National Population Health Survey 2020

(Household Interview and Health Examination)

MINISTRY OF HEALTH
SINGAPORE

COPYRIGHT NOTICE

NATIONAL POPULATION HEALTH SURVEY 2020

(Household Interview and Health Examination)

ISBN 978-981-18-1526-3

Suggested Source Citation

Epidemiology & Disease Control Division and Policy, Research & Surveillance Group
Ministry of Health and Health Promotion Board, Singapore

CONTENTS

Foreword

The National Population Health Survey (NPHS) is a cross-sectional population health survey series to track the health and risk factors, as well as lifestyle practices of Singapore residents. This survey replaces the three population health surveys (i.e. National Health Survey (NHS), National Health Surveillance Survey (NHSS) and Health Behaviour Surveillance of Singapore (HBSS)) previously conducted by the Ministry of Health and Health Promotion Board respectively.

The NPHS is conducted annually to provide timely and regular information on the prevalence of non-communicable diseases such as diabetes mellitus, hypertension, hyperlipidaemia and related risk factors like smoking, alcohol consumption and physical inactivity from a representative sample of the resident population. Overall, the results from NPHS 2020 showed that more Singapore residents are diagnosed with chronic diseases especially hypertension and hyperlipidaemia; and are obese compared to 2017. Although the screening coverage for cancers have improved over the same period, there were fewer residents who are screened for chronic diseases. In term of risk factors, the proportion of Singapore residents who engaged in regular exercise has increased compared to 2017. The smoking prevalence continued to come down but the prevalence of binge drinking has increased slightly since 2017. These findings from the survey will help the Ministry of Health and Health Promotion Board to develop and evaluate policies and programmes and to improve the health of Singapore residents.

I would like to gratefully acknowledge all who have, in one way or another, contributed to the successful completion of the survey. In particular, I would like to thank all survey respondents who have given their time to take part, and whose support makes this report possible.

ASSOCIATE PROF KENNETH MAK
Director of Medical Services
November 2021

Executive Summary

The National Population Health Survey (NPHS) is a cross-sectional population health survey conducted annually by the Ministry of Health and Health Promotion Board to track the health and risk factors, as well as lifestyle practices of Singapore residents. This survey replaces the three population health surveys (i.e. National Health Survey (NHS), National Health Surveillance Survey (NHSS) and Health Behaviour Surveillance of Singapore (HBSS)) that were conducted in the earlier years.

The NPHS monitors the behavioural risk factors such as smoking and alcohol consumption; chronic diseases such as diabetes mellitus and hypertension as well as preventive health behaviour such as the practice of health screening. The survey findings will be used by the Ministry of Health and Health Promotion Board to track progress towards national heath targets; and for planning and evaluation of health policies, programmes and health care services.

The NPHS consists of two components[1]: (i) Household Interview and (ii) Health Examination. This report presents the survey findings from the Household Interview of all Singapore residents aged 18 to 74 years as well as from the Health Examination which comprises mainly measured indicators such as obesity and chronic disease prevalence. The measured indicators from the Health Examination are aggregated over a period of two survey cycles (i.e. NPHS 2019 and NPHS 2020) to ensure that there are enough data for a detailed analysis[2]. The reporting coverage differs from previous national health surveys and reflects the growing size of the older population. While the survey results in the earlier publications of the national health surveys were based on Chinese, Malay and Indian residents aged 18 to 69 years, the NPHS report is based on all Singapore residents aged 18 to 74 years. Time-series data for the extended reporting coverage are available from 2007 onwards[3].

[1] More details on the survey design, method and fieldwork are covered in “Chapter 15: Survey Methodology”.

[2] Data collection for the “Health Examination” component requires more efforts and a longer time duration for completion. This is because it requires respondents to attend a health examination/screening at designated locations and hence there are relatively fewer respondents as compared to the “Household Interview” component.

[3] Data from the earlier national health surveys are presented for trend analysis over a longer time period. However, there are differences in the survey design across the health surveys and caution should be exercised in examining differences across the survey series.

Alcohol consumption

- The crude prevalence of regular drinking remained low at around 2% since 2017. 2.2% of Singapore residents aged 18 to 74 years consumed alcohol regularly in 2020, with 3.4% of the male residents and 1.0% of the female residents reported being regular drinkers.
- The crude prevalence of binge drinking continued to increase from 8.8% in 2017 to 10.5% in 2020. Binge drinking was more common among males (14.6%) than females (6.5%) in 2020; and younger adults aged 18 to 39 years had higher proportion of binge drinkers, particularly among males where about one in five had a habit of binge drinking.

Cigarette Smoking

- The crude prevalence of daily smoking declined from 11.8% in 2017 to 10.1% in 2020. This decline was more pronounced in the males compared to females, with the females' prevalence remaining relatively constant at around 3% in the recent years.
- In 2020, more males (17.0%) had the habit of smoking daily compared with females (3.4%).
- Daily smoking was most prevalent in adults aged 50 to 59 years (13.4%) and least prevalent among older adults in the 60 to 74 years age group (8.0%).
- Male daily smokers smoked an average of 13 cigarettes a day whilst female daily smokers smoked an average of 10 cigarettes a day.
- About half (48.3%) of the daily smokers indicated that they had plans to quit smoking. However, only 19.3% of them planned to quit smoking within the next 12 months or less.

Physical Activity

- The proportion of Singapore residents who engaged in sufficient total physical activity was 76.4% in 2020, significantly lower than the 80.1% in 2019 and 80.9% in 2017. The age-standardised prevalence also showed a similar decline from 80.9% in 2017 to 76.8% in 2020.

- In 2020, the largest contributor to total physical activity per week was commuting (49.6%), followed by leisure-time physical activity (26.8%) and work-related physical activity (23.6%).
- Similar proportions of males (76.4%) and females (76.5%) had sufficient total physical activity in 2020.
- Young adults in the 18 to 29 years age group (82.9%) had higher level of sufficient total physical activity compared with other age groups.
- The crude prevalence of leisure-time regular exercise had been on an increasing trend since 2017 (29.4%) although the proportion of Singapore residents who engaged in regular exercise dipped slightly in 2020 (33.4%) compared with 2019 (35.2%). The age-standardised prevalence was also trending upwards from 29.8% in 2017 to 33.8% in 2020.
- The highest proportion of adults with regular exercise was observed among young adults aged 18 to 29 years (41.2%) while the lowest was among older adults aged 60 to 74 years (29.2%) in 2020.
- More males (36.2%) exercised regularly compared with females (30.7%).
- One in three (33.8%) Singapore residents aged 18 to 74 years reported having sufficient muscle strengthening activity.
- This was more common among younger adults aged 18 to 29 years (44.1%) compared with one third of those aged 30 to 59 years and one-quarter (25.5%) of older adults aged 60 to 74 years.
- Males (40.1%) had higher proportion with sufficient muscle strengthening activity compared to females (27.8%).

Chronic Diseases

- The crude prevalence of chronic diseases (i.e. diabetes mellitus, hypertension and hyperlipidaemia) continued to show an increasing trend over the years. However, the age-standardised prevalence for diabetes seemed to have stabilised in recent years.
- Males tended to have higher prevalence of chronic diseases compared with females in general. For all three chronic diseases, the proportion of residents with chronic diseases increased with age.

Diabetes Mellitus

- The crude prevalence of diabetes showed a slight increasing trend over the years from 8.6% in 2010, 8.8% in 2017 to 9.5% during the period 2019-2020. However, the age-standardised prevalence of diabetes decreased from 8.6% in 2010 to 7.8% in 2017 and 7.9% in 2019-2020, indicating the increase in crude prevalence was partly attributable to population ageing.
- A higher proportion of males (10.6%) were diabetic compared to females (8.4%) during the period 2019-2020.
- Diabetes prevalence increased with age where the proportion of diabetics almost doubled with each successive age group from 3.0% among those aged 30 to 39 years to 13.4% among those aged 50 to 59 years. More than one in every five older adults aged 60 to 74 years were diabetic.
- Among all residents with diabetes mellitus, close to one-quarter (23.2%) of them had not been previously diagnosed with diabetes. Among the known diabetics who attended health examination, about one-quarter (26.0%) had poor glucose control.

Hypertension (or High Blood Pressure)

- The overall crude prevalence of hypertension showed a significant increase from 2017 (24.2%) to 2019-2020 (35.5%). Similarly, the age-standardised prevalence had increased from 21.9% in 2017 to 31.7% in 2019-2020.
- More males (41.0%) had hypertension compared with females (30.2%) during the period 2019-2020.
- Prevalence of hypertension increased with age; starting at around 10% for those aged 18 to 29 years to 74.9% among those aged 70 to 74 years.
- Among all residents with hypertension, almost half (52.4%) of them had not been previously diagnosed with hypertension. Among the known hypertensives who attended health examination, about two-thirds (64.3%) had poor control of their blood pressure.

Hyperlipidaemia (or High Blood Cholesterol)

- The crude prevalence of high blood cholesterol increased from 35.5% in 2017 to 39.1% in 2019-2020 while the age-standardised prevalence increased from 33.8% to 36.9%.
- Males (42.8%) had higher prevalence of high blood cholesterol than females (35.8%) during the period 2019-2020.
- The prevalence of high blood cholesterol increased with age; from around one in six (15.7%) adults in the 18 to 29 years age group to two in three (62.8%) in the 70 to 74 years age group.
- Among all residents with high blood cholesterol, more than half (54.5%) of them had not been previously diagnosed with this chronic condition.

Chronic Disease Screening

- The proportion of Singapore residents aged 40 to 74 years with no previous diagnosis of diabetes mellitus, high blood pressure, and high blood cholesterol ("DHL") who were screened within the recommended screening frequencies dropped to 63.0% in 2020 from 66.4% in 2017.
- Based on individual disease alone regardless of the co-morbidity with other chronic diseases, 78.5% of adults aged 40 to 74 years without known diabetes were screened for diabetes within the past three years, 83.3% of those without known high blood pressure had their blood pressure checked within the past two years, and 76.5% of those with no previous diagnosis of high blood cholesterol were screened for this disease within the past three years.

Cancer Screening

- Screening rates for breast and colorectal cancer remained stable at about 40% between 2019 and 2020 but were much improved compared with 2017 (breast cancer 30.9%, colorectal cancer 35.0%). Cervical cancer screening rates fluctuated between 45% to 48% between 2017 and 2020.
- Compared with 2017, there were improvements in breast screening rates across age groups in 2020. Similarly, the cervical cancer screening rates for those 40 years and above showed an improvement during this period, however the rates for women aged 25 to 39 years declined. Colorectal cancer screening also showed an increase in screening rate across all age and gender groups since 2017.

Breast Cancer Screening

- In 2020, 37.9% of Singapore women in the 50 to 69 years age group reported that they had gone for mammography in the last two years.

Cervical Cancer Screening

- Fewer than one in two (45.4%) women reported that they had gone for a cervical cancer screening (had done a Pap smear test in the past three years or a HPV test in the past five years) in 2020.

Colorectal Cancer Screening

- Overall in 2020, 41.1% of Singapore residents aged 50 to 74 years had undergone colorectal screening within the recommended screening frequency.
- One-quarter (25.2%) of these residents reported having undergone Faecal Occult Blood Test (FOBT) at least once in the past one year while another quarter (25.3%) had undergone colonoscopy in the past 10 years.
- The practice of taking a FOBT or a colonoscopy was more prevalent among males (44.6%) compared to females (37.7%).

Vaccination Coverage

- The overall influenza vaccination coverage (a flu injection in the past 12 months) among Singapore residents aged 18 to 74 years was 17.0% in 2020, similar to 17.4% in 2019 but higher than the 13.1% in 2017.
- The influenza vaccination coverage among males (18.0%) was higher than females (16.1%) in 2020.
- The proportion of elderly aged 65 to 74 years who reported ever having received pneumococcal vaccine increased from 11.9% in 2017 to 14.4% in 2020.
- The pneumococcal vaccination coverage was higher in females (15.0%) than males (13.8%) in 2020.

Obesity

- The crude prevalence of obesity (10.5%) among residents aged 18 to 74 years in 2019-2020 had returned to the previous level seen in 2010 (10.5%) after a slight decrease in 2013 (8.6%) and 2017 (8.6%).
- Obesity was more common among males (11.9%) compared with females (9.3%) in 2019-2020.
- In terms of age groups, obesity among adults aged 30 to 59 years was around 12%, almost double that of those aged 18 to 29 years old (6.6%).

High Risk BMI[4]

- The proportion of Singapore residents in the high risk BMI category for Asian population increased to 20.7% during the period 2019-2020 from 18.7% in 2017, nearing the prevalence observed in 2010 (22.7%).
- High risk BMI was more prevalent among males (22.6%) compared with females (18.8%).
- High risk BMI was also more common among adults aged 30 to 59 years, almost double that of those aged 18 to 29 years old (13.1%).

Abdominal Obesity

- The crude prevalence of abdominal obesity remained fairly constant at around 40% in 2010, 2017 and 2019-2020.
- In 2019-2020, two-fifths (40.6%) of Singapore residents aged 18 to 74 years were found to have abdominal obesity, and this was more commonly found in females (43.2%) than males (37.8%).
- The prevalence of abdominal obesity increased with age, with the highest prevalence among adults aged 60 to 74 years (56.9%). The proportion for other age groups ranged from 17.1% in the 18 to 29 years age group to 48.8% in the 50 to 59 years age group.

[4] Recognising that the risk for cardiovascular diseases and diabetes mellitus starts from a lower BMI for Asian populations, the WHO expert consultation recommended an additional classification of BMI for public health action among Asians where having a BMI equal to or greater than 27.5 kg/m^2 was considered as having high risk BMI (i.e. BMI ≥ .27.5 kg/m^2).

Chronic Kidney Disease (Renal Impairment)

- The prevalence of chronic kidney disease (CKD) among Singapore residents aged 18 to 74 years was 8.8% during the period 2019-2020, with males (8.5%) having marginally lower prevalence than females (9.2%).
- The prevalence of CKD increased with age, from 3.4% among those aged 18 to 39 years, 7.0% among those aged 40 to 54 years,14.5% among those aged 55 to 69 years to 29.5% for those aged 70 to 74 years.
- The prevalence of CKD among residents with diabetes (33.7%) was 5.5-fold higher than those without diabetes (6.1%). Among residents with pre-diabetes, their prevalence of CKD (16.8%) was more than twice as high as those without diabetes (6.1%).
- Similarly, for residents with hypertension, their prevalence of CKD (18.8%) was 4.7-fold elevated compared to those without hypertension (4.0%).

Mental Health

- The crude prevalence of poor mental health as measured by GHQ-12 among Singapore residents aged 18 to 74 years was 13.4% in 2020 and remained stable compared with the previous survey (12.5%) in 2017.
- More females (14.8%) had poor mental health compared to males (12.0%) in 2020.
- Younger adults aged 18 to 29 years (21.5%) had the highest proportion with poor mental health while the prevalence for other age groups were much lower, ranging from 9.4% for those in the 60 to 74 years age group to 12.6% in the 30 to 39 years age group.

Chapter 1
Alcohol Consumption

Key Points

- 2.2% of Singapore residents aged 18 to 74 years consumed alcohol regularly in 2020, with 3.4% of the male residents and 1.0% of the female residents reported being regular drinkers.
- Regular alcohol intake was most common in males in the 60 to 74 years age group (5.1%).
- The prevalence of binge drinking was 10.5%, and it was more common among males (14.6%) than females (6.5%).
- Young adults in the 18 to 39 years age group were most likely to binge drink compared to the other age groups, particularly among males where about one in five had a habit of binge drinking.
- Binge drinking was reported to occur most frequently at pubs, bars, and hotel lounges (39.5%), followed by at a friend's or relative's place or at home during parties or celebratory occasions (31.6%).

Introduction

Excessive alcohol consumption is associated with an increased risk of hypertension, stroke and certain cancers. It may lead to liver cirrhosis, inflammation of the pancreas and damage to the brain and heart. Excessive alcohol intake can also cause mental disorders such as alcohol dependence and other alcohol-induced disorders such as amnesia *(WHO 2018)*.

Definition

Alcohol consumption was classified according to the frequency of alcohol intake in Table 1.1.

Table 1.1: Classification of alcohol consumption

Classification	Frequency of alcohol consumption
Regular drinker	> 4 days a week
Frequent drinker	1 - 4 days a week
Occasional drinker	≤ 3 days a month

Binge drinking was defined as consumption of five or more alcoholic drinks[5] for males or four or more alcoholic drinks for females in any single drinking session during the past month preceding the survey.

Method Used

An interviewer-administered questionnaire was used. Respondents were shown a card with pictures of standard alcoholic drinks (Diagram 1) and asked questions on alcohol consumption within the past 12 months at the time of the survey. Respondents were also asked how frequent and where they usually drink five or more alcoholic drinks for males or four or more alcoholic drinks for females in any single drinking session during the past month preceding the survey.

Diagram 1: Alcohol Card

Alcohol Consumption

The survey found that among Singapore residents aged 18 to 74 years old, 2.2% consumed alcohol regularly, 8.8% frequently and 35.8% occasionally and 53.3% were non-drinkers (Table 1.2).

[5] 1 alcoholic drink refers to 1 glass (~100 mls) of wine or 1 measure (~30 mls) of spirits.1 can/ mug/ small bottle (330ml) of beer represents 1.5 servings of alcoholic drink.

Table 1.2: Alcohol consumption (%) among Singapore residents aged 18 to 74 years by gender, 2020

Alcohol Consumption	Total	Males	Females
Non-drinker	53.3	45.0	61.2
Occasional drinker	35.8	39.3	32.3
Frequent drinker	8.8	12.3	5.5
Regular drinker	2.2	3.4	1.0

Note: Data might not sum to 100% due to rounding.

Prevalence of Regular Alcohol Consumption

Among Singapore residents aged 18 to 74 years, 3.4% of males and 1.0% of females consumed alcohol regularly (Table 1.3). Regular alcohol intake was most common in males in the 60 to 74 years age group (5.1%). 2.4% of Chinese consumed alcohol on a regular basis (Graph 1.1). A higher proportion of residents with primary education (3.2%) were regular drinkers compared with residents with secondary (1.9%) and post-secondary (2.1%) education (Table 1.4).

Table 1.3: Age-specific crude prevalence (%) of regular alcohol consumption among Singapore residents aged 18 to 74 years by gender, 2020

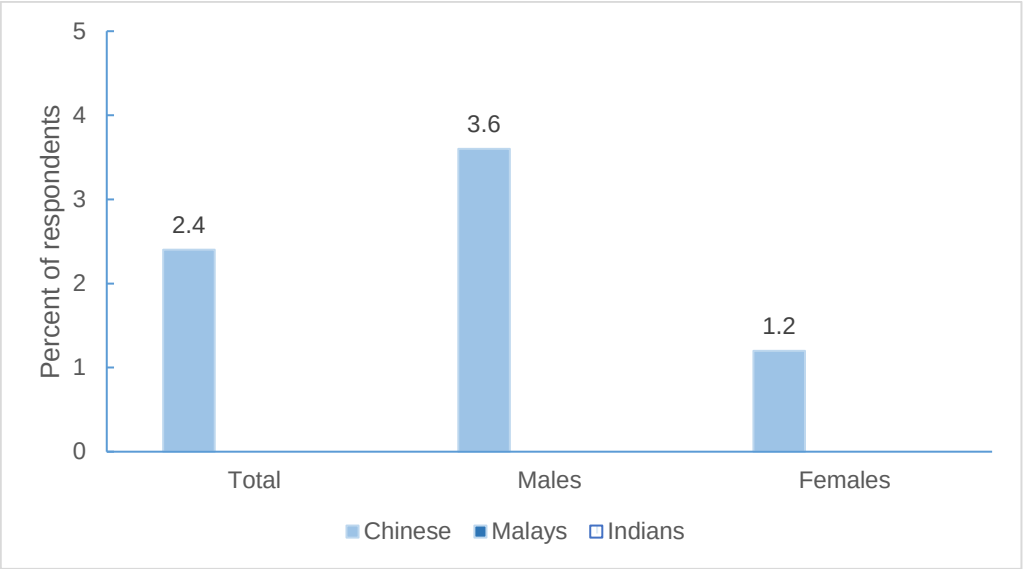
Age (years)	Total	Males	Females
18-29	s	s	s
30-39	1.8	2.8	s
40-49	2.0	3.4	s
50-59	3.4	4.5	s
60-74	3.0	5.1	s
18-74	2.2	3.4	1.0

s: Data have been suppressed due to small counts or high sampling variability.

Trends in Regular Drinking

The crude prevalence of regular alcohol consumption has remained low at around 2% in recent years (Table 1.4).

Graph 1.1: Crude prevalence (%) of regular alcohol consumption among Singapore residents aged 18 to 74 years by gender and ethnic group, 2020



Note: Data for Malays and Indians have been suppressed due to small counts or high sampling variability.

Table 1.4: Crude prevalence (%) of regular alcohol consumption among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2013, 2017, 2019 and 2020

	NHSS	NHSS	NPHS	NPHS	NPHS
	2007	2013	2017	2019	2020
Total	1.2	1.2	2.2 (1.6, 2.7)	2.1 (1.6, 2.6)	2.2 (1.7, 2.6)
ASR	1.2	1.2	2.1	1.9	2.1
18-29	s	s	s	s	s
30-39	0.9	s	s	1.1 (0.5, 1.8)	1.8 (0.9, 2.8)
40-49	1.2	2.0	2.3 (1.1, 3.4)	2.1 (1.0, 3.1)	2.0 (1.2, 2.8)
50-59	1.9	1.5	3.8 (2.1, 5.4)	2.4 (1.3, 3.4)	3.4 (2.2, 4.6)
60-74	s	1.4	3.7 (2.0, 5.4)	4.3 (2.7, 5.9)	3.0 (2.1, 3.8)
Males	2.1	2.0	3.7 (2.7, 4.8)	3.6 (2.6, 4.5)	3.4 (2.7, 4.1)
Females	s	0.4	s	0.7 (0.3, 1.0)	1.0 (0.6, 1.4)
Primary	1.5	1.8	s	3.3 (1.9, 4.6)	3.2 (1.9, 4.4)
Secondary	1.3	1.6	2.6 (1.4, 3.7)	2.3 (1.4, 3.1)	1.9 (1.3, 2.5)
Post-secondary	1.0	0.8	1.9 (1.1, 2.7)	1.7 (1.1, 2.3)	2.1 (1.5, 2.6)

Table 1.4: Crude prevalence (%) of regular alcohol consumption among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2013, 2017, 2019 and 2020 (continued)

	NHSS	NHSS	NPHS	NPHS	NPHS
	2007	2013	2017	2019	2020
Chinese	1.3	1.3	2.3 (1.6, 2.9)	2.2 (1.6, 2.8)	2.4 (1.9, 2.9)
Malays	s	s	s	s	s
Indians	s	1.0	s	s	s

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) s: Data have been suppressed due to small counts or high sampling variability.

(3) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(4) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Prevalence of Binge Drinking

The prevalence of binge drinking at least once in the past month preceding the survey was 10.5% (Table 1.5). Binge drinking was more prevalent among males (14.6%) than females (6.5%); and among Chinese (11.6%) and Indians (11.4%) compared to Malays (1.7%) (Graph 1.2). Males had the highest proportion of binge drinkers in the 30 to 39 years age group (21.0%), whereas females had the highest proportion of binge drinkers in the 18 to 29 years age group (14.2%). About one in five males aged between 18 to 39 years had a habit of binge drinking. The proportion of binge drinkers was higher among those with post-secondary education (13.0%) compared with those with secondary (7.5%) or primary education (4.4%) (Table 1.6). Binge drinking was reported to occur most frequently at pubs, bars, and hotel lounges (39.5%), followed by at a friend's or relative's place or at home during parties or celebratory occasions (31.6%).

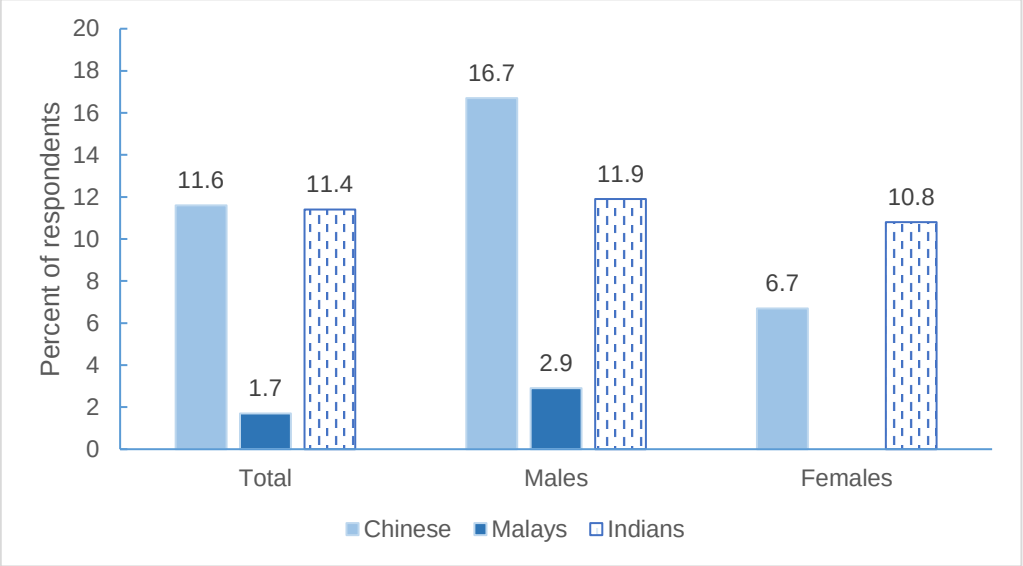
Table 1.5: Age-specific crude prevalence (%) of binge drinking among Singapore residents aged 18 to 74 years by gender, 2020

Age (years)	Total	Males	Females
18-29	17.1	20.0	14.2
30-39	14.5	21.0	8.7
40-49	9.6	14.1	5.6
50-59	6.8	10.1	3.6
60-74	4.9	8.8	1.1
18-74	10.5	14.6	6.5

Trends in Binge Drinking

The crude prevalence of binge drinking continued to increase from 8.8% in 2017 to 10.5% in 2020 (Table 1.6). This increase in binge drinking was seen mainly in the younger age groups (18 to 29 years and 30 to 39 years).

Graph 1.2: Crude prevalence (%) of binge drinking among Singapore residents aged 18 to 74 years by gender and ethnic group, 2020



Note: Data for Malay females have been suppressed due to small counts or high sampling variability.

Table 1.6: Crude prevalence (%) of binge drinking among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2013, 2017, 2019 and 2020

	NHSS	NHSS	NPHS	NPHS	NPHS
	2007	2013	2017	2019	2020
Total	4.3	7.4	8.8 (7.6, 10.0)	10.2 (9.1, 11.3)	10.5 (9.5, 11.5)
ASR	4.2	7.3	9.1	10.7	11.2
18-29	8.1	14.6	12.4 (9.2, 15.6)	16.6 (13.5, 19.7)	17.1 (13.8, 20.3)
30-39	4.6	7.7	10.6 (7.5, 13.7)	13.8 (10.9, 16.6)	14.5 (12.0, 17.0)
40-49	3.7	5.3	9.3 (6.8, 11.7)	8.8 (6.8, 10.7)	9.6 (7.7, 11.6)
50-59	2.3	4.9	7.3 (5.0, 9.7)	6.9 (5.0, 8.8)	6.8 (5.1, 8.5)
60-74	s	3.2	4.0 (2.4, 5.7)	5.0 (3.4, 6.6)	4.9 (3.5, 6.2)
Males	6.4	10.7	13.1 (11.1, 15.1)	14.9 (13.1, 16.6)	14.6 (13.0, 16.3)
Females	2.2	4.2	4.7 (3.4, 6.0)	5.7 (4.6, 6.8)	6.5 (5.3, 7.7)

Table 1.6: Crude prevalence (%) of binge drinking among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2013, 2017, 2019 and 2020 (continued)

	NHSS	NHSS	NPHS	NPHS	NPHS
	2007	2013	2017	2019	2020
Primary	3.1	2.7	4.2 (2.3, 6.2)	5.4 (3.6, 7.2)	4.4 (2.9, 5.9)
Secondary	4.5	5.7	8.4 (6.5, 10.4)	7.3 (5.9, 8.7)	7.5 (6.0, 8.9)
Post-secondary	4.5	9.8	10.3 (8.6, 12.0)	12.5 (10.9, 14.2)	13.0 (11.5, 14.5)
Chinese	4.7	8.6	9.4 (8.0, 10.9)	11.5 (10.1, 12.8)	11.6 (10.3, 12.8)
Malays	1.1	1.5	s	2.3 (1.0, 3.6)	1.7 (0.7, 2.7)
Indians	4.5	6.6	13.4 (9.2, 17. 6)	10.5 (7.8, 13.1)	11.4 (7.9, 14.8)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) s: Data have been suppressed due to small counts or high sampling variability.

(3) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(4) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 2
Cigarette Smoking

Key Points

- 10.1% of Singapore residents aged 18 to 74 years smoked cigarettes daily in 2020.
- More males (17.0%) had the habit of smoking daily compared with females (3.4%).
- Daily smoking was most prevalent in adults aged 50 to 59 years (13.4%) and least prevalent among older adults in the 60 to 74 years age group (8.0%).
- Male daily smokers smoked an average of 13 cigarettes a day whilst female daily smokers smoked an average of 10 cigarettes a day.
- About half (48.3%) of the daily smokers indicated that they had plans to quit smoking. However, only 19.3% of them planned to quit smoking within the next 12 months or less.

Introduction

Tobacco use is the single greatest cause of preventable death globally. It leads most commonly to diseases affecting the heart and lungs, with cigarette smoking being a major risk factor for heart attack, stroke, chronic obstructive pulmonary disease (COPD), and cancer (particularly lung cancer, cancers of the larynx and mouth, and pancreatic cancer). It also causes peripheral vascular disease and hypertension *(US Department of Health and Human Services, 2014)*.

Definition

The World Health Organization (WHO) classification criteria for cigarette smoking status was used in the survey *(WHO, 1998)* in Table 2.1.

Table 2.1: Classification of smoking status

Classification	Frequency of cigarette smoking
Daily smoker	Smokes cigarettes at least once a day (including people who smoke every day but have to stop temporarily because of religious fasting or medical reasons)
Occasional smoker	Smokes cigarettes but not every day
Ex-smoker	Formerly a daily smoker, but currently does not smoke at all
Non-smoker	Never smoked before or smoked too little in the past to be regarded as an ex-smoker

Method Used

An interviewer-administered questionnaire was used. The questionnaire was based on WHO's recommended core questions for assessing smoking status *(WHO,1998)*.

Smoking Status

The survey showed that among Singapore residents aged 18 to 74 years, 10.1% smoked daily, 3.0% were occasional smokers, 8.2% were ex-smokers and 78.7% were non-smokers (Table 2.2).

Table 2.2: Smoking status (%) of Singapore residents aged 18 to 74 years by gender, 2020

Smoking Status	Total	Males	Females
Daily smoker	10.1	17.0	3.4
Occasional smoker	3.0	5.0	1.2
Ex-smoker	8.2	14.1	2.5
Non-Smoker	78.7	63.9	92.9

Prevalence of Daily Smoking

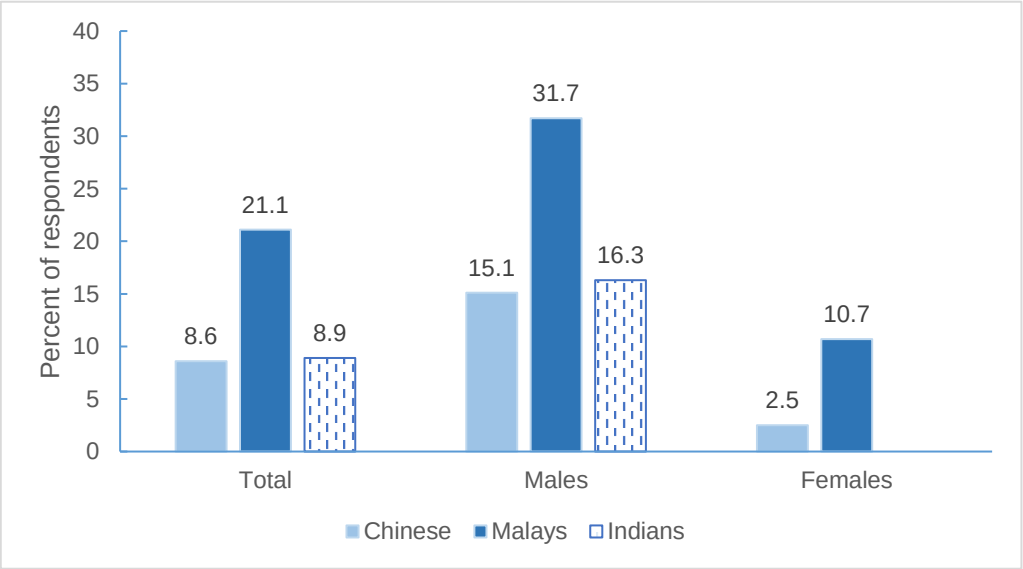
The prevalence of daily smoking among Singapore residents aged 18 to 74 years was 17.0% in males and 3.4% in females (Table 2.3). Smoking prevalence levels were consistently higher among males than females in all age groups. Daily smoking was most prevalent in males aged between 50 and 59 years (22.5%), while in females the highest rate was seen in females aged 30 to 39 years (4.8%). Smoking rate was highest in Malays (21.1%) followed by Indians (8.9%) and Chinese (8.6%) (Graph 2.1). The prevalence of daily smoking among residents with below post-secondary education (around 16%) was more than 2.5 times higher than residents with post-secondary education (6.0%) (Table 2.4).

Table 2.3: Age-specific crude prevalence (%) of daily smoking among Singapore residents aged 18 to 74 years by gender, 2020

Age (years)	Total	Males	Females
18-29	8.8	13.8	3.7
30-39	9.9	15.5	4.8
40-49	10.6	17.8	3.8
50-59	13.4	22.5	4.3
60-74	8.0	15.7	s
18-74	10.1	17.0	3.4

s: Data have been suppressed due to small counts or high sampling variability.

Graph 2.1: Crude prevalence (%) of daily smoking among Singapore residents aged 18 to 74 years by gender and ethnic group, 2020



Note: Data for Indian females have been suppressed due to small counts or high sampling variability.

Onset of Daily Smoking Among Young Daily Smokers

The mean age at which young smokers aged 18 to 24 years established their daily smoking habit was 18 years old and they first tried smoking at the mean age of 16 years old.

Smoking Intensity of Daily Smokers

The mean number of cigarettes consumed by a daily smoker was 12 cigarettes per day. Male smokers tended to smoke more heavily than female smokers (13 cigarettes a day compared with 10 cigarettes a day). Daily smokers in the 60 to 74 years age group smoked the most; 15 cigarettes a day compared to between 9 and 13 cigarettes a day in other age groups.

Quit Intention of Daily Smokers

Daily smokers who had abstained from smoking for a period of at least 24 hours in the past 12 months reported that they had tried quitting smoking an average of three times during the past 12 months preceding the survey. About half (48.3%) of the daily smokers indicated that they had plans to quit smoking. However, only about one in five (19.3%) daily smokers planned to quit smoking within the next 12 months or less. 27.7% of daily smokers indicated that they did not plan to quit smoking at all but planned to cut down on the number of cigarettes smoked. About one in four daily smokers (24.0%) did not plan to quit smoking or reduce the number of cigarettes smoked.

Trends in Daily Smoking

The crude prevalence of daily smoking declined from 11.8% in 2017 to 10.1% in 2020 (Table 2.4). This decline was more pronounced in the males compared with females, with the females' prevalence remaining relatively constant at around 3% in recent years.

