2767	138.74	135.41	-3.33***	0.38	Wave 2 < 1
Age (years) at wave 1						
60-69	1379	136.54	133.21	-3.33***	0.50	Wave 2 < 1
70-79	906	139.76	136.35	-3.41***	0.69	Wave 2 < 1
80 & above	482	143.14	139.96	-3.18**	1.07	Wave 2 < 1
Gender						
Male	1287	139.84	136.35	-3.49***	0.56	Wave 2 < 1
Female	1480	137.79	134.59	-3.20***	0.53	Wave 2 < 1
Ethnicity						
Chinese	2084	138.66	135.32	-3.34***	0.43	Wave 2 < 1
Malay	383	140.83	136.32	-4.51***	1.07	Wave 2 < 1
Indian	278	136.91	134.74	-2.17	1.29	Wave 2 = 1
Others	22	133.55	136.52	2.98	5.31	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Systolic blood pressure was calculated based on the mean of last two of three readings.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

On average, the systolic blood pressure values of older Singaporeans decreased from 138.74 in wave 1 to 135.41 in wave 2. All age groups and both genders reported lower systolic blood pressure values in wave 2, compared to wave 1. Both the Chinese and Malays reported lower systolic blood pressure values, while the Indians did not show any change.

Table 4.1.7 Change in Diastolic Blood Pressure between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Diastolic Blood pressure[a]		Mean		Difference[c]	SE	Remark
Overall	2767	74.85	72.69	-2.16***	0.20	Wave 2 < 1
Age (years) at wave 1						
60-69	1379	77.17	74.98	-2.19***	0.28	Wave 2 < 1
70-79	906	73.52	71.15	-2.37***	0.36	Wave 2 < 1
80 & above	482	70.72	69.04	-1.68**	0.53	Wave 2 < 1
Gender						
Male	1287	75.69	73.42	-2.26***	0.30	Wave 2 < 1
Female	1480	74.13	72.06	-2.07***	0.28	Wave 2 < 1
Ethnicity						
Chinese	2084	74.66	72.29	-2.37***	0.23	Wave 2 < 1
Malay	383	76.09	74.63	-1.46*	0.58	Wave 2 < 1
Indian	278	74.40	72.77	-1.63*	0.73	Wave 2 < 1
Others	22	77.45	75.80	-1.66	2.36	Wave 2 = 1

* p < .05, ** p < .01, *** p < .001 (two-tailed tests)

a. Diastolic blood pressure was calculated based on the mean of last two of three readings.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

On average, the diastolic blood pressure values of older Singaporeans decreased from 74.85 in wave 1 to 72.69 in wave 2. All age groups and both genders reported lower diastolic blood pressure values in wave 2, compared to wave 1. The Chinese, Malays and Indians reported lower systolic blood pressure values in wave 2 than in wave 1.

Table 4.1.8 Change in Hand Grip Strength between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Hand grip strength[a]		Mean		Difference[c]	SE	Remark
Overall	2638	21.14	20.44	-0.70***	0.08	Wave 2 < 1
Age (years) at wave 1						
60-69	1330	23.09	22.62	-0.48***	0.12	Wave 2 < 1
70-79	865	20.38	19.56	-0.82***	0.13	Wave 2 < 1
80 & above	443	16.74	15.63	-1.11***	0.18	Wave 2 < 1
Gender						
Male	1242	26.77	25.23	-1.55***	0.13	Wave 2 < 1
Female	1396	16.12	16.18	0.06	0.09	Wave 2 = 1
Ethnicity						
Chinese	1994	21.47	20.86	-0.61***	0.09	Wave 2 < 1
Malay	365	20.09	19.21	-0.88***	0.22	Wave 2 < 1
Indian	257	19.87	18.90	-0.97***	0.27	Wave 2 < 1
Others	22	22.61	20.59	-2.02	1.06	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Hand grip strength was calculated based on the mean value for dominant hand from two measurements.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

On average, the hand grip strength of older Singaporeans decreased from 21.14 in wave 1 to 20.44 in wave 2. All ages showed a lower hand grip strength in wave 2, compared to wave 1, with the decrease being larger for the older age groups. Males experienced a decrease in their hand grip strength from wave 1 to wave 2, but females did not. The Chinese, Malays and Indians had a lower hand grip strength in wave 2 than in wave 1.

4.2. Psychological Health

Table 4.2.1 Change in Depressive Symptoms between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Depressive symptoms (Center of Epidemiologic Studies Depression (CES-D) Score[a])		Mean		Difference[c]	SE	Remark
Overall	1303	2.88	2.77	-0.12	0.09	Wave 2 = 1
Age (years) at wave 1						
60-69	679	2.79	2.64	-0.14	0.12	Wave 2 = 1
70-79	442	2.97	2.75	-0.22	0.15	Wave 2 = 1
80 & above	182	3.03	3.25	0.23	0.25	Wave 2 = 1
Gender						
Male	616	2.86	2.62	-0.24	0.13	Wave 2 = 1
Female	687	2.90	2.89	-0.01	0.12	Wave 2 = 1
Ethnicity						
Chinese	988	2.81	2.59	-0.22*	0.10	Wave 2 < 1
Malay	178	2.77	2.90	0.13	0.26	Wave 2 = 1
Indian	127	3.46	3.97	0.51	0.33	Wave 2 = 1
Others	10	5.00	2.90	-2.10	1.56	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. A higher score indicates a higher level of depressive symptoms.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

Overall, the mean CES-D scores of older Singaporeans remained unchanged from wave 1 to wave 2. Across all age groups and both genders, CES-D scores remained the same between waves. All ethnic groups, except the Chinese, had similar CES-D scores between both waves. The Chinese reported lower CES-D scores in wave 2, compared to wave 1.

Table 4.2.2 Change in Personal Mastery between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Personal mastery (Pearlin Mastery Scale Score[a])		**Mean**		**Difference[c]**	**SE**	**Remark**
Overall	1266	9.28	8.81	-0.47***	0.07	Wave 2 < 1
Age (years) at wave 1						
60-69	668	9.40	8.90	-0.50***	0.10	Wave 2 < 1
70-79	429	9.19	8.76	-0.43***	0.13	Wave 2 < 1
80 & above	169	9.05	8.58	-0.47*	0.19	Wave 2 < 1
Gender						
Male	608	9.31	8.60	-0.71***	0.10	Wave 2 < 1
Female	658	9.25	9.00	-0.25*	0.10	Wave 2 < 1
Ethnicity						
Chinese	960	9.31	8.95	-0.36***	0.08	Wave 2 < 1
Malay	173	9.33	8.52	-0.81***	0.19	Wave 2 < 1
Indian	123	9.01	8.08	-0.92***	0.25	Wave 2 < 1
Others	10	8.70	9.20	0.50	0.92	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. A higher score indicates greater personal mastery.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

Overall, the mean personal mastery scores of older Singaporeans decreased from 9.28 in wave 1 to 8.81 in wave 2. All age groups showed a lower personal mastery score in wave 2 than in wave 1. For both genders, their personal mastery scores decreased from wave 1 to 2. The Chinese, Malays and Indians had lower personal mastery scores in wave 2 than in wave 1.

Table 4.2.3 Change in Quality of Life between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Quality of life (Control, Autonomy, Self-realization and Pleasure Scale (CASP) Score[a])		Mean		Difference[c]	SE	Remark
Overall	2578	27.31	28.02	0.71***	0.13	Wave 2 > 1
Age (years) at wave 1						
60-69	1369	28.05	28.86	0.81***	0.17	Wave 2 > 1
70-79	864	26.91	27.49	0.58**	0.22	Wave 2 > 1
80 & above	345	25.34	26.02	0.68	0.41	Wave 2 = 1
Gender						
Male	1253	25.81	28.10	2.29***	0.18	Wave 2 > 1
Female	1325	28.72	27.94	-0.78***	0.17	Wave 2 < 1
Ethnicity						
Chinese	1972	27.33	28.10	0.77***	0.15	Wave 2 > 1
Malay	334	27.28	27.71	0.43	0.34	Wave 2 = 1
Indian	251	27.00	27.75	0.75	0.42	Wave 2 = 1
Others	21	29.55	28.48	-1.08	0.97	Wave 2 = 1

* p < .05, ** p < .01, *** p < .001 (two-tailed tests)

a. A higher score indicates a higher quality of life.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

Overall, the mean quality of life score, represented by the CASP score, of older Singaporeans increased from 27.31 in wave 1 to 28.02 in wave 2. Those in age groups 60-69 years and 70-79 years reported a higher quality of life score in wave 2 than in wave 1, while no change was observed for those aged 80 years and above. Males reported an increase in quality of life score, while females reported a decrease, from wave 1 to 2. All ethnic groups, except the Chinese, did not show any change in their quality of life scores. The Chinese reported higher quality of life scores in wave 2, compared to wave 1.

Table 4.2.4 Change in Cognitive Status between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Cognitive status (Abbreviated Mental Test (AMT) Score[a])		Mean		Difference[c]	SE	Remark
Overall	2669	9.31	9.27	-0.04	0.02	Wave 2 = 1
Age (years) at wave 1						
60-69	1379	9.62	9.63	0.01	0.02	Wave 2 = 1
70-79	889	9.28	9.21	-0.07	0.04	Wave 2 = 1
80 & above	401	8.29	8.15	-0.14	0.08	Wave 2 = 1
Gender						
Male	1269	9.68	9.50	-0.18***	0.03	Wave 2 < 1
Female	1400	8.97	9.06	0.09**	0.03	Wave 2 > 1
Ethnicity						
Chinese	2037	9.34	9.32	-0.02	0.02	Wave 2 = 1
Malay	348	9.25	9.09	-0.16*	0.07	Wave 2 < 1
Indian	263	9.10	9.11	0.01	0.08	Wave 2 = 1
Others	21	9.76	9.38	-0.38	0.19	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. A higher score indicates better cognition.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

Overall, the mean AMT score of older Singaporeans did not show any change between waves. The AMT scores of all age groups also remained unchanged between waves 1 and 2. Males had a lower AMT score in wave 2 than in wave 1. By contrast, females had a higher AMT score in wave 2, compared to wave 1. All ethnic groups did not show any change in their AMT scores, except the Malays, who scored lower on the AMT in wave 2, compared to wave 1.

4.3. Health Behaviours

Table 4.3.1 Change in Physical Activity Status between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Physical activity - Meets WHO recommendations[a]		Yes (%)		**Difference[c] (%)**	**SE**	**Remark**
Overall	1422	67.8	65.3	-2.5	0.02	Wave 2 = 1
Age (years) at wave 1						
60-69	700	77.0	74.7	-2.3	0.02	Wave 2 = 1
70-79	459	69.9	64.5	-5.4	0.03	Wave 2 = 1
80 & above	263	39.5	41.8	-2.3	0.04	Wave 2 = 1
Gender						
Male	676	74.7	68.5	-6.2*	0.02	Wave 2 < 1
Female	746	61.5	62.5	-0.9	0.03	Wave 2 = 1
Ethnicity						
Chinese	1084	69.6	68.2	-1.4	0.02	Wave 2 = 1
Malay	190	57.4	52.1	-5.3	0.05	Wave 2 = 1
Indian	136	67.6	61.8	-5.9	0.06	Wave 2 = 1
Others	12	75.0	58.3	-16.7	0.19	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Physical activity was measured using the Global Physical Activity Questionnaire (GPAQ) which asked respondents about the time they spend in a typical week doing vigorous and moderate activities at work and leisure, as well as the time spent during travel and sedentary behaviour. Respondents whose total physical activity Metabolic Equivalent (MET) minutes per week were greater or equal to 600 were classified as meeting the World Health Organisation (WHO) recommendation on physical activity for health.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The overall proportion of older Singaporeans who met the WHO recommendations on physical activity for health remained the same in both waves. While there was a decrease in the proportion of males who met the WHO recommendations on physical activity for health from wave 1 to wave 2, no change was observed for females, all age groups and all ethnic groups.

Table 4.3.2 Change in Prescription Medication Use between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Take prescription medications on a regular basis[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	1442	74.9	76.8	2.0	0.02	Wave 2 = 1
Age (years) at wave 1						
60-69	708	65.5	68.8	3.2	0.02	Wave 2 = 1
70-79	468	83.1	84.4	1.3	0.02	Wave 2 = 1
80 & above	266	85.3	85.0	-0.4	0.03	Wave 2 = 1
Gender						
Male	683	73.8	76.3	2.5	0.02	Wave 2 = 1
Female	759	75.9	77.3	1.4	0.02	Wave 2 = 1
Ethnicity						
Chinese	1098	73.9	76.0	2.1	0.02	Wave 2 = 1
Malay	192	77.1	77.1	0.0	0.04	Wave 2 = 1
Indian	140	82.1	85.0	2.9	0.04	Wave 2 = 1
Others	12	50.0	58.3	8.3	0.2	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Measured by a single question "Do you currently take any prescription medications on a regular basis? By prescription medications, we refer to medicines given by a western doctor such as a General Practitioner (GP), or a polyclinic doctor."
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who reported to be taking prescription medications on a regular basis did not show a change between waves. This proportion remained similar across waves 1 and 2 across all age groups, genders and ethnic groups.

