The Cook Islands Non-communicable Diseases Risk Factors STEPS Report 2022

TE MARAE ORA
COOK ISLANDS Ministry of Health

World Health Organization
South Pacific

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We thank the survey population for participating in the STEPS survey.

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Community and Stakeholder Support
We extend our gratitude to community leaders, local organizations, and stakeholders who facilitated the survey and supported the project.

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List of Abbreviations

BMI	Body Mass Index
BP	Blood Pressure
CHD	Coronary Heart Disease
CI	Confidence Interval
CVD	Cardiovascular Disease
DBP	Diastolic Blood Pressure
DM	Diabetes Mellitus
FBS	Fasting Blood Sugar
GDP	gross domestic product
GPAQ	Global Physical Activity Questionnaire
HTN	Hypertension
HQ	Headquarter
MET	Metabolic Equivalent
mg/dl	Milligrams per decilitre (unit of blood chemistry values)
mmHg	Millimetres of mercury (unit of blood pressure measurement)
mmol/L	Millimoles per litre (unit for blood chemistry values)
NCD	Non -communicable diseases
PA	Physical activity
SBP	Systolic Blood Pressure
TMO	Te Marae Ora Ministry of Health Cook Islands
WHO	World Health Organization

Foreword Minister of Health Cook Islands

The alarming rise of non-communicable diseases (NCDs) is the leading cause of death globally. In the Cook Islands NCDs continue to impact on the social and economic structures of Cook Islands society and affect our kopu tangata and their livelihoods.

The first Cook Islands NCD STEPwise approach to Surveillance of NCD Risk Factors (STEPS) survey was undertaken in 2003 -2004; and the second NCD STEPs survey undertaken in 2013 -2015. The third STEPS survey was undertaken in 2022 and the findings of the survey is the subject of this report. This report provides us an opportunity to reassess the prevalence of NCDs and its risk factors in the Cook Islands over two decades. While there are some positive trends noted in this report there also continues to be many challenges.

On the positive side the lifetime abstainers from tobacco and alcohol consumption remains steady over the 20-year period. The 2022 survey shows that 50% of the survey population are lifetime abstainers from smoking; and there is a slight increase of lifetime abstainers of alcohol from the previous 2013 -2015 survey. Further, the daily consumption of fruit and vegetables has improved although there continues to be low levels of fruit and vegetable servings as per the WHO recommended five servings per day. Physical activity levels remain constant.

Of note, is the inclusion of baseline data for cervical and oral health screening. Approximately two thirds 61.2% of women have been tested for cervical cancer. Over three quarters of both sexes 77.4% have 20 or more natural teeth with a higher percentage in the younger (18-44) group - 85.5%. Having 20 or more natural teeth is positive in terms of oral health.

Of concern is the significant increases in the mean waist circumference for men and women; increase in mean BMI (32.8 kg/m2 →34.5 kg/m2) and prevalence of obesity (61.4% →72.2%); and the prevalence of raised blood pressure since the last survey.

It is therefore vital that TMO continues to provide leadership to strengthen multisectoral strategies to control and reduce the prevalence of NCDs and its impact on the health of Cook Islanders. In order to address the urgent growing challenges effectively and efficiently, we must have accurate information regarding the risk factors that contribute to the development of NCDs. More importantly we must use the STEPS information to implement effective intervention strategies; and to mobilise resources to control and reduce the impact of NCDs in the Cook Islands.

I would like to express my sincere appreciation and gratitude to the many dedicated staff of TMO who have worked very hard in planning and carrying out the data collection phase of the survey. I thank and acknowledge the WHO for the monetary contribution and technical support they have given over the years to support TMO to undertake the STEPS survey.

Let us use the findings and recommendations in the reports to strengthen our efforts in working together to prevent and control NCDs and improving the health of all Cook Islanders, achieving our vision of *All Cook Islanders living healthier lives and achieving their aspirations*.

Kia Orana e Kia Manuia

Honourable Vainetutai Rose Toki-Brown

Foreword World Health Organization

The WHO has been pleased to collaborate with TMO in undertaking this third STEPS survey. This report summarizes the findings of the Cook Islands' third STEPS survey (conducted in 2022) and provides a summary of trends to the previous surveys (2003 - 2004 and 2013 - 2015).

The Global Status Report on Noncommunicable Diseases (2014) from WHO has again highlighted the considerable human, social, and economic consequences of NCDs worldwide. The consequences of NCDs are felt by all countries but are particularly devastating in poor and vulnerable populations. NCDs act as key barriers to poverty alleviation and sustainable development, reaching the NCD targets is therefore vital for attaining the sustainable development goals. The Pacific Islands are no exception to this global phenomenon, the people of the Pacific Island region have some of the highest rates of NCDs. NCDs are the leading cause of death in the Pacific region accounting for 60 to 75% of mortalities.

To combat the NCD crisis, the World Health Assembly adopted a comprehensive global monitoring framework in 2013, with nine targets and 25 indicators. The STEPS report can provide information for six of these nine targets.

The current statistics still show that Cook Islanders continue to be at high risk of developing an NCD, with 99% of all Cook Islanders having more than one of the key risk factors surveyed (daily smoking, inadequate fruit and vegetable consumption, low level of physical activity, overweight/obesity, and raised blood pressure). More than half of Cook Islanders are at a high risk of developing an NCD, resulting from having three or more of these risk factors combined. This emphasises the need for continued focus on both prevention and management of NCDs.

Regular surveillance of NCDs is critical to monitoring trends and guiding public health interventions and policymaking. WHO anticipates that the Cook Islands will use the results of this survey to inform their health policies and development of programmes. It is important to analyze the current findings of the 2022 STEPs survey and compare it with the trends of previous surveys as the Cook Islands makes decisions that affect the health of their people.

WHO looks forward to supporting TMO to implement the recommendations outlined in response to the STEPs survey results.

Meitaki

Dr Kim Eva Dickson
Head of WHO Country Office for Samoa, American Samoa, Cook Islands, Niue and Tokelau

Executive Summary

The first NCD STEPS survey was conducted by TMO from 2003 to 2004, followed by the second survey from 2013 to 2015. The third survey, which is the subject of this report, was undertaken in 2022.

Demographics of the sample

The survey population was predominantly Cook Islands Māori, accounting for 89.8%. The average of 12.5 years of education suggests that many participants had completed secondary school, with some holding tertiary qualifications.

Using the enumerated population from the Cook Islands Census of Population and Dwellings conducted on 1 December 2021 the Cook Islands Statistics Office in collaboration with Stats NZ Tatauranga Aotearoa compiled the representative population sample for the STEPs survey. The targeted population sample of 2,002 aged 18 to 69 years, was listed in the first quarter of 2022. The overall response rate was 71.8%, with 1,438 participants.

The sex and age distribution of the participants included 48.5% men and 51.5% women. In the 18-44 age group, a higher percentage of women (56.9%) than men (43.1%) participated, while in the 45-69 age group, more men (51.2%) than women (48.8%) took part. This distribution is consistent with the source population.

Risk factors

Summary of Findings: Cook Islands' Third STEPS Survey, 2022

This report presents the findings from the Cook Islands' third STEPS survey, conducted in 2022, and compares these results with the previous surveys conducted in 2013-2015 and 2003-2004, focusing on the age group of 25-64.

The key findings highlighted below represent the most significant changes observed across the past three surveys:

- **Tobacco Use** - The daily smoking of manufactured cigarettes has significantly reduced by 24.5% from the 2013-2015 survey to 2022.
- **Body Mass Index (BMI)** - The proportion of people with high BMI has incrementally increased across the three surveys, by 1.7% from 2004 to 2013-2015, and an additional 1.5% by 2022.
- **Blood Pressure** - Raised blood pressure has markedly increased by 18.9% from the last survey in 2013-2015 to 2022.

There appears to be some improvement in physical activity, indicating increased engagement compared to previous surveys. However, despite these gains, current statistics still indicate that Cook Islanders are at high risk for developing non-communicable diseases (NCDs), with 99.0% of all individuals possessing more than one of the key risk factors surveyed (daily smoking, inadequate fruit and vegetable consumption, low level of physical activity, overweight/obesity, and raised blood pressure). More than half of the population is at high risk of developing an NCD, a result of having three or more of these risk factors combined. This underscores the urgent need for continued focus on both prevention and management.

Regular surveillance of NCDs is critical to monitor the trends and guide public health interventions and policy- making.

Snapshot of Key Risk Factors: Overview from the Three STEPS Surveys

The table presented below outlines the key behavioral, physiological, and biochemical risk factors identified in the three STEPS surveys. Differences in sampling methodology between these surveys, particularly concerning age groups and sample populations, should be noted:

- 2003-2004 survey: 2,036 participants, 90% response rate
- 2013-2015 survey: 1,272 participants, 63% response rate
- 2022 survey: 1,438 participants, 71.8% response rate

It is important to highlight that the age range was expanded to 18-69 years in the 2013-2015 and 2022 surveys to encompass a broader demographic, differing from the earlier survey parameters.

This table does not aim to compare changes over time but rather provides a comprehensive overview of the prevailing risk factors from each survey period. This approach allows for a broad understanding of the health trends identified in the respective surveys without focusing on the specifics of age-related changes within each period.

The consistency of data collection methodologies within each distinct period allows us to identify pivotal health trends, despite the aforementioned changes in participant demographics over the years. It is crucial to interpret these findings with an understanding that the adjustments in age range and sampling sizes might influence the direct comparability of data across all three surveys.

Furthermore, these surveys collectively highlight the persistent prevalence and shifts in risk factors critical to public health strategies. For instance, while the overall trend in smoking rates has declined, issues such as increased body mass index (BMI) and sedentary lifestyles have surfaced as growing concerns. This underscores the need for ongoing public health efforts tailored to evolving demographic profiles and risk factor prevalence.

Thus, while direct comparisons are cautious, the overarching data provide invaluable insights into the health dynamics of the Cook Islands' population, serving as a fundamental resource for shaping future health policies and interventions aimed at mitigating risk and enhancing population health.

Behavioural risk factors:	**Participants self-reported**	
2003-2004 Survey Sample population: n=2036, Age range: 25-64	**2013-2015 Survey** Sample population: n=1272, Age range: 18-64	**2022 Survey** Sample population: n=1438, Age range: 18-69
Tobacco consumption		
Of the survey population: **1.** Over half did not smoke: ○ Men - 53.4% ○ Women - 58.9% ○ Both sexes - 56.1% **2.** Percentage of current smokers (defined as those who smoked in the last 12 months). The percentage of current smokers were: ○ Men - 46.6% with the highest proportion in the younger age group (25-34) at 53.8%	Of the survey population: **1.** Nearly half never smoked: ○ Men - 44.7% ○ Women - 54.2% ○ Both sexes - 49.6% **2.** Percentage of current smokers (defined as those who smoked in the last 12 months). The percentage of current smokers were: ○ Men - 37.9% with the highest proportion in the younger men age group (18-44) at 41.7%	Of the survey population: **1.** Nearly half never smoked: ○ Men - 45.7% ○ Women - 54.7% ○ Both sexes - 50.1% **2.** Percentage of current smokers (defined as those who smoked in the last 12 months). The percentage of current smokers were: ○ Men - 39.0% with the highest proportion in the younger age group (18-44) at 44.4%

○ Women - 41.1% with the highest proportion in the younger age group (25-34) at 49.8% ○ Both sexes - 43.9% **3.** Percentage of daily smokers within the current smoker group: ○ Men - 37.5%. The highest daily smoking in younger men aged 25-34 years at 41.7% ○ Women - 28.8%. The highest daily smoking in the youngest age group 25-34 years at 34.7% ○ Both sexes - 33.3% **4.** The mean age at which smoking started among current daily smokers was: ○ Men - 19.7 years ○ Women - 21.2 years ○ Both sexes - 20.3 years. **5.** Mean number of years of smoking among current daily smokers: ○ Men - 18.8 years ○ Women - 15.7 years **6.** Of the current daily smokers 62.3% smoked manufactured cigarettes.	○ Women - 27.7% with the highest proportion in the younger age group (18-44) at 29.4.4% ○ Both sexes - 32.6% **3.** Percentage of daily smokers within the current smoker group: ○ Men - 28.4%. The highest daily smoking in younger age group (18-44) at 30.0%. ○ Women - 20.6%. The highest daily smoking in the younger age group (18-44) at 20.9%. ○ Both sexes - 24.3% **4.** The mean age at which smoking started among current daily smokers was: ○ Men - 18.7 years ○ Women -19.3 years ○ Both sexes - 20.3 years. **5.** Mean number of years of smoking among current daily smokers: ○ Men - 20.2 years ○ Women - 16.6 years **6.** Of the current daily smokers 89.0% smoked manufactured cigarettes.	○ Women -29.9% with the highest proportion in the younger age group (18-44) at 31.6% ○ Both sexes: 34.5% **3.** Percentage of daily smokers within the current smoker group: ○ Men - 28.2%. The highest daily smoking in younger age group (18-44) at 31.4% ○ Women - 23.2%. The highest daily smoking in the younger age group (18-44) at 24.6%. ○ Both sexes - 25.8% **4.** The mean age at which smoking started among current daily smokers was: ○ Men - 17.8 years ○ Women - 18.0 years ○ Both sexes - 17.9 years. **5.** Mean number of years of smoking among current daily smokers: ○ Men - 20.9 years ○ Women - 22.9 years **6.** Of the current daily smokers 65.5% smoked manufactured cigarettes.
	The survey's results highlight a high prevalence of smoking among the younger age group, particularly in men. The data also shows a significant portion of the population has never smoked, with more women than men in this category. The trends in smoking behavior and preferences, such as the choice of manufactured cigarettes, provide valuable insights for public health strategies.	
Alcohol consumption Note: The definition of current drinkers differs between the 2003-2004 and 2013-2015 and 2022 surveys		
Of the survey population: **1.** The percentage of lifetime abstainers: ○ Men - 17.9% ○ Women - 36.3% ○ Both sexes - 26.8%. **2.** Current drinkers are defined as drinking alcohol in the past 12 months. The percentage of current drinkers were: ○ Men - 74.4% ○ Women - 50.6% ○ Both sexes - 62.9%. **3.** The highest proportion of current drinkers occurred in the 25 - 34 years age group: ○ Men - 81.4% ○ Women - 60.1%.	Of the survey population: **1.** The percentage of lifetime abstainers: ○ Men - 19.4% ○ Women - 27.2% ○ Both sexes - 23.4% **2.** Current alcohol drinkers are defined as drinking alcohol in the last 30 days. The percentage of current drinkers were: ○ Men - 56.8% ○ Women - 36.9% ○ Both sexes - 46.2%. **3.** The highest proportion of current drinkers occurred in the 18 - 44 years age group: ○ Men - 60.0% ○ Women - 39.9%.	Of the survey population: **1.** The percentage of lifetime abstainers: ○ Men - 22.4% ○ Women- 29.0% ○ Both sexes - 25.6%. **2.** Current alcohol drinkers are defined as drinking alcohol in the last 30 days. The percentage of current drinkers were: ○ Men - 57.1% ○ Women - 42.1% ○ Both sexes - 49.8% **3.** The highest proportion of current drinkers occurred in the 18-44 years age group: ○ Men - 62.3% ○ Women - 46.8%.

4. On a single drinking occasion on any day in the past 7 days: ○ Men: 74.7% drank 5+ standard drinks. The highest proportion was in the 25-34 years age group. ○ Women - 51.6% drank 4+ drinks, **5.** Among current drinkers: 89.3% of men and 70.7% of women reported drinking 6+ drinks on a drinking day. Men drink an average of 11.7 standard drinks while women drink 6.2 standard drinks on a drinking day.	**4.** On a single drinking occasion on any day in the past 7 days: ○ Men consumed on average 9.5 standard drinks ○ Women consumed on average 6.3 standard drinks. Young men in the 18-44 age group consumed the highest number of standard drinks at 10.1 per occasion. Their consumption was significantly higher than that of younger and older women. **5.** Heavy episodic drinking among current drinkers - 52.1% of men and 31.5% of women reported drinking 5+ drinks on a single occasion.	**4.** On a single drinking occasion on any day in the past 7 days: ○ Men consumed on average 9.0 standard drinks ○ Women consumed on average 6.2 standard drinks. Young men in the age group 18-44 consumed the highest number of standard drinks at 9.3 per occasion. Their consumption was significantly higher than that of younger and older women. **5.** Heavy episodic among current drinkers - 44.7% of men and 27.6% of women reported drinking 6+ drinks on single occasion.
	The survey data on alcohol consumption reveals that overall, the data highlights gender and age differences in alcohol consumption patterns, with men, especially younger men, showing higher rates of drinking and heavier consumption per drinking occasion.	
Fruit and vegetable consumption		
1. The mean number of days in a typical week for fruit and vegetables consumption shows: Fruit days ○ Men - 3.4 ○ Women - 4.0 ○ Both sexes - 3.7 Vegetable days ○ Men - 3.7 ○ Women - 4.2 ○ Both sexes - 4.0 When fruit and vegetables were consumed on those days, the mean number of combined fruit and vegetable servings was 3.0 standard servings. Overall, 81.8% of the survey population consumed less than the WHO recommended level of five servings of fruit and/or vegetables per day. **2.** A higher proportion of men than women generally consumed less than five combined servings of fruit and vegetables: ○ Men - 83.5% ○ Women - 79.9%.	**1.** The mean number of days in a typical week for fruit and vegetables consumption shows: Fruit days ○ Men - 3.4 ○ Women - 4.3 ○ Both sexes - 3.8 Vegetable days: ○ Men - 3.4 ○ Women - 3.9 ○ Both sexes - 3.7 When fruit and vegetables were consumed on those days, the mean number of combined fruit and vegetable servings was 2.8 standard servings. Overall, 85.4% of the survey population consumed less than the WHO recommended level of five servings of fruit and/or vegetables per day. **2.** A higher proportion of men than women generally consumed less than five combined servings of fruit and vegetables. ○ Men - 88.9% ○ Women - 82.1%.	1. The mean number of days in a typical week for fruit and vegetables consumption shows overall slight increases: Fruit days ○ Men - 3.8 ○ Women - 4.0 ○ Both sexes - 3.9 Vegetable days ○ Men - 4.8 ○ Women - 5.0 ○ Both sexes - 4.9 When fruit and vegetables were consumed on those days, the mean number of combined fruit and vegetable servings was 2.9 standard servings. Overall, 84.7% of the survey population consumed less than the WHO recommended level of five servings of fruit and/or vegetables per day. 2. A higher proportion of men than women generally consumed less than five combined servings of fruit and vegetables ○ Men - 85.5% ○ Women - 83.9%.
	The survey on fruit and vegetable consumption reveals that a significant portion of the population, over 80% in all cases, consumes less than the WHO-recommended five servings per day, with a marginally higher proportion of men falling short of this recommendation compared to women.	

Salt consumption		
	1. More than one third - 36.4% of the survey population always or often added salt to food before or while eating **2.** Almost half of participants - 48.8% added salt to their food when cooking or preparing foods at home.	1. More than one third - 39.0% of the survey population always or often added salt to food before or while eating 2. Over half of participants -59.0% added salt to their food when cooking or preparing foods at home 3. A significant majority, 68.1%, think lowering salt intake is very important.
	The survey on salt consumption reveals that a significant portion of the population regularly adds salt to their food, either before or while eating and even more so during cooking or food preparation. Additionally, a substantial majority recognise the importance of reducing salt intake, indicating a general awareness of the health implications associated with high salt consumption.	
Physical activity		
1. Approximately 75.3% of the survey population engaged in low levels of physical activity, defined as less than 600 MET minutes per week (less than 5 days of 30 minutes moderate-intensity) or (150 minutes per week) or less than 3 days of 20 minutes vigorous-intensity activity). **2.** Similar proportions of men and women engaged in low levels of physical activity: o Men - 74.4%, o Women - 76.3%. **3.** Conversely, a higher proportion of men - 14.1% reported high level of total physical activity (>1500 MET minutes per week or an equivalent of 3 days of 60 minutes of vigorous activity per week) compared to women - 9.6%, but this difference was not significant. **4.** Most PA was undertaken as part of work; leisure-time PA contributed very little to the total time spent doing PA.	**1.** Of the participants 77% met the recommended level of physical activity, with 85.4% of men and 69.9% of women in this category. ○ Men - 85.4% with the highest proportion in the younger men age group (18 - 44) at 87.2% ○ Women - 69.9% with the highest proportion in the younger female age group (18 - 44) at 72.0%. **2.** Lower levels of physical activity were reported by: ○ Men – 23.9% ○ Women- 39.7% ○ Both sexes - 31.7% **3.** Half of men's PA was work-related at 51.4% followed by recreation-related 35.9% activity. **4.** Women's physical activity was 38.5% recreation-related, 35.7% work-related activity.	**1.** Of the participants 22.6% are not meeting WHO recommendations on physical activity. This implies that overall, 77.4% of participants meet the recommended level of physical activity. **2.** Over two thirds of men- 64.9% had high levels of PA. The younger group (18-44 years) of men had the highest level of PA at 70.2. **3.** Women at 42.5% had levels of PA. The younger age group had the highest high level of PA (18-44 years) at 46.6%. **4.** Most PA was primarily undertaken as part of work with leisure-time physical activity secondary.
	The survey on physical activity reveals that a large portion of the population engages in low levels of physical activity, with similar rates among men and women. However, a notable percentage of the population does meet the WHO-recommended levels of physical activity, particularly among younger age groups. Most of the physical activity reported is work-related, rather than for leisure or recreation. This indicates a need for increased focus on encouraging more leisure-time physical activities to enhance overall health and well-being.	