Table 2.4: Crude prevalence (%) of daily smoking among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2010, 2013, 2017, 2019 and 2020

	NHSS	NHS	NHSS	NPHS	NPHS	NPHS
	2007	2010	2013	2017	2019	2020
Total	13.3	13.9	13.1	11.8 (10.6, 13.0)	10.6 (9.5, 11.7)	10.1 (9.2, 11.0)
ASR	13.3	13.9	13.2	12.0	10.6	10.3
18-29	17.4	16.0	12.6	9.8 (7.1, 12.5)	8.4 (6.5, 10.2)	8.8 (6.8, 10.8)
30-39	12.5	16.0	14.7	12.6 (9.5, 15.7)	11.4 (9.3, 13.5)	9.9 (7.9, 11.8)
40-49	12.8	14.3	15.4	14.5 (11.6, 17.4)	10.6 (8.7, 12.5)	10.6 (8.5, 12.7)
50-59	12.7	11.4	13.3	11.9 (9.2, 14.6)	12.6 (10.0, 15.2)	13.4 (10.8, 16.0)
60-74	9.8	10.1	8.5	10.2 (7.5, 12.8)	10.2 (8.0, 12.4)	8.0 (6.5, 9.5)
Males	23.1	24.0	23.0	20.6 (18.5, 22.8)	18.4 (16.3, 20.5)	17.0 (15.4, 18.6)
Females	3.8	4.1	3.6	3.3 (2.3, 4.3)	3.2 (2.4, 3.9)	3.4 (2.5, 4.3)
Primary	16.3	19.4	15.8	17.2 (13.6, 20.9)	18.3 (15.2, 21.4)	16.5 (13.7, 19.3)
Secondary	18.0	18.1	19.6	17.5 (14.8, 20.2)	16.7 (14.3, 19.0)	16.4 (14.2, 18.6)
Post-secondary	8.4	9.3	8.3	6.9 (5.6, 8.2)	6.1 (5.1, 7.1)	6.0 (5.0, 6.9)

Table 2.4: Crude prevalence (%) of daily smoking among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2010, 2013, 2017, 2019 and 2020 (continued)

	NHSS	NHS	NHSS	NPHS	NPHS	NPHS
	2007	2010	2013	2017	2019	2020
Chinese	12.0	12.6	11.5	9.9 (8.6, 11.2)	8.6 (7.5, 9.7)	8.6 (7.7, 9.5)
Malays	23.0	26.1	24.9	23.1 (19.0, 27.3)	23.0 (19.4, 26.6)	21.1 (17.3, 24.9)
Indians	11.1	10.0	10.5	12.6 (8.4, 16.9)	10.9 (8.0, 13.8)	8.9 (6.0, 11.9)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 3
Physical Activity

Key Points

- Based on all domains of physical activity (including work-related, transportation-related and leisure-time), 76.4% of Singapore residents had sufficient total physical activity in 2020.
- Similar proportions of males (76.4%) and females (76.5%) had sufficient total physical activity.
- Young adults in the 18 to 29 years age group (82.9%) had higher level of sufficient total physical activity compared with other age groups.
- The largest contributor to total physical activity per week was commuting (49.6%), followed by leisure-time physical activity (26.8%) and work-related physical activity (23.6%).
- One in three (33.4%) Singapore residents aged 18 to 74 years engaged in regular exercise during their leisure time.
- The highest proportion of adults with regular exercise was observed among young adults aged 18 to 29 years (41.2%) while the lowest was among older adults aged 60 to 74 years (29.2%).
- Leisure-time regular exercise was more prevalent among males (36.2%) than females (30.7%).
- One in three (33.8%) Singapore residents aged 18 to 74 years reported having sufficient muscle strengthening activity.
- This was more common among younger adults aged 18 to 29 years (44.1%) compared with one third of those aged 30 to 59 years and one-quarter (25.5%) of older adults aged 60 to 74 years.
- Males (40.1%) had higher proportion with sufficient muscle strengthening activity compared to females (27.8%).

Introduction

Physical activity is important for maintaining good health for all ages. For adults, it has been shown to reduce the risk of premature death in general and in particular the risk of developing cardiovascular disease, hypertension and diabetes mellitus. In addition, physical activity improves mental and cognitive health, sleep and prevents unhealthy weight gain. In older adults aged 65 years and above who are physically active, they are less likely to experience falls and falls-related injuries and have better functional capacity and mobility to live longer independently *(US Department of Health and Human Services 2018; WHO 2020; WHO 2010)*.

WHO guidelines recognises that participation in physical activity can be achieved across three domains: work-related activity (paid or unpaid work including household chores), transportation-related activity (e.g. walking or cycling while travelling to and from places) and leisure-time physical activity *(WHO 2020; WHO 2010)*.

Method Used

An interviewer-administered questionnaire was used. Respondents were asked about the frequency, duration and intensity of physical activity in the domain of work, transportation and leisure using the Global Physical Activity Questionnaire (GPAQ) developed by WHO (*WHO 2010*).

Total Physical Activity

Physical activity participation across the three domains (i.e. work-related, transport-related and leisure-time physical activity) was assessed and could be achieved in one single session or accumulated in bouts of at least 10 minutes throughout the day. WHO recommends that adults should do at least 150 minutes of moderate-intensity physical activity or at least 75 minutes of vigorous-intensity physical activity or an equivalent combination of moderate- and vigorous-intensity physical activity per week[6] (*WHO 2010*). This is equivalent to achieving a high to moderate level of total physical activity (i.e. sufficient total physical activity). The criteria for the three levels of total physical activity classification are in Table 3.1.

[6] Another approach to meet the recommendation is to achieve 30 minutes of moderate-intensity activity on at least 5 days a week (*HSE 2016*).

Table 3.1: Classification of total physical activity[7]

Classification	Criteria
High	Vigorous-intensity activity on at least 3 days achieving a minimum of at least 1,500 MET*-minutes per week **OR** 7 or more days of any combination of walking, moderate- or vigorous- intensity activities achieving a minimum of at least 3,000 MET-minutes per week.
Moderate	Not meeting the criteria for the "high" category, but meeting any of the following criteria is classified in this category: 3 or more days of vigorous intensity activity of at least 20 minutes per day **OR** 5 or more days of moderate-intensity activity or walking of at least 30 minutes per day **OR** 5 or more days of any combination of walking, moderate- or vigorous-intensity activities achieving a minimum of at least 600 MET-minutes per week.
Low	Not meeting any of the above-mentioned criteria.

* MET (Metabolic Equivalents) is the ratio of a person's working metabolic rate relative to the resting metabolic rate. 1 MET is defined as the energy cost of sitting quietly and is equivalent to a caloric consumption of 1 kcal/kg/hour.

Total Physical Activity Level

The survey showed that the proportion of Singapore residents aged 18 to 74 years who engaged in high, moderate and low total physical activity were 33.2%, 43.3% and 23.6% respectively (Table 3.2).

Table 3.2: Total physical activity level (%) of Singapore residents aged 18 to 74 years by gender, 2020

Total Physical Activity Level	Total	Males	Females
High	33.2	35.9	30.6
Moderate	43.3	40.5	45.9
Low	23.6	23.6	23.5

Note: Data might not sum to 100% due to rounding.

Prevalence of Sufficient Total Physical Activity

76.4% of Singapore residents aged 18 to 74 years had sufficient (high and moderate) total physical activity (Table 3.3). Similar proportions of males (76.4%) and females (76.5%) had sufficient total physical activity. Young adults in the 18 to 29 years age group (82.9%) had the highest level of sufficient total physical activity while the older adults

[7] Based on WHO Global Physical Activity Questionnaire (GPAQ) Analysis Guide Version 2.0 which classified the intensity of total physical activity into 3 levels – high, moderate and low.

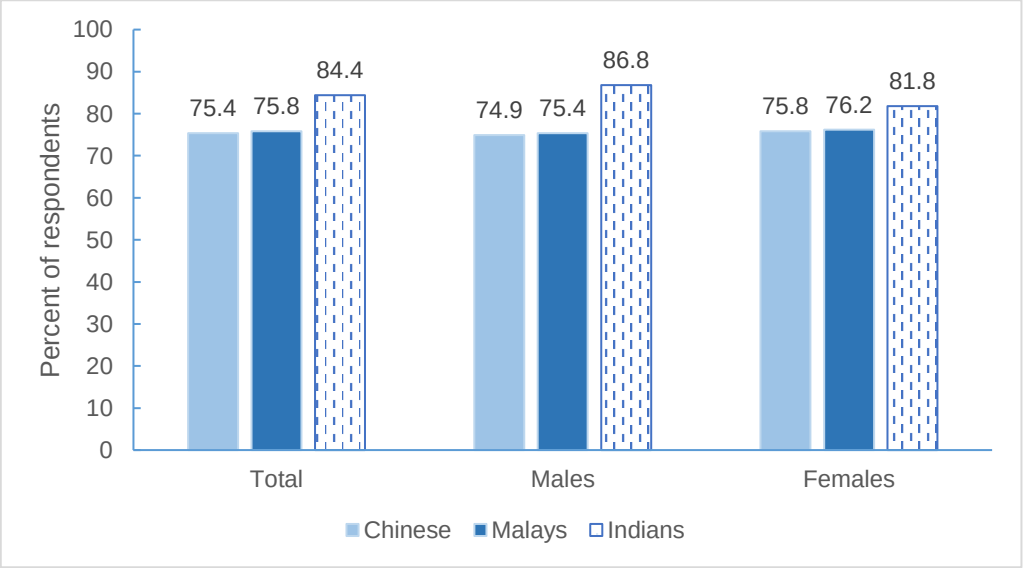
aged 60 to 74 years had the lowest proportion at 71.9%. A higher proportion of Indians (84.4%) had sufficient total physical activity than the Malays (75.8%) and Chinese (75.4%) (Graph 3.1). Residents with post-secondary education (77.8%) had higher sufficient total physical activity compared with residents with secondary (75.1%) or primary (72.4%) education (Table 3.4). The largest contributor to total physical activity per week was commuting (49.6%), followed by leisure-time physical activity (26.8%) and work-related physical activity (23.6%).

Table 3.3: Age-specific crude prevalence (%) of sufficient total physical activity among Singapore residents aged 18 to 74 years by gender, 2020

Age (years)	Total	Males	Females
18-29	82.9	84.9	80.9
30-39	76.9	77.8	76.0
40-49	74.9	74.4	75.3
50-59	76.0	73.4	78.6
60-74	71.9	71.8	72.0
18-74	76.4	76.4	76.5

Note: Sufficient: High and moderate

Graph 3.1: Crude prevalence (%) of sufficient total physical activity among Singapore residents aged 18 to 74 years by gender and ethnic group, 2020



Note: Sufficient: High and moderate

Trends in Sufficient Total Physical Activity

The crude prevalence of sufficient total physical activity was 76.4% in 2020, significantly lower than the 80.1% in 2019 and 80.9% in 2017 (Table 3.4). The age-standardised prevalence also showed a similar decline from 80.9% in 2017 to 76.8% in 2020. There were also significant decreases in the crude prevalence of sufficient total physical activity among those aged 60 to 74 years and those with secondary education.

Table 3.4: Crude prevalence (%) of sufficient total physical activity among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2013, 2017, 2019 and 2020

	NHSS	NHSS	NPHS	NPHS	NPHS
	2007	2013	2017	2019	2020
Total	82.3	73.1	80.9 (78.8, 83.0)	80.1 (78.5, 81.7)	76.4 (75.1, 77.7)**
ASR	82.4	73.3	80.9	80.4	76.8
18-29	84.0	79.5	85.9 (82.3, 89.5)	84.4 (81.3, 87.6)	82.9 (80.2, 85.6)
30-39	79.5	73.0	80.5 (76.4, 84.7)	78.0 (74.9, 81.1)	76.9 (73.9, 79.8)
40-49	82.2	73.9	78.5 (74.7, 82.2)	79.8 (76.6, 83.0)	74.9 (72.0, 77.8)
50-59	83.6	71.9	80.5 (77.0, 84.0)	79.0 (75.7, 82.3)	76.0 (73.0, 79.0)
60-74	82.3	65.1	78.6 (74.7, 82.6)	79.3 (76.5, 82.0)	71.9 (69.1, 74.7)**
Males	81.7	74.8	81.5 (78.7, 84.3)	80.2 (78.1, 82.4)	76.4 (74.5, 78.3)
Females	82.9	71.5	80.3 (77.7, 83.0)	80.0 (78.1, 82.0)	76.5 (74.7, 78.2)
Primary	86.1	67.6	82.4 (78.5, 86.3)	77.0 (73.0, 81.0)	72.4 (69.1, 75.7)
Secondary	84.4	75.4	80.5 (77.3, 83.8)	80.9 (78.3, 83.6)	75.1 (72.6, 77.5)**
Post-secondary	79.1	73.3	80.7 (78.1, 83.2)	80.5 (78.4, 82.6)	77.8 (76.1, 79.5)
Chinese	81.1	72.0	80.5 (78.2, 82.9)	78.8 (77.0, 80.7)	75.4 (73.8, 76.9)**
Malays	84.2	76.1	83.8 (79.6, 88.0)	82.0 (78.5, 85.6)	75.8 (72.1, 79.4)
Indians	88.0	76.3	79.5 (74.6, 84.5)	86.8 (82.8, 90.7)	84.4 (81.0, 87.7)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Definition of Leisure-Time Physical Activity

Leisure-time physical activity focuses on participation in sports, exercise and recreation activity independent of the work and transportation domain. The classification for leisure-time physical activity was adapted from the American College of Sports Medicine's classification (Table 3.5) (*American College of Sports Medicine, 1998*).

Table 3.5: Classification of leisure-time physical activity participation

Classification	Frequency of leisure-time physical activity
Regular exercise	Participation in any form of sports or exercise for at least 20 minutes per occasion, for three or more days a week
Occasional exercise	Participation in any form of sports or exercise for at least 20 minutes per occasion, for less than three days a week
No exercise (Physically inactive)	No participation in any form of sports or exercise that lasted for at least 20 minutes per occasion in a week

Leisure-time Physical Activity Participation Status

The survey found that among Singapore residents aged 18 to 74 years, about one-third (33.4%) exercised regularly, 23.7% exercised occasionally, and 42.9% did not exercise at all (Table 3.6).

Table 3.6: Leisure-time physical activity participation status (%) of Singapore residents aged 18 to 74 years by gender, 2020

Physical Activity Participation	Total	Males	Females
Regular exercise	33.4	36.2	30.7
Occasional exercise	23.7	24.0	23.3
No exercise (Physically inactive)	42.9	39.8	46.0

Prevalence of Leisure-time Regular Exercise

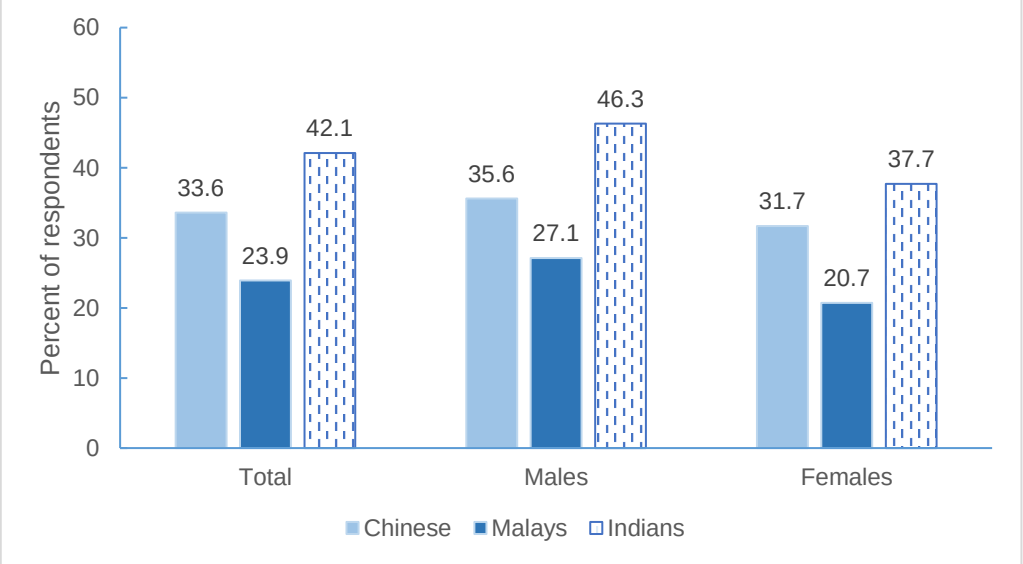
A higher proportion of males (36.2%) than females (30.7%) exercised regularly (Table 3.7). There was a general decline in the prevalence of regular exercise with increasing age. The highest proportion was observed among young adults aged 18 to 29 years (41.2%) while the lowest was among older adults aged 60 to 74 years (29.2%). The proportion of females who exercised regularly decreased from 37.2% among those aged 18 to 29 years to 23.2% among females in the 30 to 39 years age group before increasing to 34.0% among older females aged 50 to 59 years. Males in the 18 to 29 years age group has the highest participation in regular exercise at 45.2% but this participation rate dropped steadily with increasing age, reaching about 30% among males aged 60 to 74 years old.

Table 3.7: Age-specific crude prevalence (%) of leisure-time regular exercise among Singapore residents aged 18 to 74 years by gender, 2020

Age (years)	Total	Males	Females
18-29	41.2	45.2	37.2
30-39	30.0	37.5	23.2
40-49	33.0	34.7	31.4
50-59	33.8	33.7	34.0
60-74	29.2	30.2	28.2
18-74	33.4	36.2	30.7

Among the ethnic groups, Indians (42.1%) had the highest participation level in regular exercise and for both genders, followed by Chinese (33.6%) and Malays (23.9%). (Graph 3.2). Close to half (46.3%) of all Indian men exercised regularly compared to 35.6% of Chinese and 27.1% of Malay men. Malay women had the lowest participation level with about one in five (20.7%) having regular exercise. By education attainment, the proportion of residents with post-secondary education (40.0%) who exercised regularly was more than twice higher than those with primary education (18.5%) and 1.5 times higher than those with secondary education (25.1%) (Table 3.8).

Graph 3.2: Crude prevalence (%) of leisure-time regular exercise among Singapore residents aged 18 to 74 years by gender and ethnic group, 2020



Trends in Leisure-time Regular Exercise

The crude prevalence of leisure-time regular exercise had been on an increasing trend since 2017 (29.4%) although the proportion of Singapore residents who engaged in regular exercise dipped slightly (33.4%) in 2020 compared with 2019 (35.2%) (Table 3.8). The age-standardised prevalence was also trending upwards from 29.8% in 2017 to 33.8% in 2020.

Table 3.8: Crude prevalence (%) of leisure-time regular exercise among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group,2007, 2013, 2017, 2019 and 2020

	NHSS	NHSS	NPHS	NPHS	NPHS
	2007	2013	2017	2019	2020
Total	24.1	23.5	29.4 (27.3, 31.6)	35.2 (33.3, 37.2)*	33.4 (31.9, 34.9)
ASR	24.3	23.4	29.8	35.8	33.8
18-29	28.2	33.5	37.1 (32.1, 42.1)	46.9 (42.5, 51.3)*	41.2 (37.4, 45.0)
30-39	18.8	20.9	33.2 (28.5, 37.9)	34.2 (30.4, 37.9)	30.0 (26.6, 33.4)
40-49	22.1	18.6	29.2 (25.1, 33.3)	31.0 (27.7, 34.2)	33.0 (29.7, 36.2)
50-59	24.4	20.4	23.7 (20.2, 27.3)	33.7 (29.6, 37.8)*	33.8 (30.4, 37.3)
60-74	30.0	23.7	23.3 (19.7, 26.9)	30.3 (26.8, 33.9)	29.2 (26.3, 32.0)
Males	25.4	28.1	30.1 (27.4, 32.8)	38.7 (36.1, 41.2)*	36.2 (34.0, 38.4)
Females	22.8	19.0	28.8 (26.1, 31.6)	32.0 (29.4, 34.6)	30.7 (28.7, 32.8)
Primary	19.7	13.4	17.2 (13.5, 21.0)	19.2 (16.3, 22.1)	18.5 (15.5, 21.5)
Secondary	23.4	20.1	24.7 (21.3, 28.0)	28.5 (25.7, 31.3)	25.1 (22.7, 27.5)
Post-secondary	26.5	28.5	35.7 (32.8, 38.6)	41.9 (39.3, 44.4)*	40.0 (37.9, 42.1)
Chinese	22.6	23.4	29.4 (27.0, 31.8)	34.7 (32.4, 37.1)*	33.6 (31.9, 35.3)
Malays	22.2	20.1	27.7 (22.9, 32.6)	30.0 (26.7, 33.3)	23.9 (20.3, 27.5)
Indians	37.0	26.7	29.7 (24.5, 34.8)	45.2 (40.0, 50.4)*	42.1 (36.6, 47.6)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Muscle Strengthening Activity

WHO also recommends that adults should do muscle strengthening activities involving the major muscle groups at least two days or more in a week. Muscle strengthening activity refers to activity or exercise that increases skeletal muscle strength, power, endurance and mass (e.g. strength training, resistance training or muscular strength and endurance exercises) and may involves the use of weight machines, exercise bands, hand-held weights or own body weight (e.g. push-ups or sit-ups) (*WHO 2010*; *Bennie et al. 2019)*. The major muscle groups to work on include the legs, back, abdomen, chest, shoulders and arms (*WHO 2010*). It has been shown that muscle strengthening exercises increase skeletal muscle strength and mass, bone density, ability to perform activities of daily living, improve cardiometabolic heath and reduce symptoms of anxiety and depression (*Bennie et al. 2019*).

Method Used

An interviewer-administered questionnaire was used. Respondents were asked about the number of days in a typical week that they do physical activities or exercises to strengthen their muscles. Respondents must complete at least one set of exercise involving eight to 12 repetitions to be counted as having done one day of muscle strengthening activity. Data collected were classified as having sufficient muscle strengthening activity if the frequency of muscle strengthening activity is at least two days per week.

Prevalence of Sufficient Muscle Strengthening Activity

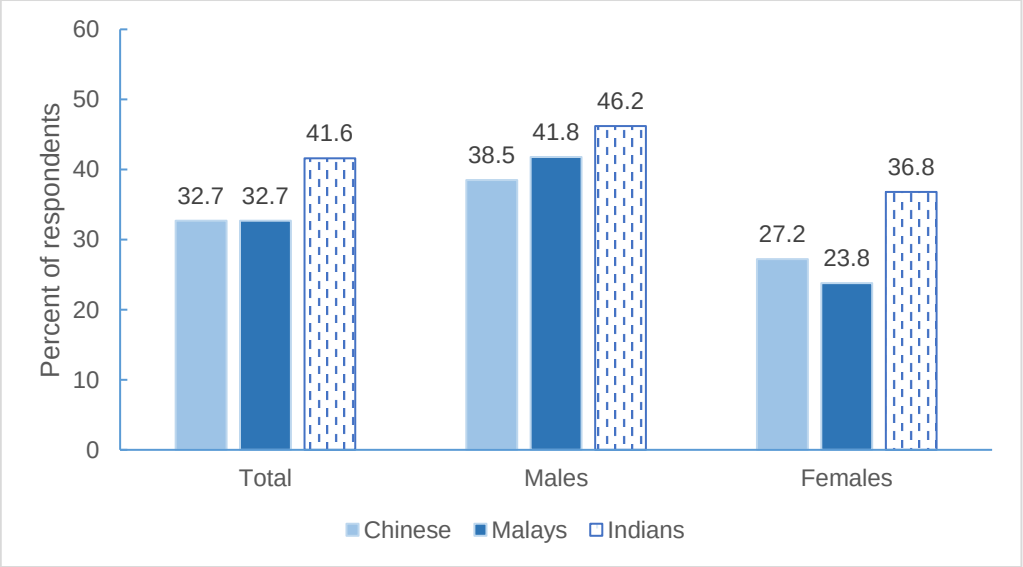
One in three (33.8%) Singapore residents aged 18 to 74 years reported having sufficient muscle strengthening activity (Table 3.9). This was more common among younger adults aged 18 to 29 years (44.1%) compared with one third of those aged 30 to 59 years and one-quarter (25.5%) of older adults aged 60 to 74 years. Males (40.1%) had higher proportion with sufficient muscle strengthening activity compared with females (27.8%). The proportion of males in the ages 18 to 39 years with sufficient muscle strengthening activity was almost double that of females in the same age group.

Table 3.9: Age-specific crude prevalence (%) of sufficient muscle strengthening activity among Singapore residents aged 18 to 74 years by gender, 2020

Age (years)	Total	Males	Females
18-29	44.1	57.7	30.4
30-39	30.9	40.4	22.3
40-49	33.5	37.1	30.2
50-59	35.5	36.9	34.2
60-74	25.5	28.6	22.5
18-74	33.8	40.1	27.8

Among the ethnic groups, Indians had the highest proportion with sufficient muscle strengthening activity (41.6%) and for both gender (males 46.2%, females 36.8%) (Graph 3.3). About one-third (32.7%) of Chinese and Malays reported having sufficient muscle strengthening activity. More Malay males (41.8%) compared with Chinese males (38.5%) had sufficient muscle strengthening activity while Malay females had the lowest participation in sufficient muscle strengthening activity (23.8%).

Graph 3.3: Crude prevalence (%) of sufficient muscle strengthening activity among Singapore residents aged 18 to 74 years by gender and ethnic group, 2020



Chapter 4
Diabetes Mellitus

Key Points

- About one in 10 (9.5%) of Singapore residents aged 18 to 74 years had diabetes mellitus during the period 2019-2020.
- A higher proportion of males (10.6%) were diabetic compared to females (8.4%).
- Diabetes prevalence increased with age where the proportion of diabetics almost doubled with each successive age group from 3.0% among those aged 30 to 39 years to 13.4% among those aged 50 to 59 years. More than one in every five older adults aged 60 to 74 years were diabetic.
- Among all residents with diabetes mellitus, close to one-quarter (23.2%) of them had not been previously diagnosed with diabetes.
- Among the known diabetics who attended health examination, about one-quarter (26.0%) had poor glucose control.

Introduction

Diabetes mellitus represents a group of metabolic disorders characterised by high blood sugar (hyperglycemia) resulting from defects in insulin secretion, insulin action, or both. Diabetes mellitus can lead to death and disability through long-term complications including blindness, kidney failure, coronary heart disease and stroke. Type 2 diabetes is the more common form of diabetes, occurring mainly in older adults and is associated with obesity (*Diabetes Mellitus MOH Clinical Practice Guidelines 2014).*

Method Used

An interviewer-administered questionnaire was used. In order to obtain an indication of the prevalence of known diabetes mellitus in the community, respondents were asked whether they had ever been told by a western-trained doctor that they had diabetes and were currently prescribed medication for diabetes. Respondents who answered “yes” to both questions were classified as having “reported diabetes mellitus”. Among those with diabetes, they were also asked on the frequency of doctor’s visit and place of treatment to manage their diabetes.

All respondents who completed the interviewer-administered questionnaire were invited to participate in a health examination. Among those who attended the health examination, blood samples were taken by venepuncture to determine the fasting plasma glucose and glycated haemoglobin (HbA1c) levels after an overnight fasting of at least 10 hours. Blood samples for fasting glucose analysis were collected in fluoride/oxalate tubes while those for HbA1c analysis were collected in EDTA tubes. These samples were then despatched to Reste Laboratories for analysis on the same day of the health examination. Plasma glucose and HbA1c levels were measured using Roche c501 instrument using hexokinsase method and turbidimetric inhibition immunoassay for hemolysed whole blood respectively.

Data on diabetes mellitus were aggregated over a span of two survey cycles (i.e. NPHS 2019 and NPHS 2020) so that there will be a larger sample for detailed analysis.

Definition

Diabetes mellitus prevalence estimate was defined as a composite indicator of (i) those who reported that they were diagnosed with diabetes by a doctor and on medication, (ii) those who reported that they were diagnosed with diabetes by a doctor and not on medication but were found to have diabetes during health examination and (iii) those who had been newly diagnosed with diabetes during the health examination and did not self-report doctor-diagnosed diabetes.

The WHO Diagnostic Classification criteria (*WHO 2006*) were used for the classification of diabetes (Table 4.1). Diabetes mellitus was defined as a fasting plasma glucose level equal or above 7.0 mmol/l or equal or above 126mg/dl.

Table 4.1: Diagnostic values for fasting plasma glucose

Classification	mmol/l	mg/dl
Normal	< 6.1	< 110
Diabetes Mellitus	≥ 7.0	≥ 126

Prevalence of Diabetes Mellitus

The prevalence of diabetes among Singapore residents aged 18 to 74 years was 9.5% during the period 2019-2020 (Table 4.2). Overall, a higher proportion of males (10.6%) were diabetic compared to females (8.4%) and this pattern was also observed in almost all age groups except for those aged 70 to 74 years. The diabetes prevalence increased with age where the proportion of diabetics almost doubled with each successive age group from 3.0% among those aged 30 to 39 years to 13.4% among those aged 50 to 59 years. More than one in every five older adults aged 60 to 74 years were diabetic.

Table 4.2: Age-specific crude prevalence (%) of diabetes mellitus among Singapore residents aged 18 to 74 years by gender, 2019-2020

Age (years)	Total	Males	Females
18-29	s	s	s
30-39	3.0	s	2.4
40-49	6.0	7.9	4.4
50-59	13.4	15.9	10.9
60-69	22.2	24.1	20.4
70-74	27.1	25.1	28.8
18-74	9.5	10.6	8.4

s: Data have been suppressed due to small counts or high sampling variability.

Malays (14.4%) and Indians (14.2%) had higher prevalence of diabetes compared with Chinese (8.2%) (Graph 4.1). The proportion of diabetics was highest among Indian males and Malay females at around 15%. More than one in five (22.8%) residents with primary education were diabetic and this proportion was much higher compared with residents with secondary (14.5%) or post-secondary (4.5%) education (Table 4.3). Residents who reported having diabetes visited a doctor for their diabetes about four times over the period of the past 12 months, mainly in polyclinic (60.4%), private GP clinic (18.3%) and specialist outpatient clinic in public hospital (17.8%).

Trends in Prevalence of Diabetes Mellitus

The crude prevalence of diabetes showed a slight increasing trend over the years from 8.6% in 2010, 8.8% in 2017 to 9.5% during the period 2019-2020 (Table 4.3). The increase in the prevalence was significant for residents with primary education from 15.2% in 2017 to 22.8% in 2019-2020. However, the age-standardised prevalence of diabetes decreased from 8.6% in 2010 to 7.8% in 2017 and 7.9% in 2019-2020, indicating the increase in crude prevalence was partly attributable to population ageing.

Graph 4.1: Crude prevalence (%) of diabetes mellitus among Singapore residents aged 18 to 74 years by gender and ethnic group, 2019-2020

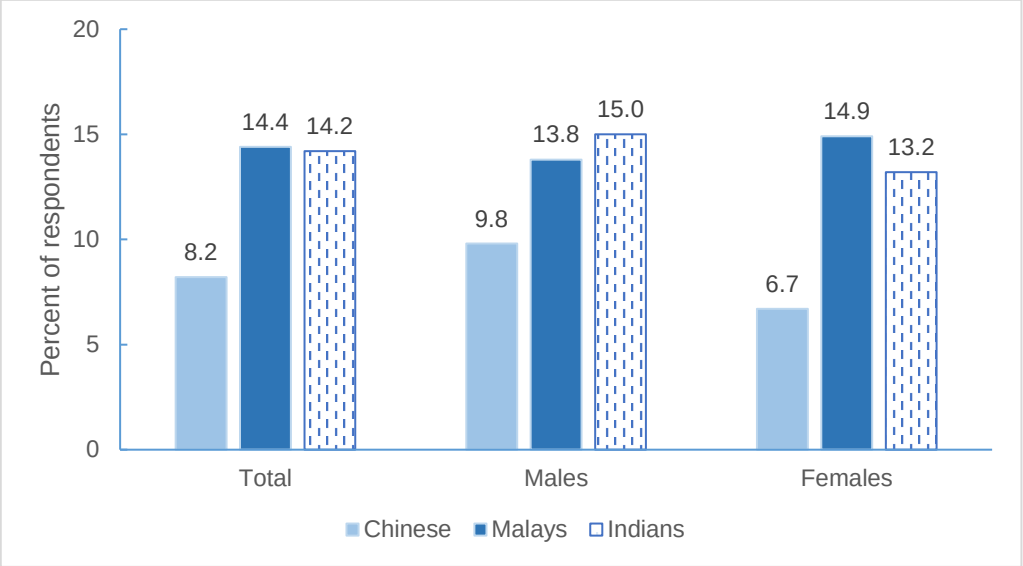


Table 4.3: Crude prevalence (%) of diabetes mellitus among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2010, 2017 and 2019-2020

	NHS	NPHS	NPHS
	2010	2017	2019-2020
Total	8.6 (7.4, 9.7)	8.8 (7.5, 10.2)	9.5 (8.7, 10.2)
ASR	8.6	7.8	7.9
18-29	s	s	s
30-39	3.7 (2.1, 5.3)	s	3.0 (1.7, 4.3)
40-49	6.7 (4.7, 8.6)	7.6 (4.5, 10.7)	6.0 (4.6, 7.4)
50-59	17.0 (13.2, 20.6)	14.4 (10.6, 18.0)	13.4 (11.2, 15.6)
60-69	18.5 (13.4, 23.8)	21.0 (16.5, 25.5)	22.2 (19.6, 25.0)
70-74	22.0 (11.8, 32.1)	18.9 (11.4, 26.4)	27.1 (22.2, 31.8)
Males	9.2 (7.5, 10.8)	10.3 (8.3, 12.3)	10.6 (9.4, 11.8)
Females	8.0 (6.3, 9.6)	7.4 (5.7, 9.2)	8.4 (7.3, 9.3)
Primary	17.8 (13.9, 21.6)	15.2 (11.2, 19.0)	22.8 (19.9, 25.8)**
Secondary	10.5 (8.3, 12.8)	13.6 (10.7, 16.5)	14.5 (12.5, 16.3)
Post-secondary	4.1 (2.9, 5.3)	4.3 (2.9, 5.7)	4.5 (3.8, 5.3)

Table 4.3: Crude prevalence (%) of diabetes mellitus among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2010, 2017 and 2019-2020 (continued)

	NHS	NPHS	NPHS
	2010	2017	2019-2020
Chinese	7.0 (5.5, 8.5)	6.9 (5.5, 8.3)	8.2 (7.3, 9.0)
Malays	14.5 (12.3, 16.8)	11.6 (7.5, 15.7)	14.4 (11.5, 17.3)
Indians	14.9 (12.5, 17.3)	22.7 (15.6, 29.8)	14.2 (11.5, 16.8)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NHS 2010 and NPHS 2017 did not overlap, then the result for NPHS 2017 is significantly different statistically from NHS 2010 at 5% significance level (*). If the confidence intervals for NPHS 2017 and NPHS 2019-2020 did not overlap, then the result for NPHS 2019-2020 is significantly different statistically from NPHS 2017 at 5% significance level (**).

(2) s: Data have been suppressed due to small counts or high sampling variability.

(3) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(4) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Prevalence of Undiagnosed Diabetes Mellitus

Among all residents with diabetes mellitus, the survey found that 23.2% of them had not been previously diagnosed with diabetes (Table 4.4). This proportion was similar to the 22.7% in 2017 but lower than the 36.0% in 2010. 24.5% of male diabetics and 21.4% of female diabetics were unaware of their diabetic status. The proportion of undiagnosed diabetics was highest (56.7%) among the younger adults aged 30 to 39 years with diabetes. Residents with post-secondary (28.9%) or secondary education (26.2%) had higher proportion of undiagnosed diabetics compared with those with primary education (14.5%). One-third (33.3%) of Malay diabetics were undiagnosed followed by Chinese at 22.0% and Indians at 13.4%.

Table 4.4: Proportion (%) of undiagnosed diabetes mellitus among Singapore residents aged 18 to 74 years with diabetes mellitus by age group, gender, highest education attained and ethnic group, 2019-2020

	% of residents with undiagnosed diabetes mellitus
Total	23.2
18-29	s
30-39	56.7
40-49	21.7
50-59	27.6
60-69	14.9
70-74	21.8
Males	24.5
Females	21.4
Primary	14.5
Secondary	26.2
Post-secondary	28.9
Chinese	22.0
Malays	33.3
Indians	13.4

Notes: (1) s: Data have been suppressed due to small counts or high variability.
(2) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Among the undiagnosed diabetics, the majority of them were between the ages of 50 to 69 years old (59.0%), males (58.3%), Chinese (61.5%) and had secondary education (47.3%) (Table 4.5). The mean fasting blood glucose level in the newly diagnosed diabetics was 8.8 mmol/l for 2019-2020, compared with 9.3 mmol/l in 2017 and 9.4 mmol/l in 2010.

Table 4.5: Profile (%) of Singapore residents aged 18 to 74 years with undiagnosed diabetes mellitus by age group, gender, highest education attained and ethnic group, 2019-2020

	Profile (%) of residents with undiagnosed diabetes mellitus
Total	100.0
18-29	s
30-39	14.5
40-49	12.0
50-59	34.0
60-69	25.0
70-74	14.5
Males	58.3
Females	41.7
Primary	14.0
Secondary	47.3
Post-secondary	38.7
Chinese	61.5
Malays	28.4
Indians	7.7

Notes (1) s: Data have been suppressed due to small counts or high variability.
(2) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Control of Diabetes in Known Diabetics

Good control of the blood glucose level in adults with diabetes is important in preventing the development and progression of diabetes-related complications (*WHO 2016*). Blood glucose levels are monitored routinely in adults with diabetes using the Glycated Haemoglobin or HbA1c test to track how well the glucose levels are maintained over a period of time[8]. The HbA1c test measures the average amount of sugar attached to the haemoglobin in the red blood cells over the previous two to three months and is not affected by short-term changes in glucose levels (*Diabetes Mellitus MOH Clinical Practice Guidelines 2014).* Good glucose control is defined as HbA1c less than or equal to 7.0% (≤ 7.0%); optimal glucose level as HbA1c equal to or greater than 7.1% but less than or equal to 8.0% (7.1% - 8.0%) and poor glucose control as HbA1c equal or greater than 8.1% (≥ 8.1%)[8].