Table 4.3.3 Change in Number of Prescription Medications between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Number of prescription medications[a]		Mean		Difference[c]	SE	Remark
Overall	1432	2.37	2.66	0.29***	0.05	Wave 2 > 1
Age (years) at wave 1						
60-69	703	1.86	2.13	0.27***	0.06	Wave 2 > 1
70-79	465	2.69	3.11	0.42***	0.11	Wave 2 > 1
80 & above	264	3.17	3.30	0.13	0.14	Wave 2 = 1
Gender						
Male	676	2.36	2.72	0.36***	0.08	Wave 2 > 1
Female	756	2.38	2.62	0.23**	0.07	Wave 2 > 1
Ethnicity						
Chinese	1089	2.25	2.51	0.25***	0.06	Wave 2 > 1
Malay	192	2.75	2.87	0.12	0.16	Wave 2 = 1
Indian	139	2.91	3.75	0.83***	0.22	Wave 2 > 1
Others	12	0.92	1.25	0.33	0.28	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Measured by a single question "How many different prescription medications do you take on a regular basis?"
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

The mean number of prescription medications among older Singaporeans increased from 2.37 in wave 1 to 2.66 in wave 2. Those aged 60-69 years and 70-79 years reported having more prescription medications in wave 2 than in wave 1. No change was observed for those aged 80 years and above. Both males and females reported a higher number of prescription medications in wave 2 compared to wave 1. The Chinese and Indians also reported a higher number of prescription medications in wave 2 than in wave 1, while no change was observed for the Malays.

Table 4.3.4 Change in Medication Adherence between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Forgot to take prescription medications at times[a]		Yes (%)		**Difference**[c] **(%)**	**SE**	**Remark**
Overall	996	27.8	22.7	-5.1**	0.02	Wave 2 < 1
Age (years) at wave 1						
60-69	425	29.4	26.4	-3.1*	0.03	Wave 2 < 1
70-79	362	29.3	21.0	-8.3	0.03	Wave 2 = 1
80 & above	209	22.0	18.2	-3.8	0.04	Wave 2 = 1
Gender						
Male	465	32.7	23.4	-9.2**	0.03	Wave 2 < 1
Female	531	23.5	22.0	-1.5	0.03	Wave 2 = 1
Ethnicity						
Chinese	748	27.7	22.3	-5.3*	0.02	Wave 2 < 1
Malay	133	27.8	26.3	-1.5	0.05	Wave 2 = 1
Indian	109	27.5	20.2	-7.3	0.06	Wave 2 = 1
Others	6	50.0	33.3	-16.7	0.19	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Measured by a single question "At times do you forget to take your prescription medications?"
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who forgot to take prescription medications at times decreased from 27.8% in wave 1 to 22.7% wave 2. The proportion of older adults aged 60-69 years who forgot to take prescription medications at times was lower in wave 2 than in wave 1, while no change was observed for those aged 70-79 years and aged 80 years and above. A lower proportion of males reported forgetting to take their prescription medications at times, while females did not show any change. All ethnicities, except the Chinese, did not show any change. Fewer Chinese reported forgetting to take their prescription medications at times in wave 2 than in wave 1.

Table 4.3.5 Change in Healthcare Utilisation (Private General Practitioner) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Private general practitioner in the past 3 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	2852	31.3	27.1	-4.2***	0.01	Wave 2 < 1
Age (years) at wave 1						
60-69	1387	30.6	27.6	-3.0	0.02	Wave 2 = 1
70-79	936	33.5	26.3	-7.3***	0.01	Wave 2 < 1
80 & above	529	29.5	27.2	-2.3	0.03	Wave 2 = 1
Gender						
Male	1337	32.4	24.9	-7.5***	0.02	Wave 2 < 1
Female	1515	30.4	29.0	-1.4	0.02	Wave 2 = 1
Ethnicity						
Chinese	2154	31.0	26.7	-4.3**	0.01	Wave 2 < 1
Malay	394	34.0	28.2	-5.8	0.03	Wave 2 = 1
Indian	283	30.0	27.9	-2.1	0.04	Wave 2 = 1
Others	21	33.3	33.3	0.0	0.15	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Refers to at least 1 visit in the past 3 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who reported having visited a private general practitioner in the past 3 months decreased from 31.3% in wave 1 to 27.1% wave 2. The proportion of older adults aged 70-79 years who reported visiting a private general practitioner decreased from wave 1 to 2, while no change was observed for those aged 60-69 years and aged 80 years and above. A lower proportion of males reported visiting a private general practitioner in wave 2 compared to wave 1, while no change was observed for females. All ethnic groups did not show any change, except the Chinese. Fewer Chinese reported visiting a private general practitioner in wave 2 than in wave 1.

Table 4.3.6 Change in Healthcare Utilisation (Polyclinic Doctor) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Doctor at a Polyclinic in the past 3 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	2855	44.6	47.6	3.0*	0.01	Wave 2 > 1
Age (years) at wave 1						
60-69	1387	40.2	45.0	4.8*	0.02	Wave 2 > 1
70-79	935	47.9	49.6	1.7	0.02	Wave 2 = 1
80 & above	533	50.1	50.7	0.6	0.03	Wave 2 = 1
Gender						
Male	1337	47.1	48.0	0.9	0.02	Wave 2 = 1
Female	1518	42.4	47.2	4.8**	0.02	Wave 2 > 1
Ethnicity						
Chinese	2155	43.9	47.1	3.2*	0.02	Wave 2 > 1
Malay	394	43.9	45.2	1.3	0.04	Wave 2 = 1
Indian	284	50.0	54.9	4.9	0.04	Wave 2 = 1
Others	22	54.5	40.9	-13.6	0.15	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a.　Refers to at least 1 visit in the past 3 months.
b.　Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c.　Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who reported having visited a polyclinic doctor in the past 3 months increased from 44.6% in wave 1 to 47.6% wave 2. The proportion of older adults aged 60-69 years who reported visiting a polyclinic doctor increased from wave 1 to 2, while no change was observed for those aged 70-79 years and aged 80 years and above. A larger proportion of females reported visiting a polyclinic doctor in wave 2 compared to wave 1, while no change was observed for males. All ethnic groups did not show any change, except the Chinese. More Chinese reported visiting a polyclinic doctor in wave 2 than in wave 1.

Table 4.3.7 Change in Healthcare Utilisation (Specialist Outpatient Clinic) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Doctor at specialist outpatient clinic in the past 3 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	2850	24.8	23.3	-1.5	0.01	Wave 2 = 1
Age (years) at wave 1						
60-69	1382	22.8	19.8	-3.0	0.02	Wave 2 = 1
70-79	937	26.0	26.0	0.0	0.02	Wave 2 = 1
80 & above	531	27.9	27.7	-0.2	0.03	Wave 2 = 1
Gender						
Male	1334	26.5	24.3	-2.2	0.02	Wave 2 = 1
Female	1516	23.4	22.5	-0.9	0.02	Wave 2 = 1
Ethnicity						
Chinese	2153	24.5	23.2	-1.3	0.01	Wave 2 = 1
Malay	395	20.0	22.3	2.3	0.03	Wave 2 = 1
Indian	282	33.3	26.2	-7.1	0.04	Wave 2 = 1
Others	20	30.0	20.0	-10.0	0.14	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Refers to at least 1 visit in the past 3 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who reported to have visited a doctor at a specialist outpatient clinic in the past 3 months did not show a change between waves, remaining just below 25%. Across all age groups, genders and ethnic groups, this proportion did not show any change across waves 1 and 2.

Table 4.3.8 Change in Healthcare Utilisation (Private Specialist) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Private specialist in the past 3 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	2848	3.0	2.7	-0.4	0.0	Wave 2 = 1
Age (years) at wave 1						
60-69	1381	3.0	2.5	-0.5	0.01	Wave 2 = 1
70-79	937	3.6	3.1	-0.5	0.01	Wave 2 = 1
80 & above	530	2.1	2.5	0.4	0.01	Wave 2 = 1
Gender						
Male	1334	3.0	2.2	-0.8	0.01	Wave 2 = 1
Female	1514	3.0	3.1	0.0	0.01	Wave 2 = 1
Ethnicity						
Chinese	2150	3.1	2.6	-0.5	0.01	Wave 2 = 1
Malay	394	2.5	2.0	-0.5	0.01	Wave 2 = 1
Indian	283	2.5	4.2	1.8	0.02	Wave 2 = 1
Others	21	14.3	4.8	-9.5	0.09	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Refers to at least 1 visit in the past 3 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who visited a private specialist in the past 3 months did not show a change between waves, and remained very low. Across all age groups, genders and ethnic groups, this proportion did not show any change across waves 1 and 2.

Table 4.3.9 Change in Healthcare Utilisation (Traditional Chinese Medicine (TCM) Practitioner or Traditional Healer) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
TCM practitioner or traditional healer in the past 3 months[a]		**Yes (%)**		**Difference**[c] **(%)**	**SE**	**Remark**
Overall	2853	10.5	10.8	0.3	0.01	Wave 2 = 1
Age (years) at wave 1						
60-69	1383	10.1	12.1	2.0	0.01	Wave 2 = 1
70-79	939	11.7	10.8	-1.0	0.01	Wave 2 = 1
80 & above	531	9.4	7.7	-1.7	0.02	Wave 2 = 1
Gender						
Male	1337	9.2	8.5	-0.7	0.01	Wave 2 = 1
Female	1516	11.7	12.9	1.2	0.01	Wave 2 = 1
Ethnicity						
Chinese	2156	13.2	13.8	0.6	0.01	Wave 2 = 1
Malay	394	1.5	1.5	0.0	0.01	Wave 2 = 1
Indian	283	2.5	1.4	-1.1	0.01	Wave 2 = 1
Others	20	15.0	10.0	-5.0	0.1	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Refers to at least 1 visit in the past 3 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who reported to have visited a TCM practitioner or traditional healer in the past 3 months did not show a change between waves, remaining at around 10%. Across all age groups, genders and ethnic groups, this proportion did not show any change across waves 1 and 2.

Table 4.3.10 Change in Healthcare Utilisation (Hospital Emergency Room) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Hospital emergency room in the past 6 months[a]		Yes (%)		**Difference**[c] **(%)**	**SE**	**Remark**
Overall	2882	8.8	9.8	1.0	0.01	Wave 2 = 1
Age (years) at wave 1						
60-69	1398	7.2	7.9	0.6	0.01	Wave 2 = 1
70-79	945	9.2	10.1	0.8	0.01	Wave 2 = 1
80 & above	539	12.1	14.5	2.4	0.02	Wave 2 = 1
Gender						
Male	1345	8.0	9.3	1.3	0.01	Wave 2 = 1
Female	1537	9.4	10.3	0.8	0.01	Wave 2 = 1
Ethnicity						
Chinese	2175	7.9	9.2	1.3	0.01	Wave 2 = 1
Malay	398	11.3	12.6	1.3	0.02	Wave 2 = 1
Indian	287	12.9	11.1	-1.7	0.03	Wave 2 = 1
Others	22	0.0	4.5	4.5	0.04	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Refers to at least 1 visit in the past 6 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who visited a hospital emergency room in the past 6 months did not show a change between waves, remaining at just below 10%. Across all age groups, genders and ethnic groups, this proportion did not show any change across waves 1 and 2.

Table 4.3.11 Change in Healthcare Utilisation (Nursing Home Admission) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Admitted to nursing home in the past 12 months[a]		**Yes (%)**		**Difference[c] (%)**	**SE**	**Remark**
Overall	2882	0.2	1.7	1.5***	0.0	Wave 2 > 1
Age (years) at wave 1						
60-69	1389	0.1	0.9	0.8**	0.0	Wave 2 > 1
70-79	944	0.4	1.3	1.0*	0.0	Wave 2 > 1
80 & above	540	0.2	4.3	4.1***	0.0	Wave 2 > 1
Gender						
Male	1345	0.4	1.3	0.8*	0.0	Wave 2 > 1
Female	1537	0.0	2.1	2.0***	0.0	Wave 2 > 1
Ethnicity						
Chinese	2176	0.3	1.8	1.5***	0.0	Wave 2 > 1
Malay	398	0.0	1.0	1.0*	0.0	Wave 2 > 1
Indian	286	0.0	1.7	1.7*	0.01	Wave 2 > 1
Others	22	0.0	0.0	0.0	0.0	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Refers to at least 1 admission in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who were admitted to a nursing home in the past 12 months increased from 0.2% in wave 1 to 1.7% wave 2. Across all ages, the proportion of older adults who were admitted to a nursing home increased from wave 1 to 2. Both genders also reported higher nursing home admission in wave 2 compared to wave 1. The Chinese, Malays and Indians reported higher nursing home admissions in wave 2 than in wave 1.

Table 4.3.12 Change in Healthcare Utilisation (Public or Private Hospital Admission) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Admitted to public or private hospital in the past 12 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	2840	12.2	16.0	3.8***	0.01	Wave 2 > 1
Age (years) at wave 1						
60-69	1374	8.1	11.6	3.5**	0.01	Wave 2 > 1
70-79	933	14.3	17.6	3.3*	0.02	Wave 2 > 1
80 & above	533	19.1	24.8	5.6*	0.03	Wave 2 > 1
Gender						
Male	1332	14.0	16.6	2.6	0.01	Wave 2 = 1
Female	1508	10.6	15.5	4.9***	0.01	Wave 2 > 1
Ethnicity						
Chinese	2150	10.8	15.0	4.2***	0.01	Wave 2 > 1
Malay	392	15.8	19.6	3.8	0.03	Wave 2 = 1
Indian	276	18.1	18.5	0.4	0.03	Wave 2 = 1
Others	22	9.1	22.7	13.6	0.1	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Refers to at least 1 admission in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who were admitted to a public or private hospital in the past 12 months increased from 12.2% in wave 1 to 16.0% wave 2. Across all ages, the proportion of older adults who were admitted to a hospital increased from wave 1 to 2. Females reported higher hospital admission in wave 2 compared to wave 1, while no change was observed for males. The Chinese reported a higher hospital admission in wave 2 than in wave 1.