Physiological risk factors

Physical Measures: Height, Weight, Waist, Body Mass Index, Blood Pressure

Men on average were taller 11.1cm and 10.0.kg heavier than women. **1.** The mean waist circumference for: ○ Men - 103.7cm which is slightly above102cm cut-off for men ○ Women - 100.0cm which is well above the 88cm cut-off point for women. **2.** The population was predominantly overweight (BMI ≥25.0 kg/m²): ○ Men - 89.8% ○ Women- 87.1% ○ Both sexes - 88.5%. **3.** A high prevalence of obesity (BMI ≥30 kg/m²) was observed: ○ Men - 57.4% ○ Women - 65.7%. ○ Both sexes - 61.4% The obesity prevalence was significantly higher amongst women **4.** Hypertension (defined as SBP ≥140 and/or DBP ≥ 90 mmHg or currently on medication for raised blood pressure) was identified in: ○ Men - 40.6% ○ Women - 25.5% ○ Both sexes -33.2%.	○ Men on average, were 10.8.cm taller, and 8.4.kg heavier than women. **1.** The mean waist circumference for: ○ Men - 105.5cm, which is above the 102cm cut-off ○ Women - 104.3cm, which is well above the 88cm cut-off point for women. **2.** The population was predominantly overweight (BMI ≥25.0 kg/m²): ○ Men - 33.6 kg/m2 ○ Women - 34.3 kg/m2 ○ Both sexes - 34.0 kg. **3.** A high prevalence of obesity (BMI ≥30 kg/m²) was observed: ○ Men - 68.7% were obese and 20.0% were overweight ○ Women - 70.7% were obese and 19.5% overweight. ○ Both sexes - 89.5% were either overweight or obese. **4.** Hypertension (defined as SBP ≥140 and/or DBP ≥ 90 mmHg or currently on medication for raised blood pressure) was identified in: ○ Men - 34.7% ○ Women - 23.2% ○ Both sexes - 28.5%.	○ Men, on average, were 10.4.cm taller, and 9.2.kg heavier than women. **1.** The mean waist circumference for: ○ Men - 112.5cm, which is well above the 102cm ○ Women - 109.9cm, which is again well above the 88cm cut-off point for women. **2.** The population was predominantly overweight (BMI ≥25.0 kg/m²): ○ Men - 35.4 kg/m2 ○ Women - 36.5 kg/m2 ○ Both sexes - 35.7 kg/m2. 3. A high prevalence of obesity (BMI ≥30 kg/m²) was observed: ○ well over two thirds - 75.0% of both sexes were obese; and 17.6% were overweight. **4.** Hypertension (defined as SBP ≥140 and/or DBP ≥ 90 mmHg or currently on medication for raised blood pressure) was identified in: ○ Men - 45.4% ○ Women - 41.8% ○ Both sexes - 44.3%.
	Men are generally taller and heavier than women. Both men and women have waist circumferences exceeding healthy thresholds. The majority of the population is overweight, with a higher prevalence of obesity, particularly among women. Obesity rates are alarmingly high, indicating a major public health issue. Hypertension is prevalent, affecting a significant portion of both sexes, with a higher rate in men.	

Biochemical risk factors

Blood glucose, cholesterol, and sodium

Note: The numbers tested were those that had met the fasting requirements for glucose and cholesterol. The sodium result is specific to the sample on Rarotonga and to the 2022 survey only. Just under two thirds of the sample population participated in STEP 3 with 34% assessed on blood glucose levels and 53.2% on total blood cholesterol.

1. Based on fasting sample the overall prevalence of diabetes (fasting glucose level ≥6.1 mmol/L) among participants aged 25-64 years was 23.6%. A slightly higher proportion was detected among: ○ Men - 26.1% ○ Women - 21.0%. **2.** Overall, 75.2% of the population had elevated total blood cholesterol level exceeding ≥5.0 mmol/L (or ≥190 mg/dl). The prevalence for: ○ Men - 77.1% ○ Women - 73.2%. (* Note that age group here is 25-64)	**1.** Based on the fasting sample, the proportion with raised blood glucose (defined as fasting raised blood glucose (plasma equivalent) ≥ 7.0 mmol/L (126 mg/dl)) or currently on medication for raised blood glucose was: ○ Men - 25.1% ○ Women - 22.3% ○ Both sexes - 23.5% **2.** The results for raised total blood cholesterol (≥ 5.0mmol/l) show that men and women had high blood cholesterol and were at high risk of developing coronary artery disease. ○ Men - 54.4% ○ Women - 40.5% and ○ Both sexes - 46.5%	**1.** Based on the fasting sample the proportion of the sample with raised blood glucose (defined as fasting raised blood glucose (plasma equivalent) ≥ 7.0 mmol/L (126 mg/dl)) or currently on medication for raised blood glucose was: ○ Men - 33.6% ○ Women - 34.8% ○ Both sexes - 34.0%. **2.** The results for raised total blood cholesterol (≥ 5.0mmol/l) show that: ○ Men had a higher level at 54.4% ○ Women at 51.1% ○ Both sexes had 53.2% raised blood cholesterol and were at high risk of developing coronary artery disease. **3.** Based on the urine sample (n=361) in Rarotonga the proportion of the sample show high sodium levels as per the WHO recommendation is less than 5 grams of salt or 2 grams of sodium per person per day: ○ Men - 13.2% ○ Women - 9.4% ○ Both sexes – 12.0%
	A significant proportion of the population has diabetes, overtime. Elevated blood cholesterol levels are widespread, affecting a significant of the population indicating a high risk of cardiovascular disease. A small percentage of the sample in Rarotonga showed high sodium levels, exceeding WHO recommendations, with a slightly higher rate in men. These findings underline the need for increased healthcare intervention and awareness regarding diabetes, cholesterol, and sodium intake.	

Combined Risk Factors

Note: Percentage of the survey population with 0, 1-2, or 3-5 of the following risk factors:

- Current daily smoking
- Less than five servings of fruit and/or vegetables per day
- Not meeting WHO recommendations on physical activity for health (<150 minutes of moderate activity per week, or equivalent)
- Overweight or obese (BMI ≥ 25 kg/m2)
- Raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP).

1. Of the survey population 23.1% at moderate risk and 76.6% at high risk. 2. By aged 25-44 years, the majority of Cook Islanders 75.1% already reported having 3 or more risk factors. By aged 45-64 years, 83.8% of men and 77.1% of women had 3-5 NCD risk factors.	1. Almost all 99.4% of the survey population had multiple risk factors: ○ 54.7% with 3 to 5 risk factors ○ 44.7% with 1 to 2 risk factors. Among men 57.3% had 3-5 risk factors and among women 52.1% had 3-5 risk factors. 2. Of all the participants aged 40-64, 2.1% (1.9% of men and 2.2% of women) were at a 30% or greater risk of developing cardiovascular disease in the next ten year	1. Almost all 98.7% had multiple risk factors: ○ 61.8% with 3 to 5 risk factors ○ 37.2% with 1 to 2 risk factors. Among men 62.3% had 3-5 risk factors and among women 60.5% had 3-5 risk factors. 2. In this study the sample consisted of individuals aged 45 to 69, 15.3% of participants (comprising 15.1% of males and 15.9% of females) were identified as having a risk of 20% or higher, or already diagnosed with cardiovascular disease (CVD), for developing cardiovascular disease within the next decade.

2022 Supplementary

Oral Health

- Over three quarters of men - 78.3% have 20 or more natural teeth with a higher percentage in the younger age group (18-44) - 87.0%
- Like their male counterparts over three quarters of women - 76.5% (95% CI= 73.0 -80.0 %) have 20 or more natural teeth with a higher percentage in the younger group (18-44) - 85.9%
- Over three quarters of both sexes - 77.4% have 20 or more natural teeth with a higher percentage in the younger (18-44) group - 85.5%. The number of natural teeth is a positive indicator for the state of oral health particularly in the older aged population (45-69years)
- Both sexes self-reported having lower and upper jaw dentures. Just over one third of both sexes – 39.5% have lower and upper jaw dentures with a higher percentage in the older group (45-69) - 46.4%.
- Women self-reported that they have removable dentures have higher percentage - 43.2% of upper and lower jaw dentures than men; and more women in the younger age group 18-44) than men have upper and lower jaw dentures
- Over one quarter -28.2% of all participants experienced oral pain or discomfort in the past 12 months. The highest percentage was among men in the older age group (45-69), although it does not differ significantly from women or younger men.
- 41.7% of all participants have seen a dentist in the past 12 months. More women across both age groups visit the dentist.

Cervical cancer

- Approximately two thirds 61.2% of women in the age group 18-69 have been tested for cervical cancer. More women in the older group have been tested than those in the younger group.
- Two thirds of women 67.0% of women in the age group 30-49 have been tested for cervical cancer.

Reflections on Changes Since Previous STEPS Surveys

The most recent data from the STEPS surveys (2003-2004, 2013-2015, and 2022) provide a nuanced picture of health trends in the Cook Islands, marked by both significant achievements and emerging challenges:

Positive	Challenges
A sustained reduction in smoking rates, with half of the survey population consistently abstaining from smoking throughout their lives.	Increases in mean waist circumference
Maintained the levels of reduction in current smokers from the high of 43.9% to 34.5%.	Significant increase in mean BMI (32.8 kg/m2 →34.5 kg/m2) and prevalence of obesity (61.4% →72.2%).
Steady levels of alcohol abstainers, with a slight increase observed in the recent survey.	Rises in the prevalence of raised blood pressure
Increased daily consumption of fruits and vegetables, demonstrating improved dietary choices.	Rises in the prevalence of raised blood glucose.
Maintained increases in high levels of physical activity levels from the 2013-2015 survey to the 2022 survey	No significant reduction in prevalence of raised blood cholesterol from the 2013-2015 survey.
The establishment of a baseline for oral health screening.	High levels of 3-5 risk factors, particularly increasing among women, underline the persistent threat of non-communicable diseases (NCDs).
A notable 77.4% of the population maintaining 20 or more natural teeth—a positive sign of oral health in the community	Significant increase in Category III drinkers for men and women.
Establishment of a baseline for cervical screening.	High sodium levels well above WHO recommendations.

The behavioural, physiological, and biochemical risk factor measurements indicate the continued significant presence of NCD risk factors in Cook Islands among both sexes. The Cook Islands STEPS Survey 2022 has re-affirmed that NCDs continue to pose a major threat to public health.

While the national NDC strategy has multisectoral approach it requires consistent strengthening across all public and private sector agencies to address cross-sectoral contributing factors, such as: the availability of fruit and vegetables for daily consumption; the licensing and regulation of products that impact adversely on health status and health education campaigns on the outcomes of high-risk behaviors, particularly among young people, who may yet have the potential to avoid NCDs.

Conclusion

While we celebrate the successes achieved, the STEPS survey results reiterate the need for continued vigilance and proactive interventions. Only through comprehensive and collaborative efforts can we mitigate the impact of NCDs and improve the health landscape of the Cook Islands.

Recommendations

1. **Strengthen Health Promotion Programs:**
   - Develop a comprehensive strategy that includes:
     - **Salt Reduction** - Formulate a plan to reduce salt consumption within the population.
     - **Sugar Reduction -** Outline steps to lower sugar intake, particularly in processed foods.
     - **Healthy Eating Campaigns -** Promote healthy eating with an emphasis on planting and consuming locally grown produce.

2. **Strengthen Regulatory Frameworks:**
   - Strengthen legal frameworks and regulatory mechanisms for controlling the availability and promotion of harmful substances, including:
     - **Alcohol**
     - **Tobacco** - Expand to cover electronic nicotine delivery systems and electronic non-nicotine delivery systems.
   - Ensure these frameworks are supported with adequate resources and training.

3. **Initiate Targeted Health Campaigns:**
   - Launch an evidence based NCD risk factor reduction campaign focused on addressing the major modifiable risk factors such as physical inactivity, unhealthy diet, tobacco use, and harmful use of alcohol.

4. **Develop Plans for Long-Term Surveillance:**
   - Develop a five-year plan to map out the surveillance surveys that the Ministry of Health (TMO) would undertake. This plan should be designed to determine the effectiveness, or otherwise, of NCD prevention and control measures implemented.

5. **Investigate and Enhance Existing Health Programs:**
   - Investigate other health initiatives that could be introduced or explore ways to add value to current initiatives to better combat NCDs.

Introduction

Country context: People and place

The Cook Islands is located in the middle of the South Pacific between Tonga to the west and the Society Islands to the east and comprises 15 islands (13 inhabited and two uninhabited islands) that are spread over 850,000 square miles (2.2 million square kilometres). The 15 islands are geographically divided into two groups, commonly referred to as the northern and southern group islands or the Pa Enua (outer islands). The northern group are Manihiki, Rakahanga, Pukapuka, Nassau, Penrhyn and Suwarrow, while Aitutaki, Atiu, Mitiaro, Mauke, Palmerston, Takutea, Manuae and the main island of Rarotonga comprise the southern Cook Islands. Avarua is the nation's capital and is located on the main island of Rarotonga (Government of the Cook Islands 2022).

The total population of the Cook Islands, enumerated on 1 December 2021, was 15,040 people: 7,392 men and 7,648 women (this number included all persons present at census night in the Cook Islands). The 2021 Census count records a decrease of 2,394 people since the 2016 Census (17,434). The decrease was predictable due to the effect of the Coronavirus pandemic (COVID-19). Many chose to seek employment overseas; and migrant workers who worked in the tourism industry lost their jobs and returned to their countries of origin.

Over 70% (10,898) of the total population live on Rarotonga, 20.2% (3,040) in the southern group islands and 7.3% (1,102) in the northern group islands. In terms of population density Pukapuka is densely populated, from 342 people per kilometre square in 2016 to 351 in 2021. While there were about 351 people per km² in Pukapuka, only 9 people per km² inhabited Mangaia Island which is the second largest island in the Cook Islands. The population density of Rarotonga was 162 people per square kilometre compared to 194 in 2016.

The Cook Islands Māori population remains the largest ethnic group at 77% (n=11,603), a slight decrease from 78% in 2016 and 81% 2011. The non-Cook Island Māori population accounts for 14% of the population (Government of the Cook Islands 2022).

Government

The Cook Islands is a self-governing nation in free association with New Zealand since 1965. The government is an independent parliamentary democracy consisting of 24 elected members, with a separate House of Ariki made up of 24 members that advise the government on various issues (Government of the Cook Islands 2022).

Economy

The Cook Islands is a small, open economy whose economic growth is heavily reliant on the export of services to several key partner countries - New Zealand, Australia and the United States of America in particular. The tourism industry dominates, with the tertiary or services sector accounting for three quarters of the total economy in 2019 to 2020. The two largest tertiary industries, trade and accommodation services, accounted for nearly a quarter of total economic output. New Zealand remains the Cook Islands primary trading partner.

In January 2020, there were 8,056 people in the Cook Islands labour force. About 69% are engaged in the private sector (employees and self-employed or sole proprietors), with 26% in the public sector (Government of the Cook Islands 2021).

Health Systems

Te Marae Ora is the main provider of healthcare in Cook Islands and has a regulatory function through various legislation. Te Marae Ora provides health services to the population through its five directorates - Hospital

Health Services, Public Health, Oral Health, Primary Healthcare and Funding and Planning. There are 300 plus staff that work at TMO at any given time (TMO, 2020).

Health services range from public health (inclusive of primary care) to secondary care. Overall, TMO is relatively well equipped to provide basic primary and secondary level care and able to deliver an adequate range of general clinical services in the core areas of surgery, medicine, anesthesia, obstetrics, gynecology, ophthalmology and pediatrics. These services are supplemented by visiting specialist teams from New Zealand and access to tertiary services is through referral to overseas health providers. There are a small number of private health providers.

The main health facilities are in Rarotonga and include Rarotonga Hospital with 100 beds (provides health specialist visits and organising overseas referrals), Aitutaki Hospital with 44 beds (provides the basic primary health care services), Tupapa primary healthcare facility in Tupapa, one main oral health clinic in Tupapa. In each of the Pa Enua islands are small health clinics which are run by public health nurses on rotation from the Rarotonga (TMO 2020).

Health Status

The rising burden of NCDs impacts on the health and development of the Cook Islands people. Non-communicable diseases include cardiovascular conditions such as heart disease and stroke, Type 2 diabetes, some cancers, and chronic respiratory conditions. Tobacco use, harmful alcohol consumption, unhealthy diets, physical inactivity, high blood pressure, high blood glucose levels, overweight or obesity, and high cholesterol levels are major modifiable risk factors for NCD. The leading cause for NCD deaths in the Cook Islands continues to be heart diseases followed by cancer and diabetes (National Health Bulletin 2018; National Health Bulletin 2019-2021).

There are approximately 5500 people diagnosed in the Cook Islands with an NCD, with the majority of cases living with comorbidities. Of this figure 51% are female; and 49% are male. This represents 59% of Cook Islands resident population (15-64 years). The 50-69 years age group remains the largest population for NCD's accounting for 45% of cases. Since 2020 more cases are being diagnosed in the <30 years age group raising concerns for the younger population (National Health Bulletin 2019-2021).

The WHO STEPwise Survey

As part of the regional and global effort to meet the growing burden of NCD epidemics, the WHO assists governments across the Pacific to implement the STEPwise approach to chronic disease risk factor surveillance. These risk factors have the greatest impact on NCD morbidity and mortality. Measurement of risk factors has been proven to be valid. Once risk factor levels are known, this information can be used to set up NCD interventions and programmes. The survey is also an opportunity for ongoing surveillance of risk factors for NCDs in the Cook Islands. The data from the survey will be used to inform strategic planning and mobilisation of resources by TMO and the Cook Islands government to control and reduce the impact of NCDs in the Cook Islands

This third report provides the opportunity to assess trends (with limitations) against the 2003 - 2004 and 2013 - 2015 survey to identify the extent of progress made against NCDs and NCD risk factors.

Aim and Objectives

The aim of the STEPS Surveillance of Risk Factors for Chronic NCDs is to investigate the prevalence of key NCDs and their associated risk factors.

The aim was achieved by the following objectives:

1. Recruitment of Research and Project team
2. Development of a project plan and its implementation
3. Reviewed standardised questionnaires
4. Recruitment of participants
5. Completion of the data collection to:
    - Document the prevalence and extent of key NCDs among adults aged 18-69
    - Document the prevalence and extent of major modifiable risk factors for NCDs, including smoking, alcohol consumption, poor eating patterns, physical inactivity, obesity, high blood pressure, raised blood glucose and cholesterol
    - Compare NCDs and their risk factors by age and sex groups.
6. Analysis of data
7. Report written and disseminated.

Project Personnel

The project personnel were made up of two teams as follows:

Research team
Dr Nuhisifa Williams (Principal investigator), Bob Williams, Nola Vanualailai, Dr Tereapii Uka, Dr Leanne Riley, Dr Yin Yin May, Dr Melanie Cowan, Dr Danny Areai, Kolisi Lomialagi Thelma Viki, Mirella Mairi, Professor Judith McCool, Associate Professor Vili Nosa, Dr Oliver Wilson and Lualua Tua

Project team
Rangi Tairi, Rufina Tutai, Tereapii Tumutoa, Karen Ngamata, Maina Tairi, Mataitirangi Tukana, Howard Tangimetua, Helen Maunga, Michaela Tangimetua and Grace Matenga. Note: A list of data collectors is in the Appendices.

There were up to 36 TMO data collectors (inclusive of team leads) who were spread across four teams in Rarotonga. Of that number 14 data collectors were assigned into the four Pa Enua teams based on their affiliations and ability to speak the dialect of the assigned island. The Pa Enua teams were supported by their TMO counterparts (n= 23) in the Pa Enua.

The data collectors were TMO staff from the following directorates: Public Health, Oral Health, Funding and Planning and Primary Healthcare. Each team had up to four public health/registered nurses and included staff who were Public Health Nurses, Health Protection Officers, Health Promotion Officers, Health Intelligence Officers, Health Information Systems Officers, Communications Officers and Policy advisors.

Methodology

The methodology for the STEPS survey was quantitative and followed a sequential three-step process as follows:

- Step 1: Questionnaire-based (face to face interview)
- Step 2: Physiological measures of blood pressure, height, weight, and waist circumference.
- Step 3: Biochemical measurements

This three-step process was modified in the data collection process in terms of the order.

Sample size and survey sampling methodology

A sample size of around 2002 was calculated, based on an expected 70% response rate. Overall, 1,438 individuals participated in the STEPS Survey, representing 71.8% of the total population of 14,974 people on census night. The response rate was an improvement on the 2013-2015 STEPs surveys relatively small response rate of 63.6%.

The sample population of 2002 participants were calculated using the standard parameters recommended by WHO global guidance for STEPS, expert guidance and recommendations from the Cook Islands Statistics Office and Stats NZ Tatauranga Aotearoa. The parameters are as follows:

- Level of Confidence - 1.96 (for 95% confidence interval)
- Baseline level of indicator = 0.50 (P (%)) with the Margin of Error 0.05 (i.e 5%)
- Design effect (Deff) = 1.0 (based on a Stratified simple random sample design)
- Expected response rate = 65% (based on previous STEPS response rate)
- Number of age/sex estimates - two age groups per gender (18-44 and 45-69 years)

Of the 12 inhabited islands of the Cook Islands, seven islands (Mitiaro, Mauke, Palmerston, Nassau, Rakahanga, and Penrhyn) were excluded from the sampling frame. A representative sample of islands in the northern and southern groups were selected primarily based on the population size of the target age group population; and accessibility and cost.

The population sample for the northern group was drawn from the islands of Pukapuka and Manihiki. In the southern group outside of the main island of Rarotonga the sample population was drawn from Aitutaki, Atiu, and Mangaia. Including Rarotonga, the final survey sample frame of the target population 18 to 69 years is 8704. The six islands included in the survey, accounts for about 94% of the target population based on the Census 2021 count. Based on the stratified simple random sample design, the sample of 2002 was allocated by Island proportional to population size. Rarotonga with a population sample of 1542, represents majority of the sample at 77%, southern Pa Enua at 386 represents 19.3% and northern Pa Enua at 74 accounts for 3.7%.

The population sample for Rarotonga was further broken down into three vakas (districts) and was allocated proportional to population size of each Vaka. This breakdown follows the data collection method and process TMO has planned. The Takitimu Vaka district was further broken down by the TMO research team into two sub districts for ease of data collection.

There were 700 participants who were randomly selected from the Rarotonga sample to undertake urine testing to determine sodium levels. Capacity at the Rarotonga Hospital laboratory to test urine samples

within a set timeframe; and transportation of urine sample from the Pa Enua to the Rarotonga Hospital laboratory in a timely manner prompted the decision to test a smaller sample from the Rarotonga only.

Ethics

An application for ethics approval for the research and a research permit to undertake research in the Cook Islands was lodged in April 2022 with the Cook Islands Research Ethics Committee and the Cook Islands Research Association respectively. Ethics approval and research permit was granted in June prior to the data collection phase in the Pa Enua.

Recruitment

The team leads allocated a set number of HHs to each data collector using the population sample household head (HH) listings that was provided by Statistics Cook Islands. The data collectors used their assigned lists to make the first contact by phone to identify a household participant. Once contact had been made the HH was asked if they were interested in being a part of the STEPS survey. If they are interested, they were informed of the aims of the study; and then asked to identify a participant (aged 18-69) in their household (randomised sample). The participant contact details were noted by the data collector. The HH was also asked about the number of people in the household in the age group and their gender. This information was noted by the data collector. A second call was then made to the identified participants to confirm their participation. Once confirmation received the participant was advised of the following:

- What the project was about?
- Date/time/venue for data collection
- Fasting instructions
- Transport arrangements for participant if required
- Home visit if required by the participant.

The initial phone calls were made two weeks prior to the data collection. Follow up reminders to participants also occurred during the data collection phase. There were a number of no shows, declines and people in the household over the age range.