Among the adults with known diabetes who attended the health examination, about three-quarter (74.0%) of them had good (38.0%) or acceptable (36.0%) control of their glucose levels while the remaining one-quarter (26.0%) had poor glucose control (Table 4.6). Similarly about one-quarter of the male diabetics (25.7%) and female diabetics (26.4%) had poor glucose control. The proportion of diabetics with poor glucose control fluctuated between 20.1% to 33.7% among the age groups. More diabetics with primary (28.8%) or secondary (27.8%) education had poor glucose control compared with diabetics with post-secondary education (22.0%). Indian diabetics (47.8%) had the highest proportion with poor glucose control followed by Malay diabetics (36.3%) and Chinese diabetics (18.8%). The mean HbA1c among all known diabetics was 7.6%, about the same as the 7.8% in 2017 and 7.7% in 2010.

[8] Based on Healthhub's webpage on "Hyperglycaemia: Monitoring Blood Glucose" (https://www.healthhub.sg/a-z/diseases-and-conditions/669/blood-glucose-monitoring) (accessed on 13 April 2021).

Table 4.6: Proportion (%) of Singapore residents aged 18 to 74 years with known diabetes mellitus and poor glucose control by age group, gender, highest education attained and ethnic group, 2019-2020

Among known diabetics who attended Health Examination	% of residents with poor glucose control (HbA1c ≥ 8.1%)
Total	26.0
18-29	s
30-39	s
40-49	20.1
50-59	30.8
60-69	33.7
70-74	s
Males	25.7
Females	26.4
Primary	28.8
Secondary	27.8
Post-secondary	22.0
Chinese	18.8
Malays	36.3
Indians	47.8

Notes: (1) s: Data have been suppressed due to small counts or high sampling variability.
(2) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 5
Hypertension

Key Points

- Over one in three (35.5%) Singapore residents aged 18 to 74 years had hypertension (or high blood pressure) during the period 2019-2020.
- More males (41.0%) had hypertension compared with females (30.2%).
- Prevalence of hypertension increased with age; starting at around 10% for those aged 18 to 29 years old to 74.9% among those aged 70 to 74 years.
- Among all residents with hypertension, almost half (52.4%) of them had not been previously diagnosed with hypertension.
- Among the known hypertensives who attended health examination, about two-thirds (64.3%) had poor control of their blood pressure.

Introduction

Hypertension or high blood pressure is a condition in which the blood vessels have persistently raised pressure. It is often known as a silent killer as it rarely causes symptoms and many people go undiagnosed. Hypertension is one of the key risk factors for cardiovascular diseases such as heart attack, stroke and heart failure as well as other diseases like kidney failure. Dietary and lifestyle changes can improve blood pressure control and decrease the risk of associated health complications, although drug treatment may be necessary in patients for whom lifestyle changes prove ineffective or insufficient *(WHO 1978; WHO 2013).*

Method Used

An interviewer-administered questionnaire was used. In order to obtain an indication of the prevalence of known hypertension in the community, respondents were asked whether they had ever been told by a western-trained doctor that they had high blood pressure and were currently prescribed medication for high blood pressure. Respondents who answered “yes” to both questions were classified as having “reported hypertension”. Among those with hypertension, they were also asked on the frequency of doctor’s visit and place of treatment to manage their hypertension.

All respondents who completed the interviewer-administered questionnaire were invited to participate in a health examination. Among those who attended the health examination, blood pressure was measured using an electronic blood pressure machine (Omron HE-7322). Respondents were rested adequately before measurements were taken. Blood pressure was measured with the respondent seated and the right arm comfortably placed on a table. An appropriately sized blood pressure cuff was applied about two to three centimetres above the cubital fossa on the respondent's right arm, with the middle portion of the cuff's bladder positioned over the brachial artery. The cuff was then inflated and the systolic and diastolic reading were recorded from the monitor. The left arm was used if there were specific reasons why the blood pressure cannot be obtained from the right arm.

Two measurements were taken for each respondent, with an interval of three to four minutes between them. However, if the systolic blood pressure between the two measurements differed by 25 mmHg or the diastolic blood pressure by more than 15 mmHg, a third measurement was taken. The average blood pressure was calculated based on the two closest readings.

Data on hypertension were aggregated over a span of two survey cycles (i.e. NPHS 2019 and NPHS 2020) so that there will be a larger sample for detailed analysis.

Definition

Hypertension prevalence estimate was defined as a composite indicator of (i) those who reported that they were diagnosed with high blood pressure by a doctor and on medication, (ii) those who reported that they were diagnosed with high blood pressure by a doctor and not on medication but were found to have high blood pressure during the health examination and (iii) those who had been newly diagnosed with high blood pressure during the health examination and did not self-report doctor-diagnosed high blood pressure.

The WHO Diagnostic Classification criteria (*WHO 2013*) were used for the classification of hypertension (Table 5.1). Hypertension was defined as a systolic blood pressure equal to or above 140 mmHg or a diastolic blood pressure equal to or above 90 mmHg.

Table 5.1: Diagnostic values for hypertension

Classification	Blood pressure (mmHg)		
	Systolic		Diastolic
Normal	<140	and	< 90
Hypertension	≥ 140	or	≥ 90

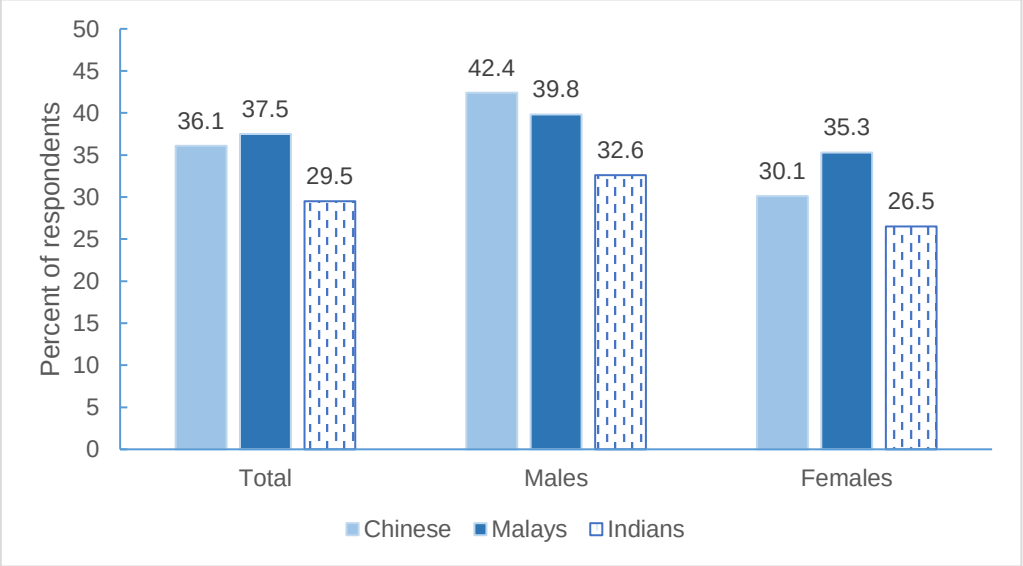
Prevalence of Hypertension

The prevalence of hypertension among Singapore residents aged 18 to 74 years was 35.5% during the period 2019-2020 (Table 5.2). More males (41.0%) had hypertension compared with females (30.2%) in general and among most age groups except those aged 70 to 74 years. The prevalence of hypertension increased with age; starting at around 10% for those aged 18 to 29 years to 74.9% among those aged 70 to 74 years. Malays (37.5%) and Chinese (36.1%) had higher prevalence of hypertension while the proportion of Indians with hypertension was lower at 29.5% (Graph 5.1). The proportion of hypertension was highest among Chinese males (42.4%) and Malay females (35.3%). About three in five (60.9%) residents with primary education had hypertension compared with residents with secondary (45.2%) and post-secondary education (26.4%) (Table 5.3). Residents with reported hypertension visited a doctor for their condition about four times over the period of the past 12 months, mainly in polyclinic (50.5%), private GP clinic (33.5%) and specialist outpatient clinic in public hospital (12.5%).

Table 5.2: Age-specific crude prevalence (%) of hypertension among Singapore residents aged 18 to 74 years by gender, 2019-2020

Age (years)	Total	Males	Females
18-29	9.4	10.9	7.8
30-39	17.0	23.7	10.9
40-49	32.4	42.2	22.9
50-59	49.7	53.8	41.2
60-69	61.9	65.3	59.0
70-74	74.9	73.9	75.6
18-74	35.5	41.0	30.2

Graph 5.1: Crude prevalence (%) of hypertension among Singapore residents aged 18 to 74 years by gender and ethnic group, 2019-2020



Trends in Prevalence of Hypertension

The overall crude prevalence of hypertension showed a significant increase from 2017 (24.2%) to 2019-2020 (35.5%) (Table 5.3). Similarly, the age-standardised prevalence had increased from 21.9% in 2017 to 31.7% in 2019-2020. The significant increases in crude prevalence during the period 2019-2020 were found in those aged 40 to 59 years, among both genders and all education levels, and for Chinese and Malays compared with 2017.

Table 5.3: Crude prevalence (%) of hypertension among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2010, 2017 and 2019-2020

	NHS	NPHS	NPHS
	2010	2017	2019-2020
Total	19.8 (17.8, 21.7)	24.2 (21.9, 26.7)*	35.5 (33.9, 37.1)**
ASR	19.8	21.9	31.7
18-29	s	s	9.4 (6.7, 12.0)
30-39	7.6 (4.8, 10.4)	11.2 (6.4, 16.0)	17.0 (14.3, 19.7)
40-49	16.2 (12.9, 19.5)	17.7 (13.2, 22.1)	32.4 (29.0, 35.8)**
50-59	31.9 (26.9, 37.1)	36.2 (30.1, 42.2)	49.7 (45.6, 53.7)**
60-69	53.2 (43.7, 62.5)	52.8 (45.3, 60.5)	61.9 (57.6, 66.3)
70-74	53.3 (40.8, 65.9)	68.7 (51.2, 86.1)	74.9 (67.7, 81.9)
Males	22.0 (19.2, 24.8)	27.0 (23.5, 30.5)	41.0 (38.6, 43.5)**
Females	17.6 (14.9, 20.2)	21.7 (18.5, 24.9)	30.2 (28.3, 32.2)**
Primary	39.0 (33.2, 44.8)	41.6 (33.7, 49.4)	60.9 (56.0, 65.7)**
Secondary	20.7 (17.6, 23.9)	33.6 (28.8, 38.4)*	45.2 (42.0, 48.2)**
Post-secondary	12.3 (9.8, 14.7)	14.2 (11.6, 16.8)	26.4 (24.5, 28.5)**
Chinese	20.2 (17.7, 22.7)	24.7 (21.9, 27.5)	36.1 (34.2, 38.0)**
Malays	21.3 (18.8, 23.9)	23.1 (17.2, 29.0)	37.5 (32.7, 42.3)**
Indians	16.4 (14.0, 18.7)	25.1 (17.4, 32.7)	29.5 (25.0, 34.1)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NHS 2010 and NPHS 2017 did not overlap, then the result for NPHS 2017 is significantly different statistically from NHS 2010 at 5% significance level (*). If the confidence intervals for NPHS 2017 and NPHS 2019-2020 did not overlap, then the result for NPHS 2019-2020 is significantly different statistically from NPHS 2017 at 5% significance level (**).

(2) s: Data have been suppressed due to small counts or high sampling variability.

(3) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(4) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Prevalence of Undiagnosed Hypertensives

Among all residents with hypertension, the survey found that almost half (52.4%) of them had not been previously diagnosed with hypertension (Table 5.4). There were more males (55.1%) who were undiagnosed with hypertension compared with females (49.0%). The proportion of undiagnosed hypertensives also decreased with increasing age from about nine in ten (93.6%) adults aged 18 to 29 years with hypertension to about three in ten (28.7%) adults aged 70 to 74 years with hypertension. On the other hand, the proportion of undiagnosed hypertensives was higher among the higher educated. Two-thirds of hypertensives with post-secondary education (63.3%) and half with secondary education (49.6%) were not previously diagnosed with hypertension compared with slightly over one-third (36.1%) with primary education. All three ethnic groups had similar percentage of undiagnosed hypertensives (Indians 53.6%, Malays 52.8%, Chinese 52.4%).

Table 5.4: Proportion (%) of undiagnosed hypertension among Singapore residents aged 18 to 74 years with hypertension by age group, gender, highest education attained and ethnic group, 2019-2020

	% of residents with undiagnosed hypertension
Total	52.4
18-29	93.6
30-39	80.0
40-49	64.5
50-59	52.9
60-69	35.1
70-74	28.7
Males	55.1
Females	49.0
Primary	36.1
Secondary	49.6
Post-secondary	63.3
Chinese	52.4
Malays	52.8
Indians	53.6

Note: Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Among the undiagnosed hypertensives, the majority of them were between the ages of 40 to 59 years (50.3%), males (59.1%), Chinese (76.2%) and had post-secondary education (56.1%) (Table 5.5). The majority of the residents (72.6%) with undiagnosed hypertension were found to have Grade 1 hypertension[9] (*Hypertension MOH Clinical Practice Guidelines 2017*). However, a higher proportion of Chinese newly diagnosed hypertensives (24.1%) had Grade 2 hypertension[8] compared with Indian (19.4%) and Malay (19.3%) hypertensives.

Table 5.5: Profile (%) of Singapore residents aged 18 to 74 years with undiagnosed hypertension by age group, gender, highest education attained ethnic group, 2019-2020

	Profile (%) of residents with undiagnosed hypertension
Total	100.0
18-29	9.3
30-39	13.5
40-49	21.7
50-59	28.6
60-69	19.5
70-74	7.3
Males	59.1
Females	40.9
Primary	11.1
Secondary	32.8
Post-secondary	56.1
Chinese	76.2
Malays	13.7
Indians	7.4

Note: Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

[9] The MOH's clinical practice guidelines on hypertension defines Grade 1 hypertension as systolic blood pressure of 140-159 mmHg or diastolic blood pressure of 90-99 mmHg, Grade 2 hypertension as systolic blood pressure of 160-179 mmHg or diastolic blood pressure of 100-109 mmHg and Grade 3 hypertension as systolic blood pressure of 180 mmHg and above or diastolic blood pressure of 110 mmHg and above. When systolic blood pressure and diastolic blood pressure fall into different categories, the higher category applies.

Control of Hypertension in Known Hypertensives

According to MOH's clinical practice guidelines on hypertension, the recommended target levels of blood pressure for adults on an antihypertensive treatment are a systolic blood pressure of less than 140 mmHg and a diastolic blood pressure of less than 90 mmHg (*Hypertension MOH Clinical Practice Guidelines 2017)*. Good control of the blood pressure will reduce the risks of developing serious hypertension-related complications.

Among the adults with known hypertension who attended the health examination, slightly more than one-third (35.7%) had good control of their blood pressure levels while the remaining two-thirds (64.3%) were less effective in controlling their blood pressure (Table 5.6). Higher proportion of males (66.0%) with known hypertension had poor blood pressure control compared with females (62.2%). The proportion of hypertensive residents with poor blood pressure control was similar across education levels. Among the ethnic groups, Malay known hypertensives (69.4%) had the highest proportion with poor blood pressure control followed by Chinese (64.0%) and Indians (58.6%).

Table 5.6: Proportion (%) of Singapore residents aged 18 to 74 years with known hypertension and poor control of blood pressure levels by age group, gender, highest education attained and ethnic group, 2019-2020

Among known hypertensives who attended Health Examination	% of residents with poor control of blood pressure levels (Systolic BP ≥ 140mmHg or Diastolic BP ≥ 90mmHg)
Total	64.3
18-29	s
30-39	75.7
40-49	72.1
50-59	69.0
60-69	58.6
70-74	60.1
Males	66.0
Females	62.2
Primary	63.1
Secondary	66.1
Post-secondary	63.2

Table 5.6: Proportion (%) of Singapore residents aged 18 to 74 years with known hypertension and poor control of blood pressure levels by age group, gender, highest education attained and ethnic group, 2019-2020 (continued)

Among known hypertensives who attended Health Examination	% of residents with poor control of blood pressure levels (Systolic BP ≥ 140mmHg or Diastolic BP ≥ 90mmHg)
Chinese	64.0
Malays	69.4
Indians	58.6

Notes: (1) s: Data have been suppressed due to small counts or high sampling variability.

(2) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 6
Hyperlipidaemia

Key Points

- About four in 10 (39.1%) Singapore residents aged 18 to 74 years had hyperlipidaemia (or high blood cholesterol) during the period 2019-2020.
- Males (42.8%) had higher prevalence of high blood cholesterol than females (35.8%).
- The prevalence of high blood cholesterol increased with age; from around one in six (15.7%) adults in the 18 to 29 years age group to two in three (62.8%) in the 70 to 74 years age group.
- Among residents with high blood cholesterol, more than half (54.5%) of them had not been previously diagnosed with high blood cholesterol.

Introduction

Hyperlipidaemia or high blood cholesterol is a major risk factor for coronary heart disease. Elevated blood cholesterol, in particular LDL-cholesterol, causes atherosclerosis and increases the risk for coronary heart disease. HDL-cholesterol has been shown to have a protective effect against coronary heart disease. Low HDL-cholesterol has been shown to be an important independent risk factor for the development of coronary heart disease. Population-based (public health) approach through the adoption of healthier lifestyle behaviours such as reduced intake of saturated fats and cholesterol, being more physically active, and better weight control as well as clinical management of those persons at increased risk are important factors in lowering the cholesterol levels in the population (*JAMA 2001; NIH 2002)*.

Method Used

An interviewer-administered questionnaire was used. In order to obtain an indication of the prevalence of known high blood cholesterol in the community, respondents were asked whether they had ever been told by a western-trained doctor that they had high blood cholesterol and were currently prescribed medication for high blood cholesterol. Respondents who answered “yes” to both questions were classified as having “reported high blood cholesterol”. Among those with high blood cholesterol, they were also asked on the frequency of doctor’s visit and place of treatment to manage their high blood cholesterol.

All respondents who completed the interviewer-administered questionnaire were invited to participate in a health examination. Among those who attended the health examination, blood samples were taken by venepuncture to determine the fasting cholesterol, LDL-cholesterol and HDL-cholesterol after an overnight fasting of at least 10 hours. Blood samples for cholesterol analysis were collected in plain test tubes and were centrifuged on sites before they were despatched to Reste Laboratories for analysis on the same day of the health examination. LDL-cholesterol was measured using Roche c501 instrument using homogenous enzymatic colorimetric method.

This report focuses on the analysis for LDL-cholesterol and data on LDL-cholesterol were aggregated over a span of two survey cycles (i.e. NPHS 2019 and NPHS 2020) so that there will be a larger sample for detailed analysis.

Definition

High blood cholesterol prevalence estimate was defined as a composite indicator of (i) those who reported that they were diagnosed with high blood cholesterol by a doctor and on medication, (ii) those who reported that they were diagnosed with high blood cholesterol by a doctor and not on medication but were found to have high blood cholesterol during the health examination and (iii) those who had been newly diagnosed with high blood cholesterol based on LDL-cholesterol level during the health examination and did not self-report doctor-diagnosed high blood cholesterol.

The classification of LDL-cholesterol used in the survey was adapted from the Ministry of Health's Clinical Practice Guidelines on Lipids (Table 6.1) (*Lipids MOH Clinical Practice Guidelines 2016)*. High blood cholesterol was defined as a LDL-cholesterol level equal or above 4.1 mmol/l or equal or above 160mg/dl.

Table 6.1: Diagnostic values for LDL-cholesterol

Classification	Blood Cholesterol Concentration	
	mmol/l	mg/dl
Desirable	< 3.3	< 130
Borderline high	3.3 – < 4.1	130 – < 160
High	≥ 4.1	≥ 160

Prevalence of Hyperlipidaemia

The prevalence of high blood cholesterol among Singapore residents aged 18 to 74 years was 39.1% (Table 6.2). Overall, males (42.8%) had higher prevalence of high blood cholesterol than females (35.8%) and in most age groups except the 60 to 69 years age group. The prevalence of high blood cholesterol increased with age; from around one in six (15.7%) adults in the 18 to 29 years age group to two in three (62.8%) in the 70 to 74 years age group. Among the ethnic groups, the proportion of residents with high blood cholesterol was similar (Chinese 39.6%, Malays 39.2% and Indians 37.5%) (Graph 6.1). Chinese (44.1%) and Indian (40.6%) males tended to have higher prevalence of high blood cholesterol than their Malay counterparts (38.6%). Malay females (40.0%) had the highest proportion with high blood cholesterol compared with the Chinese (35.3%) and Indian (34.3%) females. About three in five (58.9%) residents with primary education had high blood cholesterol compared with residents with secondary (45.7%) or post-secondary education (32.6%) (Table 6.3). Residents with reported high blood cholesterol visited a doctor for their condition about three times during the period of the past 12 months, mainly in polyclinic (57.0%), private GP clinic (24.8%) and specialist outpatient clinic in public hospital (15.0%).

Table 6.2: Age-specific crude prevalence (%) of hyperlipidaemia among Singapore residents aged 18 to 74 years by gender, 2019-2020

Age (years)	Total	Males	Females
18-29	15.7	17.9	13.6
30-39	25.9	34.0	18.7
40-49	36.8	46.1	28.2
50-59	56.3	59.5	53.1
60-69	58.4	53.2	63.7
70-74	62.8	64.1	61.9
18-74	39.1	42.8	35.8

Trends in Prevalence of Hyperlipidaemia

The crude prevalence of high blood cholesterol increased from 35.5% in 2017 to 39.1% in 2019-2020 while the age-standardised prevalence increased from 33.8% to 36.9% (Table 6.3). The crude increase for females was significant when comparing 2017 (28.5%) and 2019-2020 (35.8%).

Graph 6.1: Crude prevalence (%) of hyperlipidaemia among Singapore residents aged 18 to 74 years by gender and ethnic group, 2019-2020

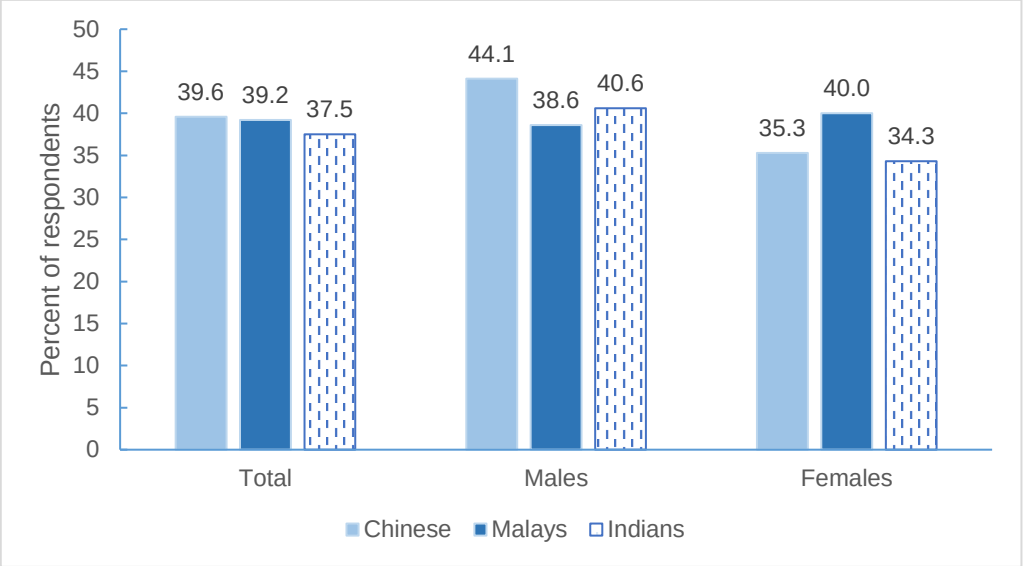


Table 6.3: Crude prevalence (%) of hyperlipidaemia among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2010, 2017 and 2019-2020

	NHS	NPHS	NPHS
	2010	2017	2019-2020
Total	26.2 (24.0, 28.3)	35.5 (32.3, 38.8)*	39.1 (37.4, 41.0)
ASR	26.2	33.8	36.9
18-29	s	18.3 (11.2, 25.4)	15.7 (12.3, 19.0)
30-39	14.9 (11.4, 18.2)	24.5 (18.3, 30.6)*	25.9 (22.6, 29.4)
40-49	22.7 (18.9, 26.6)	31.7 (25.7, 37.9)	36.8 (33.1, 40.8)
50-59	41.4 (35.8, 47.0)	52.1 (43.7, 60.4)	56.3 (51.8, 60.7)
60-69	56.9 (47.0, 66.8)	51.8 (43.8, 59.8)	58.4 (54.0, 62.9)
70-74	54.5 (41.3, 67.7)	53.1 (38.3, 68.0)	62.8 (55.6, 70.2)
Males	28.8 (25.7, 32.1)	42.8 (37.6, 47.8)*	42.8 (40.1, 45.5)
Females	23.6 (20.8, 26.5)	28.5 (24.8, 32.3)	35.8 (33.4, 38.1)**
Primary	44.6 (38.6, 50.7)	54.3 (45.0, 63.5)	58.9 (54.1, 63.8)
Secondary	28.2 (24.5, 32.0)	38.2 (32.2, 44.3)*	45.7 (42.5, 49.2)
Post-secondary	18.5 (15.6, 21.2)	29.1 (25.2, 32.9)*	32.6 (30.4, 34.8)

Table 6.3: Crude prevalence (%) of hyperlipidaemia among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2010, 2017 and 2019-2020 (continued)

	NHS	NPHS	NPHS
	2010	2017	2019-2020
Chinese	25.2 (22.5, 28.0)	34.1 (30.6, 37.8)*	39.6 (37.6, 41.6)
Malays	32.8 (29.5, 36.0)	40.7 (31.0, 50.5)	39.2 (33.9, 44.8)
Indians	28.0 (25.0, 31.2)	40.3 (29.7, 50.7)	37.5 (31.6, 43.3)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NHS 2010 and NPHS 2017 did not overlap, then the result for NPHS 2017 is significantly different statistically from NHS 2010 at 5% significance level (*). If the confidence intervals for NPHS 2017 and NPHS 2019-2020 did not overlap, then the result for NPHS 2019-2020 is significantly different statistically from NPHS 2017 at 5% significance level (**).

(2) s: Data have been suppressed due to small counts or high sampling variability.

(3) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(4) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Prevalence of Undiagnosed Hyperlipidaemia

Among all residents with high blood cholesterol, the survey found that more than half (54.5%) of them had not been previously diagnosed with high blood cholesterol (Table 6.4). Both males (53.5%) and females (55.3%) had similar share of adults with undiagnosed high blood cholesterol. In terms of age groups, this proportion decreased with increasing age from about nine in ten (93.0%) among those aged 18 to 29 years with high blood cholesterol to about three in ten (29.3%) among those aged 70 to 74 years with high blood cholesterol. Higher educated residents had higher share of undiagnosed high blood cholesterol ranging from 62.6% among those with post-secondary education to 53.7% among those with secondary education and 36.0% among those with primary education. More Malays (60.2%) and Indians (59.7%) were unaware that they had high blood cholesterol compared with the Chinese (52.5%).

Table 6.4: Proportion (%) of undiagnosed hyperlipidaemia among Singapore residents aged 18 to 74 years with hyperlipidaemia by age group, gender, highest education attained and ethnic group, 2019-2020

	% of residents with undiagnosed hyperlipidaemia
Total	54.5
18-29	93.0
30-39	76.1
40-49	68.5
50-59	48.5
60-69	34.4
70-74	29.3
Males	53.5
Females	55.3
Primary	36.0
Secondary	52.7
Post-secondary	62.6
Chinese	52.5
Malays	60.2
Indians	59.7

Note: Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Among residents with undiagnosed high blood cholesterol, the majority of them were between the ages of 40 to 59 years (49.0%), males (52.5%), Chinese (73.5%) and had post-secondary education (60.4%) (Table 6.5). The mean LDL-cholesterol level among the newly diagnosed was 4.8 mmol/l for 2019-2020, similar to 4.7 mmol/l in 2017 and 2010.

Table 6.5: Profile (%) of Singapore residents aged 18 to 74 years with undiagnosed hyperlipidaemia by age group, gender, highest education attained and ethnic group, 2019-2020

	Profile (%) of residents with undiagnosed hyperlipidaemia
Total	100.0
18-29	13.9
30-39	17.7
40-49	23.2
50-59	25.8
60-69	14.6
70-74	4.8
Males	52.5
Females	47.5
Primary	8.7
Secondary	30.9
Post-secondary	60.4
Chinese	73.5
Malays	14.4
Indians	9.2

Note: Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

According to MOH's clinical practice guidelines on lipids, the recommended LDL-cholesterol target level for individual with high blood cholesterol is based on their risk status of developing future coronary events (*Lipids MOH Clinical Practice Guidelines 2016)*. Hence, the topic on control of hyperlipidaemia among individuals with known hyperlipidaemia is beyond the scope of this report.

Chapter 7
Chronic Disease Screening

Key Points

- Among Singapore residents aged 40 to 74 years with no previous diagnosis of diabetes, high blood pressure, and high blood cholesterol ("DHL"), (i.e. not told by a doctor that they have these diseases), close to two-thirds (63.0%) were screened for all three health conditions within the recommended screening guidelines in 2020.
- Among Singapore residents aged 40 to 74 years without known diabetes, 78.5% had their blood glucose tested within the past three years.
- Among Singapore residents aged 40 to 74 years without known high blood pressure, 83.3% did their blood pressure check in the past two years.
- Among Singapore residents aged 40 to 74 years without known high blood cholesterol, 76.5% were screened within the past three years.

Introduction

Health screening is an effective strategy for disease prevention in the population. It is important to go for appropriate and regular health screening as it helps to detect risk factors or diseases early even when there are no symptoms. Early detection of diabetes mellitus, high blood pressure and high blood cholesterol could result in better treatment, fewer complications and increased chances of better outcomes *(HPB, 2019).*

Method Used

An interviewer-administered questionnaire was used. Respondents were asked whether they were ever told by a doctor that they had diabetes, high blood pressure or high blood cholesterol. Respondents who reported that they were not told by a doctor that they have diabetes or high blood cholesterol were asked on the last time they had a blood test to check for these health conditions. Those who were not told by a doctor to have high blood pressure were asked on the last time they had checked their blood pressure. Respondents were also asked where they last had their screening for these chronic diseases. Under the national "Screen for Life" (SFL) screening programme, Singapore residents aged 40 years and above are encouraged to go for diabetes and hyperlipidaemia screening once every three years and hypertension screening once every two years.

Practice of Health Screening

Health screening practice was relatively common among Singapore residents aged 40 to 74 years who were not told by a doctor to have any chronic diseases (diabetes, high blood pressure and high blood cholesterol (DHL)). 63.0% of them were screened for all three health conditions within the recommended screening guidelines in 2020 (Table 7.1). The majority of them with no known DHL were screened at the private GP clinic (non-Screen for Life (SFL)) at 35.4%, followed by polyclinic (16.7%) and workplace (11.9%). The overall screening coverage decreased slightly from 66.4% in 2017 to 63.0% in 2020 (Table 7.2).

Health screening practice was found to be more prevalent among older adults. Among the ethnic groups, Indians (75.4%) had a higher screening prevalence for all three chronic diseases, followed by Chinese (63.5%) and Malays (48.4%). Singapore residents with higher education level were more likely to have gone for chronic disease screening compared to those with lower education level.

Looking at individual chronic disease alone regardless of the co-morbidity with other chronic diseases, 78.5% of adults aged 40 to 74 years without known diabetes were screened for diabetes within the past three years, 83.3% of those without known high blood pressure had their blood pressure checked within the past two years, and 76.5% of them with no previous diagnosis of high blood cholesterol were screened for this health condition within the past three years (Tables 7.3 to 7.5).

Table 7.1: Health screening practice (%) among Singapore residents who did not have any of the corresponding diseases aged 40 to 74 years by socio-demographic characteristics, 2020

Characteristic	Screened for all 3 diseases within the recommended intervals	Diabetes screening at least once in the past 3 years	Hypertension screening at least once in the past 2 years	High blood cholesterol screening at least once in the past 3 years
Total	63.0	78.5	83.3	76.5
Age (years)				
40-49	62.5	75.2	82.7	74.5
50-59	63.1	79.0	83.0	75.3
60-69	62.9	79.8	84.8	79.0
70-74	66.7	87.8	83.6	85.7
Gender				
Males	63.9	80.8	83.2	77.5
Females	62.2	76.4	83.4	75.7
Highest Education Attained				
Primary	50.4	73.8	78.4	68.1
Secondary	55.9	74.6	79.2	72.3
Post-secondary	69.8	82.2	86.8	81.3
Ethnic group				
Chinese	63.5	78.9	83.1	77.3
Malays	48.4	69.8	74.7	63.0
Indians	75.4	88.0	92.4	84.8

Note: Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Table 7.2: Coverage of chronic disease screening (%) among Singapore residents who did not have any of the chronic diseases aged 40 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2010, 2013, 2017, 2019 and 2020

	NHSS	NHS	NHSS	NPHS	NPHS	NPHS
	2007	2010	2013	2017	2019	2020
Total	58.1	45.2	56.0	66.4 (63.1, 69.6)	66.3 (63.7, 68.9)	63.0 (60.4, 65.6)
ASR	60.3	45.2	56.3	67.0	66.9	63.1
40-49	54.5	44.7	55.0	60.7 (56.2, 65.1)	62.6 (58.6, 66.6)	62.5 (58.5, 66.6)
50-59	60.4	47.9	54.8	69.1 (63.6, 74.5)	66.2 (61.5, 70.9)	63.1 (58.6, 67.6)
60-69	68.6	37.4	61.8	71.1 (64.6, 77.5)	72.1 (67.3, 77.0)	62.9 (57.2, 68.5)
70-74	68.9	53.3	56.9	85.2 (77.2, 93.2)	79.0 (71.6, 86.3)	66.7 (54.3, 79.0)
Males	59.9	47.8	55.0	65.9 (61.3, 70.5)	67.5 (63.5, 71.5)	63.9 (60.2, 67.7)
Females	56.4	42.8	56.9	66.8 (62.6, 71.0)	65.2 (61.7, 68.8)	62.2 (58.7, 65.8)
Primary	57.8	32.7	43.7	60.9 (53.3, 68.6)	57.2 (50.7, 63.8)	50.4 (44.3, 56.6)
Secondary	57.6	45.4	53.7	64.4 (59.0, 69.7)	61.1 (56.7, 65.6)	55.9 (51.2, 60.7)
Post-secondary	59.0	54.1	64.5	71.0 (66.7, 75.4)	71.4 (67.8, 75.1)	69.8 (66.3, 73.3)
Chinese	57.2	44.6	55.7	65.8 (62.1, 69.5)	64.9 (61.8, 67.9)	63.5 (60.6, 66.5)
Malays	57.2	40.0	48.2	62.2 (53.4, 71.1)	64.4 (56.4, 72.3)	48.4 (39.7, 57.0)
Indians	70.1	59.3	68.9	80.0 (71.9, 88.1)	78.7 (71.7, 85.7)	75.4 (68.3, 82.5)

Table 7.3: Coverage of diabetes screening (%) among Singapore residents who did not have diabetes aged 40 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2010, 2013, 2017, 2019 and 2020

	NHSS	NHS	NHSS	NPHS	NPHS	NPHS
	2007	2010	2013	2017	2019	2020
Total	72.4	63.9	70.3	77.8 (75.6, 80.0)	81.0 (79.3, 82.8)	78.5 (76.8, 80.3)
ASR	73.2	63.9	70.2	77.6	80.3	78.1
40-49	67.3	58.3	65.9	71.4 (67.7, 75.1)	75.4 (72.0, 78.8)	75.2 (72.0, 78.5)
50-59	74.8	64.4	68.9	80.0 (76.2, 83.7)	81.4 (78.3, 84.5)	79.0 (75.9, 82.1)
60-69	80.0	73.9	78.1	81.7 (77.3, 86.2)	85.7 (83.1, 88.3)	79.8 (76.4, 83.2)
70-74	79.9	71.8	84.2	92.1 (87.7, 96.6)	91.2 (87.9, 94.5)	87.8 (83.1, 92.6)
Males	73.1	64.7	70.2	78.9 (75.8, 82.0)	82.6 (80.2, 84.9)	80.8 (78.4, 83.1)
Females	71.8	63.0	70.5	76.9 (73.8, 80.0)	79.7 (77.1, 82.3)	76.4 (73.8, 79.1)

Table 7.3: Coverage of diabetes screening (%) among Singapore residents who did not have diabetes aged 40 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2010, 2013, 2017, 2019 and 2020 (continued)

	NHSS	NHS	NHSS	NPHS	NPHS	NPHS
	2007	2010	2013	2017	2019	2020
Primary	70.7	58.4	63.9	75.4 (70.6,80.3)	77.8 (74.4, 81.2)	73.8 (69.8, 77.8)
Secondary	72.2	61.7	69.0	75.8 (72.0, 79.6)	79.7 (77.1, 82.3)	74.6 (71.2, 78.0)
Post-secondary	74.4	71.0	76.0	81.3 (78.1, 84.5)	83.0 (80.4, 85.7)	82.2 (79.8, 84.7)
Chinese	72.7	64.4	70.0	76.9 (74.4, 79.5)	80.5 (78.5, 82.5)	78.9 (76.9, 80.8)
Malays	68.4	54.5	65.7	76.5 (69.6, 83.3)	77.7 (71.9, 83.4)	69.8 (63.2, 76.4)
Indians	79.2	74.2	79.9	88.1 (82.3, 94.0)	89.3 (84.8, 93.8)	88.0 (83.0, 93.0)

Table 7.4: Coverage of hypertension screening (%) among Singapore residents who did not have hypertension aged 40 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2010, 2013, 2017, 2019 and 2020

	NHSS	NHS	NHSS	NPHS	NPHS	NPHS
	2007	2010	2013	2017	2019	2020
Total	77.7	79.9	77.8	82.9 (80.8, 85.0)	86.0 (84.4, 87.6)	83.3 (81.4, 85.1)
ASR	78.6	79.9	78.0	82.9	86.2	83.3
40-49	75.8	78.3	76.4	79.9 (76.1, 83.6)	84.6 (81.6, 87.6)	82.7 (79.6, 85.8)
50-59	77.5	82.9	76.2	81.6 (78.1, 85.2)	85.7 (82.9, 88.5)	83.0 (79.8, 86.1)
60-69	85.0	78.5	84.4	88.3 (84.6, 92.1)	88.1 (85.2, 91.1)	84.8 (81.4, 88.3)
70-74	82.2	79.5	79.3	94.1 (89.9, 98.3)	90.8 (86.3, 95.2)	83.6 (75.0, 92.1)
Males	77.1	80.5	77.0	81.3 (77.8, 84.8)	85.5 (83.1, 88.0)	83.2 (80.6, 85.8)
Females	78.2	79.4	78.5	84.4 (81.7, 87.0)	86.5 (84.3, 88.6)	83.4 (80.8, 86.0)
Primary	76.5	72.9	68.7	80.1 (75.0, 85.2)	78.4 (74.2, 82.6)	78.4 (74.2, 82.6)
Secondary	79.9	80.5	76.7	82.3 (78.7, 86.0)	85.4 (82.9, 87.8)	79.2 (75.6, 82.8)
Post-secondary	75.6	84.6	84.2	85.2 (82.1, 88.4)	88.7 (86.5, 91.0)	86.8 (84.3, 89.2)
Chinese	76.7	79.9	76.9	82.2 (79.8, 84.6)	85.8 (84.0, 87.7)	83.1 (81.0, 85.2)
Malays	79.3	76.6	76.4	82.6 (76.3, 88.8)	81.4 (76.0, 86.8)	74.7 (67.3, 82.0)
Indians	87.6	86.7	86.7	92.8 (88.4, 97.3)	92.5 (88.5, 96.5)	92.4 (89.0, 95.9)

Table 7.5: Coverage of hyperlipidaemia screening (%) among Singapore residents who did not have hyperlipidaemia aged 40 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2010, 2013, 2017, 2019 and 2020

	NHSS	NHS	NHSS	NPHS	NPHS	NPHS
	2007	2010	2013	2017	2019	2020
Total	78.1	61.1	73.0	78.2 (75.9, 80.5)	77.9 (76.0, 79.9)	76.5 (74.5, 78.6)
ASR	78.9	61.1	73.2	78.2	77.5	76.3
40-49	74.8	59.3	70.8	73.0 (69.2, 76.7)	73.3 (69.7, 76.8)	74.5 (71.1, 78.0)
50-59	79.9	62.9	70.7	78.7 (74.6, 82.9)	76.9 (73.3, 80.5)	75.3 (71.7, 79.0)
60-69	86.2	63.1	79.4	84.1 (80.0, 88.2)	84.0 (80.9, 87.1)	79.0 (75.2, 82.8)
70-74	77.9	61.5	84.8	90.3 (85.0, 95.7)	89.8 (85.2, 94.4)	85.7 (79.3, 92.1)
Males	77.9	62.8	71.8	78.6 (75.2, 82.0)	79.0 (76.0, 82.0)	77.5 (74.7, 80.3)
Females	78.3	59.5	74.1	77.8 (74.8, 80.9)	77.0 (74.5, 79.6)	75.7 (72.8, 78.6)
Primary	73.8	53.7	66.2	74.9 (69.4, 80.4)	74.2 (69.4, 79.0)	68.1 (63.1, 73.1)
Secondary	77.7	61.1	72.1	76.4 (72.2, 80.6)	75.1 (71.9, 78.4)	72.3 (68.5, 76.1)
Post-secondary	82.4	67.1	78.3	81.7 (78.5, 84.9)	80.9 (77.9, 83.9)	81.3 (78.7, 84.0)
Chinese	78.1	61.8	72.5	77.7 (75.1, 80.3)	77.9 (75.6, 80.2)	77.3 (75.1, 79.5)
Malays	74.0	53.8	69.6	77.7 (70.8, 84.6)	75.1 (68.9, 81.4)	63.0 (55.5, 70.6)
Indians	83.1	67.6	82.2	86.3 (80.7, 91.9)	83.6 (77.7, 89.4)	84.8 (79.4, 90.2)

Notes applicable to Table 7.2 to 7.5:

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) ASR: Age- standardised rate. The reference population used is Singapore Census 2010 resident population.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 8
Breast Cancer Screening

Key Points

- 37.9% of Singapore women in the 50 to 69 years age group reported that they had gone for mammography in the last two years in 2020.