4.4. Social Engagement

Table 4.4.1 Change in Living Alone between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Living alone[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	2882	7.6	9.5	2.0**	0.01	Wave 2 > 1
Age (years) at wave 1						
60-69	1399	5.6	7.8	2.1*	0.01	Wave 2 > 1
70-79	944	9.9	12.4	2.5	0.01	Wave 2 = 1
80 & above	539	8.5	9.1	0.6	0.02	Wave 2 = 1
Gender						
Male	1342	5.6	6.9	1.3	0.01	Wave 2 = 1
Female	1540	9.3	11.9	2.6*	0.01	Wave 2 > 1
Ethnicity						
Chinese	2175	8.4	10.1	1.7	0.01	Wave 2 = 1
Malay	398	4.5	6.8	2.3	0.02	Wave 2 = 1
Indian	287	5.6	9.1	3.5	0.02	Wave 2 = 1
Others	22	4.5	13.6	9.1	0.09	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Living alone excludes those who live with a foreign domestic worker.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who lived alone increased from 7.6% in wave 1 to 9.5% wave 2. This proportion increased from wave 1 to 2 for those aged 60-69 years, while no change was observed for those aged 70-79 years and aged 80 years and above. A higher proportion of females reported living alone in wave 2 compared to wave 1, while no change was observed for males. All ethnic groups did not show any change in this proportion between waves 1 and 2.

Table 4.4.2 Change in Living Alone or Only with a Foreign Domestic Worker between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Living alone or only with a foreign domestic worker [a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	2882	8.8	11.3	2.5**	0.01	Wave 2 > 1
Age (years) at wave 1						
60-69	1399	5.8	8.1	2.3*	0.01	Wave 2 > 1
70-79	944	11.3	14.1	2.8	0.02	Wave 2 = 1
80 & above	539	12.2	15.0	2.8	0.02	Wave 2 = 1
Gender						
Male	1342	6.3	8.0	1.7	0.01	Wave 2 = 1
Female	1540	11.0	14.3	3.2**	0.01	Wave 2 > 1
Ethnicity						
Chinese	2175	9.5	11.6	2.2*	0.01	Wave 2 > 1
Malay	398	6.3	9.5	3.3	0.02	Wave 2 = 1
Indian	287	7.0	10.8	3.8	0.02	Wave 2 = 1
Others	22	13.6	22.7	9.1	0.12	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Living alone includes those who live alone only or with a foreign domestic worker.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who lived alone or only with a foreign domestic worker increased from 8.8% in wave 1 to 11.3% wave 2. This proportion increased from wave 1 to 2 for those aged 60-69 years, while no change was observed for those aged 70-79 years and aged 80 years and above. A higher proportion of females reported living alone or only with a foreign domestic worker in wave 2 compared to wave 1, while no change was observed for males. All ethnic groups, except the Chinese, did not show any change in this proportion between waves 1 and 2.

Table 4.4.3 Change in Loneliness between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Loneliness (the Three-item loneliness scale score[a])		**Mean**		**Difference[c]**	**SE**	**Remark**
Overall	1294	1.17	1.11	-0.05	0.07	Wave 2 = 1
Age (years) at wave 1						
60-69	677	1.11	1.07	-0.04	0.10	Wave 2 = 1
70-79	434	1.13	1.12	-0.01	0.12	Wave 2 = 1
80 & above	183	1.45	1.23	-0.22	0.21	Wave 2 = 1
Gender						
Male	610	1.17	0.97	-0.19	0.10	Wave 2 = 1
Female	684	1.17	1.24	0.07	0.10	Wave 2 = 1
Ethnicity						
Chinese	982	1.09	0.95	-0.14	0.08	Wave 2 = 1
Malay	176	1.43	1.35	-0.08	0.23	Wave 2 = 1
Indian	126	1.37	1.98	0.61*	0.24	Wave 2 > 1
Others	10	1.10	1.50	0.40	0.67	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. A higher score indicates a greater extent of loneliness.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

The mean score on the Three-item loneliness scale did not change between waves 1 and 2. Across all ages and genders, no change in the mean scores was observed. Among all the ethnicities, only the Indians showed a higher mean loneliness score in wave 2 than in wave 1, while the rest did not show any change.

Table 4.4.4 Change in the Extent of Loneliness between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Loneliness (the Three-item loneliness scale score ≥1[a])		Yes (%)		**Difference[c] (%)**	**SE**	**Remark**
Overall	1294	33.9	30.8	-3.2	0.02	Wave 2 = 1
Age (years) at wave 1						
60-69	677	32.2	30.4	-1.8	0.03	Wave 2 = 1
70-79	434	32.9	30.9	-2.1	0.03	Wave 2 = 1
80 & above	183	42.6	31.7	-10.9*	0.05	Wave 2 < 1
Gender						
Male	610	34.9	28.4	-6.6*	0.03	Wave 2 < 1
Female	684	33.0	32.9	-0.1	0.03	Wave 2 = 1
Ethnicity						
Chinese	982	32.7	26.6	-6.1**	0.02	Wave 2 < 1
Malay	176	37.5	42.6	5.1	0.05	Wave 2 = 1
Indian	126	38.1	46.0	7.9	0.06	Wave 2 = 1
Others	10	40.0	40.0	0.0	0.2	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. A score of ≥1 indicates some extent of loneliness, while a score of 0 indicates no loneliness.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who reported some extent of loneliness (score of ≥1 on the Three-item loneliness scale) did not change between waves 1 and 2. This proportion decreased from wave 1 to 2 for those aged 80 years and above, while no change was observed for those aged 60-69 years and aged 70-79 years. A lower proportion of males reported some extent of loneliness, while no change was seen for females between waves 1 and 2. Among all the ethnicities, only a lower proportion of Chinese reported experiencing some extent of loneliness, while no change was observed for the rest.

Table 4.4.5 Change in Social Network between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Social network (Lubben Social Network Scale Revised (LSNS-R) Score[a])		**Mean**		**Difference[c]**	**SE**	**Remark**
Overall	2572	27.34	26.97	-0.37	0.22	Wave 2 = 1
Age (years) at wave 1						
60-69	1359	28.05	28.04	-0.01	0.30	Wave 2 = 1
70-79	860	27.49	26.66	-0.82*	0.38	Wave 2 < 1
80 & above	353	24.26	23.62	-0.64	0.60	Wave 2 = 1
Gender						
Male	1238	27.58	27.27	-0.31	0.33	Wave 2 = 1
Female	1334	27.12	26.70	-0.42	0.29	Wave 2 = 1
Ethnicity						
Chinese	1968	26.96	26.48	-0.48	0.25	Wave 2 = 1
Malay	334	29.00	28.69	-0.31	0.61	Wave 2 = 1
Indian	249	27.87	28.54	0.67	0.76	Wave 2 = 1
Others	21	30.67	27.48	-3.19	1.84	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. A lower score indicates a higher risk of social isolation.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

The mean social network score did not show a change between waves 1 and 2. Older adults aged 70-79 years reported lower LSNS-R scores in wave 2 than in wave 1, while no change was observed for those aged 60-69 years and those aged 80 years and above. Both genders and all ethnicities did not show any change in their social network scores across waves 1 and 2.

Table 4.4.6 Change in Attendance of Social Activities (Attend Residents' Committee (RC) / Neighbourhood Committee (NC) / Community Club (CC) / Community Development Council (CDC) / Neighbourhood Event) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Attend Residents' Committee (RC) / Neighbourhood Committee (NC) / Community Club (CC) / Community Development Council (CDC) / Neighbourhood event[a]		Mean		Difference[c]	SE	Remark
Overall	1434	0.34	0.43	0.09***	0.02	Wave 2 > 1
Age (years) at wave 1						
60-69	688	0.33	0.46	0.13***	0.03	Wave 2 > 1
70-79	472	0.38	0.49	0.11*	0.04	Wave 2 > 1
80 & above	274	0.29	0.27	-0.03	0.05	Wave 2 = 1
Gender						
Male	659	0.25	0.31	0.06	0.03	Wave 2 = 1
Female	775	0.42	0.53	0.12***	0.03	Wave 2 > 1
Ethnicity						
Chinese	1072	0.36	0.46	0.09***	0.03	Wave 2 > 1
Malay	206	0.26	0.25	-0.01	0.06	Wave 2 = 1
Indian	146	0.25	0.46	0.21*	0.08	Wave 2 > 1
Others	10	0.60	0.80	0.20	0.49	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Measured by a single question "How often do you do attend Residents' Committee (RC) / Neighbourhood Committee (NC) / Community Club (CC) / Community Development Council (CDC) / Neighbourhood event?" We assign 0 to "Not at all", 1 to "Less than once a month", 2 to "Every month", 3 to "Every week", 4 to "Every day", so that a higher score indicates a higher frequency of attendance.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

Older Singaporeans reported higher attendance of social activities (RC, NC, CC, CDC, Neighbourhood event) in wave 2 than in wave 1. Those aged 60-69 years and 70-79 years attended social activities more frequently in wave 2 compared to wave 1, while those aged 80 years and above reported no change. Females reported higher attendance of social activities in wave 2 than in wave 1, while males did not report any change. The Chinese and Indians reported higher attendance of social activities, while the attendance of Malays remained unchanged from wave 1 to wave 2.

Table 4.4.7 Change in Attendance of Social Activities (Attend Senior Activity Centre for Exercise/Activities) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Attend Senior Activity Centre for exercise/activities[a]		Mean		Difference[c]	SE	Remark
Overall	1427	0.35	0.35	0.00	0.03	Wave 2 = 1
Age (years) at wave 1						
60-69	685	0.27	0.27	0.00	0.04	Wave 2 = 1
70-79	469	0.43	0.47	0.04	0.05	Wave 2 = 1
80 & above	273	0.41	0.37	-0.05	0.07	Wave 2 = 1
Gender						
Male	655	0.30	0.27	-0.03	0.04	Wave 2 = 1
Female	772	0.39	0.42	0.04	0.04	Wave 2 = 1
Ethnicity						
Chinese	1068	0.39	0.37	-0.02	0.03	Wave 2 = 1
Malay	203	0.21	0.29	0.08	0.06	Wave 2 = 1
Indian	146	0.27	0.36	0.10	0.09	Wave 2 = 1
Others	10	0.30	0.40	0.10	0.46	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Measured by a single question "How often do you attend Senior Activity Centre for exercise / activities?" We assign 0 to "Not at all", 1 to "Less than once a month", 2 to "Every month", 3 to "Every week", 4 to "Every day", so that a higher score indicates a higher frequency of attendance.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

The mean frequency of attending Senior Activity Centre for exercise/ activities of older Singaporeans remained unchanged from wave 1 to wave 2, overall and across all ages, genders and ethnicities.

Table 4.4.8 Change in Attendance of Social Activities (Go for a Walk for Exercise Purpose) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	T-test (paired)[b]		
Go for a walk for exercise purpose[a]		**Mean**		**Difference**[c]	**SE**	**Remark**
Overall	1435	1.80	2.26	0.46***	0.05	Wave 2 > 1
Age (years) at wave 1						
60-69	688	1.77	2.29	0.53***	0.07	Wave 2 > 1
70-79	473	1.96	2.40	0.44***	0.10	Wave 2 > 1
80 & above	274	1.62	1.94	0.32*	0.13	Wave 2 > 1
Gender						
Male	660	1.86	2.53	0.68***	0.08	Wave 2 > 1
Female	775	1.75	2.03	0.27***	0.07	Wave 2 > 1
Ethnicity						
Chinese	1073	1.82	2.33	0.51***	0.06	Wave 2 > 1
Malay	206	1.59	1.66	0.07	0.13	Wave 2 = 1
Indian	146	1.96	2.58	0.62***	0.17	Wave 2 > 1
Others	10	2.00	2.80	0.80	0.59	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Measured by a single question "How often do you go for a walk for exercise purpose?" We assign 0 to "Not at all", 1 to "Less than once a month", 2 to "Every month", 3 to "Every week", 4 to "Every day", so that a higher score indicates a higher frequency of walking.
b. T-test (paired) makes inference about whether the observed mean difference between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 mean from wave 2 mean.

The mean frequency of older Singaporeans going for a walk for exercise purpose increased from wave 1 to wave 2. All age groups and both genders reported a higher frequency of going for a walk to exercise in wave 2, compared to wave 1. The Chinese and Indian reported going for walks for exercise purpose more frequently in wave 2 than in wave 1, while the Malays reported no change.

4.5. Provision and Receipt of Transfers

Table 4.5.1 Change in Provision of Transfers (Monetary Support) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Provision of monetary support in the past 12 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	1438	26.5	19.1	-7.4***	0.02	Wave 2 < 1
Age (years) at wave 1						
60-69	690	35.8	29.1	-6.7**	0.03	Wave 2 < 1
70-79	474	21.9	11.4	-10.5***	0.02	Wave 2 < 1
80 & above	274	10.9	7.3	-3.6	0.02	Wave 2 = 1
Gender						
Male	661	38.3	27.4	-10.9***	0.03	Wave 2 < 1
Female	777	16.5	12.1	-4.4*	0.02	Wave 2 < 1
Ethnicity						
Chinese	1075	23.9	16.7	-7.2***	0.02	Wave 2 < 1
Malay	206	35.9	24.8	-11.2*	0.04	Wave 2 < 1
Indian	147	32.0	29.3	-2.7	0.05	Wave 2 = 1
Others	10	30.0	10.0	-20.0	0.18	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Provision of transfers to family members (including spouse), relatives, friends or a foreign domestic worker in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who reported providing monetary support decreased from 26.5% in wave 1 to 19.1% wave 2. A lower proportion of older adults aged 60-69 years and 70-79 years reported providing monetary support in wave 2, compared to wave 1, while no change was observed for those aged 80 years and above. A lower proportion of both genders reported providing of monetary support in wave 2 than in wave 1. A lower proportion of Chinese and Malays reported providing monetary support in wave 2 compared to wave 1, while no change was observed for the Indians.