Data collection process

The data collection phase in the Pa Enua commenced on the 13 to 17 June 2022 on two islands consecutively by two separate research teams – Mangaia and Aitutaki; Atiu on the 27 June to 1 July 2022; Pukapuka and Manihiki on the 4 to 9 July 2022; and Rarotonga from the 15 to 26 August 2022. In the Pa Enua survey staff recorded data using a paper-based questionnaire. Wifi and electricity unreliability in the Pa Enua prompted the decision to use paper-based questionnaires.

The hardcopy questionnaires were then checked on return to Rarotonga against signed consent forms and entered the tablets by the Project Manager and the Policy and Planning team at TMO on week of the 22 August 2022. The number of participants in the Pa Enua is as follows:

1. Aitutaki (n= 251)
2. Mangaia (n= 78)
3. Atiu (n= 56)
4. Manihiki (n= 33)
5. Pukapuka (n= 41)

The data collection phase commenced in Rarotonga from the 15 to 26 August. The venues were open from 6.30am to 4.00pm generally each day. The 6.30am start was to ensure that participants going to work would be able to attend; and to allow participants who were fasting to have their Biochemical measures completed early so they could have something to eat. Four data collection venues were set up in the three vakas:

- Teau o Tonga

- Puaikura
- Titikaveka
- Matavera

Each team were assigned two public health nurses to administer the Physiological measures of blood pressure (BP) and Biochemical measures. Two sets of equipment were assigned to each venue and numbered. Ten tablets per data collection team were assigned and numbered. The interviewer number was that of the tablet they were entering the data into. Tablets were charged throughout the day and interviewers used various tablets to enter data into. Urine bottles as required by the number listed for the vakas was assigned. Results were sent back the next day and filed as interviewers were unable to enter the data as there were issues in entering the data into the tablets. The urine data was uploaded later by the Project Manager and the TMO Policy and Planning team.

The venues were selected based on size of the venue and availability of WiFi. The stations were spaced out to minimise sound carry over during the interview phase. Screens for privacy were made available for physical measurements. Participants were advised earlier that the interviews would be carried out in the venues assigned and that anonymity was not guaranteed in the venues, but their information would be confidential. For those unable to attend a venue the data collector visited their homes.

Depending on participant sample size there were up to six interview stations for participants. This allowed less waiting time for participants who needed to work or attend to their household needs.

The physical layout of the survey stations and order of the steps once a participant enters the venue is noted below. On entry into the venue participants first visit the registration station, where survey staff:

- Gave out the participant information sheet and answered any questions that participants may have regarding the project
- Asked the participant to sign consent form
- Confirmed the fasting status of the participant
- Directed the participant to the appropriate station depending on their fasting status. If the participant had not fasted, they were able to continue to complete the physical measurement and interview. They were then encouraged to fast and return the next day to complete the bio-chemical measure
- Provided a urine bottle to selected participants to collect urine sample on Rarotonga and directed the participant towards a bathroom to produce a urine sample. The urine samples were stored in ice in marked chilly bins and taken to the Rarotonga Hospital Laboratory for analysis mid-morning and at the end of each day. The results were then picked up by the assigned data collector.

Step 2: Physiological measures

Survey staff conducted the physiological measures following the recommended STEPwise protocols. Height and weight were measured once using the Seca Leicester Height Measurement to the nearest whole centimeter and the Siltec PS500L to the nearest 0.1 kg, respectively. Participants were measured without shoes and wearing only light clothing. Waist circumference was measured once using the Figure Finder constant tension tape and recorded to the nearest 0.1 cm. The waist circumference of pregnant participants was not measured.

The OMRON M4 Digital Automatic Blood Pressure Monitor was used to measure resting blood pressure. Blood pressure was measured three times; the first reading followed by two more measurements taken in 2–3-minute intervals. The three readings of the blood pressure will be recorded, and the average of the second and third readings was used in the analysis.

Step 3: Biochemical measurements

The assessments of fasting blood glucose and fasting total cholesterol. Participants were asked to fast from 12:00am the previous night until 7:00am the following morning, when their blood samples were drawn using

the method of finger prick. Samples were tested for cholesterol using Accutrend plus (mg/dl) in the field, and for glucose using Codefree meters and displayed as plasma equivalent.

Participants invited to provide a urine sample on Rarotonga were given a urine bottle and directed towards a bathroom to produce a urine sample at the venue. The urine samples were stored in a chilly bin and taken to the Rarotonga Hospital Laboratory for analysis mid- morning and at the end of each day.

Step 1: Questionnaire-based (face to face interview)
Once the physical and biochemical measures were completed the participants then undertook a face-to-face interview with the assigned data collector. Questions were asked on demographics; smoking; alcohol; fruit and vegetable consumption; physical activity; oral health; salt use; history of chronic conditions and medications and where applicable cervical cancer. Participants could choose to answer or opt out of answering a module, or a question. There were three types of questionnaires that was used to collect data:

1. Core:
    - Socio-demographic info
    - Tobacco use, quit attempts, past use
    - Alcohol consumption
    - Fruit and vegetable consumption
    - Physical inactivity
    - History of high BP and diabetes
2. Expanded:
    - Cessation, smokeless tobacco use, exposure to smoking
    - Drinking with meals, past 7 days drinking
    - Meals outside a home
    - Sedentary behaviour
    - Treatment of high Blood Pressure (BP) and Diabetes
3. Optional:
    - Oral health
    - Cervical Cancer

Health advice and counseling was provided by nurses to participants when required. Participants who were identified as being at high risk of developing, or with advanced chronic conditions were referred to the Primary Healthcare in Tupapa for a follow-up clinical examination. This is standard TMO protocol.

Similar to other NCD STEPS surveys conducted in the Pacific region, the Cook Islands survey collected core information across all three steps. The NCD STEPS standardised survey methodology was followed. Differences between age groups or sexes are statistically significant if 95% Confidence Intervals (CI) did not overlap.

Data Management

Hand-held tablets were used to record data in Rarotonga as collected and then uploaded to the WHO server. Data on hardcopy questionnaires in the Pa Enua were uploaded to the tablets and then uploaded to the server. The hard copies were then shredded. The consent forms were filed away in a secure location and will be destroyed after six years as per ethics approval.

Data Analysis

Data analyses were conducted using the EpiInfo version 3.5.1. Analysis was undertaken by the Division of Pacific Technical Support (DPS) and verified by WHO Headquarters NCD surveillance team.

Results

The results presented below are supplemented by additional information in the Complete Data Book presented at Appendix 2.

STEP 1: Demographic and Behavioural risk factors

The overall response rates shows that more women than men responded overall.

Table 1: Response proportions

Age group (years)	Men			Women			Both sexes		
	Eligible	Responded		Eligible	Responded		Eligible	**Responded**	
	n	n	%	n	n	%	n	n	**%**
18-44	451	204	45.2	552	269	48.7	1003	698	69.6
45-69	513	494	96.3	486	471	96.9	999	740	74.1
18-69	**964**	**698**	**72.4**	**1038**	**740**	**71.3**	**2002**	**1438**	**71.8**

Characteristics of the Survey Population

The survey population was primarily Cook Islands Māori who made up 89.8% of the participants. Non-Cook Islands Māori made up 10.2%. This figure reflects the ethnic composition of the population in the Cook Islands.

Table 2: Ethnicity of the survey population

Age group (years)			
	n	**% Ethnic Cook Islands Māori**	**% Others**
18-44	473	85.4	14.6
45-69	965	92.0	8.0
18-69	**1438**	**89.8**	**10.2**

The survey population, aged between 18 and 69 years, was divided into two age groups:

- In the 18–44 age group, approximately 56.9% were women (n=269) and 43.1% were men.
- In the 45–69 age group, approximately 51.2% were men and 48.8% were women.

Table 3: Age distribution

Age group (years)	Men		Women		Both sexes	
	n	%	n	%	n	**%**
18-44	204	43.1	269	56.9	473	32.9
45-69	494	51.2	471	48.8	965	67.1
18-69	**698**	**48.5**	**740**	**51.5**	**1438**	**100**

Education

In terms of education Tables 4 -7 show that there were similar education levels between sexes and age groups. The very marginal longer education of younger females (12.7%) compared to younger males (12.3%) is evidence of the similarity.

The mean of 12.5% years of education indicates that many participants completed secondary school. A number of participants have tertiary qualifications. Marginal larger proportions of women completed secondary school (57.6%) compared to men (54.6%); and more men completed tertiary education at 26.6% (add vocational and university figures together) than women at 25.1%.

Table 4: Mean number of years of education

Age group (years)	Men		Women		Both sexes	
	n	Mean	n	Mean	n	**Mean**
18-44	197	12.7	265	13.2	462	13.0
45-69	469	12.1	450	12.4	919	12.2
18-69	**666**	**12.3**	**715**	**12.7**	**1381**	**12.5**

Table 5: Percentage of highest level of education completed for men

Age group (years)	Men							
	n	No formal schooling	Less than primary school	Primary school	Secondary school	Vocational Training	University	**Postgraduate degree**
18-44	203	0	0.5	12.8	52.7	8.4	21.2	4.4
45-69	491	0.6	0.8	12.8	55.4	8.1	17.3	4.9
18-69	**694**	**0.4**	**0.7**	**12.8**	**54.6**	**8.2**	**18.4**	**4.8**

Table 6: Percentage of highest level of education completed for women

Age group (years)	Women							
	n	No formal schooling	Less than primary school	Primary school	Secondary school	Vocational Training	University	**Postgraduate degree**
18-44	268	0	0.4	10.1	56.7	6.0	23.1	3.7
45-69	466	0.4	0.6	11.4	58.2	4.9	17.8	6.7
18-69	**734**	**0.3**	**0.5**	**10.9**	**57.6**	**5.3**	**19.8**	**5.6**

Table 7: Percentage of highest level of education for both sexes

Age group (years)	Both sexes							
	n	No formal schooling	Less than primary school	Primary school	Secondary school	Vocational Training	University	**Postgraduate degree**
18-44	471	0	0.4	11.3	55.0	7.0	22.3	4.0
45-69	957	0.5	0.7	12.1	56.7	6.6	17.6	5.7
18-69	**142**	**0.4**	**0.6**	**11.8**	**56.2**	**6.7**	**19.1**	**5.2**

Marital status

Tables 8 - 10 show the marital status of the survey population. Overall, 35.5% of the participants never married while 26.9% were married followed by 18.7% of couples who were separated; and 10.3% were in defacto relationships.

Table 8: Percentage of marital status by age group for men

Age group (years)	Men						
	n	Never married	Separated	Divorced	Widowed	Defacto	**Married**
18-44	122	49.2	10.7	0.8	1.6	0.0	**37.7**
45-69	188	27.7	30.3	4.8	8.5	10.1	**18.6**
18-69	**310**	**36.1**	**22.6**	**3.2**	**5.8**	**6.1**	**26.1**

Table 9: Percentage of marital status by age group for women

Age group (years)	Women						
	n	Never married	Separated	Divorced	Widowed	Defacto	**Married**
18-44	195	38.5	9.7	2.6	1.0	2.6	**45.6**
45-69	250	32.4	20.8	6.8	5.2	21.6	**13.2**
18-69	**445**	**35.1**	**16.0**	**4.9**	**3.4**	**13.3**	**27.4**

Table 10: Percentage of marital status by age group for both sexes

Age group (years)	Both sexes						
	n	Never married	Separated	Divorced	Widowed	Defacto	**Married**
18-44	317	42.6	10.1	1.9	1.3	1.6	42.6
45-69	438	30.4	24.9	5.9	6.6	16.7	15.5
18-69	**755**	**35.5**	**18.7**	**4.2**	**4.4**	**10.3**	**26.9**

Employment

The Cook Islands government is the main employer of the survey population as noted in tables 11 - 13 with 33.5% followed closely by non-government employment at 32.8%; and self-employment at 14.2%.

Table 11 presents the employment status of men, categorized by age group. The table includes three age groups: 18-44 years, 45-69 years, and an overall group spanning 18-69 years. For each age group, the table lists the number of individuals surveyed (denoted by 'n') and their employment distribution across four categories: government, non-government, self-employed, and unpaid.

In the 18-44 age group, out of 204 men surveyed, 39.2% are employed in government roles, 42.2% in non-government sectors, 11.8% are self-employed, and 6.9% are in unpaid work. For the 45-69 age group, which includes 183 men, the distribution shifts; 37.1% work in government, 27.2% in non-government, 18.1% are self-employed, and 17.6% are in unpaid work.

Looking at the broader age range of 18-69 years, which includes a total of 697 men, the data shows that 37.7% are in government employment, 31.6% in non-government, 16.2% are self-employed, and 14.5% fall into the unpaid category.

Table 11: Percentage of employment status by age group for men

Age group (years)	**Men**				
	n	Government	Non-government	Self-employed	**Unpaid**
18-44	204	39.2	42.2	11.8	**6.9**
45-69	183	37.1	27.2	18.1	**17.6**
18-69	**697**	**37.7**	**31.6**	**16.2**	**14.5**

Table 12 details the employment status of women, categorized by age group. This table organizes the data into three age categories: 18-44 years, 45-69 years, and a combined group of 18-69 years. For each group, the table displays the number of women surveyed (denoted as 'n') and their percentage distribution across four employment categories: government, non-government, self-employed, and unpaid.

In the 18-44 age group, which includes 267 surveyed women, 34.5% are employed in government roles, 43.1% in non-government sectors, 8.2% are self-employed, and 14.2% are in unpaid positions. For the older 45-69 age group, consisting of 467 women, the percentages show a different pattern: 26.6% work in government, 28.9% in non-government, 14.6% are self-employed, and 30.0% are engaged in unpaid work.

When examining the broader age range from 18-69 years, which encompasses 734 women, the overall distribution is as follows: 29.4% are in government employment, 34.1% in non-government positions, 12.3% are self-employed, and 24.3% are unpaid

Table 12: Percentage of employment status by age group for women

Age group (years)	**Women**				
	n	Government (%)	Non-government (%)	Self-employed (%)	**Unpaid** (%)
18-44	267	34.5	43.1	8.2	**14.2**
45-69	467	26.6	28.9	14.6	**30.0**
18-69	**734**	**29.4**	**34.1**	**12.3**	**24.3**

Table 13 provides an overview of the employment status across different age groups for both sexes combined. The data is segmented into three age categories: 18-44 years, 45-69 years, and an aggregate group of 18-69 years. Among the youngest group (18-44 years), a total of 471 individuals were surveyed, showing a high involvement in non-government sectors (42.7%) and the lowest in self-employment (9.8%). The middle age group (45-69 years), with 960 respondents, indicates a shift with increased self-employment (16.4%) and a notable rise in unpaid work (23.6%). Overall, for the age range 18-69 years, encompassing 1431 individuals, the employment figures balance out to 33.5% in government jobs, 32.8% in non-government, 14.2% self-employed, and 19.5% unpaid.

Table 13: Percentage of employment status by age group for both sexes

Age group (years)	**Both sexes**				
	n	Government	Non-government	Self-employed	**Unpaid**
18-44	471	36.5	42.7	9.8	**11.0**
45-69	960	32.0	28.0	16.4	**23.6**
18-69	**1431**	**33.5**	**32.8**	**14.2**	**19.5**

Tables 14-16 display the distribution of the survey population engaged in unpaid work (studying, performing home duties, and subsistence agriculture).

Table 14 provides a detailed look at the distribution of unpaid work and unemployment statuses among men, categorized into three age groups: 18-44 years, 45-69 years, and the combined group of 18-69 years. In the youngest age group (18-44 years), n= 14 men, there is a diverse range of statuses: 14.3% are students, 14.3% are homemakers, 57.1% are unemployed and able to work, and 7.1% are unemployed and not able to work, with no retirees. The middle age group (45-69 years), comprising 87 men, shows a high retirement rate at 77.0%, with smaller percentages in other categories. Overall, for the entire sample of 101 men aged 18-69 years, 66.3% are retired, 17.8% are unemployed and able to work, 5.0% are homemakers, 5.0% engage in non-paid work, 2.0% are students, and 4.0% are unemployed and unable to work.

Table 14: Percentage of unpaid work and unemployed by age group for men

Age group (years)	**Men**						
	n	Non-paid	Student	Homemaker	Retired	**Unemployed**	
						Able to work	**Not able to work**
18-44	14	7.1	14.3	14.3	0.0	57.1	**7.1**
45-69	87	11.5	3.4	3.4	77.0	11.5	**3.4**
18-69	**101**	**5.0**	**2.0**	**5.0**	**66.3**	**17.8**	**4.0**

Table 15 provides a breakdown of unpaid work and unemployment among women across age groups: 18-44 years, 45-69 years, and the overall group of 18-69 years. In the youngest group (18-44 years), women were 26.3% are homemakers, and 44.7% are unemployed but able to work. The older group (45-69 years), with 140 women, shows 56.4% are retired and 24.3% are homemakers. Overall, from 178 women, 24.7% are homemakers and 44.4% are retired, highlighting a significant proportion engaged in traditional unpaid roles.

Table 15: Percentage of unpaid work and unemployed by age group for women

Age group (years)	**Women**						
	n	Non-paid	Student	Homemaker	Retired	**Unemployed**	
						Able to work	**Not able to work**
18-44	38	10.5	10.5	26.3	0.0	44.7	**7.9**
45-69	140	4.3	0.0	24.3	56.4	12.1	**2.9**
18-69	**178**	**5.6**	**2.2**	**24.7**	**44.4**	**19.1**	**3.9**

Table 16 outlines the distribution of unpaid work and unemployment for both sexes combined, across three age categories: 18-44 years, 45-69 years, and a comprehensive group of 18-69 years. In the youngest group (18-44 years), with a total of 52 individuals participated, 23.1% are homemakers, and a substantial 48.1% are unemployed but able to work. Among the middle-aged group (45-69 years), which includes 227 individuals, 64.3% are retired and 16.3% serve as homemakers. Overall, from a pool of 279 individuals, 52.3% are retired, and 17.6% are homemakers, highlighting significant engagement in unpaid roles and retirement across the age spectrum.

Table 16: Percentage of unpaid work and unemployed by age group for both sexes by percentage

Age group (years)	**Both sexes**						
	n	Non-paid	Student	Homemaker	Retired	**Unemployed**	
						Able to work	**Not able to work**
18-44	52	9.6	11.5	23.1	0.0	48.1	**7.7**
45-69	227	4.4	0.0	16.3	64.3	11.9	**3.1**
18-69	**279**	**5.4**	**2.2**	**17.6**	**52.3**	**18.6**	**3.9**

Table 17 presents the mean annual per capita income based on estimated household earnings among 192 participants, calculated to be $10,181.79 New Zealand dollars. However, the very low response rate for this question poses a limitation on the reliability of these findings.

Table 17: Mean annual per capita income based on estimated household earnings

n	**% Quintile 1: Under $10,000**	**% Quintile 2: $10,000-$20,000**	**% Quintile 3: $20,000 -$30,000**	**% Quintile 4: $30,000 -$70,000**	**% Quintile 5: Over $70,000**
192	31	45	41	58	**17**
%	**16.1%**	**23.4%**	**21.4%**	**30.2%**	**8.9%**

Summary of the Demographics factors of the survey population

Summary of the survey population:

- **Response Rates**: Women were more responsive than men across all age groups, with the highest participation observed in the 45-69 age range.
- **Ethnicity:** The survey population was predominantly Cook Islands Māori, accounting for 89.8% of the participants. This reflects the ethnic composition of the Cook Islands, with Non-Cook Islands Māori making up the remaining 10.2%.
- **Age Distribution**:
    - Young Adults (18-44 years): Comprising 473 individuals, this group had a higher percentage of women (56.9%) compared to men (43.1%).
    - Older Adults (45-69 years): This group included 965 individuals, with a slightly higher representation of men (51.2%) compared to women (48.8%).
    - Overall (18-69 years): The total survey population was 1438, demonstrating a balanced gender distribution across the broader age range.
- **Geographic Coverage:** The survey was inclusive, covering both younger and older adults, providing a comprehensive overview of the age-related demographics within the Cook Islands.

Key Findings:

Demographic and Behavioral Factors: There was a higher participation rate among women, especially in the older age group (45-69 years).

Educational Attainment: Similar education levels were observed across sexes, with a marginal difference favoring younger women in terms of longer education.

Marital Status: Diverse marital statuses were recorded, with a notable percentage of the population having never married, and variations observed in rates of separation, divorce, and defacto relationships.

Employment Status: Government employment was the predominant sector for both men and women, followed by non-government and self-employed sectors. There was also a significant portion of the population engaged in unpaid work, such as homemaking and subsistence agriculture.

Implications and Uses:

The survey results provide crucial insights into the social, economic, and demographic status of the Cook Islands population.

The data can be used to inform policy decisions, develop targeted programs, and allocate resources effectively to meet the needs of the community.

Behavioural Risk Factors

Tobacco Use

Tobacco use was measured by asking participants if they currently smoked tobacco products. Participants were categorised into the following smoking status:

1. **Current smokers** – those who had smoked any tobacco products (such as cigarettes, cigars or rolled tobacco) in the past 12 months
2. **Daily smokers** – those current smokers who smoke any tobacco product every day
3. **Non-daily smokers** – those current smokers who do not smoke on a daily basis
4. **Former smoker** - those who have not smoked any tobacco products in the past 12 months
5. **Never smoked** - those who have never smoked any tobacco products.

Table 18 categorizes the smoking status of men into four categories—daily smokers, non-daily smokers, former smokers, and never smokers—across three age groups: 18-44, 45-69, and a combined category of 18-69 years. The data shows that 28.2% of men are daily smokers and 10.8% are non-daily smokers. Conversely, the percentage of former smokers increases in the older age group (22.6%), which could indicate more successful cessation efforts or a greater motivation to quit as age increases. The percentage of never smokers is higher in the older age group (51.2%), potentially reflecting generational shifts in attitudes towards smoking.

The non-daily smoking rates are significantly higher in the younger group (12.9%), which might indicate less commitment to regular smoking habits or an experimental phase with tobacco use.
Implications:

Of note is that nearly half of the male participants - 45.7% (95% CI= 40.1-51.4) have never smoked.

Table 18: Current smoking status among women by age group by percentage

Age group (years)	**Men**								
	n	Current smoker				**Non-smoker**			
		Daily %	95% CI	Non-daily %	95% CI	Former %	95% CI	Never %	**95% CI**
18-44	202	31.4	23.9-38.9	12.9	8.9-17.0	12.2	8.5-16.0	43.4	36.4-50.4
45-69	491	20.7	14.1-27.3	5.5	2.9-8.2	22.6	17.9-27.3	51.2	44.1-58.3
18-69	**693**	**28.2**	**22.0-34.5**	**10.8**	**7.3-14.2**	**15.3**	**12.3-18.3**	**45.7**	**40.1-51.4**

Table 19 Table 19 details the current smoking status among women in two age groups, 18-44 and 45-69, as well as a combined group of 18-69 years. The categories of smoking status include daily smokers, non-daily smokers, former smokers, and never smokers, with confidence intervals (95% CI) provided for each category. In the 18-44 age group, approximately 24.6% of women are daily smokers. About 7.0% smoke occasionally, not daily. Some 15.3% have quit smoking, indicating a positive trend towards smoking cessation. The majority, 53.0%, have never smoked.