Introduction

Breast cancer remained the most common cancer among Singapore women in the past 50 years *(NRDO 2018)*. For the five-year period from 2014-2018, the age-standardised incidence rate of breast cancer was 70.7 per 100,000 women. It was the leading cause of cancer death among females in 2014-2018, accounting for 17.3% of cancer deaths among females.

Breast cancer has been linked to a number of risk factors including age, family history of breast cancer, smoking, high-fat diet and obesity. The earlier breast cancer is diagnosed, the better the chances for successful treatment. As early breast cancer usually does not present with any symptoms, screening is therefore important. Mammography for women over 50 years old is widely accepted as appropriate and beneficial. The Ministry of Health's Clinical Practice Guidelines on Cancer Screening (2010) and the national "Screen for Life" (SFL) screening programme recommended women aged 50 to 69 years to go for mammography once every two years.

Method Used

An interviewer-administered questionnaire was used. Female subjects were asked on their practice of mammography as well as where they took their mammography.

Practice of Mammography

37.9% of Singapore women in the 50 to 69 years age group reported that they had gone for a mammography within the last two years, in accordance with the recommended frequency of mammography in this age group (Table 8.1). A higher proportion of Indian (43.2%) and Chinese (41.3%) women had undergone mammography compared to their Malay counterparts (17.6%) (Table 8.2). Never married women (38.2%) and ever-married women (37.9%) were equally likely to have a mammography within the last two years (Table 8.1). Women with post-secondary education (54.3%) were more likely to be screened than women with secondary education (32.9%) or primary education (22.6%) (Table 8.2). Slightly more than two in five (41.4%) women had their mammogram taken in the polyclinic, followed by public hospital (24.4%), private hospital (15.3%) and private X-ray centre (11.2%).

Table 8.1: Practice of mammography (%) among Singapore female residents aged 50 to 69 years by marital status, 2020

Characteristic	Had a mammography within the last 2 years
Total	37.9
Marital status	
Never married	38.2
Ever-married	37.9

Trends in Breast Cancer Screening

The screening rates for breast cancer remained stable between 2019 and 2020 at about 40% and higher than the 30.9% in 2017 (Table 8.2). There were improvements in screening rates across age groups, among those with at least secondary education and among Chinese and Malays in 2020 compared with 2017.

Table 8.2: Coverage of breast cancer screening (%) among Singapore female residents aged 50 to 69 years by age group, highest education attained and ethnic group, 2007, 2010, 2013, 2017, 2019 and 2020

	NHSS	NHS	NHSS	NPHS	NPHS	NPHS
	2007	2010	2013	2017	2019	2020
Total	41.0	39.6	42.7	30.9 (26.9, 34.9)	38.7 (34.8, 42.6)	37.9 (34.7, 41.2)
ASR	41.2	39.6	42.4	31.1	39.9	38.5
50-59	43.6	40.5	44.3	32.7 (27.3, 38.2)	40.2 (34.7, 45.7)	40.9 (36.1, 45.8)
60-69	35.8	37.9	39.9	28.4 (23.0, 33.9)	36.9 (31.4, 42.4)	34.3 (29.7, 38.8)
Primary	29.9	29.3	25.5	24.3 (17.4, 31.2)	28.4 (22.2, 34.6)	22.6 (17.3, 27.8)
Secondary	48.4	40.8	46.2	28.6 (22.8, 34.4)	37.0 (32.3, 41.7)	32.9 (28.0, 37.9)
Post-secondary	54.8	60.7	66.0	45.6 (35.7, 55.5)	49.6 (41.2, 58.0)	54.3 (48.0, 60.6)
Chinese	41.9	41.7	44.4	32.2 (27.6, 36.8)	40.1 (35.7, 44.6)	41.3 (37.6, 45.0)
Malays	35.0	23.5	28.1	10.4 (4.3, 16.5)	28.9 (20.5, 37.3)*	17.6 (10.7, 24.4)
Indians	38.2	41.9	44.8	46.3 (30.2, 62.3)	41.0 (28.5, 53.5)	43.2 (31.3, 55.1)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 female resident population.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 9
Cervical Cancer Screening

Key Points

- Fewer than one in two (45.4%) women reported that they had gone for a cervical cancer screening (had done a Pap smear test in the past three years or a HPV test in the past five years) in 2020.

Introduction

Cervical cancer is the 10th most common cancer among women in Singapore for the five-year period from 2014-2018 *(NRDO 2018).* During this period, the age-standardised incidence rate of cervical cancer was 7.0 per 100,000 women and it accounted for 2.8% of all cancer deaths among females.

Major risk factors for cervical cancer include having sexual intercourse at an early age, having multiple sexual partners and infection with Human Papillomavirus (HPV) (the cause of genital warts). Long term consumption of combined oral contraceptive pills and cigarette smoking are also risk factors. If cervical cancer is detected before it becomes invasive, it is almost certainly curable. Screening for cervical cancer with the Papanicolaou (Pap) smear test is inexpensive and is widely accepted as being effective and beneficial.

Based on the latest recommendations on cervical cancer screening in 2019[10], women aged 25 to 29 years are recommended to undergo a Pap smear test at a three yearly interval while women aged 30 years and above are recommended to take the HPV test at a five-yearly interval.

Method Used

An interviewer-administered questionnaire was used. Female respondents were asked on their practice of cervical cancer screening as well as where they took the test; and which test (Pap smear test/ HPV test) was taken.

[10] Based on Ministry of Health Circular No. 08/2019 dated 6 March 2019 on "Release of New Screening Test Review Committee Guidelines, Including Changes to Diabetes Mellitus, Lipid Disorders, And Cervical Cancer Screening".

Practice of Cervical Cancer Screening

Among women aged 25 to 74 years, fewer than one in two (45.4%) had undergone cervical cancer screening (had done a Pap smear test in the past three years or a HPV test in the past five years) (Table 9.1). Chinese (47.2%) and Indian (46.3%) women were more likely to have undergone cervical cancer screening compared to Malay (29.8%) women (Table 9.2). Women aged 30 to 59 years were the most likely to have undergone cervical cancer screening. The proportion of women who had undergone cervical cancer screening was higher among ever-married women (51.9%) than those who were never married (18.4%) (Table 9.1). Women with post-secondary education (51.7%) were more likely to have done a Pap smear test in the past three years or a HPV test in the past five years compared to those with secondary (40.5%) or primary education (28.3%). The majority of the women had their last cervical cancer screening in a private GP (Non-SFL) (23.1%) or a specialist outpatient clinic either in the private (22.9%) or public (22.1%) hospital. Another 16.4% of women had their last cervical cancer screening in the polyclinic.

Table 9.1: Practice of cervical cancer screening (%) among Singapore women aged 25 to 74 years by marital status, 2020

Characteristic	Had a cervical cancer screening
Total	45.4
Marital status	
Never married	18.4
Ever-married	51.9

Trends in Cervical Cancer Screening

The screening rates for cervical cancer fluctuated between 45% to 48% in the last few years. Among women aged 25 to 39 years, the screening rates for cervical cancer had been declining since 2017 while the rates for those 40 years and above had been improving. The decrease in screening rate for females with secondary education was significant when comparing 2019 (49.8%) and 2020 (40.5%).

Table 9.2: Coverage of cervical cancer screening (%) among Singapore female residents aged 25 to 74 years by age group, highest education attained and ethnic group, 2007, 2010, 2013, 2017, 2019 and 2020

	NHSS	NHS	NHSS	NPHS	NPHS	NPHS
	2007	2010	2013	2017	2019	2020
Total	57.9	46.8	48.9	46.3 (43.5, 49.1)	48.2 (45.8, 50.7)	45.4 (43.1, 47.6)
ASR	57.5	46.8	48.5	47.0	49.6	46.3
25-29	49.5	32.3	29.4	21.5 (14.2, 28.9)	21.0 (15.1, 26.9)	18.8 (12.8, 24.7)
30-39	69.5	59.5	53.9	57.5 (51.5, 63.4)	55.9 (51.0, 60.7)	52.2 (47.6, 56.9)
40-49	64.6	57.1	54.6	56.8 (51.1, 62.6)	58.8 (54.1, 63.5)	57.6 (52.8, 62.4)
50-59	59.8	43.8	48.4	48.8 (42.6, 54.9)	56.5 (51.5, 61.5)	52.8 (47.7, 57.9)
60-69	33.3	29.0	44.2	33.9 (28.2, 39.5)	37.0 (31.2, 42.8)	33.9 (29.2, 38.6)
70-74	s	s	47.5	18.0 (10.0, 26.1)	25.1 (17.8, 32.4)	20.6 (14.0, 27.3)
Primary	38.2	31.2	36.3	27.9 (22.5, 33.2)	28.9 (23.7, 34.1)	28.3 (23.4, 33.2)
Secondary	62.5	51.0	50.7	42.4 (37.3, 47.5)	49.8 (45.8, 53.9)	40.5 (36.3, 44.6)**
Post-secondary	66.4	52.5	53.4	55.5 (51.3, 59.8)	52.8 (49.3, 56.4)	51.7 (48.6, 54.8)
Chinese	59.4	47.6	50.8	48.5 (45.3, 51.7)	49.9 (46.8, 52.9)	47.2 (44.6, 49.8)
Malays	48.9	38.5	38.6	29.1 (22.2, 36.0)	34.8 (28.8, 40.8)	29.8 (23.5, 36.0)
Indians	51.8	47.0	42.8	47.4 (39.6, 55.2)	46.1 (39.4, 52.8)	46.3 (38.8, 53.7)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) s: Data have been suppressed due to small counts or high sampling variability.

(3) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 female resident population.

(4) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE ‘A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 10
Colorectal Cancer Screening

Key Points

- Overall in 2020, 41.1% of Singapore residents aged 50 to 74 years had undergone colorectal screening within the recommended screening frequency.
- One-quarter (25.2%) of these residents reported having undergone Faecal Occult Blood Test (FOBT) at least once in the past one year while another quarter (25.3%) had undergone colonoscopy in the past 10 years.
- The practice of taking a FOBT or a colonoscopy was more prevalent among males than females.

Introduction

Colorectal cancer was the most common and second most common cancer among Singapore men and women respectively for the five-year period from 2014-2018 (*NRDO 2018)*. During this period, the age-standardised incidence rate of colorectal cancer was 38.7 per 100,000 men and 27.7 per 100,000 women respectively and there were a total of 4,191 deaths (more than two deaths per day on average).

Factors that have been associated with higher risk of colorectal cancer include specific hereditary conditions, older age, inflammatory bowel diseases, regular high saturated fat, low fiber diet, excessive alcohol intake and sedentary lifestyle.

Faecal Occult Blood Test (FOBT) and colonoscopy are able to detect colorectal cancer at an early stage. The Ministry of Health's Clinical Practice Guidelines on Cancer Screening (2010) recommends annual screening for colorectal cancer using FOBT for people aged 50 years and older who are at average risk for colorectal cancer. For a person who is tested positive for FOBT, colonoscopy is the confirmatory diagnostic investigations.

Method Used

An interviewer administered questionnaire was used. Respondents were asked whether they had ever done FOBT or colonoscopy, and how long ago it had been since their last test.

Practice of FOBT

Based on the survey, 25.2% of Singapore residents aged 50 to 74 years reported to have a FOBT done in the last one year (Table10.1). A higher proportion of males (28.2%) had undergone FOBT compared to females (22.3%). Chinese (27.4%) and Indians (24.8%) were more likely to have undergone the test compared to Malays (10.1%). Higher proportion of residents with post-secondary (35.3%) had done a FOBT in the last one year compared to residents with secondary (21.6%) or primary (14.9%) education.

Practice of Colonoscopy

25.3% of Singapore residents aged 50 to 74 years reported to have undergone a colonoscopy in the last 10 years (Table 10.1). Similar to the practice of FOBT, the practice of colonoscopy was more prevalent among males (28.4%) than females (22.2%). Chinese (28.0%) and Indians (22.9%) were more likely to have undergone a colonoscopy compared to Malays (9.3%). By education attainment, one-third (33.2%) of residents with post-secondary (35.3%) had a colonoscopy in the last 10 years compared to residents with secondary (21.8%) or primary (18.2%) education.

Overall, 41.1% of Singapore residents aged 50 to 74 years had undergone colorectal screening within the recommended screening frequency. In general, Singapore residents with higher education levels were more likely to report to have had a FOBT within the last one year or a colonoscopy within the last 10 years. More than one in two (54.9%) residents with post-secondary education had done the screening compared to about one in three (35.8%) with secondary education and two in seven (27.9%) with primary education.

Table 10.1: Practice of FOBT or colonoscopy (%) among Singapore residents aged 50 to 74 years by socio-demographic characteristics, 2020

Characteristic	Had a FOBT in last 1 year	Had a colonoscopy in last 10 years	Had a FOBT in last 1 year or a colonoscopy in last 10 years
Total	25.2	25.3	41.1
Age (years)			
50-59	26.1	22.6	39.8
60-69	25.8	28.1	43.6
70-74	20.1	26.6	38.3
Gender			
Males	28.2	28.4	44.6
Females	22.3	22.2	37.7
Highest education attained			
Primary	14.9	18.2	27.9
Secondary	21.6	21.8	35.8
Post-secondary	35.3	33.2	54.9
Ethnic group			
Chinese	27.4	28.0	44.7
Malays	10.1	9.3	17.5
Indians	24.8	22.9	40.3

Note: Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Trends in Colorectal Cancer Screening

The screening rate for colorectal cancer remained stable between 2019 and 2020 at around 40%, higher than the 35.0% in 2017 (Table 10.2). This increasing trend since 2017 has been seen across all age groups, gender and ethnic groups, except Malays who saw a significant decline in 2020.

Table 10.2: Coverage of colorectal cancer screening (%) among Singapore residents aged 50 to 74 years by age group, gender, highest education attained and ethnic group, 2007, 2010, 2013, 2017, 2019 and 2020

	NHSS	NHS	NHSS	NPHS	NPHS	NPHS
	2007	2010	2013	2017	2019	2020
Total	14.6	19.4	21.2	35.0 (32.0, 38.0)	42.0 (39.1, 44.8)*	41.1 (38.9, 43.3)
ASR	14.6	19.4	21.2	34.8	41.5	40.6
50-59	13.7	18.6	19.1	33.4 (29.5, 37.4)	39.7 (35.9, 43.5)	39.8 (36.4, 43.2)
60-69	16.6	21.3	21.9	37.7 (33.1, 42.4)	44.3 (39.8, 48.7)	43.6 (40.0, 47.2)
70-74	13.8	18.5	30.4	32.6 (25.7, 39.5)	43.7 (37.0, 50.3)	38.3 (32.7, 43.9)
Males	17.2	21.7	22.2	37.6 (33.1, 42.2)	45.4 (41.5, 49.2)	44.6 (41.2, 47.9)
Females	12.1	17.2	20.3	32.5 (28.7, 36.2)	38.7 (35.5, 41.9)	37.7 (34.6, 40.8)
Primary	11.4	12.3	14.7	27.0 (22.5, 41.6)	31.9 (28.1, 35.7)	27.9 (24.2, 31.6)
Secondary	16.5	19.0	21.6	35.3 (30.7, 40.0)	38.9 (34.9, 42.9)	35.8 (32.3, 39.2)
Post-secondary	16.8	32.5	29.5	44.6 (38.4, 50.9)	53.5 (48.4, 58.6)	54.9 (50.8, 59.0)
Chinese	15.2	21.3	22.3	36.1 (32.8, 39.5)	43.6 (40.4, 46.8)*	44.7 (42.2, 47.3)
Malays	10.0	6.9	12.4	21.1 (14.0, 28.1)	31.9 (24.7, 39.2)	17.5 (12.8, 22.1)**
Indians	14.8	18.7	22.1	38.0 (28.1, 48.0)	37.5 (29.3, 45.7)	40.3 (32.4, 48.1)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 11
Vaccination Coverage

Key Points

- Almost one in five (17.0%) Singapore residents aged 18 to 74 years reported they had an influenza injection in the past 12 months in 2020.
- The influenza vaccination coverage among males (18.0%) was higher than females (16.1%).
- The proportion of elderly aged 65 to 74 years who reported ever having received pneumococcal vaccine was 14.4% in 2020.
- The pneumococcal vaccination coverage was higher in females (15.0%) than males (13.8%).

Introduction

Influenza, which is commonly called flu, is a respiratory illness which is highly contagious. For healthy individuals, influenza is usually self-limiting. However, it can sometimes lead to complications and even death. Those who are at risk of serious flu complications like older people, young children and people with certain chronic conditions should get vaccinated[11]. Annual influenza vaccination is part of the nationally recommended vaccinations for these groups of people[12].

Pneumococcal vaccine helps to prevent pneumococcal disease caused by the bacteria *Streptococcus pneumonia*. It can cause a wide spectrum of illness and disease burden is heaviest at the extremes of ages, that is, those less than five years and those older than 65 years. These include infection of the lungs (pneumonia), ear (otitis media), brain (meningitis), blood (bacteremia) and other serious infections[13]. The National Adult Immunisation Schedule (2017) recommends all persons aged 65 years or older to be vaccinated against pneumococcal disease[11].

[11] Healthhub. "Influenza". https://www.healthhub.sg/a-z/diseases-and-conditions/103/topics_influenza (accessed on 15 April 2021).

[12] Ministry of Health. "Nationally Recommended Vaccines". https://www.moh.gov.sg/resources-statistics/nationally-recommended-vaccines (accessed on 15 April 2021).

[13] Centers for Disease Control and Prevention. "Pneumococcal Disease". https://www.cdc.gov/vaccines/pubs/pinkbook/pneumo.htmls (accessed on 15 April 2021).

Method Used

An interviewer-administered questionnaire was used to measure the uptake of both vaccinations. Respondents were asked “In the past 12 months, have you had an injection to protect you from getting flu?” and “Have you ever had pneumococcal vaccination?”

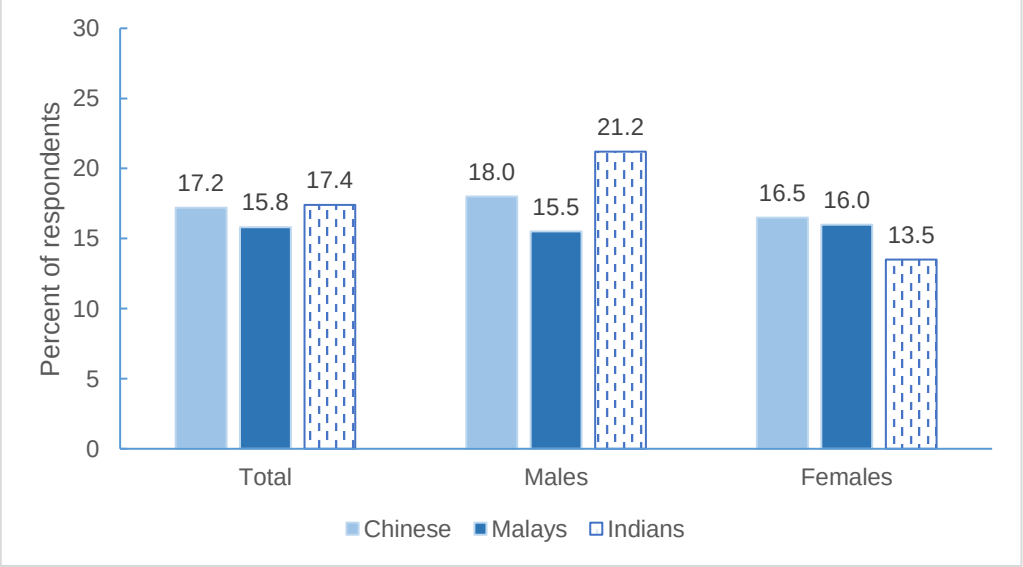
Influenza Vaccination Coverage

Adults aged 18 to 29 years and 60 to 74 years had the highest influenza vaccination coverage compared to other age groups (Table 11.1). About one-fifth of the adults in both age groups reported that they had a flu injection in the past 12 months. Indians (17.4%) and Chinese (17.2%) had higher flu vaccination coverage than Malays (15.8%) (Graph 11.1). Influenza vaccination coverage among females was highest in Chinese (16.5%), followed by Malays (16.0%) and Indians (13.5%), whilst the coverage among males was highest in Indians (21.2%), followed by Chinese (18.0%) and Malays (15.5%). Residents with post-secondary education (18.7%) had the highest flu vaccination coverage, followed by residents with primary (15.3%) and secondary education (14.1%) (Table 11.2).

Table 11.1: Age-specific coverage (%) of influenza vaccination among Singapore residents aged 18 to 74 years by gender, 2020

Age (years)	Total	Males	Females
18-29	19.8	24.1	15.4
30-39	17.4	17.9	16.9
40-49	12.6	14.1	11.2
50-59	14.1	12.3	15.9
60-74	20.8	20.8	20.8
18-74	17.0	18.0	16.1

Graph 11.1: Coverage of influenza vaccination (%) among Singapore residents aged 18 to 74 years by gender and ethnic group, 2020



Trends in Influenza Vaccination Coverage

Overall, among Singapore residents aged 18 to 74 years, the influenza vaccination coverage was 17.0% in 2020, similar to 17.4% in 2019 but higher than the 13.1% in 2017 (Table 11.2).

Table 11.2: Coverage of influenza vaccination (%) among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2017, 2019 and 2020

	NPHS	NPHS	NPHS
	2017	2019	2020
Total	13.1 (11.7, 14.5)	17.4 (16.0,18.7)*	17.0 (15.8,18.2)
ASR	13.0	17.0	16.6
18-29	17.8 (13.8, 21.8)	21.2 (17.7, 24.7)	19.8 (16.5, 23.0)
30-39	14.2 (11.0, 17.3)	16.0 (13.2, 18.8)	17.4 (14.4, 20.4)
40-49	9.6 (7.0, 12.2)	12.1 (9.9, 14.3)	12.6 (10.3, 14.9)
50-59	10.1 (7.4, 12.7)	15.8 (12.9, 18.7)*	14.1 (11.8, 16.4)
60-74	13.9 (11.2, 16.6)	21.2 (18.4, 24.0)*	20.8 (18.2, 23.4)
Males	14.2 (12.1, 16.4)	16.0 (14.3, 17.7)	18.0 (16.0, 19.9)
Females	12.0 (10.2, 13.8)	18.7 (16.6, 20.7)*	16.1 (14.6, 17.6)
Primary	8.4 (6.1, 10.8)	16.4 (12.9, 19.9)*	15.3 (12.6, 18.1)
Secondary	11.6 (9.2, 14.0)	15.3 (13.3, 17.3)	14.1 (12.3, 16.0)
Post-secondary	15.1 (13.2, 17.1)	18.5 (16.7, 20.3)	18.7 (16.9, 20.4)
Chinese	12.0 (10.4, 13.6)	16.7 (15.0, 18.3)*	17.2 (15.8, 18.6)
Malays	18.2 (13.8, 22.6)	19.9 (16.4, 23.4)	15.8 (12.9, 18.7)
Indians	14.5 (10.6, 18.4)	19.8 (15.4, 24.3)	17.4 (12.3, 22.6)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Pneumococcal Vaccination Coverage among Elderly

Among Singapore residents aged 65 to 74 years, the proportion reporting ever having received pneumococcal vaccination increased from 11.9% in 2017 to 14.4% in 2020 (Table 11.3). The vaccination coverage in 2020 was higher in females (15.0%) than males (13.8%) and the coverage for Chinese was at 15.1%. Although similar proportion of residents had pneumococcal vaccination across the different education levels in 2020, the increase in vaccination coverage was significant for those with primary education from 6.5% in 2019 to 14.4% in 2020.

Table 11.3: Coverage of pneumococcal vaccination (%) among Singapore residents aged 65 to 74 years by gender, highest education attained and ethnic group, 2017, 2019 and 2020

	NPHS 2017	NPHS 2019	NPHS 2020
Total	11.9 (7.4, 16.4)	10.3 (7.9, 12.7)	14.4 (11.8, 17.0)
Males	s	10.4 (7.2, 13.7)	13.8 (10.0, 17.7)
Females	12.7 (8.0, 17.3)	10.2 (6.8, 13.6)	15.0 (11.5, 18.4)
Primary	9.6 (4.2, 15.0)	6.5 (4.2, 8.9)	14.4 (10.5,18.2)**
Secondary	13.3 (6.8, 19.9)	11.4 (7.2, 15.6)	13.8 (9.9,17.6)
Post-secondary	s	16.2 (8.9, 23.5)	15.7 (9.1, 22.2)
Chinese	9.8 (6.0, 13.6)	9.9 (7.4, 12.3)	15.1 (12.2, 18.0)
Malays	s	s	s
Indians	s	s	s

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2019 did not overlap, then the result for NPHS 2019 is significantly different statistically from NPHS 2017 at 5% significance level (*). If the confidence intervals for NPHS 2019 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2019 at 5% significance level (**).

(2) s: Data have been suppressed due to small counts or high sampling variability.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE ‘A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 12
Obesity

Key Points

- About one in 10 (10.5%) Singapore residents aged 18 to 74 years were obese in 2019-2020.
- Obesity was more common among males (11.9%) than females (9.3%).
- Obesity among adults aged 30 to 59 years was around 12%, almost double that of those aged 18 to 29 years old (6.6%).
- Among Singapore residents aged 18 to 74 years, 20.7% were in the high risk BMI category for Asian population.
- High risk BMI was more prevalent among males (22.6%) compared with females (18.8%).
- High risk BMI was more common among adults aged 30 to 59 years, almost doubling that of those aged 18 to 29 years old (13.1%).
- Two-fifths of residents (40.6%) aged 18 to 74 years were found to have abdominal obesity, and the rate was higher among females (43.2%) than males (37.8%).
- The prevalence of abdominal obesity increased with age, with the highest prevalence among adults aged 60 to 74 years (56.9%).

Introduction

Obesity increases the risk of chronic diseases such as diabetes mellitus, hypertension and hyperlipidaemia, cardiovascular diseases and certain cancers. Aside from genetic factors, obesity can also result from modifiable lifestyle factors such as excessive food intake that are high in fats and sugars, as well as lack of physical activity *(Hruby 2015)*.

Method Used

All respondents who completed the interviewer-administered questionnaire were invited to participate in a health examination. Among those who attended the health examination, their height, weight, waist and hip circumference were recorded. Electronic weighing scale (SECA model 762) was used to measure the weight, while a stadiometer (SECA model 213) was used to measure the height. Both weight and height were measured without footwear. For height measurement, each respondent was positioned against the

measuring rod and stood upright with their heels together. The respondent's eyes were directed forward so that the top of the ear was horizontal with the inferior orbital margin and the measuring slide was lowered onto the scalp and the height was recorded. Two height readings were taken for each respondent. If the difference between the first and second height reading was more than one centimetre apart, a third reading was taken. An average height reading was calculated based on two closest readings. Body mass index (BMI) was then calculated based on the weight and average height measurement.

Waist and hip measurements were taken using a tailor's measuring tape over respondent's thin clothing. Two readings each of the waist and hip circumference were taken and the average calculated. If the difference between the two readings for waist or hip measurements was more than two centimetres apart, a third reading was taken and an average reading was calculated based on two closest readings.

Definition

The weight status based on the Body Mass Index (BMI), where BMI = weight (kg) / height x height (m^2), was classified into the following groups according to WHO (BMI) classification (Table 12.1).

Table 12.1: Classification of weight status

Classification	BMI (kg/m^2)
Underweight	< 18.5
Normal weight	18.5 – 24.9
Overweight	25.0 – 29.9
Obese	≥ 30

Recognising that the risk for cardiovascular diseases and diabetes mellitus starts from a lower BMI for Asian populations, the WHO expert consultation recommended an additional classification of BMI for public health action among Asians (*WHO 2004*). Based on this classification, Singapore residents having a BMI equal to or greater than 27.5 kg/m^2 are considered as having high risk BMI (Table 12.2).

Table 12.2: Asian classification of BMI risk category

Classification	BMI (kg/m^2)
Low risk	18.5 – 22.9
Moderate risk	23.0 – 27.4
High risk	≥ 27.5

The waist circumference measures the central obesity and visceral fat. People with more weight around their abdomen tend to have higher health risks (*WHO 2008)*. The cut-offs for high risk abdominal obesity for male and female are shown in Table 12.3.

Table 12.3: High risk abdominal obesity

Gender	Waist circumference (cm)
Male	> 90
Female	> 80

Weight Status

The survey found that among Singapore residents aged 18 to 74 years, 5.6% were underweight, 55.1% had normal weight, 28.8% were overweight, and 10.5% were obese (Table 12.4).

Table 12.4: Weight status (%) of Singapore residents aged 18 to 74 years by gender, 2019-2020

Classification	Total	Males	Females
Underweight	5.6	3.9	7.2
Normal weight	55.1	50.8	59.2
Overweight	28.8	33.5	24.3
Obese	10.5	11.9	9.3

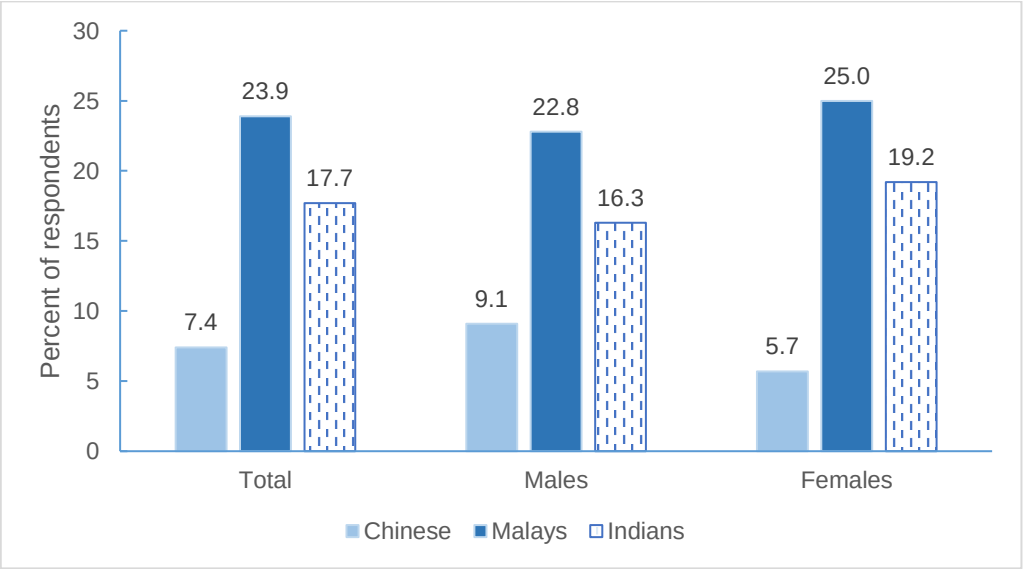
Prevalence of Obesity

Obesity was more common among males (11.9%) than females (9.3%) (Table 12.5). Obesity among adults aged 30 to 59 years was around 12%, almost double that of those aged 18 to 29 years old (6.6%). Malays (23.9%) and Indians (17.7%) had higher obesity prevalence than Chinese (7.4%) (Graph 12.1). The obesity prevalence was higher among Chinese males (9.1%) than Chinese females (5.7%) when stratified by gender and ethnic group, but it was the reverse for Malays and Indians. Residents with primary education (16.3%) had highest obesity prevalence followed by residents with secondary (12.5%) and post-secondary (8.9%) education (Table 12.6).

Table 12.5: Age-specific prevalence (%) of obesity among Singapore residents aged 18 to 74 years by gender, 2019-2020

Age (years)	Total	Males	Females
18-29	6.6	7.3	5.9
30-39	12.4	16.3	8.9
40-49	11.9	13.1	10.8
50-59	11.9	13.5	10.3
60-74	10.2	9.9	10.4
18-74	10.5	11.9	9.3

Graph 12.1: Crude prevalence (%) of obesity among Singapore residents aged 18 to 74 years by gender and ethnic group, 2019-2020



Trends in Obesity

The crude prevalence of obesity during the period 2019-2020 had returned to the previous level seen in 2010 (10.5%) after a slight decrease in 2013 (8.6%) and 2017 (8.6%). Increases in obesity prevalence between 2017 and 2019-2020 were mostly among the older adults aged 50 to 74 years, males and Malays (Table 12.6).