Table 4.5.2 Change in Provision of Transfers (Housework Help) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Provision of housework help in the past 12 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	1440	39.8	42.2	2.4	0.02	Wave 2 = 1
Age (years) at wave 1						
60-69	691	47.2	55.0	7.8**	0.03	Wave 2 > 1
70-79	475	38.7	37.9	-0.8	0.03	Wave 2 = 1
80 & above	274	23.0	17.5	-5.5	0.03	Wave 2 = 1
Gender						
Male	661	49.0	47.4	-1.7	0.03	Wave 2 = 1
Female	779	32.0	37.9	5.9*	0.02	Wave 2 > 1
Ethnicity						
Chinese	1077	39.9	45.8	5.8**	0.02	Wave 2 > 1
Malay	206	41.7	31.1	-10.7*	0.05	Wave 2 < 1
Indian	147	37.4	32.0	-5.4	0.06	Wave 2 = 1
Others	10	20.0	40.0	20.0	0.20	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Provision of transfers to family members (including spouse), relatives, friends or a foreign domestic worker in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The overall proportion of older Singaporeans who reported providing housework help remained unchanged between waves 1 and 2. A higher proportion of older adults aged 60-69 years reported providing housework help in wave 2, compared to wave 1, while no change was observed for those aged 70-79 years and those aged 80 years and above. A higher proportion of females reported providing housework help in wave 2 than in wave 1, while males did not report any change. A higher proportion of Chinese reported providing housework help in wave 2 compared to wave 1. By contrast, fewer Malays reported providing housework help in wave 2 than wave 1. No change was observed for the Indians.

Table 4.5.3 Change in Provision Of Transfers (Material Support) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Provision of material support in the past 12 months[a]		Yes (%)		**Difference[c] (%)**	**SE**	**Remark**
Overall	1440	34.8	35.9	1.1	0.02	Wave 2 = 1
Age (years) at wave 1						
60-69	691	42.0	47.3	5.4*	0.03	Wave 2 > 1
70-79	475	32.0	32.4	0.4	0.03	Wave 2 = 1
80 & above	274	21.5	13.1	-8.4**	0.03	Wave 2 < 1
Gender						
Male	661	43.9	36.0	-7.9**	0.03	Wave 2 < 1
Female	779	27.1	35.8	8.7***	0.02	Wave 2 > 1
Ethnicity						
Chinese	1077	34.4	38.2	3.8	0.02	Wave 2 = 1
Malay	206	35.9	23.8	-12.1**	0.04	Wave 2 < 1
Indian	147	35.4	36.7	1.4	0.06	Wave 2 = 1
Others	10	50.0	30.0	-20.0	0.21	Wave 2 < 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Provision of transfers to family members (including spouse), relatives, friends or a foreign domestic worker in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The overall proportion of older Singaporeans who reported providing material support remained the same between waves 1 and 2. A higher proportion of older adults aged 60-69 years reported providing material support in wave 2, compared to wave 1. By contrast, fewer older adults aged 80 years and above reported providing material support in wave 2 than wave 1. No change was observed for those aged 70-79 years. Fewer males reported providing material support, while more females reported provision of material support between waves 1 and 2. A lower proportion of Malays reported providing material support in wave 2 than in wave 1. The Chinese and Indians did not report any change.

Table 4.5.4 Change in Provision of Transfers (Emotional Support) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Provision of emotional support in the past 12 months[a]		Yes (%)		**Difference[c] (%)**	**SE**	**Remark**
Overall	1440	42.7	47.2	4.5*	0.02	Wave 2 > 1
Age (years) at wave 1						
60-69	691	49.4	56.0	6.5*	0.03	Wave 2 > 1
70-79	475	40.2	44.0	3.8	0.03	Wave 2 = 1
80 & above	274	29.9	30.7	0.7	0.04	Wave 2 = 1
Gender						
Male	661	56.4	49.8	-6.7*	0.03	Wave 2 < 1
Female	779	31.1	45.1	14.0***	0.02	Wave 2 > 1
Ethnicity						
Chinese	1077	40.7	48.5	7.8***	0.02	Wave 2 > 1
Malay	206	50.5	37.4	-13.1**	0.05	Wave 2 < 1
Indian	147	46.3	51.7	5.4	0.06	Wave 2 = 1
Others	10	50.0	50.0	0.0	0.22	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Provision of transfers to family members (including spouse), relatives, friends or a foreign domestic worker in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The overall proportion of older Singaporeans who reported providing emotional support increased from 42.7% to 47.2% between waves 1 and 2. A higher proportion of older adults aged 60-69 years reported providing emotional support in wave 2, compared to wave 1. No change was observed for those aged 70-79 years and those aged 80 years and above. Fewer males reported providing emotional support, while more females reported providing emotional support between waves 1 and 2. A higher proportion of Chinese reported provision of emotional support in wave 2 than in wave 1. By contrast, a lower proportion of Malays provided emotional support in wave 2 than in wave 1. The Indians did not report any change.

Table 4.5.5 Change in Receipt of Transfers (Monetary Support) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Receipt of monetary support in the past 12 months[a]		**Yes (%)**		**Difference**[c] **(%)**	**SE**	**Remark**
Overall	1438	63.6	56.6	-7.0***	0.02	Wave 2 < 1
Age (years) at wave 1						
60-69	691	55.1	47.8	-7.4**	0.03	Wave 2 < 1
70-79	474	70.0	62.0	-8.0**	0.03	Wave 2 < 1
80 & above	273	74.0	69.6	-4.4	0.04	Wave 2 = 1
Gender						
Male	661	54.8	47.5	-7.3**	0.03	Wave 2 < 1
Female	777	71.2	64.4	-6.8**	0.02	Wave 2 < 1
Ethnicity						
Chinese	1076	63.8	57.4	-6.4**	0.02	Wave 2 < 1
Malay	205	65.9	61.5	-4.4	0.05	Wave 2 = 1
Indian	147	62.6	44.2	-18.4**	0.06	Wave 2 < 1
Others	10	10.0	50.0	40.0	0.18	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Receipt of transfers from family members (including spouse), relatives, friends or a foreign domestic worker in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who reported receiving monetary support decreased from 63.6% in wave 1 to 56.6% wave 2. A lower proportion of older adults aged 60-69 years and 70-79 years reported receiving monetary support in wave 2, compared to wave 1, while no change was observed for those aged 80 years and above. Lower proportion of females and males reported receipt of monetary support in wave 2 than in wave 1. A lower proportion of Chinese and Indians reported receiving monetary support in wave 2 compared to wave 1, while no change was observed for the Malays.

Table 4.5.6 Change in Receipt of Transfers (Housework Help) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Receipt of housework help in the past 12 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	1439	57.3	49.4	-7.9***	0.02	Wave 2 < 1
Age (years) at wave 1						
60-69	691	52.8	44.4	-8.4**	0.02	Wave 2 < 1
70-79	475	57.3	48.2	-9.1**	0.03	Wave 2 < 1
80 & above	273	68.5	64.1	-4.4	0.04	Wave 2 = 1
Gender						
Male	661	64.9	58.5	-6.4*	0.03	Wave 2 < 1
Female	778	50.8	41.6	-9.1***	0.03	Wave 2 < 1
Ethnicity						
Chinese	1077	56.6	47.8	-8.8***	0.02	Wave 2 < 1
Malay	205	55.6	53.2	-2.4	0.05	Wave 2 = 1
Indian	147	66.0	54.4	-11.6*	0.06	Wave 2 < 1
Others	10	30.0	70.0	40.0	0.20	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Receipt of transfers from family members (including spouse), relatives, friends or a foreign domestic worker in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The overall proportion of older Singaporeans who reported receiving housework help decreased from 57.3% to 49.4% between waves 1 and 2. A lower proportion of older adults aged 60-69 years and 70-79 years reported receiving housework help in wave 2, compared to wave 1, while no change was observed for those aged 80 years and above. A lower proportion of both genders reported receiving housework help in wave 2 than in wave 1. Fewer Chinese and Indians reported receiving housework help in wave 2 compared to wave 1. No change was observed for the Malays.

Table 4.5.7 Change in Receipt of Transfers (Material Support) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Receipt of material support in the past 12 months[a]		**Yes (%)**		**Difference[c] (%)**	**SE**	**Remark**
Overall	1438	60.5	53.0	-7.5***	0.02	Wave 2 < 1
Age (years) at wave 1						
60-69	691	54.1	45.7	-8.4**	0.03	Wave 2 < 1
70-79	474	62.4	55.3	-7.2*	0.03	Wave 2 < 1
80 & above	273	73.3	67.4	-5.9	0.04	Wave 2 = 1
Gender						
Male	660	59.1	44.7	-14.4***	0.03	Wave 2 < 1
Female	778	61.7	60.0	-1.7	0.02	Wave 2 = 1
Ethnicity						
Chinese	1076	60.9	54.0	-6.9**	0.02	Wave 2 < 1
Malay	205	58.0	50.2	-7.8	0.05	Wave 2 = 1
Indian	147	63.3	50.3	-12.9*	0.06	Wave 2 < 1
Others	10	30.0	40.0	10.0	0.21	Wave 2 = 1

* p < .05, ** p < .01, *** p < .001 (two-tailed tests)

a. Receipt of transfers from family members (including spouse), relatives, friends or a foreign domestic worker in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The overall proportion of older Singaporeans who reported receipt of material support decreased from 60.5% to 53.0% between waves 1 and 2. A lower proportion of older adults aged 60-69 years and 70-79 years reported receiving material support in wave 2, compared to wave 1. No change was observed for those aged 80 years and above. A lower proportion of males reported receiving material support, while no change was observed for females between waves 1 and 2. A lower proportion of Chinese and Indians reported receiving material support in wave 2 than in wave 1. The Malays did not report any change.

Table 4.5.8 Change in Receipt of Transfers (Emotional Support) between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Receipt of emotional support in the past 12 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	1436	61.1	60.9	-0.2	0.02	Wave 2 = 1
Age (years) at wave 1						
60-69	691	59.2	56.6	-2.6	0.03	Wave 2 = 1
70-79	474	60.5	62.0	1.5	0.03	Wave 2 = 1
80 & above	271	66.8	69.7	3.0	0.04	Wave 2 = 1
Gender						
Male	661	53.1	55.2	2.1	0.03	Wave 2 = 1
Female	775	67.9	65.7	-2.2	0.02	Wave 2 = 1
Ethnicity						
Chinese	1074	60.3	61.8	1.5	0.02	Wave 2 = 1
Malay	205	64.4	56.1	-8.3	0.05	Wave 2 = 1
Indian	147	62.6	61.2	-1.4	0.06	Wave 2 = 1
Others	10	0.5	0.5	0.0	0.22	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Receipt of transfers from family members (including spouse), relatives, friends or a foreign domestic worker in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who reported receiving emotional support did not change between waves. Across all age groups, genders and ethnic groups, the proportion of older adults who reported receiving emotional support remained unchanged between waves 1 and 2.

4.6. Work and Employment

Table 4.6.1 Change in Current Work Status, of Working Full- or Part-Time, between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Working full-time or part-time[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	2885	35.3	31.1	-4.3***	0.01	Wave 2 < 1
Age (years) at wave 1						
60-69	1399	53.8	48.2	-5.6**	0.02	Wave 2 < 1
70-79	946	24.8	21.0	-3.8*	0.02	Wave 2 < 1
80 & above	540	5.9	4.3	-1.7	0.01	Wave 2 = 1
Gender						
Male	1345	45.3	40.0	-5.3**	0.02	Wave 2 < 1
Female	1540	26.6	23.2	-3.4*	0.02	Wave 2 < 1
Ethnicity						
Chinese	2178	35.8	31.4	-4.4**	0.01	Wave 2 < 1
Malay	398	30.2	26.4	-3.8	0.03	Wave 2 = 1
Indian	287	38.0	33.4	-4.5	0.04	Wave 2 = 1
Others	22	45.5	45.5	0.0	0.15	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. The comparison category "not working" includes "worked in the past and currently not working" or "never worked".
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The overall proportion of older Singaporeans who reported to be working full-time or part-time decreased from 35.3% to 31.1% between waves 1 and 2. A lower proportion of older adults aged 60-69 years and 70-79 years reported being employed full-time or part-time in wave 2, compared to wave 1. No change was observed for those aged 80 years and above. A lower proportion of males and females reported being employed full-time or part-time in wave 2, compared to wave 1. The proportion of Chinese who reported to be employed decreased from wave 1 to 2. No change was observed for the other ethnicities.

4.7. Lifelong Learning

Table 4.7.1 Change in Attendance of Courses/Trainings between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Attended courses/ trainings in the last 12 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	2879	14.0	11.3	-2.7**	0.01	Wave 2 < 1
Age (years) at wave 1						
60-69	1396	19.8	16.8	-3.1*	0.01	Wave 2 < 1
70-79	945	12.0	8.7	-3.3*	0.01	Wave 2 < 1
80 & above	538	2.4	1.7	-0.74	0.01	Wave 2 = 1
Gender						
Male	1342	15.7	11.8	-3.9**	0.01	Wave 2 < 1
Female	1537	12.5	10.8	-1.7	0.01	Wave 2 = 1
Ethnicity						
Chinese	2172	13.7	11.2	-2.5*	0.01	Wave 2 < 1
Malay	398	14.6	9.5	-5.0*	0.02	Wave 2 < 1
Indian	287	15.3	13.6	-1.7	0.03	Wave 2 = 1
Others	22	18.2	22.7	4.5	0.12	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Refers to having attended at least 1 course/ training in the past 12 months.
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans who attended courses/trainings in the past 12 months decreased from 14.0% in wave 1 to 11.3% in wave 2. Among older adults aged 60-69 years and 70-79 years, a lower proportion of them attended courses/trainings in wave 2 than in wave 1. No change was observed among older adults aged 80 years and above. A lower proportion of males reported taking courses/trainings between in wave 2 compared to wave 1, while no change was observed for females. The proportion of Chinese and Malays taking courses/trainings decreased from wave 1 to wave 2, while the Indians reported no change across waves.