In the 45-69 age group, about 20.3% of women still smoke daily, a figure slightly lower than that observed in the younger age group. Only 6.1% are occasional smokers. Approximately 15.6% have stopped smoking, demonstrating consistency in quitting rates across age groups. A larger proportion, 58.1%, have never smoked compared to their younger counterparts, suggesting generational differences in smoking habits.

Of note is that over half of the female participants - 54.7% (95% CI=48.1-61.3) have never smoked.

Table 19: Current smoking status among women by age group by percentage

Age group (years)	Women								
	n	Current smoker				Non-smoker			
		Daily %	95% CI	Non-daily %	95% CI	Former %	95% CI	Never %	**95% CI**
18-44	269	24.6	18.1-31.2	7.0	3.9-10.2	15.3	10.9-19.7	53.0	**45.5-60.6**
45-69	466	20.3	13.5-27.0	6.1	3.6-8.6	15.6	11.5-19.7	58.1	**50.8-65.3**
18-69	**735**	**23.2**	**17.8-28.6**	**6.7**	**4.4-9.1**	**15.4**	**11.8-19.0**	**54.7**	**48.1-61.3**

Table 20 outlines the smoking habits of individuals segmented by their frequency of smoking across different age groups. The categories include daily smokers, non-daily smokers, former smokers, and never smokers. In the age group of 18-44, 28.2% are daily smokers, 10.1% are non-daily smokers, 13.7% have quit smoking, and 48.0% have never smoked. For those aged 45-69, 20.5% smoke daily, 5.8% smoke occasionally, 19.0% are former smokers, and 54.7% have never smoked. When considering all participants aged 18 to 69, the percentages are as follows: 25.8% smoke daily, 8.8% are occasional smokers, 15.4% have quit smoking, and 50.1% have never smoked.

Of note half the survey population 50.1% (95% CI=45.1-55.1) have never smoked

Table 20: Percentage of all current smokers who smoke daily by sex and age

Age Group (years)	Both sexes								
	n	Current smoker				**Non-smokers**			
		Daily	95% CI	Non-daily	95% CI	Former	95% CI	Never	**95% CI**
18-44	471	28.2	23.0-33.4	10.1	7.6-12.6	13.7	10.7-16.7	48.0	**42.6-53.4**
45-69	957	20.5	15.2-25.7	5.8	3.9-7.8	19.0	15.5-22.5	54.7	**48.6-60.9**
18-69	**1428**	**25.8**	**21.0-30.6**	**8.8**	**6.8-10.7**	**15.4**	**12.7-18.1**	**50.1**	**45.1-55.1**

Table 21 examines the prevalence of smoking among men, women, and both sexes combined across different age groups. For the 18-44 age group, 44.4% of men are current smokers, while 31.6% of women in the same age group smoke, resulting in a combined smoking rate of 38.3% for both genders. In the 45-69 age group, the overall smoking rate for both sexes is 26.3%. For the entire range of 18-69 years, 39.0% of men and 29.9% of women are current smokers, leading to a combined smoking prevalence of 34.5% for 1,428 participants. This table highlights variations in smoking rates across different age groups and between genders.

Table 21: Percentage of current smokers by sex and age group

Age Group (years)	Men			Women			Both Sexes		
	n	Current smoker	95% CI	n	Current smoker	95% CI	n	Current smoker	**95% CI**
18-44	202	44.4	38.9-49.8	269	31.6	25.0-38.2	471	38.3	33.9-42.6
45-69	491	26.2	19.8-32.7	466	26.4	19.8-33.0	957	26.3	21.0-31.6
18-69	**693**	**39.0**	**34.3-43.7**	**735**	**29.9**	**24.6-35.2**	**1428**	**34.5**	**30.3-38.7**

Table 22 details the percentage of daily smokers among current smokers, broken down by age group and gender. In the age group of 18-44, among men, 71.1% smoke daily, while a higher percentage of women, 77.8%, are daily smokers. Combining both genders, 73.7% of smokers in this age group smoke daily.
For those aged 45-69, 78.9% of men and 76.9% of women are daily smokers, resulting in a combined total of 77.9% daily smokers in this age range.

Looking at the overall range from 18 to 69 years, 72.6% of men and 77.6% of women are daily smokers, with the combined percentage for both sexes at 74.7%.

Table 22: Percentage of all current daily smokers among smokers by sex and age

Age Group (years)	Men			Women			Both sexes		
	n	Daily smokers	95% CI	n	Daily smokers	95% CI	n	Daily smokers	**95% CI**
18-44	93	71.1	60.8-81.4	91	77.8	67.8-87.8	184	73.7	66.3-81.1
45-69	135	78.9	68.1-89.7	119	76.9	66.3-87.5	254	77.9	70.0-85.7
18-69	**228**	**72.6**	**62.9-82.4**	**210**	**77.6**	**69.3-85.8**	**438**	**74.7**	**68.1-81.3**

Table 23 shows that that the mean age that participants started to smoke was 17.8 years (95% CI= 16.7-18.9) for men and 18.0 years (95% CI= 16.4-19.5) for women. The younger age groups of both sexes reported that they started smoking at a younger age than the older age groups. Both sexes combined, the younger age group reported starting smoking at 17.0 years (95% CI= 16.1-17.9) compared to the older age group which started at 20.5 years (95% CI= 18.8-22.1). In both sexes, the difference between age groups is minimal.

Table 23: Mean age started smoking among current daily smokers

Age Group (years)	Men			Women			Both sexes		
	n	Mean age	95% CI	n	Mean age	95% CI	n	Mean age	**95% CI**
18-44	65	17.3	16.3-18.4	68	16.5	15.1-17.9	133	17.0	16.1-17.9
45-69	97	19.5	17.4-21.6	90	21.5	19.0-23.9	187	20.5	18.8-22.1
18-69	**162**	**17.8**	**16.7-18.9**	**158**	**18.0**	**16.4-19.5**	**320**	**17.9**	**16.8-18.9**

Table 24 provides data on the percentage of current smokers who have been advised by a doctor or other health worker to stop smoking during a visit in the past 12 months, segmented by age group and sex.
For men aged 18-44, 48.1% were advised to quit smoking. Among women in the same age group, 56.7% received advice to stop smoking, resulting in a combined advice rate of 51.6% for both sexes. In the 45-69 age group, 66.7% of men and 62.2% of women were advised to quit, with the combined rate for this age group standing at 64.4%.

When considering all ages between 18 and 69, 52.1% of men and 58.3% of women were advised to stop smoking, leading to an overall advice rate of 54.8% for both sexes.

Table 24: Current smokers who have been advised by doctor to stop smoking

Age group (years)	Men			Women			Both sexes		
	n	% Advised to stop smoking	95% CI	n	% Advised to stop smoking	95% CI	n	% Advised to stop smoking	**95% CI**
18-44	84	48.1	34.9-61.3	84	56.7	42.1-71.3	168	51.6	40.8-62.4
45-69	129	66.7	59.0-74.5	108	62.2	52.1-72.2	237	64.4	58.6-70.3
18-69	**213**	**52.1**	**40.9-63.3**	**192**	**58.3**	**46.9-69.6**	**405**	**54.8**	**45.9-63.6**

Table 25 provides information on the percentage of daily smokers who prefer manufactured cigarettes. In the age group of 18-44, 62.3% of men and 65.8% of women smoke manufactured cigarettes, with a total of 63.8% for both sexes combined. For those aged 45-69, 58.9% of men and 81.1% of women use manufactured cigarettes, with the combined percentage reaching 70.4%. Across all ages from 18 to 69, 61.5% of men and 70.5% of women smoke manufactured cigarettes, giving a combined percentage of 65.5%.

Table 25: Percentage of daily smokers who smoke manufactured cigarettes

Age group (years)	Men			Women			Both sexes		
	n	Manufacture cigarette	95% CI	n	Manufacture cigarette	95% CI	n	Manufacture cigarette	**95% CI**
18-44	57	62.3	43.5-81.1	59	65.8	48.6-82.9	116	63.8	48.1-79.5
45-69	88	58.9	45.0-72.9	85	81.1	72.4-89.8	173	70.4	60.5-80.2
18-69	**145**	**61.5**	**45.3-77.7**	**144**	**70.5**	**57.5-83.4**	**289**	**65.5**	**52.1-79.0**

Table 26 looks at the percentage of current smokers who smoke manufactured cigarettes. Among the 18-44 age group, 61.3% of men and 67.4% of women use manufactured cigarettes, resulting in a combined percentage of 63.8%. In the 45-69 age group, 62.3% of men and 76.2% of women smoke manufactured cigarettes, and the percentage for both sexes combined is 69.6%. For all ages between 18 and 69, the figures show that 61.5% of men and 70.1% of women choose manufactured cigarettes, with a combined rate of 65.3%.

Table 26: Percentage of current smokers who smoke manufactured cigarettes

Age group (years)	Men			Women			Both sexes		
	n	Manufacture cigarette	95% CI	n	Manufacture cigarette	95% CI	n	Manufacture cigarette	**95% CI**
18-44	78	61.3	46.5-76.1	80	67.4	50.8-84.0	158	63.8	51.4-76.3
45-69	121	62.3	49.8-74.8	110	76.2	66.1-86.3	231	69.6	60.9-78.3
18-69	**199**	**61.5**	**48.4-74.6**	**190**	**70.1**	**57.0-83.2**	**389**	**65.3**	**54.4-76.2**

Tables 27 -29 shows that 15.1% (95% CI=7.4-22.9) of both sexes smoked 25 or more cigarettes per day; 20.1% (95% CI= 13.8-26.5) smoked between 15-24 cigarettes per day; 28.8% (95% CI=21.4-36.2) smoked between 10 and 14 cigarettes a day and 22.3% smoked between 5 and 9 cigarettes per day. At the lower end 13.6% (95% CI=5.5-21.6) smoked less than 5 cigarettes per day.

Table 27: Percentage of daily cigarette smokers among men smoking given quantities of manufactured or hand-rolled cigarettes per day

Age Group (years)	Men										
	n	<5 Cigs.	95% CI	5-9 Cigs.	95% CI	10-14 Cigs.	95% CI	15-24 Cigs.	95% CI	≥ 25 Cigs.	**95% CI**
18-44	50	10.1	0.0-20.6	17.8	5.6-30.0	38.1	19.5-56.7	19.6	8.7-30.5	14.4	3.2-25.5
45-69	77	8.9	1.3-16.5	19.4	7.7-31.2	27.8	16.0-39.7	24.1	12.0-36.3	19.7	5.0-34.3
18-69	**127**	**9.8**	**1.5-18.2**	**18.2**	**9.0-27.4**	**35.7**	**22.4-49.0**	**20.7**	**12.6-28.7**	**15.6**	**5.8-25.5**

Table 28: Percentage of daily cigarette smokers among women smoking given quantities of manufactured or hand-rolled cigarettes per day

Age Group (years)	Women										
	n	<5 Cigs.	95% CI	5-9 Cigs.	95% CI	10-14 Cigs.	95% CI	15-24 Cigs.	95% CI	≥ 25 Cigs.	**95% CI**
18-44	54	20.6	3.9-37.3	22.2	8.4-35.9	25.7	12.9-38.5	15.3	4.1-26.5	16.2	0.0-33.0
45-69	79	11.9	4.3-19.5	38.1	25.9-50.3	9.9	3.1-16.7	29.1	15.5-42.7	10.9	4.2-17.7
18-69	**133**	**17.9**	**5.5-30.4**	**27.1**	**16.7-37.5**	**20.8**	**11.6-30.1**	**19.6**	**11.7-27.4**	**14.6**	**2.6-26.6**

Table 29: Percentage of daily cigarette smokers among both sexes smoking given quantities of manufactured or hand-rolled cigarettes per day

Age Group (years)	Both sexes										
	n	<5 Cigs.	95% CI	5-9 Cigs.	95% CI	10-14 Cigs.	95% CI	15-24 Cigs.	95% CI	≥ 25 Cigs.	**95% CI**
18-44	104	14.7	4.3-25.1	19.7	10.3-29.2	32.7	22.1-43.2	17.7	8.5-26.9	15.2	5.3-25.0
45-69	156	10.5	4.9-16.1	29.4	22.2-36.6	18.3	11.6-24.9	26.8	18.9-34.7	15.0	7.0-23.1
18-69	**260**	**13.6**	**5.5-21.6**	**22.3**	**15.5-29.1**	**28.8**	**21.4-36.2**	**20.1**	**13.8-26.5**	**15.1**	**7.4-22.9**

Table 30 shows that over half of the current smoker's survey population (56.9%, 95% CI= 49.4-64.5) of both sexes had tried to stop smoking in the past 12 months.

Table 30: Current smokers who have tried to stop smoking in the past 12 months

Age group (years)	Men			Women			Both sexes		
	n	Tried to stop	95% CI	n	Tried to stop	95% CI	n	Tried to stop	**95% CI**
18-44	93	59.1	47.6-70.5	91	48.3	37.8-58.9	184	54.8	**45.3-64.4**
45-69	135	62.6	55.0-70.3	119	64.6	51.9-77.3	254	63.7	**57.1-70.2**
18-69	**228**	**59.8**	**50.9-68.7**	**210**	**53.0**	**44.9-61.2**	**438**	**56.9**	**49.4-64.5**

Table 31 shows that more than one third of all participants (37.9%) were exposed to second-hand smoke at home, with no significant differences between sexes but higher rates among younger age group.

Table 31: Percentage of participants exposed second-hand smoke at home in the past 30 days

Age group (years)	Men			Women			Both sexes		
	n	Exposed	95% CI	n	Exposed	95% CI	n	Exposed	**95% CI**
18-44	203	40.9	32.5-49.3	269	40.9	34.5-47.4	472	40.9	**35.7-46.2**
45-69	491	32.0	24.1-39.9	466	30.4	22.4-38.4	957	31.2	**24.5-37.9**
18-69	**694**	**38.3**	**31.3-45.3**	**735**	**37.5**	**31.4-43.6**	**1429**	**37.9**	**32.9-42.9**

Table 32 shows that 26.3% (95% CI= 20.7-31.9) of all participants were exposed to secondhand smoke at the workplace. Rates of exposure were significantly higher among men (34.0%, 95% CI=26.8-41.2) than among women (18.0%, 95% CI=12.4-23.6).

Table 32: Percentage of participants exposed to second-hand smoke at workplace in the past 30 days

Age group (years)	Men			Women			Both sexes		
	n	Exposed %	95% CI	n	Exposed %	95% CI	n	Exposed %	**95% CI**
18-44	192	36.6	28.3-45.0	252	20.7	13.9-27.5	444	29.0	**22.9-35.2**
45-69	460	27.6	18.9-36.4	414	12.1	7.1-17.1	874	19.9	**14.1-25.7**
18-69	**652**	**34.0**	**26.8-41.2**	**666**	**18.0**	**12.4-23.6**	**1318**	**26.3**	**20.7-31.9**

Table 33 shows that 84.4% (95% CI= 80.3-90.5%) of current smokers noticed health warnings on cigarette packages.

Table 33: Percentage of current smokers who noticed health warnings on cigarette packages during the past 30 days

Age Group (years)	Men			Women			Both sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
18-44	91	80.0	69.4-90.6	89	92.6	87.1-98.1	180	84.9	**78.5-91.2**
45-69	133	85.8	80.2-91.3	115	88.3	83.1-93.5	248	87.1	**83.7-90.4**
18-69	**224**	**81.1**	**72.4-89.8**	**204**	**91.4**	**86.9-95.9**	**428**	**85.4**	**80.3-90.5**

Table 34 shows that 53.0% (95% CI= 43.3-62.7%) of current smokers noticed health warnings on cigarette packages and thought about quitting smoking.

Table 34: Percentage of current smokers who saw health warnings on cigarette packages that thought of quitting

Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
18-44	75	60.3	46.1-74.4	82	43.7	31.5-56.0	157	53.2	**41.8-64.6**
45-69	111	57.3	40.1-74.4	102	48.2	35.4-61.0	213	52.5	**41.6-63.4**
18-69	**186**	**59.6**	**47.4-71.9**	**184**	**45.0**	**35.0-55.0**	**370**	**53.0**	**43.3-62.7**

Table 35 shows the average price paid for 20 manufactured cigarettes across different age groups for men, women, and both sexes combined. Men aged 18-44 spent an average of $274.3, while women in the same age group spent significantly less, averaging $134.5. In the 45-69 age group, men and women spent closer amounts, with averages of $238.4 and $227.8 respectively. Overall, for the 18-69 age range, men spent an average of $268.1, women $159.9, and the combined average for both sexes was $219.3. This data indicates that on average, men tend to spend more on cigarettes than women, and spending varies across age groups.

Table 35: Average price paid for 20 manufactured cigarettes

Age Group (years)	Men			Women			Both sexes		
	n	Mean NZD	95% CI	n	Mean NZD	95% CI	n	Mean NZD	**95% CI**
18-44	64	274.3	166.2-382.5	59	134.5	63.5-205.5	123	215.6	**140.9-290.3**
45-69	79	238.4	159.4-317.3	81	227.8	146.6-309.4	160	232.4	**172.0-292.8**
18-69	**143**	**268.1**	**178.0-358.3**	**140**	**159.9**	**101.7-218.0**	**283**	**219.3**	**157.7-280.8**

Table 36 shows the average monthly expenses on cigarettes for different age groups of men and women, and a combined average for both sexes. Men aged 18-44 spend significantly more, averaging NZD 2520.4 compared to women in the same age group, who spend NZD 937.8. In the 45-69 age group, the average expenditure decreases for men to NZD 1772.5, while it increases for women to NZD 1984.7. Overall, the combined average monthly expense for ages 18-69 is NZD 1877.8, with men spending an average of NZD 2394 and women NZD 1254.6. The results reveal notable differences in cigarette expenditure between younger men and women, with a contrasting spending pattern in older age groups. However, this may not be fully representative of the general population, and this limitation should be considered when interpreting results derived from small sample size.

Table 36: Average price paid for monthly expenses on cigarettes

Age Group (years)	Men			Women			Both sexes		
	n	Mean NZD	95% CI	n	Mean NZD	95% CI	n	Mean NZD	**95% CI**
18-44	42	2520.4	1064.5-3976.4	40	937.8	278.4-1597.0	82	1871.4	**792.5-2950.2**
45-69	57	1772.5	742.6-2802.4	63	1984.7	754.9-3214.7	120	1899.3	**843.4-2955.3**
18-69	**143**	**2394**	**1191.3-3596.7**	**103**	**1254.6**	**563.1-1946.1**	**202**	**1877.8**	**979.3-2776.2**

Alcohol Consumption

This section describes the participants' patterns of alcohol consumption. To assess patterns and prevalence of alcohol consumption, participants were asked if they ever consumed alcohol, and if yes in what frequency and what quantity of alcohol they consumed. Those who had consumed an alcoholic drink in the past 30 days were classified as current drinkers.

Participants were categorised into the following alcohol consumption status:

6. **Current drinker** – those who had consumed alcohol in the past 30 days
7. **Not a current drinker** – those who have consumed alcohol in the past 12 months
8. **Abstainer** – those who have not consumed alcohol in the past 12 months
9. **Lifetime abstainer** – those who have never consumed alcohol.

Table 37 shows that 57.1% (95% CI= 49.2-65.0) of men were current drinkers (drinking alcohol in the last 30 days); 10.5% (95% CI=6.3-14.7) were non-current drinkers (have drunk alcohol in the last 12 months, but not in the last 30 days), 10.0% (95% CI=5.8-14.1) abstained from drinking alcohol in the last 12 months and 22.4% (95% CI= 16.3-28.5) were lifetime abstainers.

Table 37: Percentage of men by age group who had consumed alcohol

Age group (years)	Men								
	n	Current drinker	95% CI	Not current drinker	95% CI	Abstainer	95% CI	Lifetime abstainer	95% CI
18-44	203	62.3	53.2-71.4	10.2	4.8-15.5	8.3	2.8-13.9	19.2	12.8-25.6
45-69	489	44.7	37.0-52.4	11.3	6.9-15.6	14.0	10.4-17.6	30.0	22.0-38.1
18-69	**692**	**57.1**	**49.2-65.0**	**10.5**	**6.3-14.7**	**10.0**	**5.8-14.1**	**22.4**	**16.3-28.5**

Table 38 shows that 42.1% (95% CI=36.7-47.5) of women were current drinkers, 17.8% (95% CI= 11.7-23.8) were non-current drinkers, 11.2% (95% CI= 8.6-13.8%) abstained from drinking alcohol in the past 12 months and 29.0% (95% CI= 24.5-33.4%) were lifetime abstainers.

Table 38: Percentage women by age group who had consumed alcohol

Age group (years)	Women								
	n	Current drinker	95% CI	Not current	95% CI	Abstainer	95% CI	Lifetime abstainer	**95% CI**
18-44	269	46.8	38.9-54.6	20.1	11.6-28.6	8.9	4.6-13.1	24.3	19.5-29.0
45-69	465	32.3	28.2-36.5	13.0	9.5-16.6	16.0	12.8-19.3	38.6	33.0-44.3
18-69	**734**	**42.1**	**36.7-47.5**	**17.8**	**11.7-23.8**	**11.2**	**8.6-13.8**	**29.0**	**24.5-33.4**

Table 39 shows that among both sexes almost half (49.8%, 95% CI= 44.3-55.2) of all participants were current drinkers, 14.0% (95% CI=9.8-18.3) were non-current drinkers, 10.6% (95% CI= 12.8-15.4%) abstained from drinking alcohol in the past 12 months and 25.6% (95% CI= 21.0-30.2) were lifetime abstainers.

Table 39: Percentage of both sexes by age group who had consumed alcohol

Age group (years)	Both sexes								
	n	Current drinker	95% CI	Not current	95% CI	Abstainer	95% CI	Lifetime abstainer	**95% CI**
18-44	472	54.9	48.1-61.7	14.9	9.0-20.7	8.6	5.1-12.1	21.6	17.0-26.3
45-69	954	38.3	33.7-43.0	12.2	9.6-14.8	15.0	12.2-17.9	34.5	28.6-40.3
18-69	**1426**	**49.8**	**44.3-55.2**	**14.0**	**9.8-18.3**	**10.6**	**8.2-13.0**	**25.6**	**21.0-30.2**

Table 40 shows the mean number of drinking occasions that current drinkers had - at least one drink. Men had 45.5 (95% CI= 4.2-6.8) occasions on which they had at least one drink; women had 3.8 (95% CI= 3.1-4.5) of such occasions; and both sexes combined had 4.8 (95% CI= 4.0-5.5) of such occasions in the past 30 days.