Table 12.6: Crude prevalence (%) of obesity among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2010, 2013, 2017 and 2019-2020

	NHS	NHSS	NPHS	NPHS
	2010	2013	2017	2019-2020
Total	10.5	8.6 (7.9, 9.3)	8.6 (6.6, 10.5)	10.5 (9.6, 11.6)
ASR	10.5	8.6	8.8	10.7
18-29	10.5	5.6 (4.1, 7.0)	s	6.6 (4.7, 8.7)
30-39	11.9	11.6 (9.9, 13.4)	11.4 (6.3, 16.5)	12.4 (10.0, 15.0)
40-49	10.5	10.5 (9.0, 12.0)	11.3 (7.5, 15.2)	11.9 (9.7, 14.1)
50-59	11.8	8.1 (6.8, 9.3)	8.4 (4.9, 12.0)	11.9 (9.4, 14.5)
60-74	6.8	6.7 (5.3, 8.0)	6.9 (3.4, 10.5)	10.2 (8.1, 12.5)
Males	11.7	9.4 (8.3, 10.4)	7.0 (4.6, 9.5)	11.9 (10.4, 13.4)**
Females	9.4	7.8 (7.0, 8.7)	10.0 (7.1, 12.9)	9.3 (8.1, 10.6)
Primary	10.8	9.1 (7.6, 10.5)	10.7 (5.7, 15.6)	16.3 (12.9, 20.5)
Secondary	12.0	11.4 (10.0, 12.8)	10.0 (6.7, 13.4)	12.5 (10.6, 14.7)
Post-secondary	9.5	6.7 (5.8, 7.6)	7.1 (4.8, 9.4)	8.9 (7.8, 10.1)
Chinese	7.7	5.8 (5.0, 6.6)	5.7 (4.0, 7.5)	7.4 (6.5, 8.4)
Malays	23.8	20.5 (18.5, 22.4)	16.6 (10.6, 22.7)	23.9 (19.7, 28.5)
Indians	17.2	14.1 (12.2, 16.1)	20.4 (11.2, 29.6)	17.7 (13.7, 22.6)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NHSS 2013 and NPHS 2017 did not overlap, then the result for NPHS 2017 is significantly different statistically from NHSS 2013 at 5% significance level (*). If the confidence intervals for NPHS 2017 and NPHS 2019-2020 did not overlap, then the result for NPHS 2019-2020 is significantly different statistically from NPHS 2017 at 5% significance level (**).

(2) s: Data have been suppressed due to small counts or high sampling variability.

(3) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(4) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

BMI Risk Category

The survey found that among Singapore residents aged 18 to 74 years, 35.8% had low risk BMI, 37.9% had moderate risk BMI, and 20.7% had high risk BMI (Table 12.7).

Table 12.7: BMI Risk Category (%) of Singapore residents aged 18 to 74 years by gender, 2019-2020

Classification	Total	Males	Females
Low risk	35.8	30.1	41.3
Moderate risk	37.9	43.4	32.6
High risk	20.7	22.6	18.8

Prevalence of High Risk BMI

Similar to the obesity prevalence, there was a higher proportion of males (22.6%) with high risk BMI than females (18.8%) (Table 12.8). High risk BMI was more common among adults aged 30 to 59 years, almost doubling that of those aged 18 to 29 years (13.1%). One in five (20.3%) older adults aged 60 to 74 years was in the high risk BMI group. Malays (38.7%) and Indians (31.8%) had higher proportion with high risk BMI than Chinese (16.1%) (Graph 12.2). However, the Malay females (41.3%) had the highest proportion with high risk BMI, almost double that of the national average (20.7%). About one in three (28.2%) residents with primary education had high risk BMI compared with one in four (24.9%) with secondary education and one in five (17.8%) with post-secondary education (Table 12.9).

Table 12.8: Age-specific prevalence (%) of high BMI risk among Singapore residents aged 18 to 74 years by gender, 2019-2020

Age (years)	Total	Males	Females
18-29	13.1	13.6	12.6
30-39	22.4	27.7	17.6
40-49	24.2	29.0	19.8
50-59	23.7	25.3	22.2
60-74	20.3	18.6	21.8
18-74	20.7	22.6	18.8

Trends in High Risk BMI

The crude prevalence of high risk BMI increased to 20.7% during the period 2019-2020 from 18.7% in 2017, nearing the prevalence observed in 2010 (22.7%) (Table 12.9). Although the increase in high risk BMI prevalence was observed in almost all age groups, gender and ethnic groups in 2019-2020, the rise was larger among adults aged 40 to 74 years and Malays.

Graph 12.2: Crude prevalence (%) of high BMI risk among Singapore residents aged 18 to 74 years by gender and ethnic group, 2019-2020

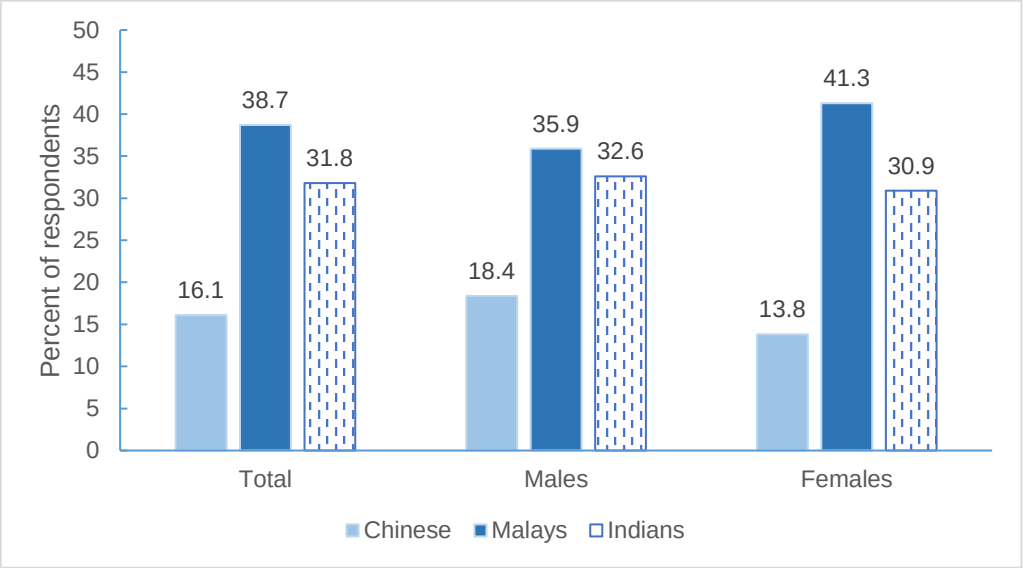


Table 12.9: Crude prevalence (%) of high risk BMI among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2010, 2013, 2017 and 2019-2020

	NHS	NHSS	NPHS	NPHS
	2010	2013	2017	2019-2020
Total	22.7	17.6 (16.7, 18.5)	18.7 (15.9, 21.5)	20.7 (19.2, 22.0)
ASR	22.7	17.6	19.0	20.8
18-29	16.9	10.1 (8.3, 12.0)	11.2 (5.8, 16.5)	13.1 (10.2, 16.2)
30-39	23.2	20.6 (18.3, 23.0)	24.7 (17.2, 32.2)	22.4 (19.3, 25.8)
40-49	25.0	20.8 (18.8, 22.8)	20.5 (15.2, 25.7)	24.2 (21.2, 27.3)
50-59	27.3	20.3 (18.4, 22.3)	20.8 (15.0, 26.6)	23.7 (20.2, 26.9)
60-74	20.7	15.9 (13.8, 18.0)	16.8 (11.7, 22.0)	20.3 (17.3, 23.3)
Males	24.4	19.9 (18.5, 21.4)	20.6 (16.3, 24.8)	22.6 (20.4, 24.7)
Females	21.0	15.4 (14.2, 16.6)	16.9 (13.4, 20.5)	18.8 (17.0, 20.8)

Table 12.9: Crude prevalence (%) of high risk BMI among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2010, 2013, 2017 and 2019-2020 (continued)

	NHS	NHSS	NPHS	NPHS
	2010	2013	2017	2019-2020
Primary	27.9	20.3 (18.0, 22.6)	23.7 (16.4, 31.0)	28.2 (23.9, 32.8)
Secondary	25.9	21.9 (20.1, 23.7)	22.4 (17.5, 27.3)	24.9 (22.1, 27.8)
Post-secondary	18.8	14.2 (13.0, 15.4)	15.3 (11.9, 18.6)	17.8 (16.2, 19.6)
Chinese	19.0	13.6 (12.5, 14.7)	14.8 (11.9, 17.7)	16.1 (14.7, 17.5)
Malays	38.3	32.8 (30.5, 35.0)	34.6 (26.6, 42.6)	38.7 (33.0, 44.0)
Indians	33.1	28.2 (25.6, 30.7)	28.6 (18.7, 38.5)	31.8 (26.5, 37.2)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NHSS 2013 and NPHS 2017 did not overlap, then the result for NPHS 2017 is significantly different statistically from NHSS 2013 at 5% significance level (*). If the confidence intervals for NPHS 2017 and NPHS 2019-2020 did not overlap, then the result for NPHS 2019-2020 is significantly different statistically from NPHS 2017 at 5% significance level (**).

(2) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

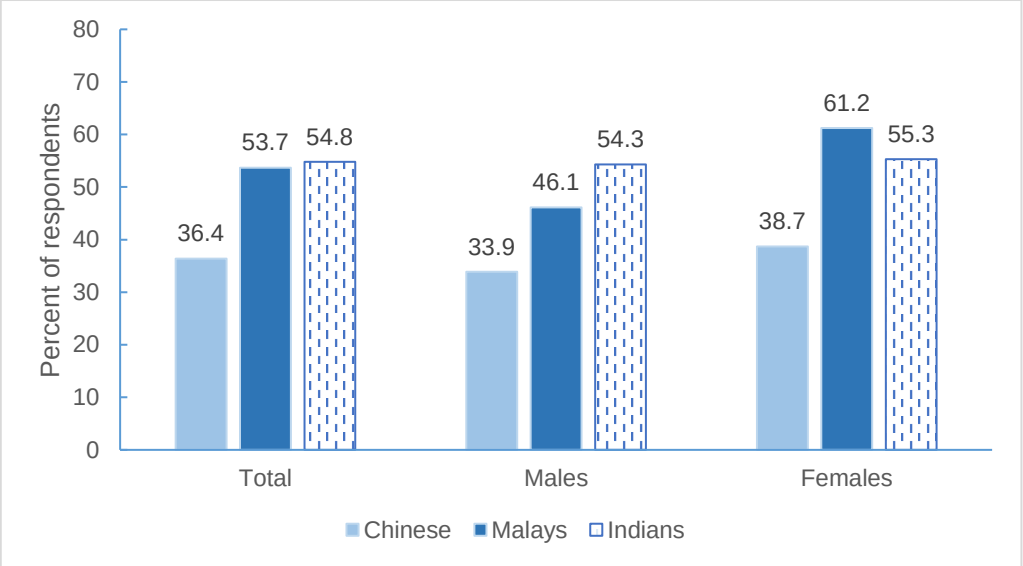
Prevalence of Abdominal Obesity

In 2019-2020, two-fifths (40.6%) of Singapore residents aged 18 to 74 years were found to have abdominal obesity (male's and female's waist circumference greater than 90 centimetres and 80 centimetres respectively) (Table 12.10). Contrary to the obesity prevalence, there was a higher proportion of females (43.2%) with abdominal obesity than males (37.8%). The prevalence of abdominal obesity increased with age, with the highest prevalence among adults aged 60 to 74 years (56.9%). Indians (54.8%) and Malays (53.7%) had higher proportion of adults with abdominal obesity than Chinese (36.4%) (Graph 12.3). Malay females fared the worst with three-fifths of them (61.2%) having abdominal obesity. Residents with primary education had highest proportion with abdominal obesity at 59.2% compared with those with secondary (48.2%) or post-secondary (34.8%) education (Table 12.11).

Table 12.10: Age-specific prevalence (%) of abdominal obesity among Singapore residents aged 18 to 74 years by gender, 2019-2020

Age (years)	Total	Males	Females
18-29	17.1	16.0	18.1
30-39	33.6	36.0	31.5
40-49	45.7	45.0	46.4
50-59	48.8	47.8	49.9
60-74	56.9	45.1	68.0
18-74	40.6	37.8	43.2

Graph 12.3: Crude prevalence (%) of abdominal obesity among Singapore residents aged 18 to 74 years by gender and ethnic group, 2019-2020



Trends in Abdominal Obesity

The crude prevalence of abdominal obesity remained fairly constant at around 40% in 2010, 2017 and 2019-2020 (Table 12.11). Comparing between 2017 and 2019-2020, drops in abdominal obesity prevalence were seen in younger adults aged 30 to 39 years, Malays and Indians, while a rise in prevalence was seen in older adults aged 60 to 74 years and adults with primary education (a significant increase from 45.5% in 2017 to 59.2% in 2019-2020).

Table 12.11: Crude prevalence (%) of abdominal obesity among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2010, 2017 and 2019-2020

	NHS	NPHS	NPHS
	2010	2017	2019-2020
Total	39.1 (36.8, 41.3)	40.3 (37.1, 43.5)	40.6 (39.0, 42.4)
ASR	39.1	39.6	38.9
18-29	22.3 (17.8, 26.7)	18.8 (12.0, 25.6)	17.1 (13.9, 20.5)
30-39	35.5 (31.0, 40.0)	41.2 (33.7, 48.6)	33.6 (30.0, 37.4)
40-49	42.5 (37.8, 47.1)	47.9 (40.8, 55.0)	45.7 (41.8, 49.5)
50-59	49.1 (44.0, 54.2)	47.0 (40.6, 53.4)	48.8 (44.7, 52.8)
60-74	51.8 (45.1, 58.4)	48.0 (41.1, 54.8)	56.9 (53.5, 60.9)
Males	34.6 (31.5, 37.7)	37.0 (32.2, 41.7)	37.8 (35.3, 40.3)
Females	43.4 (40.1, 46.7)	43.5 (39.3, 47.6)	43.2 (40.9, 45.6)
Primary	51.8 (46.6, 57.1)	45.5 (37.2, 53.7)	59.2 (54.3, 64.2)**
Secondary	44.0 (40.1, 47.9)	48.7 (43.1, 54.3)	48.2 (44.9, 51.4)
Post-secondary	31.4 (28.2, 34.5)	34.0 (29.7, 38.3)	34.8 (32.7, 37.1)
Chinese	35.6 (32.7, 38.5)	35.0 (31.4, 38.5)	36.4 (34.5, 38.4)
Malays	47.0 (43.9, 50.2)	58.4 (48.9, 67.9)	53.7 (48.1, 59.2)
Indians	56.3 (53.0, 59.6)	59.5 (49.2, 69.8)	54.8 (48.4, 61.5)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NHS 2010 and NPHS 2017 did not overlap, then the result for NPHS 2017 is significantly different statistically from NHS 2010 at 5% significance level (*). If the confidence intervals for NPHS 2017 and NPHS 2019-2020 did not overlap, then the result for NPHS 2019-2020 is significantly different statistically from NPHS 2017 at 5% significance level (**).

(2) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 13
Chronic Kidney Disease (Renal Impairment)

Key Points

- The prevalence of chronic kidney disease (CKD) among Singapore residents aged 18 to 74 years was 8.8% during the period 2019-2020, with males (8.5%) having marginally lower rate than females (9.2%).
- The prevalence of CKD increased with age, from 3.4% among those aged 18 to 39 years, 7.0% among those aged 40 to 54 years, 14.5% among those aged 55 to 69 years to 29.5% for those aged 70 to 74 years.
- The prevalence of CKD among residents with diabetes (33.7%) was 5.5-fold higher than those without diabetes (6.1%). Even among residents with pre-diabetes, their prevalence of CKD (16.8%) was more than twice as high as those without diabetes (6.1%).
- Similarly, for residents with hypertension, their prevalence of CKD (18.8%) was 4.7-fold elevated compared to those without hypertension (4.0%).

Introduction

Chronic kidney disease (CKD) is defined as abnormalities of the kidney structure or function, present for greater than three months, with implications for health *(KDIGO 2012)*. Biochemically, CKD can be assessed by estimating the glomerular filtration rate (eGFR) and measuring the amount of albumin in the urine (albumin). It is important to detect and manage CKD early to treat reversible conditions and retard its progression. Severe CKD (kidney failure) is a debilitating condition and is associated with many comorbidity and reduced life expectancy. The socio-economic impact on the society is also considerable.

Method Used

All respondents who completed the interviewer-administered questionnaire were invited to participate in a health examination. Among those who attended the health examination, blood samples were collected in plain test tubes and were centrifuged on sites before they were despatched to Reste Laboratories for analysis on the same day of the health examination. The serum creatinine was measured using the Roche c501 instrument using the Jaffe Gen.2 reagent. This method is standardised against the isotope dilution-mass spectrometry method and is tracible to the SRM 967 reference material and fulfils the prerequisite for using the CKD-EPI equations.

Random spot urine samples were collected in sterile containers for measurement of albumin and creatinine using the Roche c501 instrument. The urine albumin was measured using the immunoturbidimetric method (Tina-quant Albumin Gen.2) whereas the urine creatinine was measured using the Jaffe reaction in urine mode.

Data on serum creatinine, urinary albumin and urinary creatinine were aggregated over a span of two survey cycles (i.e. NPHS 2019 and NPHS 2020) so that there will be a larger sample for detailed analysis.

Definition

The estimated glomerular filtration rate (eGFR) of the respondents was derived using the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equations as provided below (Table 13.1) *(Levey 2009)*.

Table 13.1: Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equations for estimating GFR in non-Black subjects. SCr = serum creatinine

Subject characteristics	Equation
Female with SCr ≤ 62 µmol/L	$eGFR = 144\ (SCr \times 0.0113 / 0.7)^{-0.329} \times (0.993)^{\text{age in years}}$
Female with SCr> 62 µmol/L	$eGFR = 144\ (SCr \times 0.0113 / 0.7)^{-1.209} \times (0.993)^{\text{age in years}}$
Male with SCr ≤ 80 µmol/L	$eGFR = 141\ (SCr \times 0.0113 / 0.9)^{-0.411} \times (0.993)^{\text{age in years}}$
Male with SCr> 80 µmol/L	$eGFR = 141\ (SCr \times 0.0113 / 0.9)^{-1.209} \times (0.993)^{\text{age in years}}$

In this report, a respondent is considered to have renal impairment if they have eGFR < 60mL/min per 1.73m^2 (i.e. GFR categories G3a to G5) or albuminuria ≥ 3mg/mmol/L (i.e. ACR categories A2 and A3) *(KDIGO 2012)* (Table 13.2). This analysis was based on respondents with both eGFR (serum creatinine) and ACR measurements (ratio of urine albumin and urine creatinine).

Table 13.2: Classification of CKD based on glomerular filtration rate (GFR) and albuminuria

GFR Category	GFR stages (mL/min per 1.73 m^2)	ACR Category	Albuminuria stages (ACR, mg/mmol/L)
G1	≥90	A1	<3
G2	60-89	A2	3-30
G3a	45-59	A3	>30
G3b	30-44		
G4	15-29		
G5	<15		

Prevalence of CKD

The overall prevalence of CKD among Singapore residents aged 18 to 74 years was 8.8%, with males (8.5%) having marginally lower prevalence than females (9.2%) (Table 13.3).

Table 13.3: Crude prevalence (%) of CKD among Singapore residents aged 18 to 74 years by gender, 2019-2020

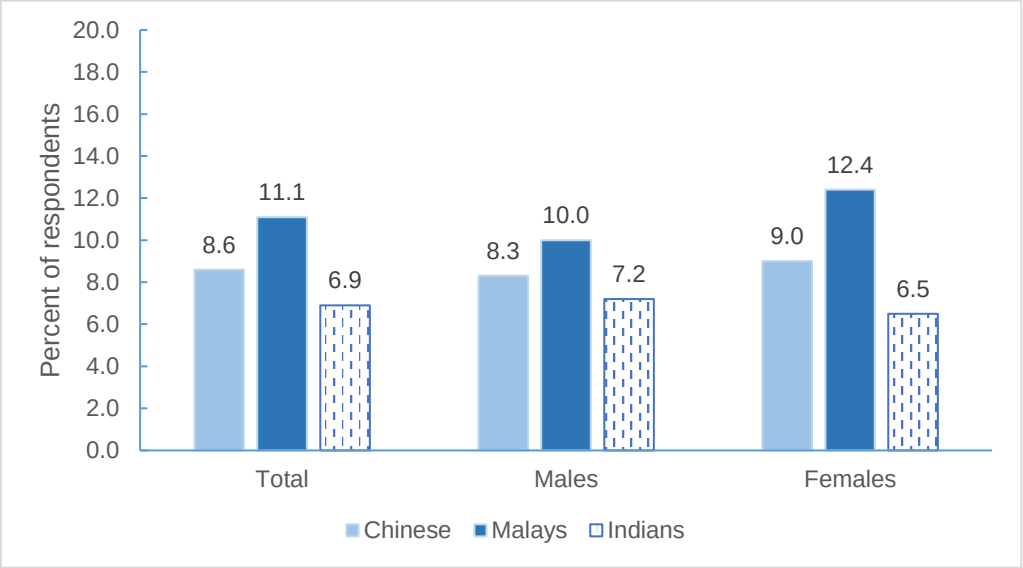
Presence of CKD	Total	Males	Females
Yes	8.8	8.5	9.2
No	91.2	91.5	90.8

The prevalence of CKD increased with age, from 3.4% among those aged 18 to 39 years, 7.0% among those aged 40 to 54 years, 14.5% among those aged 55 to 69 years and 29.5% for those aged 70 to 74 years (Table 13.4). Malays (11.1%) had the highest CKD prevalence, followed by Chinese (8.6%) and Indians (6.9%) (Graph 13.1) The same pattern was also seen in both genders.

Table 13.4: Age-specific crude prevalence (%) of CKD among Singapore residents aged 18 to 74 years by gender, 2019-2020

Age (years)	Total	Males	Females
18-39	3.4	2.6	4.1
40-54	7.0	8.4	5.5
55-69	14.5	13.3	15.7
70-74	29.5	28.8	30.1
18-74	8.8	8.5	9.2

Graph 13.1: Crude prevalence (%) of CKD among Singapore residents aged 18 to 74 years by gender and ethnic group, 2019-2020



Two important clinical risk factors for CKD are diabetes and hypertension. In residents with diabetes, their prevalence of CKD (33.7%) was 5.5-fold higher than those without diabetes (6.1%) (Table 13.5). Residents with pre-diabetes (16.8%) had CKD more than twice as often as those without diabetes (6.1%). The prevalence of CKD among females with diabetes or pre-diabetes was about 1.5 times higher than their male counterparts. However among males and females with no diabetes, their prevalence of CKD were similar.

Likewise, the prevalence of CKD was 4.7-fold elevated in residents with hypertension (18.8%) compared to those without (4.0%) (Table 13.6). Female hypertensives (22.9%) had a higher prevalence of CKD compared with male hypertensives (15.8%).

Table 13.5: Crude prevalence (%) of CKD among Singapore residents aged 18 to 74 years by gender and diabetes status, 2019-2020

Diabetes status	Total	Males	Females
Diabetes	33.7	28.9	39.6
Pre-diabetes	16.8	13.8	21.6
No diabetes	6.1	5.9	6.3

Table 13.6: Crude prevalence (%) of CKD among Singapore residents aged 18 to 74 years by gender and hypertension status, 2019-2020

Hypertension status	Total	Males	Females
Hypertension	18.8	15.8	22.9
No Hypertension	4.0	3.9	4.1

Chapter 14
Mental Health

Key Points

- The prevalence of poor mental health as measured by GHQ-12 among Singapore residents aged 18 to 74 years was 13.4% in 2020.
- More females (14.8%) had poor mental health compared to males (12.0%) in general and in most age groups.
- Younger adults aged 18 to 29 years (21.5%) had the highest proportion with poor mental health while the prevalence for other age groups were much lower, ranging from 9.4% in the 60 to 74 years age group to 12.6% in the 30 to 39 years age group.

Introduction

The WHO defines mental health as “more than the absence of mental disorders. It is a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.” The level of mental health of a person may be affected by multiple interrelated social, psychological and biological factors. Unemployment, stressful work conditions, gender discrimination, family violence, social exclusion, unhealthy lifestyle could result in poor mental health (*WHO 2007*).

Method Used

The 12-item General Health Questionnaire (GHQ-12) was administered by interviewers to measure mental health. Cut-off for poor mental health (having a score of 3 or more) was based on an earlier internal validation study conducted in 2003.

Prevalence of Poor Mental Health

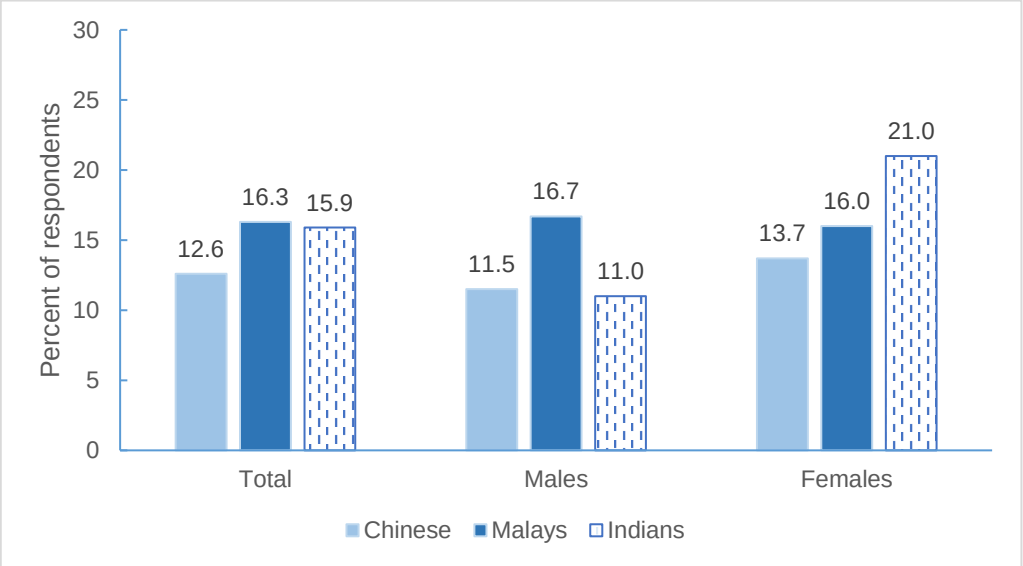
The prevalence of poor mental health as measured by GHQ-12 among Singapore residents aged 18 to 74 years was 13.4% (Table 14.1). More females (14.8%) had poor mental health compared to males (12.0%) in general and in most age groups. Younger adults aged 18 to 29 years (21.5%) had the highest proportion with poor mental health while the prevalence for other age groups were much lower, ranging from 9.4% in the 60 to 74 years age group to 12.6% in the 30 to 39 years age group. Among the ethnic groups,

Malays (16.3%) and Indians (15.9%) had higher proportion with poor mental health compared with Chinese (12.6%) (Graph 14.1). The prevalence of Indian females (21.0%) with poor mental health was almost doubled that of Indian males (11.0%) while the gender differences among the Chinese and Malays were much narrower. Residents with secondary education (15.4%) had higher prevalence of poor mental health compared with residents with primary or post-secondary education (around 13%) (Table 14.2).

Table 14.1: Age-specific crude prevalence (%) of poor mental health among Singapore residents aged 18 to 74 years by gender, 2020

Age (years)	Total	Males	Females
18-29	21.5	18.6	24.5
30-39	12.6	10.4	14.6
40-49	12.4	12.5	12.3
50-59	11.4	9.7	13.2
60-74	9.4	8.9	9.9
18-74	13.4	12.0	14.8

Graph 14.1: Crude prevalence (%) of poor mental health among Singapore residents aged 18 to 74 years by gender and ethnic group, 2020



Trends in Prevalence of Poor Mental Health

The crude prevalence of poor mental health among Singapore residents aged 18 to 74 years remained stable at around 13% in 2017 and 2020 (Table 14.2). Similar patterns were observed across age groups, gender, education levels and ethnic groups between the two time periods.

Table 14.2: Crude prevalence (%) of poor mental health among Singapore residents aged 18 to 74 years by age group, gender, highest education attained and ethnic group, 2017 and 2020

	NPHS	NPHS
	2017	2020
Total	12.5 (10.9, 14.0)	13.4 (12.4, 14.5)
ASR	12.6	13.8
18-29	16.5 (12.7, 20.3)	21.5 (18.4, 24.6)
30-39	12.8 (9.8, 15.7)	12.6 (10.5, 14.8)
40-49	10.9 (8.1, 13.6)	12.4 (10.2, 14.6)
50-59	10.6 (7.8, 13.5)	11.4 (9.2, 13.7)
60-74	11.4 (8.8, 13.9)	9.4 (7.8, 11.1)
Males	11.4 (9.3, 13.4)	12.0 (10.5, 13.5)
Females	13.5 (11.4, 15.7)	14.8 (13.3, 16.2)
Primary	12.6 (9.6, 15.6)	12.6 (10.0, 15.1)
Secondary	13.5 (10.7, 16.2)	15.4 (13.4, 17.5)
Post-secondary	11.8 (9.8, 13.8)	12.7 (11.3, 14.1)
Chinese	11.7 (10.1, 13.3)	12.6 (11.4, 13.8)
Malays	16.9 (13.2, 20.6)	16.3 (13.2, 19.5)
Indians	12.4 (8.1, 16.7)	15.9 (12.2, 19.6)

Notes: (1) Figures in ( ) refer to the 95% confidence intervals. If the confidence intervals for NPHS 2017 and NPHS 2020 did not overlap, then the result for NPHS 2020 is significantly different statistically from NPHS 2017 at 5% significance level (**).

(2) ASR: Age-standardised rate. The reference population used is Singapore Census 2010 resident population.

(3) Analysis based on highest education attained served as a proxy to socio-economic factors.
Primary education: No formal qualification/ Primary/ PSLE.
Secondary education: Secondary/ GCE 'O'/ 'N' level.
Post-secondary education: GCE 'A' Level/ Polytechnic & other diploma/ Degree & professional qualification.

Chapter 15 Survey Methodology

Study Design and Objectives

The NPHS is a cross-sectional population health survey series jointly managed by the Ministry of Health and Health Promotion Board to track the health and risk factors of the Singapore residents. The main objectives of the survey are to monitor the health of Singapore residents and track progress towards national targets in the areas of:

(i) risk factors such as alcohol consumption, cigarette smoking and physical inactivity;

(ii) diseases such as diabetes mellitus, hypertension and hyperlipidaemia;

(iii) preventive health behaviour such as chronic disease screening; cervical, breast and colorectal cancer screening; and vaccinations.

The survey results were presented for the 18 to 74 years age group for most chapters except chronic disease screening, cancer screening and vaccination coverage. For these few chapters, the analyses were confined to relevant age groups recommended for screening and immunisation. Data for the “Others” ethnic group were included in the compilation of the survey results shown under “Total”, but suppressed in ethnic-specific data of all statistical tables due to small counts or high sampling variability.

Ethics Approval

The NPHS methodology, protocol and procedures were approved by National Healthcare Group (NHG) Domain Specific Review Board (Domain F).

Sample Design

A representative sample of residential addresses was obtained from the Singapore Department of Statistics (DOS) who maintains a sampling frame of residential addresses for the selection of samples for household surveys. The sample selection was based on a two-stage design where the primary sampling units comprised of geographical areas and the secondary sampling units were the residential dwelling units.

The NPHS design comprised two components – (1) Household Interview (HI) and (2) Health Examination (HE). In the first component, a household member aged 18 to 79 years old (also known as “reference person”) was identified using KISH tables within each selected address to participate in the household based face-to-face questionnaire interview (i.e. NPHS HI). Only Singapore citizens and permanent residents were recruited for the survey. All reference persons who completed NPHS HI would be invited to undergo a health examination (i.e. NPHS HE) at a designated clinic or screening sites. Physical measurements e.g. height, weight, hip and waist circumference, blood pressure levels and bio-specimens such as blood and urine samples of survey respondents were collected. The blood and urine samples were sent to a medical laboratory to test for blood sugar, cholesterol, proteins in urine and other conditions. A full report on the respondent’s health status was mailed to him/ her six to eight weeks after the completion of the health examination.

Questionnaire

An electronic structured questionnaire administrated on a tablet was used in the survey to collect information on the demographic, socio-economic, lifestyle practices relating to the major non-communicable diseases and risk factors, health conditions, knowledge, attitude and practices on health screening as well as the general well-being of the respondents. The questionnaire was adopted from that of the National Population Health Survey 2017 and National Health Surveillance Survey 2013; and included elements of the instruments used in the WHO STEP-wise approach to Surveillance of Non-Communicable Diseases (STEPS) Instrument for Non-Communicable Disease Risk Factors and WHO’s Global Physical Activity Questionnaire (GPAQ).

Invitation Letter and Publicity

An invitation letter, in four official languages, was mailed to the selected household addresses one week prior to visitation by the assigned interviewers. The invitation letter provided information on the survey purpose, what the survey comprised and expected survey duration. It also informed that an interviewer from a research company commissioned by the Ministry of Health and Health Promotion Board would be visiting the household to enumerate, select and interview an eligible household member to take part in the survey, and assured the household on the confidentiality of all collected information. A dedicated NPHS webpage was set-up to provide detailed information on the conduct of the NPHS.

Training

All survey interviewers were given an overview of the survey background and briefed extensively on the fieldwork procedures such as procurement of appointments, enumeration of household members, selection of eligible household members using KISH tables and consent taking for survey participation. They were given training slides on survey protocols and questionnaire administration as well as training in administrating the electronic questionnaire on a tablet. Fieldworkers carrying out the health examination were given training on consent taking and the standard operation procedures for the conduct of health examination. These trainings helped to ensure compliance to standards and protocols of the survey, and consistency in data collection for the household interview and health examination.

Household Interview Fieldwork

The survey fieldwork was conducted between 27 July 2019 and 30 March 2020. Survey interviewers from the appointed research company *(National University of Singapore (IPS-Social Lab))* commissioned by the Ministry of Health and Health Promotion Board visited all the selected household addresses. The interviewers made a minimum of five visit attempts, at different times of the day and on different days of a week to establish contact with the reference person or household member to conduct the survey or obtain a survey appointment if the reference person is unavailable at the point of visit. Informed written consent was obtained from the reference person before the interviewer administered the questionnaire face-to-face. A token of appreciation was given to the reference person who completed the survey interview. All reference persons who completed the household interview were invited to go for a health examination and given a letter of invitation by the interviewer.

The fieldwork for the period of April to June 2020 was cancelled with the introduction of the Circuit Breaker to combat the spread of COVID-19 from 7 April to 1 June 2020 (inclusive). Safe management measures (SMMs) based on the prevailing measures set by Multi-Ministry Taskforce (MTF) were implemented during the conduct of household interview between 6 February and 30 March 2020 to ensure the safety and wellbeing of the respondents and interviewers.

Health Examination Fieldwork

The health examination fieldwork was carried out between 14 August 2019 and 12 September 2020 by a healthcare service provider (*ST Healthcare Pte Ltd*) appointed by the Ministry of Health and Health Promotion Board. Appointment setting officers from the service provider provided a reminder call to reference persons two to three days prior to their appointments and managed any requests for changes to the appointments. At the appointed clinic or screening sites, informed written consent was obtained by a fieldworker before the conduct of the health examination and a token of appreciation was given to the reference person after the completion of the health examination.

In addition to the appointed clinic at Singapore Aeromedical Centre (SAC), roving screening sites were set up in Bunoa Vista Community Club, Fuchun Community Club and Health Promotion Board (HPB) on selected Saturdays to boost the participation for health examination. Health examination at roving sites was carried out between 21 September 2019 and 14 March 2020. The conduct of health examination at the appointed clinic and screening sites were suspended from April to June 2020 because of the Circuit Breaker. Health examination resumed from 1 July 2020 onwards at SAC and HPB for respondents who had outstanding appointments scheduled during the months when the survey fieldwork was suspended. Safe management measures based on the prevailing measures set by Multi-Ministry Taskforce were implemented during the conduct of health examination between 6 February and 12 September 2020 to ensure the safety and wellbeing of the respondents and health examination staff.

Data Quality Control

Informed consent forms validation

All the informed consent forms from the household interview and health examination were checked for completeness and accuracy of information captured. This included checks for missing information, consistency of information and any data-entry errors in the datasets.

Interview validation

Data quality control was conducted by a separate team of staff who were not involved in the survey interview fieldwork. For each interviewer, 40% of their survey interviews were randomly selected and subjected to quality control checks via telephone validation or audio audit. At least 30% of all quality control checks were conducted through telephone validation where respondents were asked to verify their residential address and responses to nine specific fields with the respondents concerned. The remaining 10% of the checks were audio audits where a quality control staff listened to segments of the interview and checked if the interviewer complied with the stipulated survey protocols in administering the questions.