Table 4.7.2 Change in Primary Reason as 'Job-Related' for Course/Training Engagement between Waves by Age Group, Gender and Ethnicity

Variable	Wave 1		Wave 2		Test of proportions[b]		
Primary reason for attending course/ training engagement is job-related[a]	N[d]	Yes (%)	N[d]	Yes (%)	Difference[c] (%)	SE	Remark
Overall	400	51.0	323	39.0	-12.0**	0.04	Wave 2 < 1
Age (years) at wave 1							
60-69	276	55.4	233	43.3	-12.1**	0.04	Wave 2 < 1
70-79	111	44.1	81	28.4	-15.7*	0.07	Wave 2 < 1
80 & above	13	15.4	9	22.2	6.8	0.17	Wave 2 = 1
Gender							
Male	208	68.3	159	56.6	-11.7*	0.05	Wave 2 < 1
Female	192	32.3	164	22.0	-10.3*	0.05	Wave 2 < 1
Ethnicity							
Chinese	295	43.1	242	33.1	-10.0*	0.04	Wave 2 < 1
Malay	58	63.8	37	51.4	-12.4	0.10	Wave 2 = 1
Indian	43	86.0	39	61.5	-24.5*	0.09	Wave 2 < 1
Others	4	75.0	5	60.0	-15.0	0.31	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. The comparison category is "primary reason for attending course/ training engagement is non-job related".
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.
d. N refers to the number of respondents who attended a course/ training engagement in wave 1 and wave 2, respectively.

The proportion of older Singaporeans who attended courses/trainings in the past 12 months primarily for a job-related reason decreased from 51.0% in wave 1 to 39.0% in wave 2. Among older adults aged 60-69 years and 70-79 years, a lower proportion of them in wave 2 cited job-related reason as their primary reason for attending courses/trainings than in wave 1. No change was observed among older adults aged 80 years and above. A lower proportion of both genders cited a job-related reason as their primary reason for attending courses/trainings in wave 2 compared to wave 1. The proportion of Chinese and Indians taking courses/trainings primarily for a job-related reason decreased from wave 1 to wave 2, while no change was observed for the Malays.

4.8. Volunteering

Table 4.8.1 Change in Formal Volunteering between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Formal volunteering in the past 12 months[a]		**Yes (%)**		**Difference**[c] **(%)**	**SE**	**Remark**
Overall	2859	14.0	14.0	0.00	0.01	Wave 2 = 1
Age (years) at wave 1						
60-69	1386	18.2	18.0	-0.14	0.01	Wave 2 = 1
70-79	937	12.5	12.7	0.21	0.02	Wave 2 = 1
80 & above	536	5.8	5.6	-0.19	0.01	Wave 2 = 1
Gender						
Male	1334	14.3	15.0	0.67	0.01	Wave 2 = 1
Female	1525	13.7	13.0	-0.66	0.01	Wave 2 = 1
Ethnicity						
Chinese	2159	13.4	13.5	0.09	0.01	Wave 2 = 1
Malay	392	13.0	12.0	-1.00	0.02	Wave 2 = 1
Indian	286	17.8	18.2	0.35	0.03	Wave 2 = 1
Others	22	36.4	36.4	0.00	0.15	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Measured by a single question "In the last 12 months, have you given any unpaid help to any groups, clubs or organizations in any of the ways shown on this card?"
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans doing formal volunteering remained unchanged between waves 1 and 2. Across all ages, genders and ethnic groups, the proportion of those who did formal volunteering did not show any change.

Table 4.8.2 Change in Informal Volunteering between Waves by Age Group, Gender and Ethnicity

Variable	N	Wave 1	Wave 2	Test of proportions[b]		
Informal volunteering in the past 12 months[a]		Yes (%)		Difference[c] (%)	SE	Remark
Overall	2824	20.5	15.1	-5.3***	0.01	Wave 2 < 1
Age (years) at wave 1						
60-69	1374	26.2	19.6	-6.6***	0.02	Wave 2 < 1
70-79	925	19.1	15.0	-4.1*	0.02	Wave 2 < 1
80 & above	525	7.8	3.6	-4.2**	0.01	Wave 2 < 1
Gender						
Male	1324	24.2	18.7	-5.5***	0.02	Wave 2 < 1
Female	1500	17.2	12.0	-5.2***	0.01	Wave 2 < 1
Ethnicity						
Chinese	2128	19.7	14.2	-5.5***	0.01	Wave 2 < 1
Malay	390	19.2	14.1	-5.1	0.03	Wave 2 = 1
Indian	284	26.4	21.8	-4.6	0.04	Wave 2 = 1
Others	22	40.9	36.4	-4.5	0.15	Wave 2 = 1

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

a. Measured by a single question "In the last 12 months, have you done any of these, unpaid, for someone who was NOT a relative?"
b. Test of proportions makes inference about whether the observed difference in proportions between waves is significantly different from zero at the population level.
c. Difference is calculated by subtracting wave 1 percentage from wave 2 percentage.

The proportion of older Singaporeans doing informal volunteering decreased from 20.5% in wave 1 to 15.1% in wave 2. Across the ages and genders, a lower proportion of older Singaporeans reported doing informal volunteering in wave 2, compared to wave 1. Fewer Chinese reported doing informal volunteering in wave 2 than in wave 1, while the Malays, and Indians reported no change.

Chapter 5. Conclusion

This report has provided a detailed description of the lives of Singaporeans aged 62 years and older in the year 2019 (THE SIGNS Study - II), and the extent to which their physical and psychological health and social lives have changed since 2016-2017 (since THE SIGNS Study - I). In doing so, we first identified the presence and patterns of age cohort, gender and ethnic variations in the health and social lives of older adults in Singapore. We then investigated meaningful changes, overall and by age cohort, gender and ethnicity, from 2016-2017 to 2019, by comparing findings from the two waves of THE SIGNS Study.

We found that, in 2019, the oldest-old cohorts, aged 80 years and above, were more likely to report worse physical and psychological health compared to younger cohorts, aged 62 to 69 years and 70 to 79 years. Additionally, those of older ages were less likely to maintain social networks outside the household and participate in social activities including religious services, lifelong learning and formal/informal volunteering. These cohort differences likely are the result of age-related physiological decline as well as life-course variation across cohorts. They point to the greater need for health and social care for the older cohorts of older Singaporeans. At the same time, they serve as a reminder for the younger cohorts of older Singaporeans, as well as those aged less than 60 years, to actively engage in health promotion and disease prevention activities as well as plan and prepare for possible decline in physical, psychological and social health as they age.

We observed female deficits in psychological health. The prevalence of clinically relevant depressive symptoms was higher for females than males. The gender gap in depressive symptoms has increased from wave 1 to wave 2. Furthermore, more females reported being sometimes or mostly lonely than males in wave 2, although a higher proportion of males experienced loneliness than females in wave 1. This may be due in part to the increased number of females living alone and more females with ADL difficulties than males. The gender gap in psychosocial health, with females at a disadvantage, deserves policy and practice attention, since given the higher life expectancy for females, there are more females than males at older ages.

The technology use module, introduced in THE SIGNS Study-II, provides valuable insights, especially in light of the COVID-19 pandemic, which has raised the importance of the role played by online activity and connections during our daily lives. On average, about 2 in 3 older Singaporeans used a smartphone either daily or on most days a week. However, only 13% had used the internet to get information about their own health or to help manage their health conditions in the prior one month. Specifically, we found a substantial gap in technology use among different cohort groups: smartphone use declined from 85% among those aged 62-69 years to 25% among those aged 80 years and above, and device use for health-related reasons, from almost a quarter (22%) to 2%, respectively. The digital divide between older adult sub-groups, and between older and younger adults, has especially surfaced in the current COVID-19 situation. As a result, the Seniors Go Digital (https://www.imda.gov.sg/for-community/Seniors-Go-Digital) initiative has been introduced in mid-2020 by the Singapore government. While THE SIGNS Study - II, conducted in 2019, is unable to assess the impact of this initiative, it will be insightful to have longitudinal data on technology use, through future waves of THE SIGNS Study, to assess if the digital inclusion initiative has an impact on technology use in general, and for health-related reasons among older Singaporeans.

On examining changes from wave 1 (2016-2017) to wave 2 (2019), we find that the physical and functional health of THE SIGNS Study participants declined over time, along with an increase in healthcare utilisation. Older adults reported a higher number of chronic diseases and an increased number of ADL and IADL difficulties, over time. Changes in body mass index (BMI), blood pressure levels and hand grip strength also demonstrated a deterioration in physical health between waves. In

terms of psychological health, while older adults reported similar levels of depressive symptom and cognitive function over time, they reported a lower level of personal mastery, i.e. a sense of control in their lives, in wave 2 compared to wave 1.

Regarding healthcare utilisation, a higher proportion of older adults visited polyclinics, were hospitalised, or were admitted to a nursing home in wave 2 than in wave 1. However, no change was observed for visits to specialist outpatient clinics, private specialists, traditional healers, and hospital emergency rooms; a lower proportion visited a private general practitioner in wave 2. Older adults became more adherent to their medications as they aged, even as the number of prescription medications of older adults increased over time.

In wave 2, a higher proportion of older adults lived alone (with or without a foreign domestic worker) than in wave 1. However, no change was identified in perceived loneliness, as well as overall social network composition. Moreover, older adults reported more frequent attendance in social activities in their neighbourhoods and communities in wave 2 compared to wave 1. They also went out for a walk for exercise more often. In terms of provision and receipt of transfers, older adults provided less monetary but more emotional support to their family members, relatives, friends or foreign domestic worker in wave 2 than in wave 1, while receiving less financial and material support and household help.

Lastly, the proportion of older adults in full-time or part-time employment fell between waves 1 and 2. Their overall attendance of courses or training also declined, due primarily to declining job-related course enrollment: a greater proportion attended courses for non-job-related reasons in wave 2 compared to wave 1. As to volunteering, while a similar proportion of older adults engaged in formal volunteering between waves, they became increasingly detached from informal volunteering over time.

Overall, this report reaffirms the age, gender, and ethnic heterogeneity in physical, psychological, and social well-being of older Singaporeans while uncovering substantial changes in them over time. In particular, practitioners and policymakers should be aware that not only older adults' health but also their social lives, including social engagement and intergenerational transfers, change substantially as they age. At the same time, more scholarly and policy attention is required to develop targeted interventions for at-risk sub-populations, for instance, bolstering physical health and social well-being of the oldest-old and reducing loneliness and depression among older females.

It also sheds light on emerging topics such as digital literacy and the digital divide among older adults for policy makers and researchers in public health and gerontology. The digital divide in later life needs greater research and policy attention; it has yet to be fully investigated how and to what extent technology use impacts health and well-being of older adults.

In sum, this report, together with findings from THE SIGNS Study - I, contributes to understanding various domains of older Singaporeans' health and social lives in a comprehensive manner. It is thus warranted to make continued efforts to administer a nationally representative longitudinal survey in future years to picture and project the productive aging of Singaporeans. In this respect, additional waves of THE SIGNS Study, at regular intervals, will help scrutinize the overall trajectories as well as the underlying mechanism through which health disparities among older adults are initiated, developed, or maintained. The continued data collection will also ensure that differences over time as well as between different cohorts of Singaporeans as they age will continue to be studied, and policies and programs for Singapore's aging population remain informed by empirical scientific evidence.

Appendices

Appendix Table A3a Property Ownership by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Property Ownership (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Subject	16.6	15.6	16.5	18.6	12.1	20.5	16.6	14.2	17.7	23.9
Child in the household	13.2	5.1	12.5	30.0	8.3	17.5	12.1	23.7	11.8	7.4
Joint ownership with spouse	49.1	63.1	48.9	22.1	61.8	37.9	50.2	41.4	48.7	37.5
Joint ownership with other household member	10.9	7.8	10.5	17.5	7.0	14.2	11.0	10.4	9.8	12.9
Other household member(s)	5.3	4.8	5.9	5.2	5.5	5.2	5.3	4.4	6.6	4.5
Child outside household	0.5	0.1	0.5	1.0	0.2	0.7	0.5	0.0	0.3	0.0
Others outside household	0.4	0.6	0.2	0.5	0.3	0.5	0.4	0.0	0.4	5.8
Public Rental Flat	3.9	2.7	4.8	4.8	4.5	3.4	3.6	5.7	4.6	8.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Appendix Table A3b Number of Persons Living in the Household by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Number of Persons Living in the Household										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Mean	3.2	3.1	3.2	3.5	3.2	3.2	3.2	3.2	3.1	3.0
SD	0.9	0.8	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.9