Table 40: Mean number of drinking occasions in the past 30 days among current drinkers

Age group(years)	Men			Women			Both sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	**95% CI**
18-44	102	5.6	3.9-7.2	115	3.5	2.7-4.2	217	4.7	3.7-5.7
45-69	205	5.4	4.5-6.2	135	4.9	3.9-5.9	340	5.2	4.6-5.7
18-69	**307**	**5.5**	**4.2-6.8**	**250**	**3.8**	**3.1-4.5**	**557**	**4.8**	**4.0-5.5**

Table 41 shows the mean number of standard drinks consumed by male and female current drinkers on average on a drinking day. One standard drink contains approximately 10 grams of pure alcohol. On average 9.0 (95% CI= 7.7-10.3) standard drinks are consumed by male current drinkers on a drinking day and 6.2 (95% CI= 5.2-7.2) standard drinks by female current drinkers. In total, on average 7.8 (95% CI= 6.9-8.8) standard drinks were consumed by participants on a drinking day.

Table 41: Mean number of standard drinks per drinking occasion among current drinkers

Age group(years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	**95% CI**
18-44	110	9.3	7.3-11.2	116	6.7	5.5-7.9	226	8.2	**6.8-9.6**
45-69	213	8.1	6.8-9.5	139	4.7	3.4-6.1	352	6.7	**5.4-8.0**
18-69	**323**	**9.0**	**7.7-10.3**	**255**	**6.2**	**5.2-7.2**	**578**	**7.8**	**6.9-8.8**

Table 42 shows that 44.7% (95% CI= 37.0-52.5%) of men and 27.6% (95% CI= 21.8-33.5%) of women drank at the level of Category III on a single drinking occasion within the last 30 days. (Category III drinking is defined as drinking ≥60g of pure alcohol on average per day for men and ≥40g for women).

Table 42: Percentage of participants who had six or more drinks (men) or four or more drinks (women) on a single drinking occasion in the past 30 days.

Men			Women			Both sexes		
n	≥ 6 drinks	95% CI	n	≥ 6 drinks	95% CI	n	≥ 6 drinks	**95% CI**
186	49.7	40.5-58.9	249	31.7	23.3-40.1	435	41.0	**34.1-47.9**
439	32.9	25.9-39.8	441	19.3	15.9-22.7	880	25.8	**21.9-29.6**
625	**44.7**	**37.0-52.5**	**690**	**27.6**	**21.8-33.5**	**1315**	**36.2**	**30.8-41.7**

Table 43 provides insights into the mean maximum number of alcoholic drinks consumed on a single occasion, detailed by age groups and gender. For men aged 18-44, the average maximum number of drinks is 15.0, with women in the same age group averaging 10.3 drinks. When considering both sexes in this age group together, the average is 13.0 drinks. In the 45-69 age group, men's average consumption decreases to 10.6 drinks and for women, it further reduces to 6.7 drinks. Looking at the entire range from 18 to 69 years, the average for men is 13.9 drinks and for women, it is 9.4 drinks. This data shows that men typically consume more than women.

Table 43: Mean maximum number of drinks consumed on a single drinking occasion

Age group (years)	Men			Women			Both sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	**95% CI**
18-44	104	15.0	11.8-18.1	116	10.3	7.8-12.8	220	13.0	10.6-15.4
45-69	212	10.6	9.3-11.9	139	6.7	4.9-8.6	351	8.9	7.5-10.4
18-69	**316**	**13.9**	**11.7-16.2**	**255**	**9.4**	**7.3-11.5**	**571**	**12.0**	**10.2-13.8**

Table 44 shows that over a seven-day period well over two thirds of male current drinkers - 74.0% (95% CI = 64.1-83.9%) only consumed alcohol over a 1–2-day period.

Table 44: Frequency of alcohol consumption in the past 7 days for men

Age Group (years)	Men										
	n	Daily	95% CI	5-6 days	95% CI	3-4 days	95% CI	1-2 days	95% CI	0 days	**95% CI**
18-44	115	0.0	0.0-0.0	1.1	0.0-2.7	11.7	3.5-20.0	75.9	64.4-87.4	11.3	**3.0-19.5**
45-69	221	4.0	1.6-6.4	2.8	0.0-6.1	12.4	9.4-15.4	67.6	59.2-75.9	13.2	**7.8-18.5**
18-69	**336**	**0.9**	**0.4-1.4**	**1.5**	**0.0-3.1**	**11.9**	**5.6-18.2**	**74.0**	**64.1-83.9**	**11.7**	**4.5-18.9**

Table 45 shows that over a seven-day period like their male counterparts well over two thirds - 76.0% (95% CI= 70.2-81.9%) of female current drinkers only consumed alcohol over a 1–2-day period.

Table 45: Frequency of alcohol consumption in the past 7 days for women

Age Group (years)	Women										
	n	Daily	95% CI	5-6 days	95% CI	3-4 days	95% CI	1-2 days	95% CI	0 days	**95% CI**
18-44	123	1.1	0.0-2.5	0.4	0.0-1.1	3.1	0.3-6.0	77.0	69.6-84.5	18.4	**9.7-27.0**
45-69	145	4.2	1.4-7.0	2.3	0.0-5.7	10.0	2.8-17.3	72.9	65.0-80.8	10.6	**6.0-15.2**
18-69	**268**	**1.8**	**0.6-3.0**	**0.8**	**0.0-1.9**	**4.8**	**2.1-7.6**	**76.0**	**70.2-81.9**	**16.5**	**10.0-23.0**

Table 46 shows that over a seven-day period well over two thirds 74.8% (95% CI =67.5-82.2%) of current drinkers of both sexes consumed alcohol over a 1–2-day period.

Table 46: Frequency of alcohol consumption in the past 7 days for both sexes

Age Group (years)	Both Sexes										
	n	Daily	95% CI	5-6 days	95% CI	3-4 days	95% CI	1-2 days	95% CI	0 days	**95% CI**
18-44	238	0.4	0.0-1.0	0.8	0.0-1.8	8.2	2.9-13.4	76.4	67.7-85.1	14.2	**6.3-22.1**
45-69	366	4.1	2.7-5.5	2.6	0.3-4.8	11.4	8.0-14.9	69.8	64.3-75.4	12.1	**9.2-14.9**
18-69	**604**	**1.3**	**0.7-1.9**	**1.2**	**0.2-2.2**	**8.9**	**4.7-13.2**	**74.8**	**67.5-82.2**	**13.7**	**7.3-20.2**

Fruit and vegetable consumption

Participants fruit and vegetable intake was assessed by asking how many days they consumed fruit and vegetables in a typical week, and how many servings of each type they consumed on one of those days.

Table 47 shows that both sexes consumed fruit on 3.9 days (95% CI= 3.6-4.2) in a typical week. Men consumed fruits less frequently - 3.8 days (95% CI= 3.5-4.1) than women - 4.0 days (95% CI= 3.6- 4.4).

Table 47: Mean number of days fruit consumed in a typical week (by sex and age group)

Age group (years)	Men			Women			Both sexes		
	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	**95% CI**
18-44	196	3.8	3.4-4.1	267	3.8	3.3-4.2	463	3.8	**3.5-4.1**
45-69	486	3.9	3.6-4.1	459	4.4	4.1-4.7	945	4.2	**3.9-4.4**
18-69	**682**	**3.8**	**3.5-4.1**	**726**	**4.0**	**3.6-4.4**	**1408**	**3.9**	**3.6-4.2**

Table 48 shows how often men and women consume vegetables each week, with a breakdown by age groups. Overall Consumption (Ages 18-69), when we look at the entire age range from 18 to 69 years, we find that, on average, people consume vegetables on 4.9 days per week. Men, specifically, consume vegetables on 4.8 days per week. Women consume vegetables a bit more frequently, on 5.0 days per week.
These numbers suggest that women, overall, eat vegetables slightly more often than men, though the difference is small.
Younger adults (18-44 years old) of both sexes consume vegetables equally often, averaging 5.0 days a week. However, there is a noticeable decline among older men (45-69 years old) who consume vegetables on only 4.4 days per week, compared to their younger counterparts who average 5.0 days. Older women, however, continue to consume vegetables frequently at 5.1 days per week, slightly more than younger women.

Table 48: Mean number of days vegetables consumed in a typical week (by sex and age group)

Age group (years)	Men			Women			Both sexes		
	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	**95% CI**
18-44	198	5.0	4.7-5.4	268	5.0	4.6-5.3	466	5.0	**4.7-5.2**
45-69	487	4.4	4.1-4.7	461	5.1	4.8-5.4	948	4.8	**4.5-5.0**
18-69	**685**	**4.8**	**4.5-5.1**	**729**	**5.0**	**4.7-5.3**	**1414**	**4.9**	**4.7-5.1**

Table 49 shows the number of servings of fruits on an average day for men and women. On average, women and men consumed the same number of fruits 1.3 servings (95% CI= 1.2-1.5).

Table 49: Mean number of servings of fruit on an average per day

Age group (years)	Men			Women			Both sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	**95% CI**
18-29	191	1.3	1.1-1.4	265	1.2	1.0-1.4	456	1.2	**1.1-1.4**
30-44	482	1.4	1.2-1.5	454	1.6	1.3-1.8	936	1.5	**1.3-1.6**
18-69	**673**	**1.3**	**1.2-1.4**	**719**	**1.3**	**1.2-1.5**	**1392**	**1.3**	**1.2-1.4**

Table 50 shows minimal/no differences between men and women in the number of servings of vegetables on an average day (1.6 servings).

Table 50: Mean number of servings of vegetables on an average per day

Age group (years)	Men			Women			Both sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	**95% CI**
18-29	196	1.6	1.4-1.8	266	1.6	1.4-1.8	462	1.6	**1.5-1.8**
30-44	485	1.5	1.3-1.7	459	1.6	1.5-1.8	944	1.6	**1.4-1.7**
18-69	**681**	**1.6**	**1.4-1.7**	**725**	**1.6**	**1.5-1.8**	**1406**	**1.6**	**1.5-1.7**

Table 51 shows minimal differences between men and women in both age groups in the number of servings of fruit and/or vegetables consumed on an average day. On average, women consumed 2.9 (95% CI= 2.7-3.1) servings than men (2.8, 95% CI= 2.6-3.0).

Table 51: Mean number of servings of fruit and/or vegetables on average per day

Age group (years)	Men			Women			Both sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	**95% CI**
18-29	196	2.8	2.5-3.1	267	2.8	2.6-3.1	463	2.8	**2.6-3.0**
30-44	487	2.8	2.6-3.1	462	3.2	2.8-3.5	949	3.0	**2.8-3.2**
18-69	**683**	**2.8**	**2.6-3.0**	**729**	**2.9**	**2.7-3.1**	**1412**	**2.9**	**2.7-3.0**

Table 52 shows that 84.7% (95% CI= 82.3-87.1) of participants consumed less than the WHO recommended consumption of five servings of fruit and/or vegetables on an average day.

Table 52: Percentage of those eating less than five servings of fruit and/or vegetables on average per day

Age group (years)	Men			Women			Both sexes		
	n	< five servings per day	95% CI	n	< five servings per day	95% CI	n	< five servings per day	**95% CI**
18-29	196	85.6	81.7-89.4	267	84.9	80.5-89.3	463	85.2	**82.7-87.8**
30-44	487	85.3	80.4-90.1	462	82.0	77.0-87.1	949	83.6	**79.6-87.6**
18-69	**683**	**85.5**	**82.5-88.5**	**729**	**83.9**	**80.6-87.3**	**1412**	**84.7**	**82.3-87.1**

Dietary Salt intake

Table 53 shows that more than one third - 39.0% (95% CI= 35.3-42.8%) of participants always or often added salt to food before or while eating. Among both, men and women, salt addition was highest in the younger male - 44.6% (95% CI= 36.1-53.2%) and female age group - 38.2% (95% CI=31.1-45.3%).

Table 53: Percentage of all participants who always or often add salt to their food before eating or while eating

Age group (years)	Men			Women			Both sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
18-29	203	44.6	36.1-53.2	269	38.2	31.1-45.3	472	41.6	**36.5-46.6**
30-44	488	34.1	29.2-39.1	464	32.6	28.5-36.7	952	33.3	**30.5-36.2**
18-69	**691**	**41.6**	**35.0-48.1**	**733**	**36.4**	**31.4-41.3**	**1424**	**39.0**	**35.3-42.8**

Table 54 shows that over half - 59.0% (95% CI= 54.4-63.7.) of all participants added salt to their food when cooking or preparing foods at home. There were no statistically significant differences between sexes and age groups.

Table 54: Percentage of all participants who always or often add salt to their food when cooking or preparing food at home

Age group (years)	Men			Women			Both sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
18-29	202	61.8	55.0-68.7	269	63.1	55.9-70.3	471	62.4	**56.5-68.4**
30-44	488	51.8	46.2-57.3	465	51.3	44.6-58.0	953	51.5	**46.2-56.8**
18-69	**690**	**58.9**	**53.8-63.9**	**734**	**59.2**	**53.2-65.2**	**1424**	**59.0**	**54.4-63.7**

Table 55 shows that over a quarter- 29.7% (95% CI= 24.1-35.2) of all participants indicated that they often eat processed food high in salt, with minimal difference between sexes and ages.

Table 55: Percentage of all participants who often or always eat processed food high in salt

Age Group (years)	Men			Women			Both sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
18-44	202	29.1	19.5-38.8	268	36.2	27.9-44.5	470	32.5	**25.5-39.6**
45-69	489	22.9	17.9-27.9	465	23.8	17.5-30.1	954	23.4	**18.7-28.1**
18-69	**691**	**27.3**	**20.1-34.5**	**733**	**32.1**	**25.9-38.3**	**1424**	**29.7**	**24.1-35.2**

Table 56 shows that 68.1% (95% CI= 63.2-73.0) of all participants think lowering salt intake is very important, 20.1% (95% CI= 15.6-24.7%) think it is important and 11.8% (95% CI= 8.8-14.8%) think it is not at all important.

Table 56: Percentage of participants who think lowering salt in diet is very, somewhat or not at all important

Age group (years)	Both sexes						
	n	Very important	95% CI	Somewhat important	95% CI	Not at all important	**95% CI**
18-44	454	64.5	58.1-70.8	22.3	15.9-28.6	13.2	**9.6-16.9**
45-69	922	76.1	72.0-80.1	15.4	11.9-18.9	8.6	**6.1-11.0**
18-69	**1376**	**68.1**	**63.2-73.0**	**20.1**	**15.6-24.7**	**11.8**	**8.8-14.8**

Physical Activity

A population's physical activity (PA) or inactivity can be described in different ways. The two most common ways are to:

1. Estimate a population's mean or median physical activity using a continuous indicator such as Metabolic Equivalent (MET)-minutes per week or time spent in physical activity
2. Classify certain percentages of a population in specific groups by setting up cut-points for a specific amount of physical activity.

When analyzing Global Physical Questionnaire (GPAQ) data, both continuous as well as categorical indicators are used.

Metabolic Equivalent (MET) are commonly used to express the intensity of physical activities and are also used for the analysis of GPAQ data. Applying MET values to activity levels allows us to calculate total physical activity. MET is the ratio of a person's working metabolic rate relative to the resting metabolic rate. One MET is defined as the energy cost of sitting quietly and is equivalent to a caloric consumption of 1 kcal/kg/hour. For the analysis of GPAQ data, existing guidelines have been adopted: It is estimated that, compared to sitting quietly, a person's caloric consumption is four times as high when being moderately active, and eight times as high when being vigorously active.

Participants were asked how often (frequency) and how long (duration) they engaged in three different domains of physical activity (PA) in a typical week: work-related PA, transport-related PA and recreation-related PA. In working- and recreational domains, participants were asked how many days per week and how many hours/minutes per day they participated in moderate and vigorous intensity activities. In the transport domain, participants were asked how often and how long they either walked and/or cycled to and from places.

The three physical activity domains were first examined separately to determine the proportion of activity undertaken in each domain as a component of total physical activity. Overall, combining all domains, three 28 levels of activity were recorded: low, moderate, and high intensity. The proportions meeting the global targets for physical activity (WHO 2010) were also calculated.

To identify cut-off limits for the three different levels of energy expenditure (i.e. low, moderate or high) the daily duration of activity was converted into MET-minutes per day. Metabolic Equivalents are common to express the intensity of physical activities and are used in the analysis of the Global Physical Activity Questionnaire.

Metabolic Equivalent is the ratio of the associated metabolic rate for a specific activity divided by the resting metabolic rate. The energy cost of sitting is equivalent to a resting metabolic rate of 1 MET. For the calculation of MET-minutes, the total time spent in physical activity during a typical week, the number of days and the intensity of the physical activity are considered. In this report, the following MET values were allocated to the three physical activity domains.

In this report, the following MET values were allocated to the three physical activity domains:

Domain	MET value
Work	**Moderate MET value = 4.0** **Vigorous MET value = 8.0**
Transport	**Cycling and walking MET value = 4.0**
Recreation	**Moderate MET value = 4.0** **Vigorous MET value = 8.0**

The following levels of activity in terms of MET minutes were defined as:

Level	Definition
High activity	A person reaching any of the following criteria: ○ Vigorous-intensity activity on at least 3 days achieving a minimum of at least 1,500 MET-minutes/week OR ○ Seven (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 activity	A person not meeting the criteria for the "high" category, but meeting any of the following criteria: ○ Three (3) or more days of vigorous-intensity activity of at least 20 minutes per day OR ○ Five (5) or more days of moderate-intensity activity or walking of at least 30 minutes per day OR ○ Five (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 activity	A person not meeting any of the above-mentioned criteria and active at <600 MET minutes per week

Table 57 shows the participants not meeting WHO recommendations on physical activity for health is low at 22.6% (95% CI= 16.8-28.5). This implies that overall, 77.4% of participants meet the recommended level of physical activity.

Table 57: Percentage of participants not meeting WHO recommendations on physical activity for health

Age group (years)	Men			Women			Both sexes		
	n	not meeting recs	95% CI	n	not meeting recs	95% CI	n	not meeting recs	**95% CI**
18-44	195	13.0	5.3-20.7	261	23.6	16.7-30.5	456	18.1	**11.5-24.7**
45-69	475	23.5	16.7-30.3	452	41.3	35.8-46.7	927	32.7	**27.3-38.0**
18-69	**670**	**16.1**	**9.2-23.0**	**713**	**29.4**	**24.1-34.7**	**1383**	**22.6**	**16.8-28.5**

Table 58 shows that 23.9% (95% CI= 15.6-32.1) of men had low levels of physical activity, 11.2% (95% CI= 7.6-14.8) moderate levels and over two thirds of the male participants 64.9% (95% CI= 56.6-73.3) had high levels. The younger group of men aged 18 to 44 years had the highest level of physical activity at 70.2% (95% CI= 59.4-80.9).

Table 58: Percentage among men by age group of level of total physical activity

Age group (years)	Men						
	n	Low	95% CI	Moderate	95% CI	High	**95% CI**
18-44	195	20.4	10.7-30.1	9.4	4.5-14.3	70.2	**59.4-80.9**
45-69	475	32.2	24.9-39.4	15.4	11.1-19.7	52.5	**47.1-57.8**
18-69	**670**	**23.9**	**15.6-32.1**	**11.2**	**7.6-14.8**	**64.9**	**56.6-73.3**

Table 59 shows women participants' distribution across the three levels of physical activity, with 39.7% (95% CI= 33.3-46) having low levels of physical activity; 17.7% (95% CI= 13.5-22.0) moderate levels and 42.5% (95% CI= 37.1-48.0) high levels. While one third - 35.2% (95% CI= 26.8-43.7 39.7) of younger women and nearly half - 49.0% (95% CI= 43.0-55.1) of women in the older age group had low levels of physical activity, at the high level of PA nearly half of the younger women 46.6% (95% CI= 39.5 -53.6) were active.

Table 59: Percentage among women by age group of level of total physical activity

Age group (years)	Women						
	n	Low	95% CI	Moderate	95% CI	High	**95% CI**
18-44	261	35.2	26.8-43.7	18.2	13.2-23.3	46.6	**39.5-53.6**
45-69	452	49.0	43.0-55.1	16.7	12.2-21.2	34.2	**28.3-40.2**
18-69	**713**	**39.7**	**33.3-46.2**	**17.7**	**13.5-22.0**	**42.5**	**37.1-48.0**

Table 60 shows the distribution of both sexes across the three levels of physical activity, with 31.7% (95% CI= 24.6-38.8) having low levels of physical activity; 14.4% (95% CI= 11.6-17.2) having moderate levels and 53.9% (95% CI= 47.6-60.3) having high levels of physical activity.

Table 60: Percentage among both sexes of level of total physical activity

Age group (years)	Both sexes						
	n	Low	95% CI	Moderate	95% CI	High	**95% CI**
18-44	456	27.5	19.3-35.7	13.7	10.1-17.2	58.8	**50.9-66.7**
45-69	927	40.9	34.7-47.0	16.1	12.3-19.9	43.1	**38.5-47.7**
18-69	**1383**	**31.7**	**24.6-38.8**	**14.4**	**11.6-17.2**	**53.9**	**47.6-60.3**

Table 61 shows the mean number of total minutes spent in all physical activity domains on an average day. On average, men spent 243.9 minutes (95% CI= 198.2-289.7) and women 151.6 minutes (95% CI= 114.8-188.3) in physical activity per day.

Table 61: Mean minutes of total physical activity on average per day

Age group (years)	Men			Women			Both sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	**95% CI**
18-44	195	267.6	206.7-328.5	261	167.9	121.3-214.6	456	219.7	**174.0-265.5**
45-69	475	187.7	167.2-208.1	452	117.9	94.0-141.8	927	151.7	**133.4-169.9**
18-69	**670**	**243.9**	**198.2-289.7**	**713**	**151.6**	**114.8-188.3**	**1383**	**198.5**	**162.8-234.3**

Tables 62-64 show the mean number of total minutes spent in work, transport and recreation-related physical activity on average per day. Table 62 shows the mean number of minutes spent in work-related physical activity on average per day. Men spent 179.4 minutes (95% CI= 142.2-216.5) and women 91.6 minutes (95% CI=62.2-121.0) in work-related physical activity per day.