Data verification and consistency check

The electronic survey questionnaire had built-in features that prompt data entry for fields that required a response or prompt data re-entry if data entered was outside the logical or valid field range. Built-in checks for relational fields were also incorporated to ensure that responses for those fields across different sections of the questionnaire were consistent. The built-in features and checks ensured that missing values, data-entry errors and inconsistent responses were eradicated or kept to the minimum where possible. The database on the questionnaire records with the complete survey responses was subjected to a series of computer-programmed checks for missing values, valid field range and cross-field relational consistency. Missing values were obtained from respondents and data anomalies were clarified through direct verification with the respondents whenever necessary.

The database on the physical measurements and laboratory results were also checked for missing value, valid field range and cross-field relational consistency. Missing values and data anomalies were clarified with fieldworkers and corrected where possible.

Data Confidentiality

Throughout all stages of the survey, strict confidentiality on individual respondent information was maintained. All information, including audio recordings, questionnaire answers, health examination records collected for this survey will be kept strictly confidential, and stored in a secure, password-protected environment. Any reporting of findings would be done on a grouped basis such that no individual survey respondents can be identified. The identity of the respondents would remain confidential in publications (e.g. in national reports).

Age-Standardisation

Age-standardisation of prevalence rates take into account the changing age distribution of the population over the years and allows for more meaningful trend comparison, especially with an ageing population where prevalence rates of chronic diseases such as diabetes mellitus, hypertension, and hyperlipidaemia can be expected to increase. Age-standardisation of prevalence was calculated by the direct method, using the 2010 Census Singapore resident population as the standard (reference) population. The age-standardised rates were used for prevalence trends on diseases.

Response Rate

From a sample of 9,365 eligible households, 6,250 reference persons aged 18 to 79 years participated in the household interview, forming a response rate of 67% in NPHS 2020. 4,453 reference persons (71%) initially agreed to participate in the follow-on health examination. However, only 2,506 (56%) of those who agreed eventually attended the health examination.

Comparison of Demographic Profile between Survey Respondents and Resident Population

The demographic profiles of survey respondents from household interview were shown in Table 15.1. The survey sample was weighted to the age, ethnic group and gender distribution of the 2019 Singapore resident population to yield a similar population structure as the resident population. This was to ensure that the survey results apply to the general population. Likewise, the survey sample for health examination was weighted to the age, ethnic group and gender distribution of the 2019 resident population and adjusted for non-participation in health examination to yield a representative sample of the population.

Data from NPHS 2019 and NPHS 2020 were aggregated together for some analysis of the survey results. A total of 12,504 reference persons completed the household interviews and 4,946 of them attended the health examination across the two survey cycles. The demographic profiles of survey respondents from the household interview and health examination from the combined survey sample were presented in Table 15.2.

Table 15.1: Percentage distribution (%) of the survey sample (unweighted) for household interview and 2019 Singapore resident population by demographic characteristics

	Household Interview Survey Sample (Unweighted)	Singapore Resident 2019
Total	100.0	100.0
18-29	14.5	19.7
30-39	18.9	18.7
40-49	20.2	19.2
50-59	18.8	19.1
60-69	17.3	15.7
70-79	10.3	7.7
Males	46.1	48.8
Females	53.9	51.2
Chinese	75.8	75.4
Malays	12.0	12.8
Indians	9.0	8.7
Others	3.2	3.1

Table 15.2: Percentage distribution (%) of the combined survey sample (unweighted) for household interview and health examination by demographic characteristics

	Household Interview Combined Survey Sample (Unweighted)	Household Examination Combined Survey Sample (Unweighted)
Total	100.0	100.0
18-29	14.4	14.1
30-39	19.0	19.7
40-49	20.0	21.3
50-59	18.2	20.2
60-69	17.9	17.1
70-79	10.6	7.5
Males	45.6	48.1
Females	54.4	51.9
Chinese	74.9	78.2
Malays	12.3	9.3
Indians	9.7	9.0
Others	3.0	3.5

Sample Weights

The sample weights for household interview were the composite of sample weights for the households and the selected household members. For each household, the sample weight (W_{HH}) comprised weight for non-response and unequal probability of selection stratified by planning regions and housing type and benchmarked to the total number of resident households. For each household member, the sample weight (W_{HH_Mem}) comprised weight for unequal probability of selection and weight for post-stratification stratified by age, gender and ethnic groups. The overall sample weight for household interview was the product of W_{HH} and W_{HH_Mem}.

The sample weights for health examination were obtained by applying the weight for non-response to health examination to the household interview weights stratified by age groups, gender and ethnic groups.

REFERENCES

Chapter 1: Alcohol Consumption

WHO. *Global Status Report on Alcohol and Health 2018.* Geneva: World Health Organization, 2018.

Chapter 2: Cigarette Smoking

U.S. Department of Health and Human Services. *The Health Consequences of Smoking – 50 Years of Progress: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.

Chapter 3: Physical Activity

American College of Sports Medicine. Position Stand*: The recommended quantity and quality of exercise for developing and maintaining cardiorespiratory and muscular fitness, and flexibility in healthy adults*. Med. Sci. Sports Exerc. 1998; 30(6).

Bennie JA, Pedisic Z, van Uffelen JG, Gale J, Banting LK, Vergeer I, et al. *The descriptive epidemiology of total physical activity, muscle-strengthening exercises and sedentary behaviour among Australian adults - results from the National Nutrition and physical activity survey*. BMC Public Health. 2016;16(1):73.

Bennie JA, De Cocker K, Teychenne MJ, Brown WJ, Biddle SJH. *The epidemiology of aerobic physical activity and muscle-strengthening activity guideline adherence among 383,928 U.S. adults*. International Journal of Behavioral Nutrition and Physical Activity 2019; 16:34.

Guthold R, Stevens GA, Riley LM, Bull FC. *Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants.* Lancet Glob Health 2018;6(10):e1077–e86.

Scholes S. *Health Survey for England 2016: Physical activity in adults.* Health and Social Care Information Centre, 2016.

U.S. Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General*. Atlanta 1997, GA: U.S Department of Health and Human Services, Centers for Disease Control and Prevention, National Centre for Chronic Disease Prevention and Health Promotion, 1996.

U.S. Department of Health and Human Services. *Physical Activity Guidelines for Americans. 2nd edition ed*. Washington, DC: U.S. Department of Health and Human Services; 2018.

U.S. Department of Health and Human Services. *Introducing the Physical Activity Guidelines for Americans. 2nd edition ed*. Washington, DC: U.S. Department of Health and Human Services; 2018.

WHO. *Global Physical Activity Questionnaire (GPAQ), Analysis Guide*, (Downloaded in 2010)

WHO. *Global Physical Activity Questionnaire (GPAQ), Analysis Guide*, (Downloaded in 2014)

WHO. *Global Recommendations on Physical Activity for Health*. Geneva: World Health Organization; 2010.

WHO. *WHO Guidelines on Physical Activity and Sedentary Behaviour*. Geneva: World Health Organization; 2020.

Chapter 4: Diabetes Mellitus

Ministry of Health, Singapore. *Diabetes Mellitus MOH Clinical Practice Guidelines 1/2014*. Ministry of Health, Singapore 2014.

WHO. *Definition, Diagnosis and Classification of Diabetes Mellitus and its Complications: Report of a WHO Consultation*. Geneva: World Health Organization; 1999.

WHO. *Definition and Diagnosis of Diabetes Mellitus and Intermediate Hyperglycaemia: Report of a WHO/IDF Consultation*. Geneva: World Health Organization; 2006.

WHO. *Global Report on Diabetes*. Geneva: World Health Organization; 2016.

Chapter 5: Hypertension

Ministry of Health, Singapore. *Hypertension MOH Clinical Practice Guidelines 1/2017*. Ministry of Health, Singapore 2017.

WHO. *Arterial Hypertension*. *Report of a WHO Expert Committee. No. 628 WHO Technical Report Series*. Geneva: World Health Organization; 1978.

WHO. *A Global Brief on Hypertension*. Geneva: World Health Organization; 2013.

Chapter 6: Hyperlipidaemia

Expert Panel on the Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults. Executive Summary of the Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). JAMA 2001; 285:2486–2497.

Ministry of Health, Singapore. *Lipids MOH Clinical Practice Guidelines 2/2016*. Ministry of Health, Singapore 2016.

National Institutes of Health. *National Cholesterol Education Program Expert Panel. Executive summary of the (NCEP) on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). Third Report of the National Cholesterol Education Program (NCEP) in Adults (Adult Treatment Panel III) final report*. National Heart, Lung, and Blood Institute. National Institutes of Health. NHI Publication No. 02-5215. September 2002.

Chapter 7: Chronic Disease Screening

Health Promotion Board, Singapore. *Screen for Life Booklet*, October 2019.

Chapter 8: Breast Cancer Screening, Chapter 9: Cervical Cancer Screening and Chapter 10: Colorectal Cancer Screening

Ministry of Health, Singapore. *Cancer Screening MOH Clinical Practice Guidelines 1/2010*. Ministry of Health, Singapore 2010.

National Registry of Diseases Office, Health Promotion Board, Singapore. *Singapore Cancer Registry Annual Report 2018.* Health Promotion Board, Singapore 2018.

Chapter 11: Vaccination Coverage

Ministry of Health, Singapore. *National Adult Immunisation Schedule.* Ministry of Health, Singapore 2017.

Chapter 12: Obesity

Centers for Disease Control and Prevention. *Defining Adult Overweight & Obesity.* https://www.cdc.gov/obesity/adult/defining.html (accessed: May 2021)

Hruby A, Hu F.B. *The epidemiology of obesity: A big picture*. Pharmacoeconomics. 2015; 33(7): 673–689.

Moody, Alison. *Health Survey for England 2019: Overweight and obesity in adults and children.* Health and Social Care Information Centre. 2020.

WHO. *Appropriate body-mass index for Asian populations and its implications for policy and intervention strategies*. Lancet 2004; 363: 157–163.

WHO. *Factsheet on Obesity and Overweight 2020*. https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight (accessed: May 2021)

WHO. *Waist circumference and waist-hip ratio. Report of a WHO Expert Consultation*. Geneva: World Health Organization; 2008.

WHO Regional Office for Europe. *Body mass index–BMI*. https://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi (accessed: April 2021)

Chapter 13: Chronic Kidney Disease (Renal Impairment)

Levey A.S., Stevens L.A., Schmid C.H. *A new equation to estimate glomerular filtration rate*. Ann. Intern. Med. 2009;150:604–612.

KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. https://kdigo.org/wp-content/uploads/2017/02/KDIGO_2012_CKD_GL.pdf (accessed: April 2021)

Chapter 14: Mental Health

WHO. *Mental Health: Strengthening Mental Health Promotion*. Fact sheet No. 220. September 2007. Geneva: World Health Organization; 2007.

Chapter 15: Survey Methodology

Singapore Department of Statistics, Ministry of Trade & Industry, Singapore. *Resident Population by 5-Year Age Group, Sex and Ethnicity, 2019*.

ACKNOWLEDGEMENTS

The National Population Health Survey 2020 Project Team would like to gratefully acknowledge Associate Professor Chua Tin Chiu, Department of Statistics and Applied Probability, Faculty of Science, National University of Singapore for kindly providing technical advice on sampling weights and other assistance. The team would also like to extend thanks to Dr Loh Tze Ping for his technical assistance in the conduct of the Health Examination and his write-up on the chapter for chronic kidney disease.

The Team would also like to thank colleagues in the Ministry of Health and the Health Promotion Board who have given inputs to the design of the survey questionnaire, planning of the fieldwork processes and management of administrative matters.

Last but not least, the Team would like to thank all Singapore residents who have participated in this survey.

Annex A

Survey Questionnaire

NATIONAL POPULATION HEALTH SURVEY 2019/20

QUESTIONNAIRE A [FOR PERSONS AGED 18 YEARS & ABOVE]

全国人口健康调查 2019/20 问卷 A [供 18 岁或以上的人]

Serialhi								
Date of Interview	D	D	M	M	Y	Y	Y	Y

Interviewer's Full Name		KISH Table Used	

Household Information

Number of eligible PERSONS (Singapore citizens/PRs aged 18 to 79 years) in household: _____

住户中合格的人士（18 至 79 岁以下的新加坡公民/永久居民）人数

Number of eligible SENIORS (Singapore citizens/PRs aged 65 years & above) in household: _____

住户中合格的乐龄人士（65 岁或以上的新加坡公民/永久居民）人数

1. REGISTRATION

Interviewer: I would like to inform that your individual information collected for the Survey will be kept strictly confidential. Any reporting would be done on a collective basis such that no participants in the survey will be identifiable.

我想告诉您，本调查所收集的个人信息会严格保密。所有调查都会基于整体数据，因此不会泄漏您的任何个人信息。

1000. Year of birth:
出生年份

Age:
年龄 | | | |

1001. Record gender of participant **[SA]**
请注明受访者的性别

1	Male	男性
2	Female	女性

1002. Ethnic group (as listed in NRIC) **[SA]**
种族（以身份证（NRIC）为准）

READ ONLY IF NECESSARY		
1	Chinese	华族
2	Malay	马来族
3	Indian	印度族
DO NOT READ		
4	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答

1003. Are you a Singapore Citizen? **[SA]**
您是新加坡公民吗？

READ		
1	Yes, I am a Singapore citizen	是，我是新加坡公民
2	No, I am a Permanent Resident	否，我是永久居民
DO NOT READ		
777	Refused	拒绝回答

1004. May I know your height in metres, centimetres, or feet and inches? **[SA]**
请问您的身高是多少公尺、公分或英尺英寸？

	Height in cm, **OR** (nearest whole number)	公分，**或** （最近的整数）	
	Height in metres, **OR** (nearest two decimal places)	公尺，**或** （最接近的两位小数）	
	Feet (nearest whole number) 英尺（最近的整数）		Inches (nearest whole number) 英寸（最近的整数）
DO NOT READ			
777	Refused	拒绝回答	
888	Don’t know / Not sure	不知道 / 不肯定	

1005. May I know your weight in kilograms or pounds? **[SA]**
请问您的体重是多少公斤或磅？

	Weight in kg, **OR** (nearest one decimal place)	公斤，**或** （最接近的一位小数）
	Weight in lbs (nearest whole number)	磅 （最近的整数）
DO NOT READ		
777	Refused	拒绝回答
888	Don’t know / Not sure	不知道 / 不肯定

END OF SECTION 1. GO TO SECTION 2.

2. DEMOGRAPHICS

2000. What is your current marital status? **[SA]**
请问您目前的婚姻状况是？

USE SHOWCARD		
1	Never married	从未结婚
2	Married	已婚
3	Divorced	离婚
4	Separated	分居
5	Widowed	丧偶
DO NOT READ		
777	Refused	拒绝回答

2001. Do you have any children, including adopted and step-children? Please do not include foster children. **[SA]**
请问您是否有孩子, 这包括领养的孩子、继子和继女？ 请不要包括寄养的儿童。

USE SHOWCARD			
1	Yes	有	**[Go to Q2002]**
2	No	没有	**[Go to Q2003]**
DO NOT READ			
777	Refused	拒绝回答	

2002. Are any of your children within the following age range, including adopted and step-children? Please do not include foster children. **[MA]**
您是否有属于以下年龄段的孩子，这包括领养的孩子、继子和继女？请不要包括寄养的儿童。

READ		
1. Yes 有 **2.** No 没有	a) Aged 6 years and below	6 岁或以下
1. Yes 有 **2.** No 没有	b) Aged 7 to 12 years	7 岁至 12 岁
1. Yes 有 **2.** No 没有	c) Older than 12 years	12 岁以上
DO NOT READ		
777	Refused	拒绝回答

Interviewer Note: Please circle all answers that apply. Multiple responses allowed.
请圈出所有合适的答案。允许多个答案。

2003. What is the highest level of education* that you have attained? **[SA]**
请问您的最高教育程度是什么？

USE SHOWCARD AND DO NOT READ		
1	No formal education / Primary	未接受正规教育/小学
2	PSLE or equivalent	小六离校毕业证书或同等学历
3	Secondary	中学
4	'O' / 'N' level or NTC3 cert or its equivalent	'O' / 'N' 水准或全国技工证书第 3 级 (NTC 3)或同等学历
5	'A' level / International Baccalaureate (IB)/ NTC 1-2 or Cert in office/ business skills or its equivalent, WSQ certificates	'A' 水准或/国际高中文凭(IB)/全国技工证书第 1-2 级(NTC 1-2)或办公室/商业技能证书或同等学历,WSQ 证书
6	Polytechnic Diploma	理工学院文凭
7	Other diploma & professional qualification	其它文凭或专职业资格证书
8	University and above	大学及以上学历
9	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

** Refers to the highest level or standard which a person had passed or attained and was awarded a certificate, either through attendance at an institution of learning, through correspondence or self-study.*
最高教育程度指的是一个人通过在教育机构学习、函授或自修并获得证书的最高教育水平或学位。

2004. Which of the following best describes your main work status* over the last 12 months? **[SA]**
下列哪项最符合您在过去 12 个月内的主要工作情况？

USE SHOWCARD & READ ONLY IF NECESSARY			
1	Working	工作	**[Go to Q2005a]**
2	Full-time Student	全职学生	**[Go to Q2006]**
3	Serving National Service	在服兵役/国民服役	
4	Homemaker or housewife	家庭主妇/夫	
5	Retired	退休	**[Go to Q2005a]**
6	Unemployed	无工作	
DO NOT READ			
777	Refused	拒绝回答	**[Go to Q2006]**
888	Don't know / Not sure	不知道 / 不肯定	

** Refers to what you spent most of the usual working hours on during the last 12 months.*
主要工作情况指的是在过去 12 个月的平常工作时间，您大部分的时间所做的事。

2005a. Which industry do you work in, or used to work in? **[SA]**
您目前或以前从事哪一个行业的工作？

<write response 写回应>

2005b. What is or was your occupation? **[SA]**
您目前或以前的职业是什么？

<write response 写回应>

DO NOT READ (for internal coding only)		
1	Community, Social and Personal Services (e.g. education, nursing, arts, entertainment, public administration, defence, …)	社区，社会及个人服务业（如教育，护理，艺术，娱乐，公共行政，国防， 等等）
2	Manufacturing	制造业
3	Business Services (e.g. real estate, legal, accounting, architectural, R&D, travel, employment, …)	商业服务业（如房地产，法律，会计，建筑设计，科研开发，旅游，雇员介绍，等等）
4	Wholesale and Retail Trade	批发及零售业
5	Financial and Insurance Activities	金融险业
6	Information and Communications (e.g. publishing, media, telecommunications, information technology, …)	资讯通信业(如出版， 媒体， 电信， 资讯科技 等等)
7	Others (e.g. transport, hotels, restaurants, construction)	其它(如交通， 酒店， 餐馆， 建筑业， 等等)
8	Have **neve**r worked	**从来没有**工作过
777	Refused	拒绝回答
888	Don’t know / Not sure	不知道 / 不肯定

2006. Over the last 12 months, what is the average earnings (S$) of your household in one month, before any deductions? Please include all sources of income such as bonuses, rental and investment income, and other sources such as pension and contributions from relatives and friends who are not staying in the same household. **[SA]**

在过去 12 个月内，您全家每月的平均总收入，在任何扣除前，大概是多少新币？请包括红利、租金和投资所得到的收入，也包括退休金和非同住在一起的家人或朋友所给的现金零用钱/资助。

USE SHOWCARD		
1	Below 2,000 per month	每月收入低于 2,000
2	2,000 – 3,999 per month	每月收入在 2,000 – 3,999 之间
3	4,000 – 5,999 per month	每月收入在 4,000 – 5,999 之间
4	6,000 – 9,999 per month	每月收入在 6,000 – 9,999 之间
5	10,000 - 14,999 per month	每月收入在 10,000 – 14,999 之间
6	15,000 & above per month	每月收入 15,000 及以上
DO NOT READ		
777	Refused	拒绝回答
888	Don’t know / Not sure	不知道 / 不肯定

END OF SECTION 2. GO TO SECTION 3.

3. PHYSICAL ACTIVITY

Interviewer: The next questions are about the time you spend doing work. Think of work as the things that you **have to do** such as paid or unpaid work, household chores or looking for a job. Activities at work, focus on occupational physical activity. For homemakers, this refers to household chores. For unemployed, this refers to looking for a job. For students, this refers to classes (including Physical Education if relevant).
接着我要询问您关于工作中的体力活动。工作是指您不得不做的事情，如有偿或无偿工作、家务活以及找工作。工作中的活动，主要是指与职业相关的体力活动。对于家庭主妇来说，这指的是家务劳动。对于无业人士来说，这指的是找工作。对于学生来说，这指的是上课（包括相关的体育课）。

In answering the next few questions, 'vigorous-intensity activities' are activities that require hard physical effort and cause large increases in breathing or heart rate, 'moderate-intensity activities' are activities that require moderate physical effort and cause small increases in breathing or heart rate.
在以下的问题，“剧烈活动” 是指需要大量体力并引起呼吸心跳显著增加的活动，“中等强度活动”是指需引起呼吸心跳轻度增加的活动。

Activity at work （在工作中的活动）

3000. In a typical week, on how many days do you do *vigorous-intensity* activities for at least 10 minutes continuously as part of your work? **[SA]**
您在工作中通常每周有多少天会做持续至少 10 分钟的*剧烈*活动？

USE SHOWCARD FOR EXAMPLES			
	Days a week	每周几天	**[If 0 day, go to Q3001]**
DO NOT READ			
777	Refused	拒绝回答	**[Go to Q3001]**
888	Don't know / Not sure	不知道 / 不肯定	

3000a. On a typical day on which you do *vigorous-intensity* activities for at least 10 minutes continuously, how much time do you spend doing such activities at work? **[SA]**
在您有做持续至少 10 分钟*剧烈*活动的平常一天里，您通常会花多长时间做此类活动？

	Hours	小时
	Minutes	分钟
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

3001. In a typical week, on how many days do you do *moderate-intensity* activities for at least 10 minutes continuously as part of your work? **[SA]**
您在工作中通常每周有多少天会做持续至少 10 分钟的*中等强度*活动？

USE SHOWCARD FOR EXAMPLES			
	Days a week	每周几天	**[If 0 day, go to Q3002]**
DO NOT READ			
777	Refused	拒绝回答	**[Go to Q3002]**
888	Don't know / Not sure	不知道 / 不肯定	

3001a. On a typical day on which you do *moderate-intensity* activities for at least 10 minutes continuously, how much time do you spend doing such activities at work? **[SA]**
在您有做持续至少 10 分钟*中等强度*活动的平常一天里，您通常会花多长时间做此类活动？

	Hours	小时
	Minutes	分钟
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

Interviewer: The next questions **exclude** the physical activities at work that you have previously mentioned. Now, I would like to ask you about the usual way you travel to and from places. For example, going to work, shopping, market, or church, temple or mosque or going out for lunch.
以下的问题**不包括**上述工作时的体力活动。现在我要询问您通常的交通方式。例如，上班、购物、去市场、教堂、寺庙或清真寺，或出门用午餐。

Travel to and from places （出行时）

3002. In a typical week, on how many days do you walk or cycle (pedal cycle) for at least 10 minutes continuously to get to and from places? **[SA]**
您出行时，通常每周有多少天步行或骑脚踏车，持续至少 10 分钟？

	Days a week	每周几天	**[If 0 day, go to Q3003]**
DO NOT READ			
777	Refused	拒绝回答	**[Go to Q3003]**
888	Don't know / Not sure	不知道 / 不肯定	

3002a. On a typical day when you walk or cycle (pedal cycle) for at least 10 minutes continuously, how much time in total do you spend walking or cycling? **[SA]**
在您有步行或骑脚踏车持续至少 10 分钟的一天里，您总共会花多长时间做此类活动？

	Hours	小时
	Minutes	分钟
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

Recreational activities （娱乐性体力活动）

3003. In a typical week, on how many days do you do *vigorous-intensity* sports, fitness, recreational or leisure activities for at least 10 minutes continuously? **[SA]**
您通常每周有多少天会做持续至少 10 分钟的*剧烈*运动、健身或娱乐性体力活动？

USE SHOWCARD FOR EXAMPLES			
	Days a week	每周几天	**[If 0 day, go to Q3004]**
DO NOT READ			
777	Refused	拒绝回答	**[Go to Q3004]**
888	Don't know / Not sure	不知道 / 不肯定	

3003a. On a typical day, how much time in total do you spend doing *vigorous-intensity* sports, fitness, recreational or leisure activities for at least 10 minutes continuously? **[SA]**
在您有做持续至少 10 分钟*剧烈*运动、健身或娱乐性体力活动的平常一天里，您总共会花多长时间做此类活动？

	Hours	小时
	Minutes	分钟
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

3004. In a typical week, on how many days do you do *moderate-intensity* sports, fitness, recreational or leisure activities for at least 10 minutes continuously? **[SA]**
您通常每周有多少天会做持续至少 10 分钟的*中等强度*运动、健身或娱乐性体力活动？

USE SHOWCARD FOR EXAMPLES			
	Days a week	每周几天	**[If 0 day, go to Q3005]**
DO NOT READ			
777	Refused	拒绝回答	**[Go to Q3005]**
888	Don't know / Not sure	不知道 / 不肯定	

3004a. On a typical day, how much time in total do you spend doing *moderate-intensity* sports, fitness, recreational or leisure activities for at least 10 minutes continuously? **[SA]**
在您有做持续至少 10 分钟*中等强度*运动、健身或娱乐性体力活动的平常一天里，您总共会花多长时间做此类活动？

	Hours	小时
	Minutes	分钟
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

3006. In a typical week, how many days do you do physical activities or exercises to strengthen your muscles? Examples of these activities include tai-chi, qi-gong, yoga, sit-ups, push-ups, the use of weight machines, free weights, or elastic bands. Do NOT include aerobic activities like walking, running, or cycling. **[SA]**
您通常每周有多少天会为了增强肌肉而做运动或体育锻炼？这些运动包括太极、气功、瑜伽、仰卧起坐或伏地挺身，以及那些使用举重器械、自由力量训练设备或弹力带的运动。请勿包括有氧运动，如健步行走、跑步或骑脚踏车。

Interviewer note*: Record number of days per month if frequency is less than once a week. Respondents should complete at least 1 set of strength exercises to register as 1 day.*

USE SHOWCARD FOR EXAMPLES & DEFINITION OF 1 SET OF EXERCISE		
	Days per week **OR**	每周几天 **或**
	Days per month	每月几天
DO NOT READ		
666	Never	没有
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

Interviewer: The next question is about sitting or reclining at work, at home, getting to and from places, or with friends, including time spent sitting at a desk, sitting with friends, travelling in car, bus, train, reading, playing cards or watching television but DO NOT include time spent sleeping.
以下的问题是关于工作中、在家里、出行或与朋友相处时的坐卧情况，包括坐在桌前、与朋友坐在一起，乘坐汽车、巴士、地铁，阅读、打牌或看电视的时间，但不包括睡眠时间。

3005. On a typical day, how much time in total do you usually spend sitting or reclining? **[SA]**
您通常每天花多长时间坐着或靠着？

	Hours	小时
	Minutes	分钟
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 3. GO TO SECTION 4.

4. TOBACCO USE

Interviewer: The next questions are on cigarette smoking.
现在，我要问一些有关吸烟的问题。

4000. Have you ever smoked cigarettes? **[SA]**
您曾吸过烟吗？

READ			
1	Yes	有	**[Go to Q4001]**
2	No	没有	**[Go to Q4016 Other Tobacco Products]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

4001. How old were you when you first tried or experimented with smoking? **[SA]**
您第一次尝试吸烟时是几岁？

	Age	岁
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

4002. Have you ever smoked at least 100 cigarettes, or about 5 packs in your **whole life**? **[SA]**
您**一生中**曾经吸过的烟总数是否有至少 100 支（约 5 包）？

READ			
1	Yes	有	**[Go to Q4003]**
2	No	没有	**[Go to Q4016 Other Tobacco Products]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

4003. Have you ever smoked cigarettes daily? **[SA]**
您曾经每天吸烟吗？

READ			
1	Yes	有	**[Go to Q4004]**
2	No	没有	**[Go to Q4005]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

4004. At what age did you start smoking daily? **[SA]**
您从几岁开始每天吸烟的？

	Age	岁
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

4005. How often do you smoke now, is it….? **[SA]**
您目前吸烟的频率，是…？

READ			
1	Daily*	每天*	**[Go to Q4006]**
2	Occasionally	偶尔	
3	Have stopped smoking completely	已经彻底戒烟	**[If Q4003=1, go to Q4011 Ex-Smoker If Q4003=2, 777 or 888, go to Q4015 Ex-smoker]**
DO NOT READ			
777	Refused	拒绝回答	**[Go to Q4016 Other Tobacco Products]**
888	Don't know / Not sure	不知道 / 不肯定	

* ***Interviewer Note:*** *Please include respondents who have stop smoking daily temporarily because of religious fasting or medical reasons.*
请包括受访者因宗教禁食或医疗因素而暂时停止每天吸烟。

[If Q4005 = "Daily" or "Occasionally", ask the following question]

4006a. Can you show me the pack of cigarettes that you are currently smoking so that we can write down the flavour of cigarette? **[SA]**
您是否能让我看您所吸的烟的包装以便我记下其烟的口味？

Note to Interviewer: If respondent does not have a pack or refused to show pack of cigarettes, please ask for the flavour. If there are more than 1 flavour smoked, record the most often one.

DO NOT READ [Record flavour as shown for 4006a]	
1	Regular
2	Menthol
3	Mint
4	Clove/ Kretek
5	Others, please specify: _____
777	Refused
888	Don't know / Not sure

4006. Based on the pack of cigarettes, please code the theme of the graphic health warning / graphic health warning. **[SA]**

DO NOT READ [For internal coding by Interviewers]	
1	Smoking causes blindness
2	Smoking causes cancer
3	Smoking causes heart disease
4	Smoking cause lung disease
5	Smoking increases the risk of miscarriage
6	When you're hooked, your child suffers too
7	Smoking can cause stillbirth
8	Smoking causes oral cancer
9	Smoking causes throat cancer
10	Smoking leads to death from lung cancer
11	Tobacco smoke harms your baby
12	Smoking causes premature ageing
13	Others please specify: _____
666	No graphic warnings
777	Refused to show the pack of cigarette

Note: No translation of graphic warning theme is required.

[If Q4005 = "Daily", go to Q4007. Else, go to Q4016 Other Tobacco Products]

4007. **[Daily Smoker]** On average, how many cigarettes do you smoke per day? **[SA]**
您平均每天吸多少支烟?

	Cigarettes daily	一天几支香烟
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

4008. **[Daily Smoker]** Do you have any intention to quit smoking? **[SA]**
您是否有戒烟的打算？

READ AND USE SHOWCARD		
1	Yes, I plan to quit smoking within the next month	有，我打算在下个月内戒烟
2	Yes, I plan to quit smoking within the next 6 months	有，我打算在未来 6 个月内戒烟
3	Yes, I plan to quit smoking within the next 12 months	有，我打算在未来 12 个月内戒烟
4	Yes, I plan to quit smoking within the next 5 years	有，我打算在未来 5 年内戒烟
5	Yes, I plan to quit smoking sometime in the future	有，我打算在未来的某个时候戒烟
6	No, I do not plan to quit smoking completely, but plan to cut down on the number of cigarettes smoked	我没有打算完全戒烟，但有打算减少吸烟
7	No, I do not plan to quit smoking or cut down on the number of cigarettes smoked	我没有打算戒烟或减少吸烟
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

4009. **[Daily Smoker]** In the last 12 months, have you tried to stop smoking for at least 24 hours? **[SA]**
在过去 12 个月内，您是否有尝试连续至少 24 小时不吸烟？

READ			
1	Yes	有	**[Go to Q4010]**
2	No	没有	**[Go to Q4016 Other Tobacco Products]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

4010. **[Daily Smoker]** How many times did you try to quit smoking during the last 12 months? **[SA]**
在过去 12 个月内，您曾经几次尝试戒烟？

	Number of times in last 12 months	在过去12个月内有几次
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定
[Go to Q4016 Other Tobacco Products]		

4011. **[Ex-smoker]** How long has it been since you last smoked daily? **[SA]**
您已有多久停止每日吸烟的习惯？

	Number of years, **OR**	年，**或**
	Number of months	月
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

4012. **[Ex-smoker]** How long did you smoke daily before you gave up smoking? **[SA]**
在戒烟之前，您曾经有多久每天吸烟？

	Number of years, **OR**	年，**或**
	Number of months	月
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

4015. **[Ex-smoker]** How many times did you try to quit smoking before you succeeded? **[SA]**
在戒烟成功前，您曾经几次尝试戒烟？

	Number of times	几次
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

4013. **[Ex-smoker]** What was the main reason which made you stop smoking completely? **[SA]**
您彻底戒烟的主要原因是什么？

DO NOT READ		
1	**Experienced** the ill effects of smoking	**身受**吸烟之害
2	Pressure to stop from the environment (e.g. **smoking bans**)	迫于环境（例如**禁烟令**）的压力而戒烟
3	Concerned about the health of those around me (through **passive smoking**)	担心周围人群的健康（通过**二手烟**）
4	**Concerned** about the **harmful effects** of smoking	**关注**吸烟的**害处**
5	Pressure/ advice to stop from **family/ friends/ colleagues**	出于**家庭/朋友/同事**的压力/建议而戒烟
6	Cigarettes have become too **expensive**	香烟价格**太贵**
7	**Social stigma** associated with smoking	吸烟**不光彩**
8	Advised to stop smoking by my **doctor**	**医生**建议我戒烟
9	Others, please specify: 其它，请注明：_____	
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

4014. **[Ex-smoker]** How did you quit smoking? **[MA]**
请问您是怎样戒烟的?

DO NOT READ		
1	Abstained from smoking on own accord	自我克制主动戒烟
2	Attended smoking cessation programme/counselling in public/private hospitals	参加公立/私人医院的戒烟计划/辅导
3	Attended smoking cessation programme/counselling in public (including polyclinics) /private clinics	参加公立(包括综合诊所)/私人诊所的戒烟计划/辅导
4	Attended smoking cessation programme/counselling in the workplace	参加工作场所的戒烟计划/辅导
5	Attended smoking cessation programme/counselling through a retail pharmacy	通过零售药店参加戒烟计划/辅导
6	Through talking to a quit advisor at Quitline	通过与戒烟热线的戒烟顾问沟通
11	Through participating in I Quit programme (constitutes SMS and Quitline as an option for smokers)	通过参加全国戒烟运动“I Quit”
7	By nicotine replacement therapy (e.g. nicotine patch, inhaler)	通过尼古丁替代治疗（例如尼古丁贴片、尼古丁吸入剂）
8	By herbal remedy	通过草药疗法
9	Used medication (e.g. Bupropion/ Zyban, Varenicline/Champix)	药物治疗（例如耐烟盼牌的安非他酮、戒必适牌的伐尼克兰）
10	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don’t know / Not sure	不知道 / 不肯定

4016. **[Ask All]** Other than cigarettes, which of the following tobacco products do you currently smoke? **[SA]**
除了香烟，您目前吸的是以下哪种烟草产品？

USE SHOWCARD					
List of other tobacco products **其它烟草产品的列表**	1) Yes, Daily 是, 每天	2) Yes, Occasionally 是, 偶尔	3) No 否	777) Refused 拒绝回答	888) Don't know / Not sure 不知道 / 不肯定
4016a. Cigar 雪茄	☐	☐	☐	☐	☐
4016b. Cigarillos 迷你雪茄	☐	☐	☐	☐	☐
4016c. E-cigarette / E-vapouriser 电子香烟	☐	☐	☐	☐	☐
4016d. Heated Tobacco 加热烟草	☐	☐	☐	☐	☐
4016e. Beedis 比迪烟	☐	☐	☐	☐	☐
4016f. Rolled-on-your-own/ Ang Hoon (loose tobacco) 卷烟/ Ang Hoon 烟	☐	☐	☐	☐	☐
4016g. Pipe Tobacco 烟丝	☐	☐	☐	☐	☐
4016h. Others 其它 **[Go to Q4016h(i) for "1" or "2"]**	☐	☐	☐	☐	☐

4016h(i) **[**If respondent selected "1" or "2" for Q4016h, please specify below**]**:
其它（请注明）：

[If Q4000 = "Yes" or Q4016a to Q4016h = "Yes, Daily" or "Yes, Occasionally"]

4020. **[Ask All Smokers]** When you first started smoking, which of the following tobacco products did you smoke? **[SA]**
在您刚开始吸烟时，您吸的是以下哪种烟草产品？

USE SHOWCARD		
1	Cigarettes	香烟
2	Cigar	雪茄
3	Cigarillo	迷你雪茄
4	E-cigarette / E-vapouriser	电子香烟
5	Heated Tobacco	加热烟草
6	Beedis	比迪烟
7	Rolled-on-your-own/ Ang Hoon (loose tobacco)/ Ang Hoon	卷烟/烟
8	Pipe Tobacco	烟丝
9	Others, please specify: 其它，请注明：_____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

4021. **[Ask All Smokers]** What was the flavour of *(tobacco product mentioned in 4020)* that you smoked? **[SA]**
您吸的_____是什么口味？

USE SHOWCARD		
1	Regular	普通味
2	Menthol	薄荷醇味
3	Mint	薄荷味
4	Clove/ Kretek	丁香味
5	Others, please specify: 其它，请注明：_____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 4. GO TO SECTION 5.