Appendix Table A4a Vision and Hearing Status by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Vision Status (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Excellent	2.0	3.2	1.5	0.5	2.4	1.6	1.9	0.6	2.7	10.9
Very Good	16.6	18.7	18.3	9.6	15.9	17.2	17.0	14.4	16.4	9.7
Good	49.9	52.5	50.8	43.3	50.9	49.1	49.0	54.3	56.3	48.5
Fair	23.0	21.1	21.7	29.1	24.4	21.7	23.1	22.2	20.9	30.9
Poor	8.3	4.4	7.6	16.9	6.2	10.0	8.8	7.8	3.8	0.0
Loss of vision in both eyes	0.3	0.1	0.2	0.7	0.2	0.3	0.2	0.6	0.0	0.0
Hearing Status (weighted %)										
Excellent	2.2	3.5	1.9	0.2	2.1	2.2	2.0	2.3	3.1	10.9
Very Good	20.3	24.8	21.5	9.5	17.8	22.6	20.9	18.0	17.8	13.0
Good	50.7	54.2	52.1	41.2	51.9	49.6	49.3	54.0	59.0	70.3
Fair	18.1	13.8	17.9	26.7	20.1	16.3	18.9	17.3	11.3	5.8
Poor	8.3	3.4	6.4	21.1	7.7	8.7	8.4	8.0	8.8	0.0
Not able to hear in both	0.5	0.3	0.2	1.4	0.3	0.7	0.5	0.4	0.0	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Appendix Table A4b Heart Failure by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Heart Failure										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	2.1	1.3	2.1	3.8	2.1	2.2	1.9	3.8	3.6	0.0
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	71	17	24	30	32	39	44	16	11	0
Yes	10.7	11.9	11.2	9.3	13.4	8.4	13.3	0.0	10.1	0.0
Number of A&E visits in the past 6 months										
Mean	1.1	1.3	1.0	1.0	1.0	1.4	1.0	0.0	2.0	0.0
SD	0.4	0.7	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.8	1.3	1.0	0.0	1.0	0.5	0.6	0.0	2.0	0.0
SD	0.7	0.7	0.0	0.0	0.0	1.0	0.5	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.1	1.3	1.0	0.0	1.0	2.0	1.0	0.0	2.0	0.0
SD	0.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table A4c Other Forms of Heart Diseases by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Other Forms of Heart Diseases										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	7.2	5.8	7.1	10.3	9.5	5.2	7.0	7.3	10.7	5.3
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	217	66	74	77	134	83	156	28	32	1
Yes	6.3	9.8	4.7	4.3	7.6	4.1	6.7	6.0	3.8	0.0
Number of A&E visits in the past 6 months										
Mean	0.9	1.0	0.8	1.0	1.0	0.8	1.0	0.4	1.0	0.0
SD	0.5	0.7	0.5	0.0	0.5	0.5	0.5	0.7	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.9	1.0	1.0	0.5	0.9	1.0	0.9	1.0	1.0	0.0
SD	0.6	0.7	0.0	0.6	0.6	0.0	0.6	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.9	0.9	1.0	1.0	1.1	0.5	1.0	1.0	0.0	0.0
SD	0.6	0.8	0.0	0.0	0.6	0.6	0.6	0.0	0.0	0.0

Appendix Table A4d Cancer (Excluding Skin Cancer) by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Cancer (Excluding Skin Cancer)										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	6.3	5.4	6.6	7.4	5.6	6.8	6.3	4.8	6.0	15.9
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	179	60	67	52	76	103	138	20	18	3
Yes	8.3	4.8	12.8	6.0	6.6	9.5	5.7	13.2	17.0	43.5
Number of A&E visits in the past 6 months										
Mean	0.8	0.8	0.7	1.3	0.5	1.0	0.6	2.0	0.7	1.0
SD	0.6	0.5	0.7	0.6	0.6	0.6	0.5	0.0	0.6	0.0
Number of times hospitalised in the past 6 months										
Mean	1.1	1.2	1.1	1.0	1.0	1.1	1.0	2.0	0.7	1.0
SD	0.7	0.9	0.6	1.0	0.7	0.7	0.7	0.0	0.6	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.0	1.0	1.0	1.1	0.5	1.1	0.8	1.5	1.0	1.0
SD	0.5	0.0	0.0	1.4	0.7	0.4	0.5	0.7	0.0	0.0

Appendix Table A4e Cerebrovascular Disease (Such as Stroke) by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Cerebrovascular Disease (Such as Stroke)										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	6.2	4.8	6.9	7.8	7.6	5.1	5.9	8.1	7.4	5.5
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	179	51	69	59	101	78	124	32	22	1
Yes	5.2	7.4	4.9	3.0	3.8	7.1	4.7	10.0	3.6	0.0
Number of A&E visits in the past 6 months										
Mean	1.0	1.0	0.7	2.0	0.7	1.3	0.8	1.0	4.0	0.0
SD	0.8	0.0	0.5	2.0	0.6	0.9	0.4	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	1.1	1.0	0.9	2.0	0.7	1.4	0.8	1.4	4.0	0.0
SD	0.9	0.0	0.9	2.0	0.6	0.9	0.4	0.6	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.2	1.0	1.0	2.0	1.0	1.3	1.0	1.0	4.0	0.0
SD	0.7	0.0	0.0	2.0	0.0	0.9	0.0	0.0	0.0	0.0

Appendix Table A4f Dementia by Age Group, Gender and Ethnicity (proxy answered)

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Dementia										
Diagnosed by a medical professional (weighted %)										
n	223	12	34	177	68	155	147	49	26	1
Yes	40.6	14.3	31.1	45.7	38.7	41.6	40.3	38.5	41.9	100.0
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	89	2	10	77	28	61	57	19	12	1
Yes	2.5	0.0	11.7	1.0	5.6	1.2	2.3	5.1	0.0	0.0
Number of A&E visits in the past 6 months										
Mean	2.0	0.0	1.0	4.0	1.0	4.0	1.0	4.0	0.0	0.0
SD	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.6	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0
SD	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	2.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table A4g Chronic Respiratory Illness by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Chronic Respiratory Illness										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	5.8	4.1	5.5	9.5	6.4	5.2	5.0	9.1	10.3	9.1
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	180	50	62	68	89	91	114	34	30	2
Yes	13.8	16.2	12.8	12.7	10.1	17.8	11.8	27.0	11.1	0.0
Number of A&E visits in the past 6 months										
Mean	1.7	1.6	1.7	1.8	1.4	1.9	1.1	2.2	4.1	0.0
SD	1.8	1.7	0.9	2.5	0.7	2.2	0.5	1.8	4.2	0.0
Number of times hospitalised in the past 6 months										
Mean	1.6	1.2	1.4	2.3	1.3	1.8	1.6	1.5	2.1	0.0
SD	1.4	0.6	1.2	2.0	0.9	1.7	1.6	1.1	1.4	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.4	1.2	2.0	1.3	1.5	1.4	1.2	1.8	2.1	0.0
SD	0.8	0.4	1.0	0.7	0.7	0.8	0.4	0.9	1.4	0.0

Appendix Table A4h Digestive Illness (Stomach or Intestinal) by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Digestive Illness (Stomach or Intestinal)										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	7.7	6.0	8.0	10.6	7.4	8.0	8.0	5.7	7.9	5.3
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	223	66	82	75	98	125	178	21	23	1
Yes	8.9	9.6	7.7	9.6	9.0	8.7	8.4	15.7	8.8	0.0
Number of A&E visits in the past 6 months										
Mean	1.1	1.2	1.0	1.1	1.1	1.1	1.0	1.3	1.5	0.0
SD	0.3	0.4	0.0	0.4	0.3	0.3	0.2	0.5	0.7	0.0
Number of times hospitalised in the past 6 months										
Mean	1.2	1.2	1.4	1.1	1.4	1.0	1.0	2.2	0.9	0.0
SD	1.0	0.3	1.8	0.4	1.5	0.4	0.2	2.8	1.4	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.0	0.9	1.0	1.1	1.0	1.1	1.0	1.0	2.0	0.0
SD	0.4	0.5	0.0	0.4	0.5	0.2	0.4	0.0	0.0	0.0

Appendix Table A4i Ailments of the Liver or Gall Bladder by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Ailments of the Liver or Gall Bladder										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	3.7	2.7	4.7	3.7	3.3	4.0	4.0	3.0	1.3	0.0
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	103	29	49	25	40	63	87	12	4	0
Yes	7.4	10.5	2.1	14.9	2.5	10.9	7.5	5.1	12.4	10.5
Number of A&E visits in the past 6 months										
Mean	1.1	0.3	2.8	1.3	1.0	1.1	1.0	1.0	4.0	0.0
SD	1.2	0.6	2.1	1.0	0.0	1.4	1.2	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	1.4	0.7	2.8	1.6	1.0	1.4	1.3	1.0	4.0	0.0
SD	1.2	0.6	2.1	1.0	0.0	1.3	1.1	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.8	0.0	0.4	1.3	0.0	1.0	0.6	1.0	4.0	0.0
SD	0.9	0.0	0.7	1.0	0.0	0.9	0.5	0.0	0.0	0.0

Appendix Table A4j Chronic Back Pain by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Chronic Back Pain										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	6.5	6.2	6.5	7.1	5.3	7.6	6.2	4.6	12.7	8.6
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	191	70	67	54	72	119	133	19	37	2
Yes	4.1	8.9	0.0	2.4	5.6	3.1	4.0	0.0	7.8	0.0
Number of A&E visits in the past 6 months										
Mean	0.4	0.5	0.0	0.0	0.2	0.7	0.4	0.0	0.4	0.0
SD	0.5	0.5	0.0	0.0	0.4	0.6	0.6	0.0	0.7	0.0
Number of times hospitalised in the past 6 months										
Mean	0.4	0.3	0.0	1.0	0.4	0.3	0.4	0.0	0.4	0.0
SD	0.5	0.5	0.0	0.0	0.6	0.6	0.5	0.0	0.7	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table A4k Osteoporosis by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Osteoporosis										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	7.5	4.3	8.0	12.8	2.0	12.3	7.9	7.3	4.2	0.0
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	211	46	79	86	27	184	175	23	13	0
Yes	2.4	0.0	4.7	1.4	0.0	2.7	2.4	0.0	10.1	0.0
Number of A&E visits in the past 6 months										
Mean	0.6	0.0	0.5	1.0	0.0	0.6	0.6	0.0	1.0	0.0
SD	0.5	0.0	0.6	0.0	0.0	0.5	0.6	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.6	0.0	0.5	1.0	0.0	0.6	0.6	0.0	1.0	0.0
SD	0.5	0.0	0.6	0.0	0.0	0.5	0.6	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table A4l Fractures of the Hip, Thigh and Pelvis by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Fractures of the Hip, Thigh and Pelvis										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	4.6	2.0	3.0	12.7	2.5	6.5	4.6	5.2	5.7	0.0
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	131	22	32	77	33	98	96	17	18	0
Yes	10.9	3.0	10.4	13.5	5.1	12.9	9.2	26.0	7.5	3.0
Number of A&E visits in the past 6 months										
Mean	1.0	0.0	1.0	1.0	1.0	0.9	1.0	0.8	1.0	0.0
SD	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.9	0.0	1.0	0.9	1.0	0.8	0.9	0.7	1.0	0.0
SD	0.4	0.0	0.0	0.3	0.0	0.4	0.3	0.5	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.9	0.0	1.0	0.9	1.0	0.9	0.9	1.0	1.0	0.0
SD	0.3	0.0	0.0	0.4	0.0	0.3	0.4	0.0	0.0	0.0

Appendix Table A4m Other Fractures by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Other Fractures										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	7.0	6.0	7.2	8.8	5.2	8.6	6.9	6.8	9.4	5.4
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	205	68	73	64	70	135	151	25	28	1
Yes	14.0	10.0	19.8	10.7	11.1	15.5	13.6	29.7	1.7	0.0
Number of A&E visits in the past 6 months										
Mean	1.1	0.8	1.2	1.2	1.2	1.1	1.1	1.0	1.0	0.0
SD	0.8	0.4	0.8	0.9	0.7	0.8	0.9	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.9	0.6	1.0	1.0	1.1	0.9	0.9	1.2	1.0	0.0
SD	1.1	1.3	1.1	1.0	1.4	1.0	1.1	1.2	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.9	0.6	1.0	1.0	1.1	0.9	0.9	1.2	1.0	0.0
SD	1.1	1.3	1.1	1.0	1.4	1.0	1.1	1.2	0.0	0.0

Appendix Table A4n Cataract by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Cataract										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	41.4	25.4	44.3	67.5	36.3	45.9	43.1	31.2	37.9	29.5
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	1226	278	455	493	500	726	988	121	110	7
Yes	1.8	2.3	1.9	1.5	0.7	2.7	1.9	1.3	2.2	0.0
Number of A&E visits in the past 6 months										
Mean	0.5	0.4	0.5	0.5	0.1	0.5	0.4	1.7	0.9	0.0
SD	0.6	0.9	0.5	0.5	0.4	0.7	0.5	0.7	1.4	0.0
Number of times hospitalised in the past 6 months										
Mean	0.4	0.2	0.4	0.6	0.0	0.5	0.4	0.0	0.9	0.0
SD	0.7	0.6	0.8	0.9	0.0	0.8	0.7	0.0	1.4	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.5	2.0	0.0	0.0	0.0	0.5	0.0	0.0	2.0	0.0
SD	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0

Appendix Table A4o Glaucoma by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Glaucoma										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	4.7	3.0	5.2	7.2	5.7	3.8	4.8	1.7	5.5	15.5
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	137	34	51	52	76	61	114	7	13	3
Yes	2.7	3.3	2.0	3.1	0.5	5.5	2.8	8.5	0.0	0.0
Number of A&E visits in the past 6 months										
Mean	1.2	1.0	1.0	1.6	3.0	1.0	1.0	3.0	0.0	0.0
SD	0.7	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.6	0.0	0.0	1.6	3.0	0.3	0.3	3.0	0.0	0.0
SD	1.1	0.0	0.0	1.3	0.0	0.6	0.6	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.9	0.0	0.0	0.9	3.0	0.0	0.0	3.0	0.0	0.0
SD	1.9	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table A4p Age-Related Macular Degeneration by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Age-Related Macular Degeneration										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	2.1	1.4	1.5	4.7	2.0	2.3	2.2	1.3	2.7	0.0
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	65	16	16	33	28	37	53	5	7	0
Yes	5.9	3.3	8.1	6.3	3.0	8.2	5.8	0.0	12.0	3.3
Number of A&E visits in the past 6 months										
Mean	0.8	1.0	1.0	0.6	0.0	1.0	0.7	0.0	1.0	0.0
SD	0.5	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	1.3	1.0	1.0	1.7	0.0	1.7	1.4	0.0	1.0	0.0
SD	1.3	0.0	0.0	2.1	0.0	1.2	1.4	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table A4q Autoimmune Disorder by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
					Autoimmune Disorder					
				Diagnosed by a medical professional (weighted %)						
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	0.7	1.0	0.5	0.4	0.4	0.9	0.7	0.2	1.7	0.0
			Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)							
n	19	11	5	3	5	14	14	1	4	0
Yes	23.3	21.8	23.2	29.8	21.2	24.1	28.7	0.0	0.0	0.0
				Number of A&E visits in the past 6 months						
Mean	1.1	1.0	0.0	3.0	0.0	1.5	1.1	0.0	0.0	0.0
SD	1.1	0.0	0.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0
				Number of times hospitalised in the past 6 months						
Mean	0.9	1.0	0.0	2.0	0.0	1.2	0.9	0.0	0.0	0.0
SD	0.8	0.0	0.0	0.0	0.0	0.5	0.8	0.0	0.0	0.0
			Number of hospital admissions admitted through A&E in the past 6 months							
Mean	1.2	1.0	0.0	2.0	0.0	1.2	1.2	0.0	0.0	0.0
SD	0.5	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0