Table 62: Mean minutes per day of work-related physical activity by both sexes

Age Group (years)	Men			Women			Both sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	**95% CI**
18-44	195	195.3	147.1-243.6	261	98.2	61.9-134.5	456	148.7	**111.0-186.3**
45-69	475	141.4	121.1-161.8	452	78.0	57.5-98.6	927	108.7	**91.0-126.5**
18-69	**670**	**179.4**	**142.2-216.5**	**713**	**91.6**	**62.2-121.0**	**1383**	**136.2**	**106.2-166.3**

Table 63 shows the mean number of minutes spent in transport-related physical activity on average per day. Men spent 17.5 minutes (95% CI= 12.7-22.3) and women 20.4 minutes (95% CI= 11.1-29.6) in transport-related activity per day. There are slight statistical differences between sexes.

Table 63: Mean minutes per day of transport-related physical activity by both sexes

Age group (years)	Men			Women			Both sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	**95% CI**
18-29	195	16.5	9.6-23.4	261	21.9	9.7-34.0	456	19.1	**10.7-27.5**
30-44	475	19.8	15.5-24.0	452	17.3	9.7-24.9	927	18.5	**14.0-23.0**
18-69	**670**	**17.5**	**12.7-22.3**	**713**	**20.4**	**11.1-29.6**	**1383**	**18.9**	**12.5-25.2**

Table 64 shows the mean number of minutes spent in recreation-related physical activity on average per day. Men spend 48.7 minutes (95% CI= 44.2-53.2) and women 34.4 minutes (95% CI= 30.4-38.3) in recreation-related activity per day. The differences between the sexes are statistically significant as well as the ones in both age groups.

Table 64: Mean minutes of physical activity from recreation-related physical activity by gender and age group

Age Group (years)	Men			Women			Both sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	**95% CI**
18-29	195	55.8	36.8-74.7	261	47.9	34.6-61.2	456	52.0	**39.6-64.4**
30-44	475	26.5	20.9-32.0	452	22.6	16.2-29.0	927	24.5	**20.4-28.5**
18-69	**670**	**47.1**	**34.0-60.2**	**713**	**39.6**	**30.2-49.0**	**1383**	**43.4**	**34.6-52.2**

Table 65 shows the composition of total physical activity among men across the three types of activity (work, transport and recreation). Nearly two thirds of men's – 61.6% (95% CI= 55.6-67.6) physical activity was work-related followed by recreation-related at 26.2% (95% CI= 21.4-31.0) and transport related physical activity at 12.2% (95% CI= 7.3-17.1).

Table 65: Percentage among men by age group of composition of total physical activity

Age group (years)	Men						
	n	Activity from work	95% CI	Activity for transport	95% CI	Activity during leisure time	**95% CI**
18-44	175	62.3	54.3-70.2	9.8	3.2-16.5	27.9	**21.8-34.0**
45-69	383	59.8	53.1-66.6	18.6	14.8-22.5	21.5	**17.2-25.8**
18-69	**558**	**61.6**	**55.6-67.6**	**12.2**	**7.3-17.1**	**26.2**	**21.4-31.0**

Table 66 shows the composition of total physical activity among women across the three types of activity (work, transport, and recreation). The highest proportion) is work related physical activity at 41.3% (95% CI= 33.9-48.7) followed by recreation-related at 37.3% (95% CI= 30.4-44.2) and then transport–related physical activity at 21.4% (95% CI= 15.2-27.6).

Table 66: Percentage among women by age group of composition of total physical activity

Age Group (years)	Women						
	n	Activity from work	95% CI	Activity for transport	95% CI	Activity during leisure time	**95% CI**
18-44	222	39.8	31.0-48.5	19.3	12.8-25.8	40.9	**32.4-49.5**
45-69	308	45.3	39.4-51.3	26.7	19.1-34.3	28.0	**22.4-33.5**
18-69	**530**	**41.3**	**33.9-48.7**	**21.4**	**15.2-27.6**	**37.3**	**30.4-44.2**

Table 67 shows the composition of total physical activity in both sexes combined across the three types of activity (work, transport, and recreation). Most of the physical activity is work-related at 52.1% (95% CI= 46.1-58.1) followed by recreation-related at 31.4% (95% CI= 26.8-35.9) and transport-related physical activity at 16.3% (95% CI=11.3-21.8).

Table 67: Percentage among both sexes by age group of composition of total physical activity

Age group (years)	Both sexes						
	n	Activity from work	95% CI	Activity for transport	95% CI	Activity during leisure time	**95% CI**
18-44	397	51.8	44.6-59.0	14.2	8.0-20.5	34.0	**28.2-39.8**
45-69	691	52.9	47.7-58.1	22.5	17.5-27.4	24.6	**21.2-28.0**
18-69	**1088**	**52.1**	**46.1-58.1**	**16.5**	**11.3-21.8**	**31.4**	**26.8-35.9**

Table 68 shows that one third of men - 34.5% (95% CI= 327.3-41.8) and over half of women - 56.1% (95% CI= 51.3-61.0) did not engage in vigorous physical activity (calculated from work and recreation-related activities).

The differences between the sexes are statistically significant as well as the ones in both age groups.

Among men the increase in those with no vigorous physical activity from the younger age group - 28.2% (95% CI= 18.8-37.6) to the older age group - 49.5% (95% CI= 43.7-55.3) is statistically significant. A similar increase is found in younger age group of women - 49.1% (95% CI= 42.3-55.9) compared to the older age group of women - 70.5% (95% CI= 63.6-77.4).

Table 68: Percentage of participants not engaging in vigorous physical activity

Age group (years)	Men			Women			Both sexes		
	n	no vigorous activity	95% CI	n	no vigorous activity	95% CI	n	no vigorous activity	**95% CI**
18-44	195	28.2	18.8-37.6	261	49.1	42.3-55.9	456	38.3	**32.6-44.0**
45-69	475	49.5	43.7-55.3	452	70.5	63.6-77.4	927	60.3	**54.5-66.1**
18-69	**670**	**34.5**	**27.3-41.8**	**713**	**56.1**	**51.3-61.0**	**1383**	**45.1**	**40.3-50.0**

Table 69 provides data on the average time men in different age groups spend in sedentary activities per day. Overall, on average per day men spend 200.0 minutes (95% CI= 168.1-232) in sedentary activities. The sedentary behavior trend for men's average time in sedentary activities does not show a clear trend of decrease or increase with age. Both age groups have almost similar averages.

Table 69: Mean minutes for men spent in sedentary activities on average per day

Age group (years)	Men		
	n	Mean minutes	95% CI
18-44	203	201.1	162.8-239.3
45-69	490	197.6	173.3-221.8
18-69	693	200.0	168.1-232.0

Table 70 shows the average number of minutes women spent in sedentary activity on average per day. The trend in sedentary behavior, decrease in the average time spent in sedentary activities as women age, from 271.4 minutes in the 18-44 age group to 204.0 minutes in the 45-69 age group. When considering the entire range of 18-69 years the average time spent is somewhat in the middle of the two age-specific averages, reflecting a blend of the two groups. This analysis shows how age might influence sedentary behavior in women and provides statistical confidence in these findings.

Compared to the average sedentary activity of men, women spend more time in such activities, averaging 249.3 minutes (with a 95% Confidence Interval of 225.1-273.4 minutes). This indicates that women generally engage in sedentary activities for longer durations than men

Table 70: Mean minutes for women spent in sedentary activities on average per day

Age group (years)	Women		
	n	Mean minutes	95% CI
18-44	267	271.4	237.6-305.2
45-69	465	204.0	186.7-221.4
18-69	732	249.3	225.1-273.4

Table 71 indicates the average number of minutes spent in sedentary by both sexes' activity on average per day.

Table 71: Mean minutes for both sexes spent in sedentary activities on average per day

Age group (years)	Both sexes		
	n	Mean minutes	95% CI
18-44	470	234.5	209.4-259.6
45-69	955	200.9	184.6-217.2
18-69	1425	224.0	204.1-244.0

Summary of the Behavioural risk factors of the survey population

Positives

1. **Non-Smoking Prevalence:** Over half of the survey population has never smoked in their lifetime, maintaining this status until the survey date.

2. **Reduction in Daily Smokers**: There has been a marked decrease (50%) of daily smokers in the current smoker's category since the 2013-2015 survey report

3. **Improved Fruit and Vegetables Consumptions**: There is improvement in the daily uptake of fruit and vegetables from 3 days (noted in the 2013-2015 survey report) to five days

4. **Awareness of Salt Intake**: Over two thirds of the survey population understand the importance of lowering their salt intake

5. **Physical Activity Compliance**: Overall, the survey population is meeting the WHO physical activity recommendation.

Challenges

1. **Rise in Female Drinkers:** Increase of women current drinkers

2. **Insufficient Fruit and Vegetables Servings**: Low intake of vegetable and fruit servings

3. **High Prevalence of Alcohol Consumption**: Almost half of the survey population are current drinkers

4. **Binge Drinking Culture**: There is a binge drinking culture.

Step Two: Physiological risk factors

Height and weight

Height and weight of each participant (excluding pregnant women) was measured following the standardized STEPS protocol. The body mass index (BMI) of each participant was calculated by dividing weight (kilograms) by square of height (metres2).

The body mass index risk categories are defined as follows:

1. Underweight BMI < 18.5
2. Normal weight 18.5 ≤ BMI ≤ 24.9
3. Overweight BMI ≥ 25.0
4. Obese BMI ≥ 30.0
5. Height and Weight

Table 72 shows the mean height of those measured among the survey population. On average, men were 10.4cm taller than women were, the difference is statistically significant.

Table 72: Mean height (cm) by sex and age group

Age group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	**95% CI**
18-44	201	177.0	176.2-177.8	252	166.2	**165.0-167.4**
45-69	487	172.3	171.5-173.1	462	162.7	**162.0-163.3**
18-69	**688**	**174.7**	**174.1-175.2**	**714**	**164.3**	**163.5-165.1**

Table 73 shows the mean weight of the survey population. On average, men were 10.2kg heavier than women. The difference is statistically significant.

Table 73: Mean weight (kg) by sex and age group

Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	**95% CI**
18-44	197	110.1	104.7-115.6	251	99.6	**96.8-102.4**
45-69	488	108.3	105.4-111.2	462	98.5	**95.5-101.4**
18-69	**685**	**109.2**	**106.5-111.9**	**713**	**99.0**	**96.8-101.2**

Waist Circumference

Waist circumference is a measure of central obesity and a measure of the risk of cardiovascular diseases. The cut- off points that increase the risk of NCDs are ≥102 cm for men and ≥ 88 cm for women.

Table 74 shows the average waist circumference for men as 112.5 cm, which is well above the 102 cm cut-off point for increased risk among men in both age groups. Women had an average waist circumference of 109.9 cm which is also above the cut-off point for women in both age groups.

Table 74: Mean waist circumference (cm) by sex and age group (excluding pregnant women)

Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	**95% CI**
18-44	199	110.5	106.4-114.6	252	107.4	**104.8-110.1**
45-69	488	114.6	112.7-116.6	461	112.1	**110.2-114.0**
18-69	**687**	**112.5**	**110.5-114.6**	**713**	**109.9**	**108.3-111.5**

Body Mass index and Weight categories

Table 75 shows the average mean body mass index (BMI) of participants. Mean BMI was 35.7 kg/m2 (95% CI= 35.1-36.4) for both sexes; 35.4 kg/m2 (95% CI= 34.6-36.2) for men and 36.5 kg/m2 (95% CI= 35.7-37.2) for women.

Average BMI was above 30 kg/m2 in all age and sex groups, indicating that the participants were, on average, obese. There were no statistically significant differences between sex and/or age groups.

Table 75: Mean body mass index (kg/m2) by sex and age group

Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	**95% CI**
18-44	195	34.8	33.2-36.4	248	35.9	34.9-37.0	443	35.1	**33.9-36.4**
45-69	478	36.0	35.4-36.6	458	36.9	36.0-37.8	936	36.3	**35.7-36.8**
18-69	**673**	**35.4**	**34.6-36.2**	**706**	**36.5**	**35.7-37.2**	**1379**	**35.7**	**35.1-36.4**

Table 76 shows that according to BMI classifications well over two thirds -74.2% (95% CI= 70.0-78.5%) of men were obese; 18.3% (95% CI= 15.4-21.1) were overweight; 7.1% (95% CI= 4.4-9.9%) were of normal weight and 0.4% (95% CI= 0.0-1.0%) were underweight. Combining overweight and obese rates, 92.5% of men were either overweight or obese. There are statistically significant differences between age groups.

Table 76: BMI classifications among men by age group

Age Group (years)	Men								
	n	Under-weight <18.5	95% CI	Normal weight 18.5-24.9	95% CI	Overweight 25.0-29.9	95% CI	Obese ≥30.0	**95% CI**
18-44	195	0.6	0.0-1.8	9.6	4.6-14.7	19.7	15.3-24.1	70.0	**63.1-76.9**
45-69	478	0.1	0.0-0.3	4.6	2.2-7.0	16.7	13.6-19.8	78.6	**75.1-82.2**
18-69	**673**	**0.4**	**0.0-1.0**	**7.1**	**4.4-9.9**	**18.3**	**15.4-21.1**	**74.2**	**70.0-78.5**

Table 77 shows that according to BMI classifications more than two thirds 76.8%, (95% CI= 73.3-80.2) of women were obese; 16.1% (95% CI= 13.5-18.7) were overweight; 6.9% (95% CI= 3.7-10.1) were of normal weight and 0.2% (95% CI= 0.0-0.5) were underweight. Combining overweight and obese rates, 92.9% of women were either overweight or obese.

There is a high prevalence of obesity across both age groups, with a slightly higher percentage in the 45-69 age group. The percentage of women who are overweight is similar in both age groups. The proportion of women who are of normal weight or underweight is relatively low across both age groups. There's a very small difference in the BMI distribution between the two age groups.

This table highlights a significant issue of overweight and obesity among women in these age groups, indicating a potential public health concern.

Table 77: BMI classifications among women by age group

Age Group (years)	Women								
	n	Under-weight <18.5	95% CI	Normal weight 18.5-24.9	95% CI	Overweight 25.0-29.9	95% CI	Obese ≥30.0	**95% CI**
18-44	248	0.2	0.0-0.5	7.5	3.2-11.7	16.0	11.3-20.8	76.3	**71.2-81.4**
45-69	458	0.3	0.0-0.7	6.5	3.4-9.5	16.1	12.6-19.6	77.1	**72.7-81.6**
18-69	**706**	**0.2**	**0.0-0.5**	**6.9**	**3.7-10.1**	**16.1**	**13.5-18.7**	**76.8**	**73.3-80.2**

Table 78 shows that according to BMI classifications well over two thirds - 75.0% (95% CI= 71.3-78.7) of all participants were obese; 17.6% (95% CI= 15.4-19.8) were overweight; 7.1% (95% CI= 4.7-9.4) were of normal weight and 0.3% (95% CI= 0.0-0.7) were underweight.

Combining overweight and obese rates, 92.6% of all participants were either overweight or obese. A marginally significant decrease in the proportion with normal weight exists between younger -9.0% (95% CI= 5.0-13.1) and older – 5.2% (95% CI= 3.2-7.1) age groups, due to the differences between the age groups among women.

Table 78: BMI classifications among both sexes by age group

Age Group (years)	Both sexes								
	n	Under-weight <18.5	95% CI	Normal weight 18.5-24.9	95% CI	Overweight 25.0-29.9	95% CI	Obese ≥30.0	**95% CI**
18-44	443	0.5	0.0-1.3	9.0	5.0-13.1	18.7	15.2-22.3	71.7	**66.0-77.5**
45-69	936	0.1	0.0-0.3	5.2	3.2-7.1	16.5	14.7-18.4	78.2	**75.6-80.8**
18-69	**1379**	**0.3**	**0.0-0.7**	**7.1**	**4.7-9.4**	**17.6**	**15.4-19.8**	**75.0**	**71.3-78.7**

Blood pressure and Hypertension

As part of the Step 2 protocol, participants had their blood pressure measured. Participants were also asked if they have had their blood pressure measured in the last 12 months, whether they have ever been told in the last 12 months by a health worker that they have high blood pressure, and if they were currently receiving any medical treatment for high blood pressure.

The STEPS protocol considers those of having a raised blood pressure if they have:

- A mean systolic blood pressure of ≥140 mmHg, whether or not they have previously been told by a health worker that they have high blood pressure, **Or**
- A mean diastolic blood pressure of ≥90 mmHg, whether or not they have previously been told by a health worker that they have high blood pressure, **Or**
- Normal mean systolic and diastolic blood pressures (i.e. normotensive) and who were currently receiving anti-hypertensive medication, whether or not they have previously been told by a health worker that they have high blood pressure.

Those participants who reported having been previously told by a health worker that they have high blood pressure, but who were normotensive and NOT on anti-hypertensive medication, were NOT included among those considered to have hypertension.

Table 79 presents data on the mean systolic blood pressure (BP) by sex and age group. Systolic blood pressure is the pressure in the arteries when the heart beats and is a key measure in assessing cardiovascular health. The data shows that the mean systolic blood pressure was below 140mmHg for both sexes: on average 135.2mmHg for men and 133.1mmHg for women. This table suggests that while the younger population has relatively healthy systolic BP levels, there is a trend towards higher BP in older age groups, especially in women, which could be a point of concern for health interventions or further study.

Table 79: Mean systolic blood pressure (mmHg) by sex and age group

Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	**95% CI**
18-44	199	130.7	127.4-134.1	264	123.9	121.0-126.9	463	128.8	**126.1-131.5**
45-69	486	139.9	137.2-142.5	461	141.3	138.7-144.0	947	140.3	**138.1-142.6**
18-69	**685**	**135.2**	**132.8-137.7**	**725**	**133.1**	**130.8-135.4**	**1410**	**134.6**	**132.6-136.6**

Table 80 shows that the mean diastolic blood pressure was below 90mmHg for both sexes: 80.4mmHg (95% CI= 79.7-81.0mmHg) for men and 77.7mmHg (95% CI= 76.8-78.5mmHg) for women. The difference between the sexes is statistically significant overall and in both age groups. Among men, diastolic blood pressure increases significantly from 78.0mmHg (95% CI= 77.0-79.0mmHg) in the younger age group to 84.4mmHg (95% CI= 79.7-81.0mmHg) in the older age group. Among women, diastolic blood pressure increases significantly from 75.0mmHg (95% CI= 75.0-76.7mmHg) in the younger age group to 81.5mmHg (95% CI= 79.9-83.1mmHg) in the older age group.

Table 80: Mean diastolic blood pressure (mmHg) by sex and age group

Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	**95% CI**
18-29	199	84.4	81.8-87.0	264	83.3	80.5-86.1	463	84.1	**81.7-86.5**
45-69	486	88.5	87.0-90.0	461	88.7	86.5-90.9	947	88.6	**87.0-90.1**
18-69	**685**	**86.4**	**84.6-88.2**	**725**	**86.1**	**84.0-88.3**	**1410**	**86.3**	**84.6-88.1**

Table 81 shows that 44.3% (95% CI= 38.7-49.9) of all participants had raised blood pressure or were currently on medication for raised blood pressure; 45.4% of men (95% CI= 38.8-52.0) and 41.8% of women (95% CI= 36.7-46.8). The percentage of all participants with a raised BP (SBP ≥140 and/or DBP ≥ 90 mmHg).

Table 81: Percentage with raised blood pressure SBP ≥140 and/or DBP ≥ 90 mmHg or currently on medication for raised blood pressure

Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
18-44	196	34.9	26.0-43.7	259	24.7	16.9-32.6	455	32.0	**24.0-40.0**
45-69	467	56.6	50.8-62.3	444	57.4	51.9-62.9	911	56.8	**52.4-61.3**
18-69	**663**	**45.4**	**38.8-52.0**	**703**	**41.8**	**36.7-46.8**	**1366**	**44.3**	**38.7-49.9**

Summary of Physiological risk factors of the survey population

Positive

1. **Height in Men**: Notably, men in the survey population generally exhibit above-average height.

Challenges

1. **Waist Circumference**: There has been an observed increase in waist circumference among the population, indicating potential health risks.

2. **Obesity Rates**: There's a marked increase in obesity rates across both sexes, highlighting a significant public health concern.

3. **Overweight Rates**: Similarly, the rates of being overweight have risen across both men and women, further stressing the need for dietary and lifestyle interventions.

4. **Blood Pressure Levels**: Elevated blood pressure levels have been noted, indicating increased risks of hypertension and associated health problems.

Step Three: Biochemical risk factors

Fasting Blood Glucose and Diabetes

Non-fasting participants were excluded for these measures in Step 3.

Survey participants were asked if they have been told by a health worker in the previous 12 months that they have diabetes, and whether they were currently receiving any medical treatment for diabetes. To measure fasting blood sugar levels, blood was drawn using the finger prick method.

Estimates of elevated blood glucose prevalence were calculated based on the raised blood glucose test results and by following the WHO guidelines for defining elevated fasting blood glucose (plasma equivalent).

1. Fasting raised blood glucose (plasma equivalent) value of glucose was greater than or equal to 7.0 mmol/L whether or not they have previously been told by a health worker that they have diabetes, OR
2. Normal raised blood glucose (plasma equivalent) value of glucose was less than 7.0 mmol/L AND they were currently receiving anti-diabetes medication prescribed by a health worker.

Note: These calculated values do not reflect diabetes rates, only a second raised fasting blood glucose result is required to confirm diagnosis. That is why the term elevated blood glucose is used in this report. Those participants who have been advised by a health worker that they have diabetes but who had normal fasting blood glucose, and who were NOT on anti-diabetes medication or on a special diet prescribed by a health worker, were NOT included among those considered as having elevated blood glucose.

Table 82 provides data on mean fasting blood glucose levels, measured in mmol/l (millimoles per liter), for men, women, and both sexes combined across different age groups. Fasting blood glucose is a key indicator used in the diagnosis and monitoring of diabetes and pre-diabetes conditions. These values indicates that on average the participant's plasma glucose does not exceed 7mmol/l.

In the younger age group (18-44 years), the mean fasting blood glucose levels are lower compared to the older age group (45-69 years) for both men and women. In the older age group (45-69 years), the mean levels are slightly higher, hovering around the 7 mmol/l mark, especially for men. The increase in mean glucose levels in the older age group suggests a potential age-related rise in blood glucose levels.

This data is important as fasting blood glucose levels above 7 mmol/l are generally considered indicative of diabetes. The results show that while the average levels are within normal range, there is a trend towards higher levels in older age groups, which could be a point of focus for health interventions or further study.

Table 82: Mean fasting blood glucose (plasma equivalent) (mmol/l) by sex and age group

Age Group (years)	Men			Women			Both sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	**95% CI**
18-44	72	6.3	5.7-6.8	126	6.2	5.8-6.6	198	6.2	**5.9-6.6**
45-69	223	7.2	6.7-7.8	211	7.1	6.6-7.6	434	7.2	**6.8-7.6**
18-69	**295**	**6.8**	**6.4-7.2**	**337**	**6.7**	**6.3-7.1**	**632**	**6.8**	**6.5-7.1**

Table 83 shows the prevalence of raised blood glucose (plasma equivalent). In total one third 34.0% (95% CI= 28.3-39.7) of participants had elevated raised blood glucose (plasma equivalent).