5. DIETARY PRACTICES

Interviewer: Now I am going to ask you some questions about your eating practices. Please think about the food and drinks consumed at home and outside for the past one month.
现在，我想问您一些关于饮食习惯的问题。请您回想起过去 1 个月内在家和在外的饮食习惯。

5000. Excluding fruit juices, how many servings* of fruits do you **USUALLY** eat? You can tell me in servings per day, per week or per month. **[SA]**
除了果汁以外，您**通常**吃几份水果？您的回答可以是以每天，每个星期或每个月几份。

USE SHOWCARD & EXPLAIN WHAT CONSTITUTES 1 SERVING		
	Servings per day, **OR**	每天几份，**或**
	Servings per week, **OR**	每星期几份，**或**
	Servings per month	每月几份
DO NOT READ		
666	Do not eat fruits	不吃水果
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

* ***Interviewer Note:*** *Please specify the number of servings to the nearest 0.5 serving.*
请将份量注明为最接近的半份。

5002. How many servings* of vegetables do you **USUALLY** eat? You can tell me in servings per day, per week or per month. **[SA]**
您**通常**吃几份蔬菜？您的回答可以是以每天，每个星期或每个月几份。

USE SHOWCARD & EXPLAIN WHAT CONSTITUTES 1 SERVING		
	Servings per day, **OR**	每天几份，**或**
	Servings per week, **OR**	每星期几份，**或**
	Servings per month	每月几份
DO NOT READ		
666	Do not eat vegetables	不吃蔬菜
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

* ***Interviewer Note:*** *Please specify the number of servings to the nearest 0.5 serving.*
请将份量注明为最接近的半份。

5003. The next question is about wholegrain or wholemeal foods that you usually eat. How often do you eat wholegrain foods such as brown rice, wholemeal bread, wholemeal cereals or oats, wholemeal biscuits or noodles? You can answer me in number of times per day, per week or per month. **[SA]**

下一道问题与您常食用的全谷物或全麦食品有关， 这些食品包括糙米、全麦面包、全麦片或燕麦、全麦饼干或面条。您多常食用这些食品？您的回答可以是以每天，每个星期或每个月几次。

USE SHOWCARD FOR TYPES OF WHOLEGRAINS		
	Times per day, **OR**	每天几次，**或**
	Times per week, **OR**	每星期几次，**或**
	Times per month	每月几次
DO NOT READ		
666	Do not eat wholegrain or wholemeal foods	不吃全谷物或全麦食品
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

5004. How often do you drink canned, bottled or packet drinks? For example, fruit juice, soft drinks, fruit drinks, cordials/syrups, yoghurt drinks, Yakult/Vitagen, soya milk, 2 in 1 or 3 in 1 coffee or tea. You can tell me in number of times per day, per week or per month. **[SA]**

您多常饮用罐装，瓶装或纸包饮品？例如 果汁、汽水、果味饮品、浓缩果汁饮品/糖浆、酸奶饮品、益力多/维他精(Yakult/Vitagen)、豆奶、二合一或三合一即溶咖啡或溶茶。您的回答可以是以每天，每个星期或每个月几次。

USE SHOWCARD FOR TYPES OF CANNED, BOTTLED OR PACKET DRINKS			
	Times per day, **OR**	每天几次，**或**	**[Go to Q5005]**
	Times per week, **OR**	每星期几次，**或**	
	Times per month	每月几次	
DO NOT READ			
666	Do not drink canned, bottled or packet drinks	不喝罐装，瓶装或纸包饮品	**[Go to Q5006]**
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

5005. During the times that you drink canned, bottled or packet drinks, how many servings* do you **USUALLY** drink? **[SA]**
当您饮用罐装，瓶装或纸包饮品时，您**通常**喝几份？

USE SHOWCARD & EXPLAIN WHAT CONSTITUTES 1 SERVING		
	Number of Servings	几份
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

* ***Interviewer Note:*** *Please specify the number of servings to the nearest 0.5 serving.*
请将份量注明为最接近的半份。

5006. How often do you drink freshly prepared drinks? For example, coffee, tea, Milo, Horlicks, Ovaltine, hot/iced chocolate and bubble tea. You can tell me in the number of times per day, per week or per month. **[SA]**
您多常饮用新鲜冲制的饮品？例如 咖啡、茶、美禄、好立克、阿华田、热/冷巧克力饮品和泡泡茶。您的回答可以是以每天，每个星期或每个月几次。

USE SHOWCARD FOR TYPES OF FRESHLY PREPARED DRINKS			
	Times per day, **OR**	每天几次，**或**	**[Go to Q5007]**
	Times per week, **OR**	每星期几次，**或**	
	Times per month	每月几次	
DO NOT READ			
666	Do not drink freshly prepared drinks	不喝新鲜冲制的饮品	**[Go to Q5008]**
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

5007. Of the freshly prepared drinks, how often do you select the no sugar/less sugar option? **[SA]**
在这些新鲜冲制的饮品当中，您会多常选择无糖或少糖的饮品？

READ		
1	Always	每次
2	Mostly	时常
3	Half of the time	一半的时间
4	Sometimes	偶尔
5	Never / Almost rarely	完全没有/几乎没有
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

5008a. In a typical week, how many times do you **consume meals prepared/cooked at home** for breakfast, lunch and dinner? **[MA]**
您通常每周有多少次的早餐、午餐和晚餐是**吃家里准备/煮的食物**？

5008b. In a typical week, how many times do you **consume meals not prepared/cooked at home** for breakfast, lunch and dinner? This includes food deliveries and food bought from bakeries, restaurants, fast food restaurants, hawker centres, food courts, coffee shops, canteens, food kiosks and other food eateries **[MA]**
您通常每周有多少次的早餐、午餐和晚餐**不是吃家里煮的食物**？这包括外卖以及从面包店、餐馆、快餐店、小贩中心、食阁、咖啡店、食堂、食品摊位和其他食品店购买的食物。

Interviewer Note: *Please do not include morning tea, afternoon tea, snack and supper. Heating of ready to eat food is not considered as food cooked/prepared at home.*

	5008a Number of times per *week **meals*** **prepared/cooked at home**	5008b Number of times per week **meals not prepared/ cooked at home**	5008c Do not eat	Refused **(777)**	Don't know / Not sure **(888)**
i. Breakfast				☐	☐
ii. Lunch				☐	☐
iii. Dinner				☐	☐
Total					

END OF SECTION 5. GO TO SECTION 6.

6. ALCOHOL CONSUMPTION

Interviewer: Now I am going to ask you some questions about alcohol consumption.
现在，我要问您一些关于饮酒的问题。

6000. In the past 12 months, how frequent did you have at least one drink? **[SA]**
在过去 12 个月内，您喝至少一杯酒的频率是多少？

READ AND USE SHOWCARD			
1	5 or more days a week	每周 5 天或更多	**[Go to Q6003]**
2	1-4 days per week	每周 1 至 4 天	
3	1-3 days a month	每月 1 至 3 天	
4	Less than once a month	每月少于一天	
5	Did not drink alcohol in the past 12 months	在过去 12 个月内没有喝酒	**[Go to Section 7]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

6003. On the days that you drank alcohol, about how many drinks do you usually have? **[SA]**
每当喝酒时，您通常会在一天内喝几杯含有酒精的饮料？

USE SHOWCARD & EXPLAIN WHAT CONSTITUTES 1 DRINK		
	Number of drinks per day	一天内几杯饮料
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

6002. How many times during the past month did you have X **[X = 5 for men, X = 4 for women]** or more drinks in any one drinking session? Please include all types of alcoholic drinks. **[SA]**
在过去一个月内，您曾经有多少次在一次饮酒过程中喝了 X [男性 X = 5，女性 X = 4] 杯或更多？请包括所有类型的酒精饮品。

USE SHOWCARD & EXPLAIN WHAT CONSTITUTES 1 DRINK			
	Times in the past month	过去一个月内有几次	**[If >0, go to Q6004]**
DO NOT READ			
666	Did not drink X **[X = 5 for men, X = 4 for women]** or more drinks in any one drinking session	没有在一次饮酒过程中喝超过 X [男性 X = 5，女性 X = 4] 杯	**[Go to Section 7]**
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

6004. On those days where you drink X [X = 5 for men, X = 4 for women] or more drinks, where do you usually drink? **[MA]**

在您喝 X［男性 X = 5，女性 X = 4］杯酒或更多的那些天里，您通常会在哪里喝？

READ (May choose more than one answer)		
1	At home / relative's/ friend's home (e.g. during parties, celebratory occasions)	在家里/亲戚/朋友家里（聚会、庆祝场合）
2	Pubs/ Bars/ Hotels lounges	酒吧/酒店酒廊
3	Discos/ Nightclubs/ KTVs	歌舞厅/夜店/KTV 练歌房
4	Restaurants/ Coffeeshops/ Hawker Centres	餐馆/咖啡店/小贩中心
5	Others, please specify: 其它，请注明: _____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 6. GO TO SECTION 7.

7. DIABETES

Interviewer: Now, I would like to ask you some questions about diabetes. Diabetes occurs when there is excess sugar in the blood. Oral medications and insulin injections may be required if a person with diabetes is unable to adequately control his blood sugar levels despite lifestyle changes.
现在，我要问您一些关于糖尿病的问题。血糖过高会导致糖尿病。若糖尿病患者在改变生活方式之后仍然无法控制血糖，那他/她就或许需要以服用口服降糖药或胰岛素注射来控制病情。

7000. Can you tell me who in your immediate family* has diabetes, excluding diabetes that happens only during pregnancy? **[MA]**
您的直系家庭中谁患有糖尿病？这不包括只在怀孕期间患上的糖尿病。

***Interviewer note**: Diabetes that happens only during pregnancy refer to diabetes that develop during pregnancy and usually stop at the end of pregnancy.*

READ (May choose more than one answer)		
1	Parents	父母
2	Siblings	兄弟姐妹
3	Children	儿女
4	No one in my family has diabetes	没有家人患有糖尿病
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

** Exclude spouse and non-blood relatives*
不包括配偶及无血缘关系的亲戚

7001. Have you ever been told by a western-trained doctor that you have diabetes? **[SA]**
西医是否曾经告诉过您，您患有糖尿病？
[If 'Yes' and respondent is female, ask "*Was this only when you were pregnant?"***]**
[如果回答 "是" 并且回答者是女性，则接着提问 "*这种情况是否只发生在您怀孕的时候？*"]

READ			
1	Yes	是	**[Go to Q7001a]**
2	Yes, but only during pregnancy	是，不过仅在怀孕时	**[Go to Q7004]**
3	No	否	
4	No, pre-diabetes or borderline diabetes	否，糖尿病前期或临界性糖尿病	
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

7001a. Does your doctor currently give you treatment for your diabetes such as tablets or injections? **[SA]**
医生目前是否有给您治疗糖尿病的药物或注射？

READ			
1	Yes	有	**[Go to Q7001b]**
2	No	没有	**[Go to Q7002]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

7001b. What type of medication are you on? **[SA]**
您正在使用哪种治疗方式？

READ		
1	Insulin injections	胰岛素注射
2	Oral medications for diabetes	口服降糖药
3	Both insulin injections & oral medications for diabetes	同时使用胰岛素注射和口服降糖药
4	Others, please specify: 其它，请注明: _____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

7002. How many times in the past 12 months have you seen a doctor for your diabetes? **[SA]**
在过去 12 个月内，您曾经有几次因为糖尿病看医生？

	Number of times in the past 12 months	在过去12个月内有几次
DO NOT READ		
666	Did not see a doctor for diabetes	没有因为糖尿病看医生
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

7003. Where do you seek treatment for your diabetes most of the time? **[SA]**
大多数时侯，您是去哪里治疗糖尿病的？

DO NOT READ		
1	Private GP	家庭医生
2	Polyclinic	综合诊所
3	Specialist outpatient clinic (public hospital)	专科门诊诊所（公共医院）
4	Specialist outpatient clinic (private hospital)	专科门诊诊所（私人医院）
5	Others, please specify: 其它，请注明: _____	
666	None, do not seek treatment for diabetes	否， 没有为糖尿病寻求治疗
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定
[Go to Q7006]		

7006. How often do you check your blood sugar? Please include checks done by yourself, family member or friend, but do not include checks by a health professional. **[SA]**
您自己测量血糖的频率是？请包括自行测量以及家人或朋友帮您测量，但不包括医务人员进行的测量。

	Times per day, **OR**	每天几次，**或**
	Times per week, **OR**	每周几次，**或**
	Times per month, **OR**	每月几次，**或**
	Times per year	每年几次
DO NOT READ		
666	Do not check my blood sugar	从来没测量过
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定
[Go to Section 8]		

[If Q7001 = "Yes, but only during pregnancy", "No", "No, pre-diabetes or borderline diabetes", "Refused" or "Don't know / Not sure"]

7004. Blood tests can be used to check for diabetes. When was the last time you had a blood test to check for diabetes? Please exclude checks done by yourself. **[SA]**
血糖检验是一种测试糖尿病的方法。上一次您检查血糖是什么时候？请不要包括自己做的检查。

***Interviewer note**: Blood tests can be a fasting plasma glucose test (FPG), casual plasma glucose test, oral glucose tolerance test (OGTT) or HbA1c test.*

READ ONLY IF NECESSARY			
1	1 year ago or less	过去 1 年或少于 1 年	**[Go to Q7005]**
2	More than 1 year to 2 years	超过 1 年但在 2 年以内	
3	More than 2 years to 3 years	超过 2 年但在 3 年以内	
4	More than 3 years to 5 years	超过 3 年但在 5 年以内	
5	More than 5 years ago	超过 5 年前	
6	Never been checked	从未检查过	**[Go to Section 8]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

7005. Where did you go for your last blood test for diabetes? **[SA]**
您上次是在哪里验血检查糖尿病的？

***Interviewer note**: If respondent answers "Private GP", probe to check if they are participating in the Screen for Life programme where they pay $0, $2 or $5 for the test.*

DO NOT READ		
1	Private GP (Screen for Life)	家庭医生（"定期体检， 益您一生"）
2	Private GP (Non-Screen for Life)	家庭医生（非"定期体检， 益您一生"）
3	Polyclinic	综合诊所
4	Specialist outpatient clinic (public hospital)	专科门诊诊所（公共医院）
5	Specialist outpatient clinic (private hospital)	专科门诊诊所（私人医院）
6	Workplace	工作场所
7	Community venue	社区场所
8	Overseas clinic/ hospital	国外的诊所或医院
9	Army camp	军队兵营
10	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 7. GO TO SECTION 8.

8. HYPERTENSION

Interviewer: Next, I would like to ask you some questions about hypertension, also commonly known as high blood pressure.
接下来，我要问您一些关于高血压的问题。

8000. Can you tell me who in your immediate family* has high blood pressure, exclude high blood pressure that only happens during pregnancy? **[MA]**
您的直系家庭中谁患有高血压？这不包括只在怀孕期间患上的高血压。

***Interviewer note**: High blood pressure that happens only during pregnancy refer to high blood pressure that develop during pregnancy and usually stop at the end of pregnancy.*

READ (May choose more than one answer)		
1	Parents	父母
2	Siblings	兄弟姐妹
3	Children	儿女
4	No one in my family has high blood pressure	没有家人患有高血压
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

* *Exclude spouse and non-blood relatives*
不包括配偶及无血缘关系的亲戚

8001. Have you ever been told by a western-trained doctor that you have high blood pressure? **[SA]**
西医是否曾经告诉过您，您患有高血压？
[If 'Yes' and respondent is female, ask "*Was this only when you were pregnant?"***]**
[如果回答 "是" 并且回答者是女性，则接着提问 "*这种情况是否只发生在您怀孕的时候？*" **]**

READ			
1	Yes	是	**[Go to Q8002]**
2	Yes, but only during pregnancy	是，不过仅在怀孕时	**[Go to Q8005]**
3	No	否	
4	No, borderline hypertension	否，临界性高血压	
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

Interviewer Note: A person with blood pressure ≥140/90mmHg is defined to have high blood pressure or hypertension..
高血压指血压高于 140/90mmHg.

8002. Does your doctor currently give you medicine (e.g. tablets) for your high blood pressure? **[SA]**
医生目前是否有给您治疗高血压的药物？

READ		
1	Yes	有
2	No	没有
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

8003. How many times in the past 12 months have you seen a doctor for your high blood pressure? **[SA]**
在过去 12 个月内，您为了治疗高血压看过几次医生？

	Number of times in the past 12 months	在过去12个月内有几次
DO NOT READ		
666	Did not see a doctor for high blood pressure	没有因为高血压看医生
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

8004. Where do you seek treatment for your high blood pressure most of the time? **[SA]**
大多数时侯，您是去哪里治疗高血压？

DO NOT READ		
1	Private GP	家庭医生
2	Polyclinic	综合诊所
3	Specialist outpatient clinic (public hospital)	专科门诊诊所（公共医院）
4	Specialist outpatient clinic (private hospital)	专科门诊诊所（私人医院）
5	Others, please specify: 其它，请注明: _____	
666	None, do not seek treatment for high blood pressure	否， 没有为高血压寻求治疗
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定
[Go to Section 9]		

[If Q8001 = "Yes, but only during pregnancy", "No", "No, borderline hypertension", "Refused" or "Don't know / Not sure"]

8005. When was the last time you had your blood pressure checked? Please exclude checks done by yourself. **[SA]**
您上一次检查血压是什么时候？请不要包括自己做的检查。

READ ONLY IF NECESSARY			
1	1 year ago or less	过去 1 年或少于 1 年	**[Go to Q8006]**
2	More than 1 year to 2 years	超过 1 年但在 2 年以内	
3	More than 2 years to 3 years	超过 2 年但在 3 年以内	
4	More than 3 years to 5 years	超过 3 年但在 5 年以内	
5	More than 5 years ago	超过 5 年前	
6	Never been checked	从未检查过	**[Go to Section 9]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

8006. Where did you go for your last blood pressure check-up? **[SA]**
您上次是在哪里检查血压的？

***Interviewer note**: If respondent answers "Private GP", probe to check if they are participating in the Screen for Life programme where they pay $0, $2 or $5 for the test.*

DO NOT READ		
1	Private GP (Screen for Life)	家庭医生（"定期体检， 益您一生"）
2	Private GP (Non-Screen for Life)	家庭医生（非"定期体检， 益您一生"）
3	Polyclinic	综合诊所
4	Specialist outpatient clinic (public hospital)	专科门诊诊所（公共医院）
5	Specialist outpatient clinic (private hospital)	专科门诊诊所（私人医院）
6	Workplace	工作场所
7	Community venue	社区场所
8	Overseas clinic/ hospital	国外的诊所或医院
9	Army camp	军队兵营
10	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 8. GO TO SECTION 9.

9. HIGH BLOOD CHOLESTEROL

9000. Have you ever been told by a western-trained doctor that you have high blood cholesterol? **[SA]**
西医是否曾经告诉过您，您患有高胆固醇？

READ			
1	Yes	是	**[Go to Q9001]**
2	No	否	**[Go to Q9004]**
3	No, borderline high blood cholesterol	否，临界性高胆固醇	
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

9001. How many times in the past 12 months have you seen a doctor for your high blood cholesterol? **[SA]**
在过去 12 个月内，您为了治疗高胆固醇看过几次医生？

	Number of times in the past 12 months	在过去12个月内有几次
DO NOT READ		
666	Did not see a doctor for high blood cholesterol	没有因为高胆固醇看医生
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

9002. Does your doctor currently give you medicine (e.g. tablets) for your high blood cholesterol? **[SA]**
医生目前是否有给您治疗高胆固醇的药物？

READ		
1	Yes	有
2	No	没有
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

9003. Where do you seek treatment for your high blood cholesterol most of the time? **[SA]**
大多数时侯，您是去哪里治疗高胆固醇？

DO NOT READ		
1	Private GP	家庭医生
2	Polyclinic	综合诊所
3	Specialist outpatient clinic (public hospital)	专科门诊诊所（公共医院）
4	Specialist outpatient clinic (private hospital)	专科门诊诊所（私人医院）
5	Others, please specify: 其它，请注明: _____	
666	None, do not seek treatment for high blood cholesterol-	否，没有为高胆固醇寻求治疗
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定
[Go to Section 10]		

[If Q9000 = "No", "No, borderline high blood cholesterol", "Refused" or "Don't know / Not sure"]

9004. When was the last time you had your blood cholesterol checked? **[SA]**
您上一次到诊所检查胆固醇是什么时候？

READ ONLY IF NECESSARY			
1	1 year ago or less	过去 1 年或少于 1 年	**[Go to Q9005]**
2	More than 1 year to 2 years	超过 1 年但在 2 年以内	
3	More than 2 years to 3 years	超过 2 年但在 3 年以内	
4	More than 3 years to 5 years	超过 3 年但在 5 年以内	
5	More than 5 years ago	超过 5 年前	
6	Never been checked	从未检查过	**[Go to Section 10]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

9005. Where did you go for your last blood test to check for cholesterol? **[SA]**
您上次是在哪里检查胆固醇的？

***Interviewer note**: If respondent answers "Private GP", probe to check if they are participating in the Screen for Life programme where they pay $0, $2 or $5 for the test.*

DO NOT READ		
1	Private GP (Screen for Life)	家庭医生（″定期体检， 益您一生″）
2	Private GP (Non-Screen for Life)	家庭医生（非″定期体检， 益您一生″）
3	Polyclinic	综合诊所
4	Specialist outpatient clinic (public hospital)	专科门诊诊所（公共医院）
5	Specialist outpatient clinic (private hospital)	专科门诊诊所（私人医院）
6	Workplace	工作场所
7	Community venue	社区场所
8	Overseas clinic/ hospital	国外的诊所或医院
9	Army camp	军队兵营
10	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 9. GO TO SECTION 10.

10. HEALTH CONDITIONS [Version C]

10011. Have you been told by a western-trained doctor in the last 12 months that you need to lose weight for health reasons? **[SA]**
在过去 12 个月内，西医是否曾告诉过您必须为了健康而减轻体重？

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

Knee Pain and Osteoarthritis 膝关节疼痛和骨性关节炎

		READ		DO NOT READ	
	During the past 30 days, 在过去 1 个月（30 天）内，	**1** Yes 是	**2** No 否	**777** Refused 拒绝回答	**888** Don't know/ Not sure 不知道 / 不肯定
10012.	have you had knee pain on most days? **[SA]** 您是否在大多数日子里感到膝关节疼痛?				
10013.	have you had knee pain while climbing down stairs or walking down slopes? **[SA]** 您是否在上下楼梯或走下斜坡时感到膝关节疼痛?				
10014.	have you had swelling in one or both knees? **[SA]** 您的其中一个膝盖或两个膝盖是否有出现肿胀?				

10015. Do you have knee osteoarthritis? **[SA]**
您是否患有膝关节骨性关节炎？

READ			
1	Yes	是	**[Go to Q10016]**
2	No	否	**[Go to Q10019]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

10016. Was the diagnosis made by a western-trained doctor? **[SA]**
若有，是否有西医诊断出？

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10017. Has a western-trained doctor ever told you that your knee problem is related to ageing? **[SA]**
西医是否曾告诉过您的膝盖问题是老化所造成？

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10018. How would you rate the amount of knee pain you have experienced in the past 48 hours? **[SA]**
您会如何评估您在过去 48 小时内所感受到的膝关节疼痛？

READ AND USE SHOWCARD		
1	None	完全没有
2	Mild	轻微
3	Moderate	中度
4	Severe	剧烈
5	Extreme	非常剧烈
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10019. Have you ever been told by a western-trained doctor that you have osteoarthritis (wear and tear arthritis) of the hip ? **[SA]**
西医是否曾告诉过您患有髋关节骨性关节炎?

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10020. In the past 30 days, have you had low back pain that lasted a whole day or more? **[SA]**
在过去 30 天内，您是否曾有持续一整天或更长时间的腰背痛？

READ			
1	Yes	是	**[Go to Q10021]**
2	No	否	**[Go to Q10025]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

10021. About how many days in the past 30 days did you experience this pain? **[SA]**
在过去 30 天内，您有几天感受到腰背痛？

	Number of days in the past 30 days	在过去30天内有几天
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10022. Were you limited in your usual activities because of low back pain? **[SA]**
腰背痛是否限制了您的日常活动？

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10023. Do you feel that the pain was caused by work? **[SA]**
您觉得此疼痛是由工作造成的吗？

READ		
1	Yes	是
2	No	否
3	Not applicable	不适用
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10024. In the past 12 months, how many days were you on medical leave or not able to go to work because of low back pain? **[SA]**
在过去 12 个月内，您有多少天因为腰痛而拿病假或无法上班？

	Number of days in the past 12 months	在过去12个月内有几天
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10025. In the past 30 days, have you had neck pain that lasted a whole day or more? **[SA]**
在过去 30 天内，您是否曾有持续一整天或更长时间的颈部疼痛？

READ			
1	Yes	是	**[Go to Q10026]**
2	No	否	**[Go to Q10030]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

10026. About how many days in the past 30 days did you experience this pain? **[SA]**
在过去 30 天内，您有几天感受到颈部疼痛？

	Number of days in the past 30 days	在过去30天内有几天
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10027. Were you limited in your usual activities because of neck pain? **[SA]**
颈部疼痛是否限制了您的日常活动？

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10028. Do you feel that the pain was caused by work? **[SA]**
您觉得此疼痛是由工作造成的吗？

READ		
1	Yes	是
2	No	否
3	Not applicable	不适用
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10029. In the past 12 months, how many days were you on medical leave or not able to go to work because of neck pain? **[SA]**
在过去 12 个月内，您有多少天因为颈部疼痛而拿病假或无法上班？

	Number of days in the past 12 months	在过去12个月内有几天
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10030. Do you wear glasses or contact lenses? **[SA]**
您有戴眼镜或隐形眼镜吗？

READ			
1	Yes	是	**[Go to Q10031]**
2	No	否	**[Go to Q10032]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

10031. Why do you need to wear glasses or contact lenses? **[MA]**
您为什么戴眼镜或隐形眼镜？

READ		
1	Short-sighted/ myopia (cannot see far)	近视（看不清远处）
2	Long sighted/ presbyopia (cannot see near)	远视（看不清近处）
3	Astigmatism	散光
4	Others, please specify: 其它，请注明: _____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10032. Have you ever been told by a western-trained doctor that you have … ?
西医是否曾告诉过您患有…?

		READ		DO NOT READ	
	Condition	**1** Yes 是	**2** No 否	**777** Refused 拒绝回答	**888** Don't know/ Not sure 不知道 / 不肯定
a.	Cataract **[SA]** 白内障				
b.	Glaucoma **[SA]** 青光眼				
c.	Age-related macular degeneration **[SA]** 年龄相关的黄斑变性				
d.	Diabetic eye disease **[SA]** 糖尿病引起的眼疾				

10033. Do you feel you have hearing loss? **[SA]**
您觉得您的听力受损了吗?

READ			
1	Yes	是	**[Go to Q10034]**
2	No	否	**[Go to Q10035]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

10034. Do you feel that the hearing loss was caused by work? **[SA]**
您觉得听力受损是由工作造成的吗?

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10035. Do you have difficulty following conversations in the presence of background noise? (e.g. Noise from a TV or radio; traffic noise in the street; people talking at other tables in a crowded restaurant) **[SA]**
您觉得在嘈杂的环境下是否难以听清谈话？（如电视或收音机的噪音；街上的交通噪音；在拥挤的饭店内人们在其他桌交谈产生的噪音）

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

10036. Do you wear a hearing aid? **[SA]**
您有戴助听器吗？

READ		
1	Yes	有
2	No	没有
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 10. GO TO SECTION 11.

11. HEALTH SCREENING PROGRAMMES

IF respondent is male & below 50 years of age, go to Q11023.

IF respondent is male & aged 50 and above, go to Q11016.

IF respondent is female & below 50 years of age, go to Q11000.

IF respondent is female & aged 50 and above, go to Q11002.

11000. **[For women below 50 years of age]** To your knowledge, are you pregnant now? **[SA]**
据您所知，您目前是否怀孕？

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定
[Go to Q11002]		

11002. **[For all women only]** When was the last time you had a test to scrap cells from the mouth of the womb to check for cervical cancer? **[SA]**
您上次接受针对子宫颈癌的子宫口细胞检查是在何时？

READ ONLY IF NECESSARY			
1	1 year ago or less	过去 1 年或少于 1 年	**[Go to Q11003, then Q11025]**
2	More than 1 year to 2 years	超过 1 年但在 2 年以内	
3	More than 2 years to 3 years	超过 2 年但在 3 年以内	
4	More than 3 years to 4 years	超过 3 年但在 4 年以内	
5	More than 4 years to 5 years	超过 4 年但在 5 年以内	
6	More than 5 years ago	超过 5 年前	
7	Never been checked	从未检查过	**[Go to Q11023 if aged below 40]** **[Go to Q11010 if aged 40 and above]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

11003. **[For all women only]** Where did you go for your test to check for cervical cancer? **[SA]**
您上次在哪里做针对子宫颈癌的子宫口细胞检查？

***Interviewer note**: If respondent answers "Private GP", probe to check if they are participating in the Screen for Life programme where they pay $0, $2 or $5 for the test.*

DO NOT READ		
1	Private GP (Screen for Life)	家庭医生（"定期体检， 益您一生"）
2	Private GP (Non-Screen for Life)	家庭医生（非"定期体检， 益您一生"）
3	Polyclinic	综合诊所
4	Specialist outpatient clinic (public hospital)	专科门诊诊所（公共医院）
5	Specialist outpatient clinic (private hospital)	专科门诊诊所（私人医院）
10	Specialist outpatient clinic (not in hospital)	专科门诊诊所（不在医院经营）
6	Workplace	工作场所
7	Community venue	社区场所
8	Overseas clinic/ hospital	国外的诊所或医院
9	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

11025. **[For all women only]** Which of the following tests have you taken to check for cervical cancer**? [SA]**
您接受过哪一种针对子宫颈癌的子宫口细胞检查？

USE SHOWCARD		
1	Pap smear	宫颈抹片检查
2	Human Papillomavirus (HPV)	人乳头瘤病毒检查
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定
[Go to Q11023 if <u>aged below 40</u>] [Go to Q11010 if <u>aged 40 and above</u>]		

11010. **[Only for Women aged 40 years and older]** A mammogram is an x-ray of each breast to look out for breast cancer. When was the last time you had a mammogram? **[SA]**
乳房 X 光检查是一种利用 X 光检查乳癌的方法。您最后一次接受乳房 X 光检查是多久以前的事？

READ ONLY IF NECESSARY			
1	1 year ago or less	过去 1 年或少于 1 年	**[Go to Q11013, then Q11026]**
2	More than 1 year to 2 years	超过 1 年但在 2 年以内	
3	More than 2 years to 3 years	超过 2 年但在 3 年以内	
4	More than 3 years to 4 years	超过 3 年但在 4 年以内	
5	More than 4 years to 5 years	超过 4 年但在 5 年以内	
6	More than 5 years ago	超过 5 年前	
7	Never been checked	从未检查过	**[Go to Q11026]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don’t know / Not sure	不知道 / 不肯定	

11013. **[Only for Women aged 40 years and older]** Where did you go for your last mammogram? **[SA]**
您上次的乳房 X 光检查是在哪里做的？

DO NOT READ		
1	Polyclinic	综合诊所
2	Public hospital	公共医院
3	Private hospital	私人医院
4	Private X-ray centre	私人 X 光检查中心
5	Mammobus	乳房 X 光检查流动巴士
6	Workplace	工作场所
7	Community venue	社区场所
8	Overseas clinic/ hospital	国外的诊所或医院
9	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don’t know / Not sure	不知道 / 不肯定

11026. **[Only for Women aged 40 years and older]** Have your periods stopped because of menopause? **[SA]**
您的月经是否因为更年期而已停止？

READ			
1	Yes	是	**[Go to Q11027]**
2	No	否	**[Go to Q11023 if <u>aged below 50</u>]** **[Go to Q11016 if <u>aged 50 and above</u>]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don’t know / Not sure	不知道 / 不肯定	

11027. **[Only for Women aged 40 years and older]** At what age did your periods stop? **[SA]**
您的月经在您几岁时停止？

	Age	岁
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定
[Go to Q11023 if <u>aged below 50</u>] [Go to Q11016 if <u>aged 50 and above</u>]		

[For Male & Female respondents aged 50 years and above only]

11016. A blood stool test is a test to determine whether the stool contains blood, which can be caused by conditions such as piles or colorectal cancer. When was the last time you had a blood stool test? **[SA]**
便血检查能检测粪便中是否含有血液，这可能是由于痔疮或者结直肠癌等病症引起的。您最后一次做便血检查是多久以前的事？

***Interviewer note**: A blood stool test can be also known as a faecal occult blood test (FOBT) or faecal immunochemical blood test (FIT).*

READ ONLY IF NECESSARY			
1	1 year ago or less	过去 1 年或少于 1 年	**[Go to Q11018]**
2	More than 1 year to 2 years	超过 1 年但在 2 年以内	
3	More than 2 years to 3 years	超过 2 年但在 3 年以内	
4	More than 3 years to 5 years	超过 3 年但在 5 年以内	
5	More than 5 years ago	超过 5 年前	
6	Never been checked	从未检查过	**[Go to Q11020]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

11018. Where did you go for your last blood stool test? **[SA]**
您上次的便血检查是在哪里做的？

***Interviewer note**: If respondent answers "Private GP", probe to check if they are participating in the Screen for Life programme where they pay $0, $2 or $5 for the test.*

DO NOT READ		
1	Private GP (Screen for Life)	家庭医生（"定期体检， 益您一生"）
2	Private GP (Non-Screen for Life)	家庭医生（非"定期体检， 益您一生"）
3	Polyclinic	综合诊所
4	Specialist outpatient clinic (public hospital)	专科门诊诊所（公共医院）
5	Specialist outpatient clinic (private hospital)	专科门诊诊所（私人医院）
6	Workplace	工作场所
7	Community venue	社区场所
8	Overseas clinic/ hospital	国外的诊所或医院
9	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

[Only for respondents aged 50 years and above]

11020. Colonoscopy is a procedure where a flexible tube is inserted through the rectum and into the large intestines. A small camera allows the doctor to examine the intestinal wall for abnormalities such as cancer.When was the last time you had a colonoscopy? **[SA]**
结肠镜检查是一种将软管插入直肠然后进入大肠的检查方法。软管前端会有一个小型摄像头，让医生可以检查肠壁是否有异常，例如癌症。您最后一次接受结肠镜检查是多久以前的事？

***Interviewer note**: Before taking a colonoscopy, patients are required to drink a cleansing liquid and be on a clear liquid diet at least one day before the test so that a clear view of their bowel can be taken.*

READ ONLY IF NECESSARY		
1	1 year ago or less	过去 1 年或少于 1 年
2	More than 1 year to 2 years	超过 1 年但在 2 年以内
3	More than 2 years to 3 years	超过 2 年但在 3 年以内
4	More than 3 years to 5 years	超过 3 年但在 5 年以内
5	More than 5 years to 10 years	超过 5 年但在 10 年以内
6	More than 10 years ago	超过 10 年前
7	Never been checked	从未检查过
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

[For all Male & Female respondents]

11023. In the past 12 months, have you had an injection to protect you from getting flu? **[SA]**
在过去 12 个月内,您有没有接受流行性感冒的免疫注射?

READ		
1	Yes	有
2	No	没有
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

11024. Have you ever had pneumococcal vaccination before? This vaccine protects against a bacterial infection that causes pneumonia, blood infection and inflammation of the brain (meningitis)**.** **[SA]**
您是否曾有接种肺炎球菌疫苗?这种疫苗可预防能引起肺炎、血液感染和脑炎(脑膜炎)的细菌感染。

READ		
1	Yes	有
2	No	没有
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 11. GO TO SECTION 12.