Appendix Table A4r Chronic Skin Conditions by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
					Chronic Skin Conditions					
				Diagnosed by a medical professional (weighted %)						
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	5.9	5.1	5.9	7.2	6.5	5.2	5.7	5.6	6.1	14.1
			Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)							
n	169	55	58	56	88	81	127	20	19	3
Yes	3.0	3.5	3.1	2.0	5.1	0.7	2.7	0.0	12.3	0.0
				Number of A&E visits in the past 6 months						
Mean	0.8	0.7	0.7	1.0	0.9	0.0	0.7	0.0	1.1	0.0
SD	0.8	0.6	1.4	0.0	0.8	0.0	0.6	0.0	1.4	0.0
				Number of times hospitalised in the past 6 months						
Mean	0.8	0.7	0.7	1.0	0.9	0.0	0.7	0.0	1.1	0.0
SD	0.8	0.6	1.4	0.0	0.8	0.0	0.6	0.0	1.4	0.0
			Number of hospital admissions admitted through A&E in the past 6 months							
Mean	0.3	0.0	0.0	1.0	0.3	0.0	0.4	0.0	0.0	0.0
SD	0.5	0.0	0.0	0.0	0.5	0.0	0.7	0.0	0.0	0.0

Appendix Table A4s Epilepsy by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Epilepsy										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	0.6	0.5	1.0	0.1	0.8	0.4	0.7	0.4	0.0	0.0
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	12	4	7	1	7	5	11	1	0	0
Yes	6.1	0.0	10.0	0.0	0.0	16.3	6.5	0.0	0.0	0.0
Number of A&E visits in the past 6 months										
Mean	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table A4t Thyroid Disorder by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Thyroid Disorders										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	4.0	3.8	3.5	5.3	1.7	5.9	4.0	2.7	5.5	5.3
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	122	43	40	39	25	97	92	10	19	1
Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of A&E visits in the past 6 months										
Mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table A4u Migraine by Age Group, Gender and Ethnicity

	Total	Age Group			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Migraine										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	1.9	2.4	1.3	2.4	1.1	2.8	1.5	3.1	5.0	14.4
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	60	28	14	18	19	41	33	12	12	3
Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of A&E visits in the past 6 months										
Mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table A4v Parkinsonism by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Parkinsonism										
Diagnosed by a medical professional (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Yes	1.4	1.0	1.8	1.5	1.8	1.1	1.5	0.5	2.5	0.0
Hospitalised or gone to A&E due to condition in the past 6 months (weighted %)										
n	37	10	14	13	21	16	28	2	7	0
Yes	9.5	0.0	15.8	8.3	10.9	7.5	9.7	0.0	11.1	0.0
Number of A&E visits in the past 6 months										
Mean	0.6	0.0	0.5	1.0	0.9	0.0	0.6	0.0	1.0	0.0
SD	0.8	0.0	0.9	0.0	0.8	0.0	0.9	0.0	0.0	0.0
Number of times hospitalised in the past 6 months										
Mean	0.3	0.0	0.3	0.0	0.4	0.0	0.2	0.0	1.0	0.0
SD	0.5	0.0	0.6	0.0	0.6	0.0	0.4	0.0	0.0	0.0
Number of hospital admissions admitted through A&E in the past 6 months										
Mean	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table A4w ADL Limitation Status by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
How difficult do you find it to perform this activity by yourself? (weighted %)										
Take a bath / shower										
n	210	17	47	146	61	149	141	38	29	2
Somewhat difficult	32.8	13.5	57.1	26.4	42.7	28.7	33.7	25.5	35.4	41.0
Very difficult	20.1	32.9	18.5	19.0	27.1	17.2	18.1	23.0	26.7	59.0
Unable to perform	47.0	53.6	24.4	54.6	30.2	54.1	48.2	51.5	37.9	0.0
Dress Up										
n	191	19	39	133	58	133	129	37	23	2
Somewhat difficult	37.4	36.3	54.6	31.5	42.3	35.0	38.6	32.5	34.6	41.0
Very difficult	21.1	25.9	21.5	20.1	23.6	19.8	19.0	30.2	28.4	0.0
Unable to perform	41.6	37.8	23.9	48.4	34.0	45.1	42.5	37.3	37.0	59.0
Eat										
n	79	5	14	60	26	53	56	16	7	0
Somewhat difficult	45.8	0.0	69.5	44.3	61.7	37.9	51.6	28.6	0.0	0.0
Very difficult	18.9	35.5	22.7	15.6	10.8	22.9	15.9	30.5	34.6	0.0
Unable to perform	35.3	64.5	7.8	40.1	27.5	39.1	32.5	40.9	65.4	0.0
Stand up from a bed / chair; sitting down on a chair										
n	184	14	41	129	54	130	128	37	17	2
Somewhat difficult	41.2	27.5	51.7	39.1	50.1	37.3	41.9	25.3	54.5	100.0
Very difficult	24.2	23.5	30.6	21.8	23.1	24.7	24.9	24.5	20.6	0.0
Unable to perform	34.6	49.0	17.7	39.2	26.8	38.0	33.1	50.2	24.8	0.0
Walk (around the house)										
n	212	20	43	149	66	146	144	44	22	2
Somewhat difficult	43.9	38.3	51.3	42.2	52.5	39.9	44.0	39.2	40.8	100.0
Very difficult	20.6	21.4	26.0	18.6	20.2	20.8	20.9	17.8	30.9	0.0
Unable to perform	35.4	40.3	22.7	39.2	27.3	39.3	35.2	43.0	28.4	0.0
Use the sitting toilet										
n	159	13	31	115	44	115	111	28	18	2
Somewhat difficult	35.0	33.2	43.9	32.3	45.3	30.7	33.0	39.9	47.4	41.0
Very difficult	25.3	13.8	33.1	24.2	16.6	28.9	26.0	16.4	25.0	59.0
Unable to perform	39.7	53.0	22.9	43.5	38.1	40.4	41.0	43.7	27.5	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Appendix Table A4x Requirement of Assistance/Device for ADL by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	285	30	66	189	88	197	191	54	38	2
Human Assistance	37.6	51.5	37.7	35.0	50.1	31.9	34.8	35.6	63.7	59.0
Device Assistance	11.1	7.8	18.1	8.9	10.4	11.5	10.3	15.6	12.7	0.0
Both	46.1	20.7	36.3	54.6	36.0	50.7	49.8	44.8	14.5	41.0
None	5.2	20.0	7.9	1.4	3.5	6.0	5.0	4.1	9.1	0.0

Appendix Table A4y IADL Limitation Status by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
How difficult do you find it to perform this activity by yourself? (weighted %)										
Prepare own meals										
n	140	9	34	97	21	119	97	28	13	2
Somewhat difficult	16.0	12.3	27.5	11.7	5.3	18.1	13.5	24.1	35.0	0.0
Very difficult	21.1	23.8	31.9	16.4	34.2	18.5	20.9	21.5	16.0	41.0
Unable to perform	62.9	63.9	40.7	71.9	60.4	63.4	65.5	54.4	48.9	59.0
Leave the home to purchase necessary items or medication										
n	171	15	36	120	38	133	115	36	18	2
Somewhat difficult	24.7	25.7	42.5	17.3	34.1	22.1	23.5	23.9	34.4	43.3
Very difficult	27.5	35.2	30.3	25.2	32.7	26.0	25.2	36.8	33.3	23.2
Unable to perform	47.8	39.1	27.3	57.6	33.1	51.9	51.3	39.2	32.3	33.5
Take care of financial matters such as paying utilities (electricity, water)										
n	83	8	17	58	18	65	55	18	9	1
Somewhat difficult	20.4	20.3	22.2	19.7	6.6	23.7	23.5	9.8	16.8	0.0
Very difficult	19.3	24.0	24.5	16.3	14.2	20.5	18.2	21.4	30.7	0.0
Unable to perform	60.4	55.7	53.3	64.0	79.2	55.9	58.3	68.8	52.5	100.0
Use the phone										
n	94	4	12	78	26	68	64	21	8	1
Somewhat difficult	27.0	26.7	30.6	26.1	29.0	26.0	29.5	12.0	39.8	0.0
Very difficult	21.2	27.8	22.7	19.8	26.1	18.6	20.7	31.3	4.5	0.0
Unable to perform	51.8	45.5	46.7	54.1	44.9	55.4	49.8	56.7	55.8	100.0
Dust, clean up and other light housework										
n	134	11	30	93	24	110	92	30	11	1
Somewhat difficult	19.6	35.7	34.4	10.5	27.0	18.2	20.5	13.0	30.0	0.0
Very difficult	23.2	31.3	29.6	19.1	27.1	22.5	21.6	25.7	42.9	0.0
Unable to perform	57.1	33.0	36.0	70.4	45.9	59.3	58.0	61.2	27.1	100.0
Take public transport to leave home										

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n	204	17	47	140	58	146	135	46	22	1
Somewhat difficult	30.0	41.9	45.4	21.0	45.7	24.5	29.6	24.1	39.6	100.0
Very difficult	23.9	29.5	21.1	24.2	23.9	23.8	21.6	35.2	23.6	0.0
Unable to perform	45.7	28.6	32.1	54.8	29.0	51.7	48.3	40.7	36.9	0.0
Take medication as prescribed										
n	132	8	22	102	43	89	87	31	12	2
Somewhat difficult	32.2	29.3	43.1	29.4	35.8	30.7	32.6	31.3	26.0	41.0
Very difficult	25.5	29.3	30.2	23.8	27.7	24.5	25.3	21.9	27.5	59.0
Unable to perform	42.4	41.4	26.7	46.7	36.5	44.8	42.1	46.9	46.5	0.0
Use the Internet for e-mail or for any other purpose, such as making purchases or travel reservations, communicating with relatives and friends, or searching for information										
n	58	9	13	36	11	47	35	16	7	0
Somewhat difficult	19.6	26.4	22.0	7.3	18.2	19.9	21.1	14.0	10.1	26.4
Very difficult	40.2	42.4	42.5	33.8	18.3	45.2	41.1	35.9	38.5	42.4
Unable to perform	38.3	27.5	34.6	57.4	57.4	34.0	35.7	50.1	47.4	27.5

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Appendix Table A4z Requirement of Assistance/Device for IADL by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	876	181	295	400	213	663	626	167	80	3
Human Assistance	47.5	51.4	48.3	44.8	49.1	47.1	45.0	58.3	62.9	0.0
Device Assistance	4.1	3.0	4.4	4.5	4.4	4.0	4.8	0.4	4.6	0.0
Both	22.3	6.4	15.2	37.6	27.1	20.8	21.2	27.6	20.7	56.7
None	26.0	39.3	32.1	13.1	19.4	28.1	29.0	13.7	11.8	43.3

Appendix Table A4aa Limitation in Activities Due to Health Problem by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Limited in activities due to a health problem in the past 6 months (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
Severely limited	2.2	4.9	21.2	5.3	8.9	6.7	11.6	8.1	0.0	2.2
Limited but not severely	10.6	16.5	31.0	16.8	17.5	16.2	21.5	23.4	18.0	10.6
Not limited at all	87.1	78.6	47.3	77.7	73.6	77.0	66.5	67.9	82.0	87.1

Appendix Table A4ab Healthcare Utilisation by Age Group, Gender and Ethnicity

	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Number of times in the past 3 months										
Private general practitioner (GP)										
n	780	313	261	206	333	447	583	110	80	7
Mean	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.5
SD	0.9	0.9	0.8	1.1	0.9	0.9	0.9	0.7	0.9	1.0
Doctor at polyclinic										
n	1370	482	512	376	648	722	1023	181	157	9
Mean	1.4	1.4	1.3	1.4	1.4	1.4	1.3	1.4	1.6	1.8
SD	1.6	1.6	1.1	2.3	1.8	1.5	1.2	1.9	3.8	0.9
Doctor at specialist outpatient clinic										
n	682	211	254	217	328	354	513	89	75	5
Mean	1.5	1.4	1.6	1.5	1.5	1.5	1.5	1.6	1.9	1.3
SD	1.2	0.9	1.2	1.6	1.3	1.1	1.1	1.2	1.8	0.5
Private specialist										
n	78	28	28	22	30	48	56	8	12	2
Mean	1.3	1.3	1.2	1.3	1.1	1.4	1.3	1.3	1.5	1.0
SD	0.6	0.6	0.6	0.7	0.3	0.7	0.5	0.7	1.0	0.0
Traditional Chinese Medicine (TCM)										
n	314	128	124	62	115	199	302	6	4	2
Mean	4.7	4.1	4.4	7.3	4.3	5.0	4.7	2.7	1.6	7.0
SD	8.5	4.6	7.9	15.6	4.7	10.1	8.6	2.7	0.8	2.5
Number of visits in the past 6 months										
Hospital emergency room										
n	281	75	105	101	124	157	199	50	31	1
Mean	1.3	1.3	1.3	1.3	1.2	1.4	1.2	2.0	1.7	1.0
SD	1.1	0.8	1.3	0.9	0.6	1.3	0.5	2.4	1.6	0.0
Number of nights in the past 12 months										
Admitted to nursing home										
n	47	9	11	27	16	31	38	4	5	0
Mean	97.7	53.4	149.9	88.1	130.0	80.7	98.9	19.1	154.1	0.0
SD	139.2	94.2	171.8	132.6	151.2	131.8	139.0	12.0	192.3	0.0
Admitted to public or private hospital										
n	453	120	158	175	219	234	321	76	51	5
Mean	11.6	8.2	11.2	14.7	11.6	11.5	11.6	9.0	13.6	16.7
SD	22.8	14.9	24.3	25.8	21.8	23.7	22.8	9.9	32.3	35.7