Among men 33.6% (95% CI= 27.4-39.8) had elevated plasma glucose, which increased significantly from the younger age group - 17.8% (95% CI= 9.1-26.5) to the older age group - 46.0% (95% CI=37.8-54.2%). Similar is found for women.

Among women 34.8% (95% CI= 27.6-42.1) had elevated plasma glucose which increased significantly from the younger age group 22.3% (95% CI= 14.8-29.8) to the older age group 44.8% (95% CI= 36.3-53.4)

Table 83: Raised blood glucose or currently on medication for diabetes

Age Group (years)	Men			Women			Both sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
18-44	76	17.8	9.1-26.5	129	22.3	14.8-29.8	205	19.2	**12.8-25.7**
45-69	250	46.0	37.8-54.2	243	44.8	36.3-53.4	493	45.6	**39.0-52.3**
18-69	**326**	**33.6**	**27.4-39.8**	**372**	**34.8**	**27.6-42.1**	**698**	**34.0**	**28.3-39.7**

Table 84 shows the number of participants on medication for diabetes is low.

Table 84: Currently on medication for diabetes

Age Group (years)	Men			Women			Both sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
18-44	204	5.1	1.2-8.9	269	5.4	1.9-8.9	473	5.2	**2.4-8.0**
45-69	491	23.5	19.7-27.4	466	21.7	16.5-26.9	957	23.0	**19.3-26.6**
18-69	**695**	**13.9**	**10.8-17.1**	**735**	**14.0**	**9.9-18.0**	**1430**	**13.9**	**11.0-16.9**

Total cholesterol

For elevated total blood cholesterol, a cut-off point ≥5.0 mmol/L (or ≥190 mg/dl) was used to classify participants as being at high risk for coronary artery disease. Note that the total blood cholesterol was measured in mg/dl.

Table 85 presents the mean total cholesterol levels across different age groups for men, women, and both sexes combined. In the 18-44 age group, men have a mean cholesterol level of 187.0mg/dl (95% CI=180.0-194.1 mg/dl), while women have a slightly lower mean of 182.6 mg/dl (95% CI=178.2-187.0 mg/dl). The combined mean for this age group is 185.7mg/dl (95% CI=180.6-190.9 mg/dl. In the 45-69 age group, men show a mean cholesterol level of 188.8 mg/dl, whereas women have a higher mean level of 194.1 mg/dl, leading to a combined mean of 190.4 mg/dl. Overall, for the age range of 18-69 years, the mean cholesterol levels are 187.9 mg/dl for men, 188.7 mg/dl for women, and 188.1 mg/dl for both sexes combined. This data suggests that cholesterol levels slightly increase with age and that there are gender differences, particularly in the older age group.

Table 85: Mean total cholesterol (measured mg/dl)

Age Group (years)	Men			Women			Both sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	**95% CI**
18-44	148	187.0	180.0-194.1	203	182.6	178.2-187.0	351	185.7	**180.6-190.9**
45-69	377	188.8	183.5-194.0	357	194.1	189.3-198.9	734	190.4	**186.7-194.1**
18-69	**525**	**187.9**	**183.4-192.3**	**560**	**188.7**	**185.8-191.6**	**1085**	**188.1**	**184.9-191.4**

Table 86 shows that over half of the participants (who had their cholesterol measured) - 53.2% (95% CI= 49.1-57.2) had raised total blood cholesterol or were currently on medication for raised cholesterol. Amongst the men, 54.1% (95% CI= 48.3-59.8) and among women, 51.1% (95% CI= 46.5-55.6) had raised blood cholesterol. This data indicates a higher prevalence of high cholesterol or medication use in the older age group and slightly higher rates in women than men in the 30-44 age group.

Table 86: Total cholesterol ≥ 190 mg/dl or currently on medication for raised cholesterol

Age Group (years)	Men			Women			Both sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
18-29	148	48.4	38.7-58.0	203	36.6	29.2-44.0	351	45.0	**38.5-51.5**
30-44	377	59.6	52.8-66.5	357	63.8	57.2-70.4	734	61.0	**56.5-65.4**
18-69	**525**	**54.1**	**48.3-59.8**	**560**	**51.1**	**46.5-55.6**	**1085**	**53.2**	**49.1-57.2**

Sodium and creatinine

Levels of sodium and creatinine in spot urine samples are used in STEPS to estimate population 24-hour salt using the INTERSALT equation:

Note:
Estimated 24-hour sodium (Na) intake in mmol for males: 23.51+0.45*spot Na concentration (mmol/L) -3.09*spot creatinine concentration (mmol/L)+4.16*BMI+0.22*Age
Estimated 24-hour sodium (Na) intake in mmol for females: 3.74+0.33* spot Na concentration (mmol/L)-2.44* spot creatinine concentration (mmol/L)+2.42* BMI +2.34* Age -0.03* Age ^2

The 24-hour sodium values in mmol are divided by 17.1 in order to get grams of salt.
The WHO recommendation is less than 5 grams of salt or 2 grams of sodium per person per day.

Table 87 shows that participants who provided spot urine samples were well above the WHO recommendation of less than 5 grams of salt or 2 grams of sodium per person per day The mean for men was 13.2 (95% CI= 12.7-13.7%); and for women 9.4 (95% CI= 9.0-9.7). The total mean for both sexes is 12.0 (95% CI=11.5-12.4).

Table 87: Mean salt intake (g/day)

Age Group (years)	Men			Women			Both sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	**95% CI**
18-29	52	13.3	12.4-14.3	67	9.6	9.0-10.1	119	12.3	**11.7-12.9**
30-44	115	13.0	12.5-13.6	127	9.2	8.8-9.6	242	11.6	**11.1-12.1**
18-69	**167**	**13.2**	**12.7-13.7**	**194**	**9.4**	**9.0-9.7**	**361**	**12.0**	**11.5-12.4**

Summary of Biochemical risk factors of the survey population

Positives

Fasting Blood Glucose: On average, participants' plasma glucose levels do not exceed 7 mmol/L, a threshold generally considered indicative of diabetes. This is evident across different age groups and sexes.

Diabetes Medication: The number of participants on medication for diabetes is relatively low, suggesting a lesser prevalence of clinically diagnosed diabetes needing medication.

Challenges

Raised Blood Glucose: approximately one-third (34.0%) of the participants exhibit elevated blood glucose levels. This prevalence is significant in both sexes and increases markedly with age, from 17.8% in younger men and 22.3% in younger women to 46.0% and 44.8%, respectively, in the older age groups.

Total Cholesterol: Over half of the participants (53.2%) have raised total blood cholesterol levels or are on medication for raised cholesterol. The prevalence is slightly higher among men (54.1%) than women (51.1%).

This indicates a widespread issue of high cholesterol, which is a risk factor for coronary artery disease.

Salt Intake: the mean salt intake among participants exceeds the WHO recommendation of less than 5 grams per day. Men, on average, consume 13.2 grams/day, and women 9.4 grams/day. This excessive intake presents a significant risk factor for hypertension and related health conditions.

Age-Related Trends: Both raised blood glucose and cholesterol levels show an increase with age. This age-related rise in biochemical risk factors indicates a growing concern for the older population segment.

The data suggests a relatively controlled situation regarding fasting blood glucose but highlights significant concerns with elevated blood glucose, cholesterol levels, and salt intake. These challenges underscore the need for targeted health interventions, especially in managing diet and lifestyle factors among the older population. The trends observed call for increased awareness and preventive measures to mitigate the risk of chronic diseases such as diabetes and cardiovascular conditions.

Summary of combined risk factors

Percentage of the survey population with 0, 1-2, or 3-5 of the following risk factors:

- Current daily smoking
- Less than five servings of fruit and/or vegetables per day
- Not meeting WHO recommendations on physical activity for health (<150 minutes of moderate activity per week, or equivalent)
- Overweight or obese (BMI ≥ 25 kg/m2)
- Raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP).

Table 88 provides an analysis of the prevalence of combined risk factors among men, segmented into two age groups. Among all surveyed men (ages 18-69), 62.3% (95% CI = 57.6-67.0) had 3-5 risk factors, 36.2% (95% CI = 31.6-41.7) had 1-2 risk factors, and a negligible 1.0% (95% CI = 0.0-3.0) had no risk factors. The data reveal that older men (ages 45-69) exhibit a significantly higher prevalence of 3-5 risk factors compared to the younger group (ages 18-44), with 69.9% of older men displaying multiple risk factors. This contrasts with 54.9% in the younger group, indicating a marked increase with age. Additionally, the proportion of men with 1-2 risk factors decreases with age, from 43.1% in the younger group to 30.1% in the older group.

Table 88: Summary of combined risk factors by percentage among men by age group

Age Group (years)	**Men**						
	n	with 0 risk factors	95% CI	with 1-2 risk factors	95% CI	with 3-5 risk factors	**95% CI**
18-44	177	2.0	0.0-5.9	43.1	36.2-49.9	54.9	**48.5-61.4**
45-69	439	0.0	0.0-0.0	30.1	24.9-35.4	69.9	**64.6-75.1**
18-69	**616**	**1.0**	**0.0-3.0**	**36.7**	**31.6-41.7**	**62.3**	**57.6-67.0**

Table 89 analyzes the prevalence of combined risk factors among women, segmented into two age groups. Among all surveyed women (ages 18-69), 60.5% (95% CI = 56.1-65.0) had 3-5 risk factors, 38.4% (95% CI = 34.0-42.7) had 1-2 risk factors, and 1.1% (95% CI = 0.2-2.0) had no risk factors.

The data indicates a significant age-related increase in the number of risk factors: while 47.3% of women aged 18-44 have 3-5 risk factors, this proportion rises to 72.3% among those aged 45-69. Conversely, the younger age group has a higher proportion of women with 1-2 risk factors (51.1%) compared to the older group (27.0%). This trend underscores the escalating risk with advancing age and highlights the need for targeted interventions in older populations.

Table 89: Summary of combined risk factors by percentage among women by age group

Age Group (years)	**Women**						
	n	with 0 risk factors	95% CI	with 1-2 risk factors	95% CI	with 3-5 risk factors	**95% CI**
18-44	236	1.6	0.5-2.6	51.1	43.5-58.8	47.3	**39.6-55.0**
45-69	425	0.7	0.0-1.6	27.0	21.3-32.7	72.3	**66.6-78.1**
18-69	**661**	**1.1**	**0.2-2.0**	**38.4**	**34.0-42.7**	**60.5**	**56.1-65.0**

Table 90 provides a comprehensive analysis of the prevalence of combined risk factors among both sexes, segmented into two age groups. Across all surveyed individuals (ages 18-69), 61.8% (95% CI = 58.0-65.5) exhibited 3-5 risk factors, 37.2% (95% CI = 33.3-41.0) had 1-2 risk factors, and only 1.0% (95% CI = 0.0-2.6) had no risk factors. The data clearly indicate a significant increase in the prevalence of 3-5 risk factors with age: while 52.7% of individuals aged 18-44 are in this category, the proportion escalates to 70.6% among those aged 45-69. Conversely, the younger age group shows a higher percentage of individuals with 1-2 risk factors (45.4%) compared to the older group (29.1%). This trend illustrates the escalating risk profile with advancing age and underscores the necessity for targeted preventive measures in older populations.

Table 90: Summary of combined risk factors by percentage among both sexes by age group

Age Group (years)	**Both sexes**						
	n	with 0 risk factors	95% CI	with 1-2 risk factors	95% CI	with 3-5 risk factors	**95% CI**
18-44	413	1.9	0.0-4.8	45.4	39.8-50.9	52.7	**47.1-58.3**
45-69	864	0.2	0.0-0.5	29.1	25.2-33.1	70.6	**66.8-74.5**
18-69	**1277**	**1.0**	**0.0-2.6**	**37.2**	**33.3-41.0**	**61.8**	**58.0-65.5**

Cardiovascular Disease Risk

By integrating the risk factors outlined in Step 1 and Step 2, it is possible to calculate the 10-year risk of developing cardiovascular diseases (CVD) in individuals aged 40-69 years. This risk calculation, specifically for a 10-year CVD risk of 20% or higher, considers several factors:

- Age
- Sex
- Blood pressure levels
- Smoking status (including current smokers and those who quit less than a year before the assessment), total cholesterol levels
- Diabetes status (either previously diagnosed or indicated by a fasting plasma glucose concentration greater than 7.0 mmol/l (126mg/dl).

Individuals categorized with a 10-20% and 20% or higher risk over the next decade are in the highest risk group for developing CVD.

Table 91 segments the 10-year cardiovascular disease (CVD) risk among men into two age groups: 40-54 and 55-69 years. Overall, 32.5% of all surveyed men (95% CI = 28.1-37.1) fall into the 10-20% CVD risk category. Additionally, 3.2% of all surveyed men (95% CI = 1.7-5.7) have a CVD risk exceeding 20%.

The data indicate a significant age-related increase in CVD risk: while only 18.4% of men aged 40-54 have a 10-20% risk, this proportion nearly triples to 46.7% among those aged 55-69. Similarly, the proportion of men with over a 20% risk also increases markedly with age, from 1.8% in the younger group to 6.21% in the older group. This trend underscores the heightened cardiovascular risk associated with advancing age and highlights the need for targeted cardiovascular risk assessments and interventions among older men.

Table 91: Percentage of men by age group by level of 10-year CVD risk

Age Group(years)	Men						
	n	<10%	95% CI	10%-<20%	95% CI	20+%	**95% CI**
40-54	165	81.4	76.7-85.4	18.4	15.5-23.1	1.8	1.4-2.2
55-69	236	47.1	39.1-55.3	46.7	35.9-55.0	6.21	3.6-10.5
Total	**401**	**64.36**	**59.1-69.3**	**32.5**	**28.1-37.1**	**3.2**	**1.7-5.7**

Table 92 provides an analysis of the 10-year cardiovascular disease (CVD) risk among women, segmented into two age groups: 40-54 and 55-69 years.

The overall distribution of 10-20% CVD Risk, 22.2% of all surveyed women (95% CI = 16.5-29.1) fall into this risk category and over 20% CVD Risk, 3.8% of all surveyed women (95% CI = 2.0-7.2) have a risk exceeding 20%.

The data reveals a notable age-related increase in CVD risk among women. While only 10.2% of women aged 40-54 fall into the 10-20% risk category, this proportion more than triples to 36.3% among those aged 55-69. Similarly, the proportion of women facing a CVD risk of over 20% increases from 1.1% in the younger group to 7.1% in the older group. This trend highlights the significant rise in cardiovascular risk associated with advancing age and underscores the importance of targeted interventions and preventive measures for older women.

Table 92: Percentage of women by age group by level of 10-year CVD risk by percentage

Age Group(years)	Women						
	n	<10%	95% CI	10%-<20%	95% CI	20+%	**95% CI**
40-54	200	88.7	80.3-93.8	10.2	5.3-19.0	1.1	**0.2-5.3**
55-69	204	56.7	49.1-63.9	36.3	29.1-44.1	7.1	**3.2-14.9**
Total	**404**	**74.0**	**67.5-79.6**	**22.2**	**16.5-29.1**	**3.8**	**2.0-7.2**

Table 93 offers an analysis of the 10-year CVD risk among participants, divided into two age groups: 40-54 and 55-69 years. The overall distribution shows that 29.3% of all participants (95% CI = 26.1-32.6) fall into the 10-20% CVD risk category. Additionally, 3.4% of all participants (95% CI = 2.3-5.0) face a higher risk, exceeding 20%. This analysis shows a significant age-related trend in CVD risk. Participants in the older age group (55-69 years) exhibit much higher rates of both moderate (10-20%) and high (>20%) CVD risk compared to the younger age group (40-54 years). Specifically, the proportion of individuals with a moderate risk increases nearly threefold from 15.7% among those aged 40-54 to 43.6% among those aged 55-69. Similarly, the risk of developing a high CVD risk also escalates with age, increasing from a mere 0.5% in the younger group to 6.5% in the older group.

Table 93: Percentage of both sexes by age group by level of 10-year CVD risk by percentage

Age Group(years)	Both sexes						
	n	<10%	95% CI	10%-<20%	95% CI	20+%	**95% CI**
40-54	365	83.8	80.2-86.8	15.7	12.7-19.3	0.5	**0.1-2.7**
55-69	440	49.9	43.6-56.3	43.6	37.5-50.0	6.5	**4.4-9.3**
Total	**805**	**67.4**	**63.7-70.9**	**29.3**	**26.1-32.6**	**3.4**	**2.3-5.0**

Table 94 highlights the distribution of 10-year CVD risk of 20% or higher, including those with existing CVD, among participants. The overall data shows that 15.3% of participants (95% CI = 12.7-18.3) are categorized within this high-risk group. The data indicates a significant increase in CVD risk among older participants, particularly those aged 55-69, with men showing a risk of 23.3% and women 20.7% in this age bracket, compared to their younger counterparts. Notably, the analysis reveals no statistical difference in CVD risk between men and women when considering the total population.

Table 94: Percentage of participants with a 10-year CVD risk ≥20% or with existing CVD by age group

Age Group(years)	Men			Women			Both sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
40-54	168	6.5	3.9-10.8	207	11.8	7.9-17.3	375	8.3	**6.0-11.3**
55-69	254	23.3	16.8-31.4	212	20.7	15.1-27.9	466	22.6	**17.8-28.2**
Total	**422**	**15.1**	**11.7-19.2**	**419**	**15.9**	**12.3-20.3**	**841**	**15.3**	**12.7-18.3**

*A 10-year CVD risk of ≥20% is defined according to age, sex, blood pressure, smoking status (current smokers OR those that who quit smoking less than 1 year before the assessment), total cholesterol, and diabetes (previously diagnosed OR a fasting plasma glucose concentration >7.0 mmol/l (126mg/dl))

Table 95 illustrates the engagement of individuals aged 40-69 years, who are at a high 10-year CVD risk (20% or higher, including those with existing CVD), in preventative measures such as drug therapy and lifestyle counseling. The data indicates no significant differences in the receipt of these interventions between genders or among different age groups, highlighting a consistent approach across demographics. The higher engagement rates in younger men compared to other groups might reflect a variability in either access, healthcare behavior.

Table 95: Percentage of eligible participants receiving drug therapy and counseling to prevent heart attacks and strokes

Age Group(years)	Men			Women			Both sexes		
	n	%	95% CI	n	%	95% CI	n	%	**95% CI**
40-54	14	67.8	36.2-88.6	25	43.7	21.1-69.3	39	56.4	**37.1-74.0**
55-69	62	49.7	36.0-63.4	43	48.7	27.9-70.0	105	49.4	**38.8-60.1**
Total	**76**	**53.5**	**40.2-66.3**	**68**	**46.7**	**28.0-66.5**	**144**	**51.3**	**41.5-61.0**

Supplementary

Oral Health

Table 96 shows the percentage of male participants with natural teeth. Over three quarters of men - 78.3% (95% CI= 75.2-81.5) have 20 or more natural teeth with a higher percentage in the younger group - 87.0% (95% CI= 82.9-91.0).

Table 96: Percentage of men with natural teeth

Age Group (years)	Men								
	n	No natural teeth	95% CI	1 - 9 natural teeth	95% CI	10 - 19 natural teeth	95% CI	≥ 20 natural teeth	**95% CI**
18-44	193	0.2	0.0-0.6	1.2	0.0-2.5	11.6	7.7-15.6	87.0	**82.9-91.0**
45-69	463	7.1	2.2-12.0	11.1	7.9-14.4	24.3	17.4-31.3	57.4	**50.6-64.2**
18-69	**656**	**2.2**	**0.6-3.8**	**4.1**	**2.8-5.4**	**15.4**	**11.6-19.1**	**78.3**	**75.2-81.5**

Table 97 shows the percentage of female participants with natural teeth. Like their male counterparts over three quarters of women - 76.5% (95% CI= 73.0 -80.0) have 20 or more natural teeth with a higher percentage in the younger group - 85.9% (95% CI= 81.8-90.1).

Table 97: Percentage of women with natural teeth

Age Group (years)	Women								
	n	No natural teeth	95% CI	1 - 9 natural teeth	95% CI	10 - 19 natural teeth	95% CI	≥ 20 natural teeth	**95% CI**
18-44	261	0.0	0.0-0.0	1.1	0.0-2.5	13.0	9.2-16.7	85.9	**81.8-90.1**
45-69	447	6.8	3.0-10.5	11.6	8.4-14.9	24.9	20.0-29.8	56.6	**49.3-64.0**
18-69	**708**	**2.2**	**1.0-3.4**	**4.5**	**3.1-5.9**	**16.9**	**14.3-19.4**	**76.5**	**73.0-80.0**

Table 98 shows the percentage of both sexes with natural teeth. Over three quarters of both sexes - 77.4% (95% CI= 74.7-80.1) have 20 or more natural teeth with a higher percentage in the younger group - 85.5% (95% CI= 83.1-89.9).

Table 98: Percentage of both sexes with natural teeth

Age Group (years)	Both sexes								
	n	No natural teeth	95% CI	1 - 9 natural teeth	95% CI	10 - 19 natural teeth	95% CI	≥ 20 natural teeth	**95% CI**
18-44	454	0.1	0.0-0.3	1.1	0.1-2.1	12.3	9.1-15.4	86.5	**83.1-89.9**
45-69	910	6.9	3.4-10.5	11.4	8.9-13.9	24.7	20.3-29.0	57.0	**51.5-62.5**
18-69	**1364**	**2.2**	**1.1-3.3**	**4.3**	**3.2-5.3**	**16.1**	**13.5-18.7**	**77.4**	**74.7-80.1**

Table 99 shows the percentage of both sexes who self-reported having poor or very poor state of teeth among those having natural teeth. Only 7.3% (95% CI= 6.1-8.5) of both sexes self-reported that their teeth were in a poor state.

Table 99: Percentage of participants having poor or very poor state of teeth among those having natural teeth

Age Group (years)	Men			Women			Both sexes		
	n	having poor or very poor state of teeth	95% CI	n	having poor or very poor state of teeth	95% CI	n	having poor or very poor state of teeth	**95% CI**
18-44	200	4.5	1.7-7.3	266	5.3	2.6-8.0	466	4.9	**3.5-6.3**
45-69	459	14.5	11.2-17.8	435	11.4	7.2-15.6	894	12.9	**10.8-15.0**
18-69	**659**	**7.3**	**5.4-9.2**	**701**	**7.2**	**5.2-9.3**	**1360**	**7.3**	**6.1-8.5**

Table 100 shows the percentage of both sexes who self-reported having poor or very poor state of gums among those having natural teeth. Only 3.3% (95% CI= 2.3-4.3) of both sexes self-reported that their gums were in a poor state.