12. PRIMARY CARE

12006. Do you have a regular* family doctor (i.e. a General Practitioner (GP) or Polyclinic) whom you consult when you have common illnesses such as cough and cold? **[SA]**
您在患上咳嗽或感冒等普通疾病的时候，您是否会去看固定的家庭医生，或者前往同一间综合诊疗所看病？

READ ONLY IF NECESSARY			
1	Yes, I have a regular family doctor in a private General Practitioner (GP) clinic whom I consult on common illnesses	有，我有固定的家庭医生	**[Go to Q12007]**
2	Yes, I visit the same Polyclinic to consult a doctor on common illnesses	有，我会探访同一所综合诊所看病	
3	No, I do not have a regular family doctor whom I consult on common illnesses	没有，我在患上普通疾病的时候我没有固定家庭医生	**[Go to Q12008]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

** A regular family doctor is defined as a primary care physician/ Polyclinic who you turn to frequently or habitually for healthcare advice/consultation.*

12007. What are the reasons you choose him/ her as your regular family doctor or visit the same polyclinic for your common illnesses? **[MA]**
您选择他/她作为您固定的家庭医生或者前往同一间综合诊疗所看病的原因是什么？

***Interviewer note**: If respondent answers "convenient location", probe if it is convenient to home or workplace.*

READ ONLY IF NECESSARY		
1	Professionally competent doctor / good doctor	医生的专业水平/医术高
2	Cheaper charges	医疗费用比较便宜
3	Convenient location, nearer to my home	地点方便，靠近住家
4	Convenient location, nearer to my workplace	地点方便，靠近工作地点
5	Have been seeing this doctor since young / for many years	从小就看这位医生/看这位医生很多年了
7	Part of company's panel of doctors	是公司指定的医生团队
6	Others, please specify: 其它，请注明: _____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

12008. Do you have a regular* family doctor (i.e. a General Practitioner (GP) or Polyclinic) whom you will consult on your chronic conditions^ (e.g diabetes, hypertension, high blood, cholesterol, asthma)? **[SA]**

您在患上慢性疾病^（糖尿病、高血压、高血脂、胆固醇、哮喘）的时候，您是否会去看固定的家庭医生，或者前往同一间综合诊疗所看病？

READ ONLY IF NECESSARY			
1	Yes, I have a regular family doctor in a private General Practitioner (GP) clinic whom I consult on my chronic conditions	有，我有固定的家庭医生	**[Go to Q12009]**
2	Yes, I visit the same Polyclinic to consult a doctor on my chronic conditions	有，我会探访同一所综合诊所看病	
3	No, I do not have a regular family doctor whom I consult on my chronic conditions	没有，我在患上慢性疾病的时候没有固定家庭医生去看病	**[Go to Q12002]**
4	I do not have any chronic conditions	我没有任何慢性疾病	**[Go to Section 13]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

** A regular family doctor is defined as a primary care physician/ Polyclinic who you turn to frequently or habitually for healthcare advice/consultation.*

^ Chronic conditions refer to long-term medical conditions that require regular management (e.g. diabetes, hypertension, high blood cholesterol, asthma)

12009. What are the reasons you choose him/ her as your regular family doctor or visit the same polyclinic for your chronic conditions? **[MA]**

您选择他/她作为您固定的家庭医生或者前往同一间综合诊疗所看病的原因是什么？

***Interviewer note**: If respondent answers "convenient", probe if it is convenient to home or workplace.*

READ ONLY IF NECESSARY		
1	Professionally competent doctor / good doctor	医生的专业水平/医术高
2	Cheaper charges	医疗费用比较便宜
3	Convenient location, nearer to my home	地点方便，靠近住家
4	Convenient location, nearer to my workplace	地点方便，靠近工作地点
5	Have been seeing this doctor since young / for many years	从小就看这位医生/看这位医生很多年了
7	Part of company's panel of doctors	是公司指定的医生团队
6	Others, please specify: 其它，请注明: _____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

[If Q12006="No, I do not have a regular family doctor whom I consult on common illnesses" or Q12008="No, I do not have a regular family doctor whom I consult on my chronic conditions]

12002. What are the reasons that you do not have a regular family doctor? **[MA]**
您没有固定的家庭医生或综合诊所的原因有哪些?

READ ONLY IF NECESSARY		
1	I see different doctors depending on convenience – whichever doctor is on duty near wherever I am	我会为了方便而选择看任何在值班的医生
2	I see different doctors because I compare the cost of visiting the different doctors	我会比较医疗费用而选择看不同的医生
3	I don't see the value / need to have a regular family doctor	我不认为有需要看固定的家庭医生
4	Others, please specify: 其它，请注明: _____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 12. GO TO SECTION 13.

13. HEALTH STATE DESCRIPTIONS

Interviewer: Now, I would ask about your health in general over the last 6 weeks. For each question, tell me which answer you think best applies to you in the last 6 weeks. Remember that I want to know about present and recent complaints, not those you had in the past. All answers will be treated as confidential.
我要问一些您在过去 6 周内，是否患有任何疾病以及您的整体健康状况如何。请您在每一题选择在过去 6 周内最能够代表您的答案。请切记，我想知道您目前以及最近所患的疾病，不包括您以前得过的疾病。所有答案将完全保密。

13004. Have you recently (in the past 6 weeks) ...? **[SA]**
您最近（过去 6 周内）是否…？

READ AND USE SHOWCARD				
	1)	2)	3)	4)
13004a. Been able to concentrate on whatever you are doing? 能够集中精神做事？	☐ Better than usual 优于往常	☐ Same as usual 与往常一样	☐ Less than usual 比往常稍差	☐ Much less than usual 比往常差很多
13004b. Lost much sleep over worry? 因担忧而严重失眠？	☐ Not at all 根本不	☐ No more than usual 与往常一样	☐ Rather more than usual 比往常稍差	☐ Much more than usual 比往常多很多
13004c. Felt that you are playing a useful part in things? 感觉自己在某些事情中发挥作用？	☐ More than usual 优于往常	☐ Same as usual 与往常一样	☐ Less useful than usual 比往常稍差	☐ Much less useful 比往常差很多
13004d. Felt capable of making decisions about things? 感觉有能力做决定？	☐ More so than usual 优于往常	☐ Same as usual 与往常一样	☐ Less so than usual 比往常稍差	☐ Much less capable 比往常差很多
13004e. Felt constantly under strain? 经常感觉紧张？	☐ Not at all 根本不	☐ No more than usual 与往常一样	☐ Rather more than usual 比往常稍差	☐ Much more than usual 比往常多很多
13004f. Felt you couldn't overcome your difficulties? 感觉自己不能克服困难？	☐ Not at all 根本不	☐ No more than usual 与往常一样	☐ Rather more than usual 比往常稍差	☐ Much more than usual 比往常多很多
13004g. Been able to enjoy your normal day-to-day activities? 能够享受正常的日常活动？	☐ More so than usual 优于往常	☐ Same as usual 与往常一样	☐ Less so than usual 比往常稍差	☐ Much less than usual 比往常差很多
13004h. Been able to face up to your problems?	☐ More so than usual	☐ Same as usual	☐ Less able than usual	☐ Much less able

READ AND USE SHOWCARD				
	1)	2)	3)	4)
能够面对自己的问题？	优于往常	与往常一样	比往常稍差	比往常差很多
13004i. Been feeling unhappy and depressed? 一直感觉不开心和抑郁？	☐ Not at all 根本不	☐ No more than usual 与往常一样	☐ Rather more than usual 比往常稍差	☐ Much more than usual 比往常多很多
13004j. Been losing confidence in yourself? 一直没有自信？	☐ Not at all 根本不	☐ No more than usual 与往常一样	☐ Rather more than usual 比往常稍差	☐ Much more than usual 比往常多很多
13004k. Been thinking of yourself as a worthless person? 一直认为自己没有价值？	☐ Not at all 根本不	☐ No more than usual 与往常一样	☐ Rather more than usual 比往常稍差	☐ Much more than usual 比往常多很多
13004l. Been feeling reasonably happy, all things considered? 整体上一直感觉比较开心？	☐ More so than usual 优于往常	☐ Same as usual 与往常一样	☐ Less so than usual 比往常稍差	☐ Much less than usual 比往常差很多

13002. If you feel like you are constantly unable to cope with stress, would you be willing to seek help from a…? **[SA]**
若您觉得经常无法应付/面对压力时，您是否愿意向以下人士求助？

READ			
	1) Yes 是	2) No 否	777) Refused 拒绝回答
a. Healthcare professional, for example a counsellor, doctor, psychologist or psychiatrist? 医疗专业人士例如辅导员、医生、精神病医生、心理学家？	☐	☐	☐
b. Friend, relative, colleague, religious leader or teacher in school? 朋友、亲戚、同事、宗教领袖、学校的老师？	☐	☐	☐

13003. To your knowledge, what are the symptoms of dementia? **[MA]**
据您所知，失智症有什么症状？

(Probe once if necessary: "any other symptoms?")
(若有需请再多问一次: "您还知道有什么其他的症状吗？")

DO NOT READ (for internal coding only)		
1	Increasingly forgetful, affecting day-to-day life	越来越健忘以至影响到日常生活
2	Misplacing things and unable to find them	健忘以至找不到原先放置的东西
3	Difficulty completing familiar tasks and activities of daily living e.g. taking public transport, dressing themselves	在执行日常生活活动时面对困难例如乘搭公共交通或穿着衣服
4	Poor or decreased judgement e.g. wearing wrong clothes for the occasion	判断能力减少例如在某场合选择穿不适当的穿着
5	Difficulty expressing themselves and understanding what is going on, or call things by the wrong name	在表达自己时以及对于状况理解面对困难或把东西的名称混合
6	Confusion about the current time and place	把当前的时间和地点混合
7	Difficulty planning or solving problems	在规划/计划事情或解决问题时面对困难
8	Withdrawal from work or social activities	从工作或社交活动退出
9	Rapid changes in mood, emotions or behaviour	在情绪、情感、行为上有极速的转变
10	Change in personality, easily becoming suspicious and mistrustful	性情/性格大变，尤其变得易多疑与不信任他人
11	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 13. GO TO SECTION 14.

14. DENTAL HEALTH

Interviewer: Now, I would like to ask you some questions about your dental health.
现在，我想问您关于口腔健康的问题。

14000. How often do you visit a dentist? **[SA]**
您多久一次看牙医？

READ ONLY IF NECESSARY			
1	Once every 6 months	每 6 个月一次	**[Go to Q14001]**
2	At least once a year	至少一年一次	
3	At least once every 2 years	至少每两年一次	
4	Only if there is pain or when I have a dental problem	只有在有牙疼或有口腔问题的时侯	
5	Others, please specify: 其它，请注明: _____		
DO NOT READ			
666	Have never been to a dentist	从未看过牙医	**[Go to Section 15]**
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

14001. When was the last time you visited a dentist? **[SA]**
您上一次看牙医是什么时候？

READ ONLY IF NECESSARY		
1	Less than 6 months ago	过去 6 个月内
2	6-12 months ago	6 到 12 个月内
3	More than a year, but less than 2 years ago	超过 1 年，但少过 2 年内
4	2 years or more, but less than 5 years ago	2 年以上，但少过 5 年内
5	At least 5 years ago	至少 5 年以前
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定
[Go to Section 15]		

END OF SECTION 14. GO TO SECTION 15.

15. ADDITIONAL DIABETES QUESTIONS

15000. Do you think diabetes is preventable? **[SA]**
您觉得糖尿病是否可以预防吗？

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

15001. To your knowledge, what are some ways to prevent diabetes? **[MA]**
据您所识， 有哪些方法可以预防糖尿病呢？

<write response 写回应>

DO NOT READ (for internal coding only)		
1	Exercise regularly	经常运动
2	Exercise for at least 150 minutes per week	每周运动至少 150 分钟
3	Go for regular health screening	定期体检
4	Go for blood sugar / blood glucose screening / testing	检查血糖/血糖检验/测试
5	Eat a balanced diet	注意饮食平衡
6	Eat more fruits and/or vegetables	多吃水果和/或蔬菜
7	Eat wholegrains / brown rice	吃全谷物/糙米
8	Eat less sweetened food	少吃甜食
9	Eat less carbohydrate rich food (e.g. rice/ bread/ noodle)	少吃碳水化合物（比如米饭/面包/面条）
10	Eat lower calorie meals / foods	吃低卡路里的食物
11	Limit processed foods	减少工业加工的食品
12	Have "siu dai" / lower sugar beverage	喝少糖的饮品
13	Do not smoke / quit smoking	不吸烟/戒烟
14	Control your blood pressure	控制血压
15	Manage / Lose weight	控制体重/减肥
16	Manage stress	调节压力
17	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

15004. Diabetes can lead to some health conditions. What are some of these conditions? **[MA]**
糖尿病能够引起一些其它病症。下面哪些病症可能由糖尿病引发呢？

READ (May choose more than one answer)		
1	Kidney Disease	肾病
2	Stroke	中风
3	Heart Disease / Heart Attack	心脏病/心脏病发作
4	Foot Amputation	截肢
5	Blindness	眼盲
6	Cancer	癌症
7	Others, please specify: 其它，请注明: _____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

[If respondent does not have diabetes, Q7001 = "2", "3", "4", "777" or "888"]

15005. On a scale of 1 to 7, how severe do you think diabetes is? **[SA]**
您觉得糖尿病的严重性多大？

USE SHOWCARD		
1	One (Not severe at all)	一 （不严重）
2	Two	二
3	Three	三
4	Four (Normal / Average)	四 （平常 / 平等）
5	Five	五
6	Six	六
7	Seven (Extremely severe)	七 （非常严重）
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

[If respondent does not have diabetes, Q7001 = "2", "3", "4", "777" or "888"]

15006. On a scale of 1 to 7, how likely do you think you are to have diabetes? **[SA]**
您觉得您患糖尿病的可能性有多大？

USE SHOWCARD		
1	One (Not likely)	一 （不可能）
2	Two	二
3	Three	三
4	Four (Neutral)	四 （一般）
5	Five	五
6	Six	六
7	Seven (Very likely)	七 （非常可能）
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 15. GO TO SECTION 16.

16. BREASTFEEDING (FOR WOMEN WITH CHILDREN BELOW 7 YEARS OLD ONLY)

16000. Did you breastfeed your youngest child? **[SA]**
您最年幼的孩子是否有喂食母乳？

READ			
1	Yes	有	**[Go to Q16001]**
2	No	没有	**[Go to 16002]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

16001. How old was your youngest child when you stopped breastfeeding him/her completely? **[SA]** Please include the time when you exclusively breastfeed.
在您完全停止喂食母乳时, 您最年幼的孩子是几岁？请包括您仅喂食母乳的时间。

***Interviewer note**: If respondent mentions in years AND months, for example 2 year and 4 months, record as 28 months.*

	Days, **OR**	天，或
	Months, **OR**	月，或
	Years	年
DO NOT READ		
666	Currently still breastfeeding Please specify age of the youngest child: _____ days, **OR** _____ months, **OR** _____ years	
777	Refused	
888	Don't know / Not sure	
[Go to Q16004]		

16004. How long did you feed your youngest child **only** breast milk (without water or formula milk)? **[SA]**
您给最年幼的孩子仅喂食母乳的时间有多长（不喂水或配方牛奶）？

	Days, **OR**	天，或
	Months, **OR**	月，或
	Years	年
DO NOT READ		
666	Currently still exclusively breastfeeding Please specify age of the youngest child: _____ days, **OR** _____ months	
777	Refused	
888	Don't know / Not sure	

16002. How old was your youngest child when he/she was first fed formula milk? **[SA]**
请问您最年幼的孩子第一次喝配方奶粉时是几岁？

	Days	天
	Months	月
	Years	年
DO NOT READ		
666	Have not started on formula milk	未开始喝配方奶粉
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

16003. How old was your youngest child when he/she was first fed baby foods such as purees, rice cereals and solid food? **[SA]**
请问您最年幼的孩子第一次吃婴儿食品时（例如泥状食物、米谷物及固体食物）是几岁？

READ ONLY IF NECESSARY		
1	0 to below 4 months old	4 个月以下
2	4 to below 6 months old	4 到 6 个月以下
3	6 to below 9 months old	6 到 9 个月以下
4	9 months old and above	9 个月及以上
DO NOT READ		
666	Have not started on baby foods	未开始吃婴儿食品
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 16. GO TO SECTION 17.

18. HOSPITALISATION INSURANCE

Interviewer: Now, I would like to ask you a question about hospitalization insurance.
现在，我想问您关于住院保险的问题。

18000. Which hospitalization insurance plan do you have?
您有哪些医疗保险计划？

USE SHOWCARD					
	Insurance Plan 保险计划	1) Yes 有	2) No 没有	777) Refused 拒绝回答	888) Don't know / Not sure 不知道 / 不肯定
a.	Medishield Life **[SA]** 终身健保	☐	☐	☐	☐
b.	Integrated shield plan offered by private insurance firm **[SA]** 由私人保险公司提供的综合健保计划	☐	☐	☐	☐
c.	Other personal hospitalisation insurance plan that reimburses your hospitalisation and treatment expenses; with or without paying daily hospitalisation cash/income benefit (exclude critical illness, disability and personal accident insurance plans) **[SA]** 其他可以报销您的住院和治疗费用的个人住院保险计划；支付或不支付每日住院现金/ 保险计划（不包括重大疾病、残疾和个人意外伤害保险计划）	☐	☐	☐	☐
d.	Employer provided medical insurance **[SA]** 雇主提供的医疗保险	☐	☐	☐	☐
e.	Others 其它 **[Go to Q18000e(i) for "1"]**	☐	☐	☐	☐

18000 e(i) **[**If respondent selected "1" for Q18000e, please specify below**]**:
其它（请注明）：

_____

END OF SECTION 18. GO TO SECTION 19.

19. CARE-GIVING

Interviewer: Now, I would like to ask you some questions about care-giving (i.e. providing regular care or assistance to a friend or family member who has a health problem, long-term illness, or disability).
现在，我要问一些有关看护的问题（即为有健康问题、长期患病或有残疾的朋友或家庭成员提供经常性的护理或帮助。）

19000. During the past month, did you provide any such care or assistance to a friend or family member? **[SA]**
在过去一个月内，您曾为朋友或家庭成员提供过此类护理或帮助吗？

READ			
1	Yes	有	**[Go to Q19001]**
2	No	没有	**[Go to Section 20]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

19001. How many people do you provide care to? **[SA]**
您看护了多少人？

	Number of people	人数
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

[IF Q19001 > "1", please provide the following information based on the person you spend <u>most</u> time caring for.]

19002. Are you working while caring for this person? **[SA]**
您在看护这个人的时候还有在工作吗？

READ			
1	Yes, I am working full-time	有，我有在全职工作	**[Go to 19004]**
2	Yes, I am working part-time	有，我有在兼职工作	**[Go to Q19003]**
3	No, I am not working	我没有在工作	
DO NOT READ			
777	Refused	拒绝回答	**[Go to Q19004]**
888	Don't know / Not sure	不知道 / 不肯定	

19003. Are you working part-time or not working due to the need to provide care for this person? **[SA]**
您是因为需要看护这个人才选择兼职工作或者不工作吗？

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

19004. Are you the **only** person providing care for this person? **[SA]**
您是此人的**唯一**看护人吗？

READ			
1	Yes	是	**[Go to Q19006]**
2	No	否	**[Go to Q19005]**
DO NOT READ			
777	Refused	拒绝回答	
888	Don't know / Not sure	不知道 / 不肯定	

19005. Who else provides care to this person? **[MA]**
此人的其他看护人是什么身份？

READ (May choose more than one answer)		
1	Other family members	其他家庭成员
2	Live-in maid	居住在雇主家的女佣
3	Nurse / other nursing professional	护士/其他专业护理人员
4	Day-care & other institutions	日间护理中心和其他机构
5	Others, please specify: 其它，请注明: _____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

19006. What is the care recipient's relationship to you? For example, is he/she your (mother/daughter or father/son)? **[SA]**
您看护的人与您是什么关系？例如，他/她是您的（母亲/女儿或父亲/儿子）？

READ ONLY IF NECESSARY		
1	Parent	父母
2	Parent-in-law	岳父母或公婆
3	Child	子女
4	Spouse	配偶
5	Sibling	兄弟姐妹
6	Grandparent	祖父母
7	Grandchild	孙子/孙女
8	Other relative (e.g. niece, nephew, uncle, aunt)	其他亲戚关系(例如侄女，侄儿， 叔叔，阿姨)
9	Non-relative (e.g. friend, neighbour)	无亲戚关系(例如朋友，领居)
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

19007. How old is the person to whom you are giving care? **[SA]**
您看护的人年龄有多大?

	Age	岁
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

19008. Is this person whom you giving care to male or female? **[SA]**
您看护的人是男性还是女性?

1	Male	男性
2	Female	女性
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

19009. How long have you been providing care to this person? **[SA]**
您已经为此人提供了多长时间的看护？

READ ONLY IF NECESSARY		
1	1 year ago or less	过去 1 年或少于 1 年
2	More than 1 year to 2 years	超过 1 年但在 2 年以内
3	More than 2 years to 5 years	超过 2 年但在 5 年以内
4	More than 5 years to 10 years	超过 5 年但在 10 年以内
5	More than 10 years	超过 10 年
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

19010. In an average week, what is the total number of hours of care you provide to this person? **[SA]**
您平均每周为此人提供多少小时的看护？

	Hours per week	每周几小时
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

19011. What are the health problems, long-term illnesses, or disabilities that the person you care for has according to the doctor? **[MA]**
根据医生的判断，您所看护的这个人有什么健康问题、长期疾病或残疾？

USE SHOWCARD		
1	Arthritis / Rheumatism/ Joint Pains	关节炎/风湿/ 关节疼痛
2	Cancer	癌症
3	Diabetes	糖尿病
4	Heart Disease	心脏病
5	Hypertension / High Blood Pressure	高血压
6	Lung Disease / Emphysema / COPD	肺病/肺气肿
7	Osteoporosis	骨质疏松症
8	Parkison's Disease	帕金森病
9	Stroke	中风
10	Eye / Vision Problem (blindness)	眼疾/视力问题（失明）
11	Hearing Problems (deafness)	听力问题（失聪）
12	Kidney disease / Renal failure	肾病/ 肾功能衰竭
13	Fracture	骨折
14	Alzheimer's Disease / Dementia	阿尔茨海默病或痴呆
15	Cerebral Palsy (CP)	脑性麻痹（CP）
16	Down's Syndrome	唐氏综合征
17	Anxiety / Depression	焦虑/忧郁症
18	Intellectually Disabled	智力残障
19	Others, please specify: 其它，请注明: _____	
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

19012. In which of the following areas does the person you care for need your help? **[MA]**
以下哪些方面是您的被看护人需要您帮助的？

USE SHOWCARD		
1	To move from one place to another, e.g. move around within the home or outside of home	从一个地方移动到另一个地方，例如在家中或户外移动
2	To get in and out of bed or onto a chair	移到床上或床下，或移到椅子上
3	To dress and undress themselves	自己穿衣服或脱衣服
4	To shower	冲凉
5	To feed themselves e.g. cutting food	自己进食，例如将食物切成小块
6	To get to and use the toilet	使用厕所
7	To do shopping e.g. buying groceries	购物，例如买菜
8	To prepare meals	煮饭
9	To do house chores e.g. cleaning and doing laundry	做家务，例如打扫房间和洗衣服
10	To move around using public transport or driving	搭乘公共交通或驾车出行
11	To manage money e.g. paying bills	管理钱财，例如支付账单
12	To communicate with others e.g. making a phone call	与他人交流，例如打电话
13	To help with medications needs including injections e.g. taking medications on time	协助药物治疗，包括注射，例如按时服药
14	To do simple procedures e.g. using feeding tubes, changing of dressings	进行简单的医疗护理（例如使用喂食管、更换敷料）
DO NOT READ		
777	Refused	拒绝回答
888	Don’t know / Not sure	不知道 / 不肯定

Care services for care recipients

19013. Has the person you care for used or is currently using any of the following services/ programmes? **[MA]**

您看护的这个人是否用过或者正在使用以下服务/计划?

USE SHOWCARD		
1	Helplines	求助热线
2	Befriending services	益友服务
3	Support groups	互助团体
4	Case management & counselling	个案管理与辅导
5	Day Activity Centre	日间活动中心
6	Sheltered Workshop	庇护工作坊
7	Residential Homes / Nursing Homes	老人公寓/疗养院
8	Community Rehabilitation Centres *(e.g.occupational therapy, physical rehab)*	社区康复中心 （例如职业疗法、物理康复）
9	Day Care Centres/ Senior Care Centres *(e.g. Maintenance Day Care, Dementia Day Care)*	日间护理中心/乐龄护理中心 （例如保健日间护理、失智症日间护理）
10	Home Care services *(e.g. Home Medical, Home Nursing, Home Personal Care services)*	居家护理服务 （例如居家医疗服务、居家疗养服务、居家个人护理服务）
11	Escort and transport services *(e.g. to medical appointments or centres)*	护送和交通服务 （例如陪送复诊或送往医疗中心）
12	Meal delivery services	膳食派送服务
13	Training programmes *(e.g. Social skills training, Psychosocial skills training, illness management)*	培训课程 （例如社会技能培训、社会心理技能培训、疾病管理）
14	Employment-related services *(e.g. skills upgrading, job placement/ support)*	就业相关服务 （例如技能提升、就业安排/支持）
15	Assistive Devices *(e.g. walking stick, hearing aid, wheelchair)*	辅助设备 （例如拐杖、助听器、轮椅）
16	Spiritual / Religious based support	精神上/宗教上的支持
17	Others, please specify: 其它，请注明: _____	
18	None of the above	以上都不是
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

For those services/programmes not selected in Q19013, go to Q19014.

19014. Is the person you care for interested in using any of the following services/ programmes? **[MA]**
您看护的这个人是否有兴趣使用以下服务/计划？

USE SHOWCARD		
1	Helplines	求助热线
2	Befriending services	益友服务
3	Support groups	互助团体
4	Case management & counselling	个案管理与辅导
5	Day Activity Centre	日间活动中心
6	Sheltered Workshop	庇护工作坊
7	Residential Homes / Nursing Homes	老人公寓/疗养院
8	Community Rehabilitation Centres *(e.g.occupational therapy, physical rehab)*	社区康复中心（例如职业疗法、物理康复）
9	Day Care Centres/ Senior Care Centres *(e.g. Maintenance Day Care, Dementia Day Care)*	日间护理中心/乐龄护理中心（例如保健日间护理、失智症日间护理）
10	Home Care services *(e.g. Home Medical, Home Nursing, Home Personal Care services)*	居家护理服务（例如居家医疗服务、居家疗养服务、居家个人护理服务）
11	Escort and transport services *(e.g. to medical appointments or centres)*	护送和交通服务（例如陪送复诊或送往医疗中心）
12	Meal delivery services	膳食派送服务
13	Training programmes *(e.g. Social skills training, Psychosocial skills training, illness management)*	培训课程（例如社会技能培训、社会心理技能培训、疾病管理）
14	Employment-related services *(e.g. skills upgrading, job placement/ support)*	就业相关服务（例如技能提升、就业安排/支持）
15	Assistive Devices *(e.g. walking stick, hearing aid, wheelchair)*	辅助设备（例如拐杖、助听器、轮椅）
16	Spiritual / Religious based support	精神上/宗教上的支持
17	None of the above	以上都不是
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

19015. Currently, is there any form of help given to you as the care giver? **[SA]**
您目前有得到作为看护者所需要的帮助吗？

READ		
1	Yes	是
2	No	否
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

Care services for care givers

19016. Have you (the care-giver) used or are you currently using any of the following services/ programmes? **[MA]**
您作为看护者是否用过或者正在使用以下服务/计划？

USE SHOWCARD		
1	Helplines	求助热线
2	Befriending services	益友服务
3	Support groups	互助团体
4	Case management & counselling	个案管理与辅导
5	Respite Care *(e.g. Eldersitter, Day Care, Child Care)*	短暂看护（例如长者护理计划、日间护理、儿童托管）
6	Government assistance and subsidies *(e.g. Community Health Assist Scheme (CHAS), Seniors Mobility and Enabling Fund (SMF))*	政府援助及津贴（例如社保援助计划（CHAS）、乐龄助行基金（SMF））
7	Employment-related services *(e.g. skills upgrading, job placement/ support)*	就业相关服务 （例如技能提升、就业安排/支持）
8	Caregiving related training programmes *(e.g. information sharing sessions, caregiving training)*	看护相关培训课程（例如资讯分享活动、看护培训）
9	Spiritual / Religious based support	精神上/宗教上的支持
10	Others, please specify: 其它，请注明: _____	
11	None of the above	以上都不是
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

For those services/programmes not selected in Q19016, go to Q19017.

19017. Which of the following services/ programmes are you interested in trying? **[MA]**
您有兴趣尝试以下何种服务/计划？

USE SHOWCARD		
1	Helplines	求助热线
2	Befriending services	益友服务
3	Support groups	互助团体
4	Case management & counselling	个案管理与辅导
5	Respite Care *(e.g. Eldersitter, Day Care, Child Care)* 暂息护理服, 日间护理中心	短暂看护（例如长者护理计划、日间护理、儿童托管）
6	Government assistance and subsidies *(e.g. Community Health Assist Scheme (CHAS), Seniors Mobility and Enabling Fund (SMF))*	政府援助及津贴（例如社保援助计划（CHAS）、乐龄助行基金（SMF））
7	Employment-related services *(e.g. skills upgrading, job placement/ support)*	就业相关服务 （例如技能提升、就业安排/支持）
8	Caregiving related training programmes *(e.g. information sharing sessions, caregiving training)*	看护相关培训课程（例如资讯分享活动、看护培训）
9	Spiritual / Religious based support	精神上/宗教上的支持
10	Others, please specify: 其它，请注明: _____	
11	None of the above	以上都不是
DO NOT READ		
777	Refused	拒绝回答
888	Don’t know / Not sure	不知道 / 不肯定

19018. In which of the following areas do you think you (the care giver) should be given training in order to provide care to others? **[MA]**
您认为您（看护人）应接受以下哪个领域的培训，以便看护他人？

USE SHOWCARD		
1	Helping care recipient to move from one place to another, e.g. move around within the home or outside of home	协助护人从一个地方移动到另一个地方，例如在家中或户外移动
2	Helping care recipient to get in and out of bed or onto a chair	协助护人移到床上或床下，或移到椅子上
3	Helping care recipient to dress or undress themselves	协助护人穿或脱衣服
4	Helping care recipient to shower	协助护人冲凉
5	Helping care recipient to feed themselves e.g. cutting food	协助护人进食，例如将食物切成小块
6	Helping care recipient to get to and use the toilet	协助护人使用厕所
7	Performing simple procedures (e.g. using feeding tubes, changing of dressings)	进行简单的医疗护理（例如使用喂食管、更换敷料）
8	Medication management, including injections	协助药物治疗，包括注射，例如按时服药
9	First aid and management of emergency e.g. CPR training	急救和紧急救护培训，例如 CPR 培训
10	Others, please specify: 其它，请注明: _____	
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

END OF SECTION 19. GO TO SECTION 20.

20. ELDERLY HEALTH (FOR RESPONDENT AGED 55 AND ABOVE)

IF respondent is <u>below 55 years of age</u>, go to Section 21.

IF respondent is <u>aged 55 and above</u>, go to Q20000.

Interviewer: Now, I would like to ask you some questions about your functional mobility, personal care, eye sight, hearing and communication.
现在，我想问您关于您行动能力、个人护理、视力、听力及沟通能力的问题。

USE SHOWCARD					
	(1) Only with someone to help 需要其他人帮忙	**(2)** With some difficulty 有些困难	**(3)** Without difficulty 完全没有困难	**(777)** Refused 拒绝回答	**(888)** Don't know / Not sure 不知道 / 不肯定
<u>Locomotion 行动能力</u> 20000. Can you walk or move from one place to another independently, including with the use of a walking aid or wheelchair? **[SA]** 您是否能自己步行（包括使用助行器）或自立行驶到达不同的场所（包括使用轮椅）？					
<u>Personal care 个人护理</u> 20001. Can you get in and out of bed or a chair on your own? **[SA]** 您是否能自己上下床或从坐着的椅子上站起来？					
20002. Can you dress and undress yourself on your own? **[SA]** 您是否能自己穿或脱衣服？					
20003. Can you shower on your own? **[SA]** 您是否能自己洗澡？					
20004. Can you feed yourself, including cutting up food? **[SA]** 您是否能自己用餐，包括切割食物？					
20005. Can you get to and use the toilet on your own? **[SA]** 您是否能自己上洗手间？					

Seeing 视力

20006. Can you see well enough to recognise a friend at a distance of four meters (across a road)? If no, can you see well enough to recognize a friend at a distance of one meter (at arm's length)? **[SA]**
您能在四公尺外辨认出您的朋友（如马路对面）吗？ 若不行，那在一公尺外（手臂的长度）能辨认出您的朋友吗？

READ		
1	Can recognise a friend at four meters (across a road)	在四公尺外（马路对面）能 辨认出朋友
2	Can recognise a friend at one meter (at arm's length) but not at four meters (across a road)	能在一公尺外（手臂的长度）辨认出朋友却不能 在四公尺外（马路对面
3	Cannot recognise a friend at one meter (at arm's length)	不能在一公尺外（手臂的长度）辨认出朋友
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

Hearing 听力

20007. Is your hearing good enough to follow a TV programme at a volume others find acceptable? If not, can you follow a TV programme with the volume turned up? **[SA]**
您观赏电视节目的音量是否能让其他人接受？若不能，您或者需要调高声量?

READ		
1	Can follow a TV programme at normal volume	能接受跟常人一样的声量
2	Can follow a TV programme with volume turned up	需要调高声量
3	Cannot follow a TV programme with volume turned up	调高声量还是听不清楚
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

Care Services

20008. Which of the following care services have you heard of … ? **[MA]**
您听说过以下哪种看护服务…?

USE SHOWCARD		
1	Home Medical, Home Nursing and/or Home Therapy services *(E.g. minor medical procedures, wound dressing, changing of nasogastric tubes provided at home)*	居家医疗、居家护理和/或居家治疗服务 (例如在家中提供的小型医疗程序，伤口敷料，更换鼻胃管)
2	Home Personal Care *(E.g. assistance with showering, housekeeping, medication reminders, mind-stimulating activities and other personal care tasks at home)*	居家个人看护 （例如协助沐浴，家政，药物提醒，精神刺激活动和家中的其他个人护理任务）
3	Day Care and/or Dementia Day Care *(E.g. Custodial day care for seniors)*	日间护理和/或失智症日间看护 (例如老年人的监护日托)
4	Community Rehabilitation *(E.g. physiotherapy or occupational therapy at a centre)*	社区康复 （例如中心里的物理治疗或职业疗法）
5	Medical Escort and Transport *(E.g. Escort and transportation to medical appointments for seniors unable to attend on their own)*	医疗护送 （例如接送需要帮助的老人去医疗复诊）
6	Meals-on-Wheels *(E.g. Daily meal delivery programme for homebound elderly who are unable to prepare meals)*	送餐服务 （例如每日为每日无法准备饭菜而无法出门的老人送餐）
7	Nursing Home Respite Care/Centre-based Respite Care *(E.g. Short-term care of a few hours or days at eldercare centres or nursing homes)*	疗养院短暂看护/中心短暂看护 (例如在老人护理中心或疗养院进行短短几小时或几天的护理)
8	Nursing Home *(Long term residential care service)*	疗养院 （例如长期住宿护理服务）
9	Home, Day and Inpatient Palliative/Hospice Care *(E.g. Medical, nursing and psychosocial care for end-of-life patients)*	慈怀居家、日间和住院护理 （例如为临终病人提供医疗，护理和社会心理护理）
10	None of the above	以上都没有
DO NOT READ		
777	Refused	拒绝回答
888	Don't know / Not sure	不知道 / 不肯定

For those care services selected in Q20010, go to Q20011.

20009. Which of the following care services have you used in the past one year? **[MA]**
在过去的一年里，您使用过以下哪项护理服务？

USE SHOWCARD		
1	Home Medical, Home Nursing and/or Home Therapy services *(E.g. minor medical procedures, wound dressing, changing of nasogastric tubes provided at home)*	居家医疗、居家护理和/或居家治疗服务 （例如在家中提供的小型医疗程序，伤口敷料，更换鼻胃管）
2	Home Personal Care *(E.g. assistance with showering, housekeeping, medication reminders, mind-stimulating activities and other personal care tasks at home)*	居家个人看护 （例如协助沐浴，家政，药物提醒，精神刺激的活动和家中的其他个人护理任务）
3	Day Care and/or Dementia Day Care *(E.g. Custodial day care for seniors)*	日间护理和/或失智症日间看护 （例如老年人的监护日托）
4	Community Rehabilitation *(E.g. physiotherapy or occupational therapy at a centre)*	社区康复 （例如中心里的物理治疗或职业疗法）
5	Medical Escort and Transport *(E.g. Escort and transportation to medical appointments for seniors unable to attend on their own)*	医疗护送 （例如接送需要帮助的老人去医疗复诊）
6	Meals-on-Wheels *(E.g. Daily meal delivery programme for homebound elderly who are unable to prepare meals)*	送餐服务 （例如每日为无法准备饭菜而无法出门的老人送餐）
7	Nursing Home Respite Care/Centre-based Respite Care *(E.g. Short-term care of a few hours or days at eldercare centres or nursing homes)*	疗养院短暂看护/中心短暂看护 （例如在老人护理中心或疗养院进行短短几小时或几天的护理）
8	Nursing Home **[SA]** *(Long term residential care service)*	疗养院 （例如长期住宿护理服务）
9	Home, Day and Inpatient Palliative/Hospice Care **[SA]** *(E.g. Medical, nursing and psychosocial care for end-of-life patients)*	慈怀居家、日间和住院护理 （例如为临终病人提供医疗，护理和社会心理护理）
10	None of the above	以上都没有
DO NOT READ		
777	Refused	拒绝回答
888	Don’t know / Not sure	不知道 / 不肯定

END OF SECTION 20.

Annex B

Project Team

Survey Planning, Preparation, Fieldwork & Survey Report	Survey Report (Writers)
MOH Dr Derrick Heng Dr Lyn James Dr Chow Wai Leng Dr Stefan Ma Irene Soh Lee Chee Min HPB Dr Annie Ling Dr Foo Ling Li Daniel Lin Angela Koh Karthikayen Jayasundar	MOH Irene Soh (Editor) Lee Chee Min Lily Chua Ai Vee Dr Loh Tze Ping HPB Angela Koh Karthikayen Jayasundar Zheng Huili