Appendix Table A7a Attendance of Religious Services, Praying in Private Places and Importance of Religion in Life by Age Group, Gender and Ethnicity

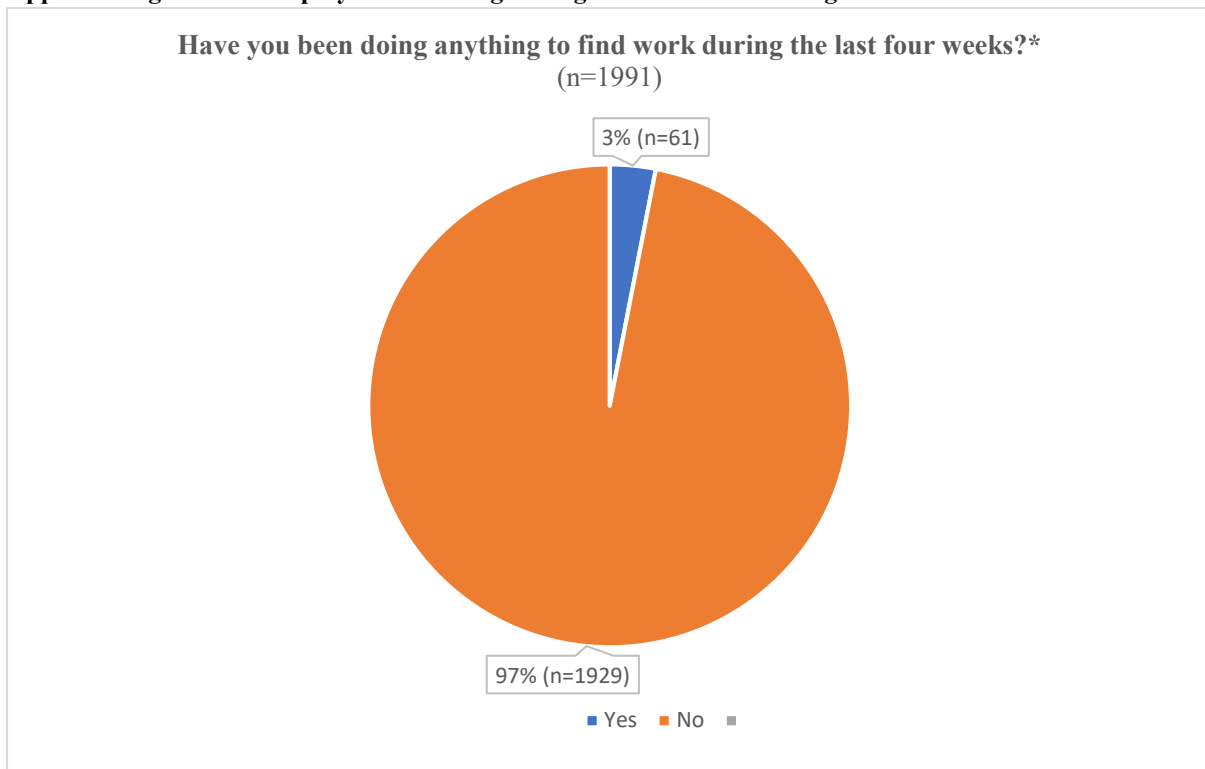|	Total	Age Group (years)			Gender		Ethnicity			
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Attendance of religious services in the last year (weighted %)										
n	2887	1110	1022	755	1345	1542	2180	398	287	22
More than once a week	8.5	9.3	9.5	5.3	8.6	8.4	6.1	19.8	17.5	31.8
Once a week	15.3	17.8	14.5	11.9	15.4	15.3	12.4	31.1	27.1	29.2
Two or three times a month	15.2	16.8	17.3	8.6	14.8	15.7	16.0	7.6	18.0	9.8
One or more times a year	30.5	35.0	30.7	21.5	31.6	29.6	34.2	7.8	19.5	19.4
Not at all	30.3	21.2	27.9	52.6	29.6	31.0	31.3	33.8	17.1	9.8
n	2664	1098	988	578	1277	1387	2033	349	261	21
Praying in private places (weighted %)										
More than once a day	38.0	39.7	36.4	37.1	34.3	41.4	30.9	93.1	52.7	44.7
Once a day	21.5	21.4	21.0	22.9	21.9	21.1	22.8	1.8	30.7	31.3
More than once a week	2.6	2.8	2.8	1.9	3.4	2.0	2.7	0.3	5.6	0.0
Two or three times a month	6.0	5.7	6.5	5.9	5.4	6.5	7.0	1.1	1.8	0.0
One or more times a year	4.3	4.8	3.7	4.4	5.1	3.6	4.6	0.3	3.1	13.5
Not at all	27.5	25.7	29.5	27.4	29.9	25.3	32.0	2.8	5.7	10.6
Importance of religion (weighted %)										
Very important	47.9	48.5	46.3	49.7	42.5	52.8	39.6	97.3	80.4	79.2
Somewhat important	38.0	38.1	38.4	36.8	39.2	36.9	43.9	2.2	15.5	16.1
Not at all important	13.0	12.2	14.3	12.0	17.6	8.7	15.2	0.5	3.7	4.7

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

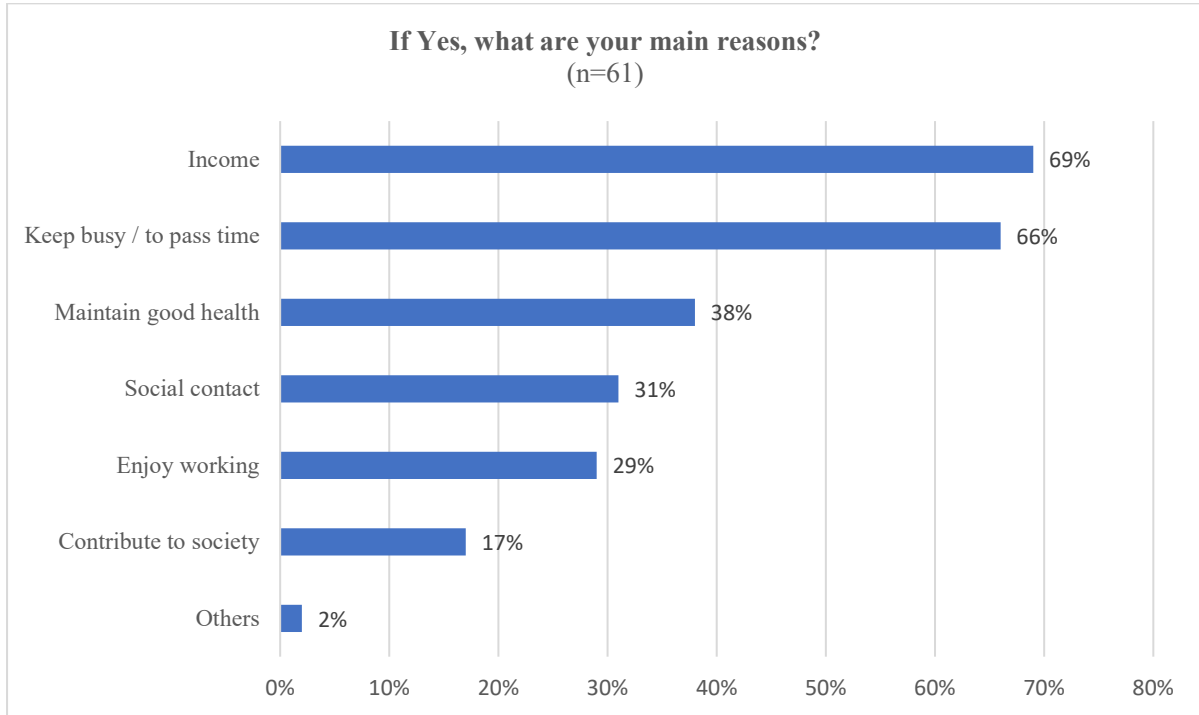**Appendix Table A9a Current Engaged Occupation by Age Group, Gender and Ethnicity**

| | Total | Age Group (years) | | | Gender | | Ethnicity | | | |
		62-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
				Current Engaged Occupation (weighted %)						
n	896	579	270	47	538	358	685	105	96	10
Professionals	7.6	8.2	6.9	1.9	9.3	5.1	6.9	4.7	12.0	29.9
Administrative & managerial	5.7	5.6	6.0	6.5	5.0	6.9	6.0	2.7	4.4	10.5
Associate professionals & technicians	7.5	8.4	5.9	5.1	10.6	3.0	7.4	6.4	9.0	13.6
Clerical workers	4.6	5.7	2.5	0.0	1.5	9.1	4.6	2.9	8.1	0.0
Sales & services	26.8	26.3	27.8	26.3	24.4	30.3	27.3	18.5	31.9	21.3
Production & related	15.8	17.5	13.4	4.3	21.8	6.6	16.3	21.5	7.5	0.0
Cleaners & labourers	31.9	28.2	37.1	56.0	27.2	38.9	31.4	43.2	27.1	24.7

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Appendix Figure A9b Employment Seeking among Retired/Not Working

Have you been doing anything to find work during the last four weeks?*
(n=1991)

3% (n=61)

97% (n=1929)

■ Yes ■ No ■

Appendix Figure A9c Reasons for Seeking Employment among Retired/Not Working

If Yes, what are your main reasons?
(n=61)

Reason	%
Income	69%
Keep busy / to pass time	66%
Maintain good health	38%
Social contact	31%
Enjoy working	29%
Contribute to society	17%
Others	2%

Appendix Figure A9d Never Worked

What is your current work status?
(n=2887)

8% (n=240)

92% (n=2647)

■ No ■ Yes
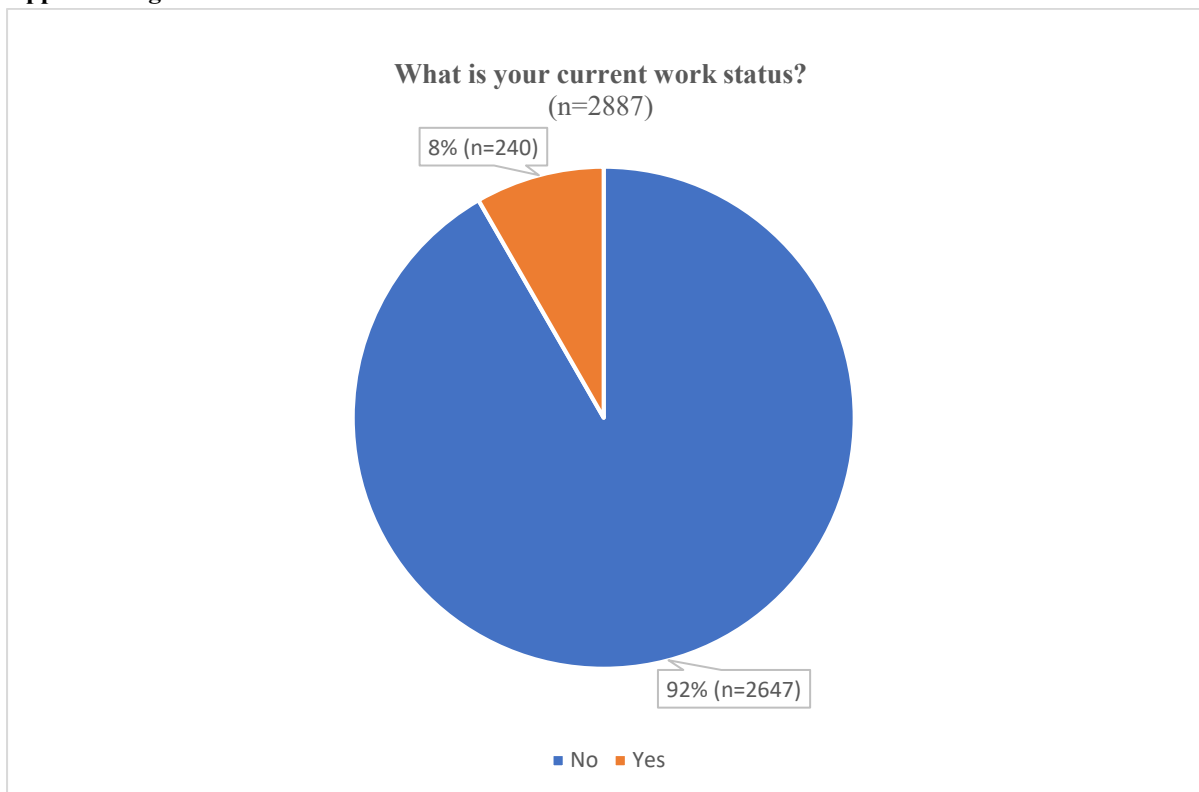
Appendix Figure A9e Reasons for Not Seeking Employment among Retired/Not Working

If No, what are your main reasons?
(n=1709)

Reason	Percentage
I am already retired	48%
Own ill health	28%
Taking care of a family member / relative / friend	27%
To spend more time with spouse / family	22%
Employers will not hire me due to my age	20%
To enjoy life	19%
I am financially secure	18%
Taking a break	12%
Spouse / family will not allow me to work	9%
Cannot find a suitable job	7%
I do not have the needed skills or experience	5%
Others	2%

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