Table 100: Percentage of participants having poor or very poor state of gums among those having natural teeth

Age Group (years)	Men			Women			Both sexes		
	n	having poor or very poor state of gums	95% CI	n	having poor or very poor state of gums	95% CI	n	having poor or very poor state of gums	**95% CI**
18-44	201	1.3	0.0-2.5	266	3.2	1.3-5.1	467	2.2	**1.1-3.2**
45-69	483	5.3	3.3-7.3	459	6.6	3.6-9.6	942	6.0	**4.2-7.7**
18-69	**684**	**2.4**	**1.4-3.5**	**725**	**4.3**	**2.5-6.1**	**1409**	**3.3**	**2.3-4.3**

Table 101 shows the percentage of both sexes who self-reported having removable dentures. Nearly a quarter of both sexes - 22.8% (95% CI= 19.6-26.0) have removable dentures with a higher percentage in the older group - 45.2% (95% CI= 41.0-49.4). More women than men in the older group - 49.3% (95% CI= 43.5-55.1) reported having removable dentures.

Table 101: Percentage of participants having removable dentures

Age Group (years)	Men			Women			Both sexes		
	n	Having removable dentures	95% CI	n	Having removable dentures	95% CI	n	Having removable dentures	**95% CI**
18-44	202	9.4	5.3-13.5	267	16.3	11.4-21.1	469	12.7	**9.2-16.2**
45-69	490	40.8	35.7-46.0	466	49.3	43.5-55.1	956	45.2	**41.0-49.4**
18-69	**692**	**18.7**	**14.9-22.6**	**733**	**27.1**	**23.0-31.2**	**1425**	**22.8**	**19.6-26.0**

Table 102 shows the percentage of both sexes who self-reported having upper dentures. Over three quarters of both sexes – 86.9% (95% CI= 82.4-91.4) have upper jaw dentures with a higher percentage in the older group - 91.4% (95% CI= 87.8-94.9). Nearly three thirds of men and women in the older age group who reported that they have removable dentures have upper jaw dentures.

Table 102: Percentage of participants having an upper jaw denture among those having removable dentures

Age Group (years)	Men			Women			Both sexes		
	n	Having an upper jaw denture	95% CI	n	Having an upper jaw denture	95% CI	n	Having an upper jaw denture	**95% CI**
18-44	19	75.1	47.6-100.0	38	82.5	67.0-98.0	57	79.5	**68.3-90.8**
45-69	178	91.2	86.0-96.5	214	91.4	86.6-96.3	392	91.4	**87.8-94.9**
18-69	**197**	**85.5**	**74.5-96.6**	**252**	**87.9**	**82.6-93.1**	**449**	**86.9**	**82.4-91.4**

Table 103 shows the percentage of both sexes who self-reported having lower jaw dentures. Just over half of both sexes – 51.1% (95% CI= 42.8-59.4) have lower jaw dentures with a slightly higher percentage in the older group - 54.3% (95% CI= 46.2-62.3). Slightly over fifty percent of men and women in the older age group who reported that they have removable dentures have low jaw dentures; and more women in the younger age group than men have lower jaw dentures.

Table 103: Percentage of participants having an lower jaw denture among those having removable dentures

Age Group (years)	Men			Women			Both sexes		
	n	Having a lower jaw denture	95% CI	n	Having a lower jaw denture	95% CI	n	Having a lower jaw denture	**95% CI**
18-44	19	39.2	12.9-65.4	38	50.4	35.2-65.6	57	46.0	**30.3-61.6**
45-69	178	53.0	41.4-64.7	214	55.2	47.3-63.1	392	54.3	**46.2-62.3**
18-69	**197**	**48.2**	**34.2-62.2**	**252**	**53.3**	**46.3-60.3**	**449**	**51.1**	**42.8-59.4**

Table 104 shows the percentage of both sexes who self-reported having lower and upper jaw dentures. Just over one third of both sexes – 39.5% (95% CI= 33.3-45.7) have lower and upper jaw dentures with a higher percentage in the older group - 46.4% (95% CI= 38.7-54.2). Women who reported that they have removable dentures have higher percentage - 43.2% (95% CI= 36.2-50.1) of upper and lower jaw dentures than men; and more women in the younger age group than men have upper and lower jaw dentures.

Table 104: Percentage of participants having an upper and a lower jaw denture among those having removable dentures

Age Group (years)	Men			Women			Both sexes		
	n	Having an upper and a lower jaw denture	95% CI	n	Having an upper and a lower jaw denture	95% CI	n	Having an upper and a lower jaw denture	**95% CI**
18-44	19	14.2	1.0-27.4	38	37.3	20.5-54.1	57	28.2	**16.7-39.6**
45-69	178	45.6	34.9-56.4	214	47.0	39.9-54.2	392	46.4	**38.7-54.2**
18-69	**197**	**34.6**	**25.5-43.6**	**252**	**43.2**	**36.2-50.1**	**449**	**39.5**	**33.3-45.7**

Table 105 shows that over one quarter - 28.2% (95% CI= 25.0-31.4) of all participants experienced oral pain or discomfort in the past 12 months. The highest percentage was among men in the older age group, although it does not differ significantly from women or younger men.

Table 105: Percentage of participants having oral pain or discomfort caused by their teeth or mouth during the past 12 months

Age Group (years)	Men			Women			Both sexes		
	n	Having oral pain or discomfort	95% CI	n	Having oral pain or discomfort	95% CI	n	Having oral pain or discomfort	**95% CI**
18-44	202	24.2	16.6-31.8	267	31.0	26.4-35.5	469	27.4	**23.0-31.8**
45-69	490	30.3	26.1-34.5	466	29.5	23.3-35.7	956	29.9	**26.3-33.4**
18-69	**692**	**26.0**	**20.4-31.6**	**733**	**30.5**	**27.2-33.8**	**1425**	**28.2**	**25.0-31.4**

Table 106 shows that 41.7% (95% CI= 36.7-46.8) of all participants have seen a dentist in the past 12 months. More women across both age groups visit the dentist.

Table 106: Percentage of respondents having seen a dentist during the past 12 months

Age Group (years)	Men			Women			Both sexes		
	n	seen a dentist during the past 12 months	95% CI	n	seen a dentist during the past 12 months	95% CI	n	seen a dentist during the past 12 months	**95% CI**
18-44	202	38.4	29.7-47.1	267	43.9	34.4-53.3	469	41.0	**34.1-48.0**
45-69	490	43.5	37.7-49.4	466	43.1	37.6-48.5	956	43.3	**39.6-46.9**
18-69	**692**	**39.9**	**33.2-46.7**	**733**	**43.6**	**36.8-50.4**	**1425**	**41.7**	**36.7-46.8**

Cervical cancer

Table 107 shows the percentage of female participants who have ever had a screening test for cervical cancer among all female participants. Approximately two thirds 61.2% (95% CI 53.0-69.4) of women have been tested for cervical cancer. More women in the older group have been tested than those in the younger group.

Table 107: Percentage of female participants who have ever had a screening test for cervical cancer among all female participants

Age Group (years)	Women		
	n	ever tested	95% CI
18-44	256	53.6	**43.8-63.3**
45-69	455	76.6	**70.6-82.7**
18-69	**711**	**61.2**	**53.0-69.4**

Table 108 shows the percentage of female participants in the age group of 30-49 who have ever had a screening test for cervical cancer among all female participants. Two thirds of women 67.0% (95% CI= 57.3-76.6) of women have been tested for cervical cancer.

Table 108: Percentage of female respondents aged 30-49 years who have ever had a screening test for cervical cancer among all female respondents aged 30-49 years

Age group	Women		
	n	ever tested	95% CI
30-49	**289**	**67.0**	**57.3-76.6**

Discussion and conclusions

This section summarises key findings from the STEPS survey 2022 and presents a range of practical recommendations to address NCDs in Cook Islands.

Behavioral risk factors for NCDs continue to negatively impact both sexes at all adult ages, contributing to an increased risk of developing NCDs. As the number of risk factors increases, so does the risk of developing and dying from an NCD.

Almost all (99%) of the survey population had multiple risk factors; 61.8% with 3 to 5 risk factors and 37.2% with 1 to 2 risk factors. There is a statistically significant gap in 1-2 risk factors between the younger age group (45.4%) and the older age group (29.1%), mirrored by a significant increase in 3-5 risk factors from the younger age group (52.7%) to the older age group (70.6%).

Current smokers comprised one-third of the survey population at 34.5%, with a higher proportion among men (39.0%) than among women (29.9%). The highest proportion of current smokers was among young men (44.4%) and young women (38.3%). In this group, men start smoking at age 17.8 years and women at 18 years, and once they start, they continue for 20.9 years (men) and 22.9 years (women). Importantly, 56.9% of current smokers have tried to quit in the past 12 months, with 63.7% in the older age group (45-69) attempting to quit. Over one-third (37.9%) of the sample population were exposed to secondhand smoke at home, with higher workplace exposure among men (34.0%) than women (18.0%).

Nearly half (49.8%) of all participants were current alcohol drinkers (those who drank in the past 30 days). On average, current drinkers consumed alcohol over 1-2 days in a 7-day period. Men consumed an average of 9.0 standard drinks and women 6.2 drinks on a drinking day. Young men consumed the most (9.3 standard drinks) and exceeded the consumption of older men and all women.

While there was a slight increase in daily fruit and vegetable intake, both sexes continued to consume less (2.9 servings) than the WHO recommended level of five servings per day.

The largest behavioral change since 2003-2004 is the significant increase in physical activity levels among those aged 18-44 years. More men (64.9%) than women (42.5%) engaged in high-level physical activity. Overall, 77.4% of participants met the WHO recommendations on physical activity. The younger group (18-44 years) of men had the highest level of physical activity at 70.2; and the younger age group (18-44 years) had the highest level (46.6%). Most physical activity was primarily undertaken as part of work, with leisure-time activity being secondary.

Among participants aged 40-69 (n= 805), 29.3% are at a 10-20% risk of developing cardiovascular disease in the next ten years, and 3.4% (95% CI=2.3-5.0) face a higher risk, exceeding 20%.

The proportion of obesity among participants has significantly increased since 2004. The body mass index (BMI) of participants indicated that the group was, on average, obese (≥ 30kg/m2) over the past two decades. This finding is inconsistent with the statistically significant increase in high-level physical activity, requiring further investigation in a follow-up survey, including the role of diet and meal portion size. The BMI for both sexes was 35.7 kg/m2: 35.4 kg/m2 for men and 36.5 kg/m2 for women. Over two-thirds (75.0%) of both sexes were obese, and 17.6% were overweight.

Hypertension (defined as SBP ≥140 and/or DBP ≥ 90 mmHg or currently on medication for raised blood pressure) was identified in 44.3% of all participants; 45.4% of men and 41.8% of women.
The mean waist circumference shows that both men and women exceed the cut-off points for an increased risk of high blood pressure, high blood cholesterol, type 2 diabetes, heart disease, and stroke. Men had a waist circumference of 112.5cm, well above the 102cm cut-off; and women had 109.9 cm, also well above the 88cm cut-off.

Based on the fasting sample, the proportion of the sample with raised blood glucose (defined as fasting raised blood glucose (plasma equivalent) ≥ 7.0 mmol/L (126 mg/dl)) or currently on medication for raised blood glucose, was overall 34.0%. Women had a slightly higher level at 34.8% than men at 33.6%.

The results for raised total blood cholesterol (≥ 190 mg/dl) Over half (53.2%) of participants had raised blood cholesterol. Men had a higher level at 54.4% than women at 51.1% and were at high risk of developing coronary artery disease.

The behavioral, physiological, and biochemical measures indicate a significant presence of NCD risk factors in the Cook Islands. This Cook Islands NCD STEPS survey has confirmed that NCDs continue to pose a threat to public health and longevity, and a challenge to productivity in individuals.

The behavioural, physiological and biochemical measures indicate the significant presence of NCD risk factors in the Cook Islands. This Cook Islands NCD STEPS survey has confirmed that NCDs continue to pose a threat to public health and long life, and a challenge to productivity in persons.

Continuing the NCD STEPS surveys in the Cook Islands into the future will allow for the identification of trends over time and suggest the modifications required to reduce the incidence and prevalence of NCDs in the population.

Strengthening the implementation of Ngakianga Kapiti Oraanga Meitaki – The Cook Islands National Strategy and Action Plan for Non-Communicable Diseases 2021-2025 by all stakeholders is required to address cross-sectoral contributing factors, such as the availability of fruit and vegetables for daily consumption; the licensing and regulation of products that impact adversely on health status, and health education campaigns on the outcomes of high-risk behaviors, particularly among young people, who may yet have the potential to avoid NCDs.

Given the high rates of NCDs in the Cook Islands, efforts to improve primary care (prevention), secondary prevention (early diagnosis), and tertiary prevention (treatment and the prevention of relapses and disease sequelae) will also remain critical, alongside effective primary prevention.

All the risk factors mentioned above are modifiable. However, for a strategy to be effective, the population must recognize the risks and appreciate the outcome of improved health. This change will need to be driven by evidence-based strategies and provided in a manner that is sensitive to the prevailing social, economic, and cultural environments of the Cook Islands.

Recommendations

1. **Strengthen Health Promotion Programs:**
   - Develop a comprehensive strategy that includes:
     - **Salt Reduction**: Formulate a plan to reduce salt consumption within the population.
     - **Sugar Reduction**: Outline steps to lower sugar intake, particularly in processed foods.
     - **Healthy Eating Campaigns**: Promote healthy eating with an emphasis on planting and consuming locally grown produce.

2. **Strengthen Regulatory Frameworks:**
   - Strengthen legal frameworks and regulatory mechanisms for controlling the availability and promotion of harmful substances, including:
     - **Alcohol**
     - **Tobacco**: Expand to cover electronic nicotine delivery systems and electronic non-nicotine delivery systems.
   - Ensure these frameworks are supported with adequate resources and training.
3. **Initiate Targeted Health Campaigns:**
   - Launch an evidence based NCD risk factor reduction campaign focused on addressing the major modifiable risk factors such as physical inactivity, unhealthy diet, tobacco use, and harmful use of alcohol.

4. **Develop Plans for Long-Term Surveillance**:
   - Develop a five-year plan to map out the surveillance surveys that the Ministry of Health (TMO) would undertake. This plan should be designed to determine the effectiveness, or otherwise, of NCD prevention and control measures implemented.

5. **Investigate and Enhance Existing Health Programs:**
   - Investigate other health initiatives that could be introduced or explore ways to add value to current initiatives to better combat NCDs.

Addressing NCD risk factors

1. Support local fruit and vegetable production and internal marketing to encourage healthy eating practices in line with WHO guidelines.

2. Develop physical activity-friendly environments, such as public walking tracks and workplace and community fitness facilities and programs, to address the low level of recreation-related physical activity, particularly among women and older individuals.

Specifications

1. Develop anti-smoking campaigns to reduce smoking uptake, particularly targeting young people.
2. Enforce regulations regarding smoking in workplaces and public places to reduce exposure to secondhand smoke.
3. Strengthen and expand the Smoke-Free Home initiative.
4. Expand quit smoking programs to assist the significant proportion of smokers who attempt to quit.
5. Support the implementation of alcohol reduction strategies in line with current alcohol legislation and harm minimization strategies.
6. Conduct health promotion and education campaigns to increase public awareness of the adverse effects of excessive consumption of high-fat, high-salt, and high-sugar foods.

7. Strengthen and support health promotion initiatives promoting healthy food preparation.
8. Support lifelong healthy eating behaviors, starting with exclusive breastfeeding from birth and healthy infant feeding practices.
9. Establish and maintain coalitions and partnerships.
10. Collaborate with media organizations, churches, and NGOs with a common interest in NCD prevention to develop a multi-media strategy for awareness and advocacy.
11. Build coalitions and partnerships across sectors to address NCD risk factors beyond the authority of TMO, such as food importation and agricultural policy.

Actions for the management of patients: screening, early diagnosis, treatment, and prevention of premature death

Te Marae Ora be supported to:

1. Determine a realistic approach to strategies addressing NCDs.
2. Strengthen a responsive healthcare system for early screening, diagnosis, treatment, and referral through an effective primary healthcare system delivering essential NCD interventions.
3. Identify a realistic set of resources, including appropriately trained human resources and basic equipment and supplies, and make them available at all healthcare system levels.
4. Strengthen community-based (and family) care and management of individuals with diagnosed NCDs.
5. Support behavior change in organizations and workplaces through health risk assessments and referrals.
6. Maintain quality surveillance and public health information systems/practices.
7. Establish strong relationships with local government in the Cook Islands to maintain a systematic and rigorous approach to NCD STEPS data collection, supported by people trained in implementing the survey, to create an ongoing and robust NCD STEPS surveillance system.
8. Strengthen information on the current baseline for NCD mortality and morbidity in line with the need to report on the Pacific regional goal to reduce NCD premature deaths by 25% by 2030.
9. Repeat the NCD STEPwise surveys at 5- to 7-year intervals, supplemented by TMO surveillance (PEN CVRA), workplace, and school-based surveys, to determine the effectiveness of implemented NCD prevention and control measures.

References

Government of the Cook Islands. (2022). *Te Kaveinga Tupu'anga iti Tangata: Cook Islands Population Policy 2022-2032*. Retrieved from: https://www.pmoffice.gov.ck/wp-content/uploads/2023/01/CI-Pop-Pol-highres-digital.pdf

Government of the Cook Islands. (2022). The Census of Population and Dwellings. Retrieved from: https://stats.gov.ck/2021-census-of-population-and-dwellings/

Government of the Cook Islands. (2017)*Takai'anga Angaanga Tutara a Te Marae Ora (National Health Strategic Plan) 2017-2021.* Retrieved from: https://www.health.gov.ck/national-health-strategic-plan-2017-2021/

The National Health Information Bulletin 2019 – 2020. Retrieved from: https://www.health.gov.ck/national-health-information-bulletin-2019-2020/

World Health Organization. (2014). *Global status report on noncommunicable diseases 2014.* Retrieved from: https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases#cms

Appendices:

Appendix 1 - List of Data Collectors

Dr Nuhisifa Williams Principal Investigator			
Teauotonga			
Rufina Tutai	**Team Lead**		
Daniel	Project Team	RN Mary Timoti	Project Team
Ngatamaine Rongo	Project Team	RN Edwina Tangaroa	Project Team
Shelvana	Project Team	Howard Tangimetua	Project Team
Paul Maaka	Project Team	Michaela Tangimetua	Project Team
RN Maina Tairi	Project Team		
Takitimu – Matavera - Ngatangiia		**Takitimu - Titikaveka**	
Dr Danny Areai	**Co Team Lead**	Tereapii Tumutoa	**Team Lead**
Karen Ngamata	**Co Team Lead**	RN Clemency Goldie	Project Team
Edith Tangaroa	Project Team	RN Hiawatha Tauia	Project Team
RN Vaine Teatai	Project Team	Grace Matenga	Project Team
Marie Woonton	Project Team	Teau Puna	Project Team
Ella	Project Team		
Nga	Project Team		
Dr Nio	Project Team		
Helen Maunga	Project Team		
Puaikura		**Administration**	
Rangi Tairi	**Team Lead**	Mataitirangi Tuakana	Finance controller
Malvina Daniel	Admin/Consent Form	Lualua Lau	Statistician
Madeline Arapari	Physical measurement	Moetuma Nicholas	Admin support
Tania John	Bio-Chem	Etua Drollett	IT support
Oropai Mataroa	Bio Chem		
RN Norma Tairi	Interviewer		
RN Noel Mani	Interviewer		
Tearoa Ngaro	Interviewer		
Metua	Interviewer		
Aitutaki	**Atiu**	**Mangaia**	**Manihiki Pukapuka**
Rangi Tairi TL	**Maina Tairi TL**	Tereapii Tumutoa TL	**Dr Danny Areai TL**
Dr Nuhisifa Williams	Dr Nuhisifa Williams	Edwina Tangaroa	Howie Tangimetua
RN Rufina Tutai	Howie Tangimetua	RN Clemency Goldie	Michaela Tangimetua
Howie Tangimetua	Michaela Tangimetua	RN Tearoa Ngaro	RN Mary Timoti
	Grace Matenga		RN Maina Tairi, Grace Matenga
Aitutaki Team	**Atiu Team**	**Mangaia Team**	**Manihiki Team**
Mareta Mose	Vainenooapii Matearíki	Clara Teina Ngametuatoe	Parau Ngamata Nio
Tohoa Cummings	Aerenga Upoko	Mama Tiare George	Joseph Hiro
Kura Ioane	Victoriano Matapakia	Metua College	Jean Marie Williams
Nooroa Tuakeu	Robert Simpson	Tokoa Vandonagen	Ngametua Koteka
Mataiti Rave	Tekura Patukura		Ana Paniani
Party Rave	Andrew Akava		Teokotai Ngaiorae
Benioni Blenkarn			John Koteka

Appendix 2: Cook Islands STEPS Survey Questionnaire

Cook Islands
STEPS Instrument
16 May 2022

The WHO STEPwise approach to noncommunicable disease risk factor surveillance (STEPS)

World Health Organization
20 Avenue Appia, 1211 Geneva 27,
Switzerland

World Health Organization

For further information:
www.who.int/ncds/steps

STEPS Instrument

Overview

Introduction

This is the generic STEPS Instrument which sites/countries will use to develop their tailored instrument. It contains the:

CORE items (unshaded boxes)
EXPANDED items (shaded boxes).

Core Items

The Core items for each section ask questions required to calculate basic variables. For example:

current daily smokers
mean BMI.

Note: All the core questions should be asked, removing core questions will impact the analysis.

Expanded items

The Expanded items for each section ask more detailed information. Examples include:

use of smokeless tobacco
sedentary behavior.

Guide to the columns

The table below is a brief guide to each of the columns in the Instrument.

Column	Description	Site Tailoring
Question	Each question is to be read to the participants	Select sections to use. Add expanded and optional questions as desired.
Response	This column lists the available response options which the interviewer will be circling or filling in the text boxes. The skip instructions are shown on the right hand side of the responses and should be carefully followed during interviews.	Add site specific responses for demographic responses (e.g. C6). Change skip question identifiers where necessary.
Code	The column is designed to match data from the instrument into the data entry tool, data analysis syntax, data book, and fact sheet.	This should never be changed or removed. The code is used as a general identifier for the data entry and analysis.

Survey Information

Location and Date	Response	Code
Cluster/Centre/Village ID	⌊_⌊_⌊_⌊_⌊_⌊_⌊_⌋	I1
Cluster/Centre/Village name		I2
Interviewer ID	⌊_⌊_⌊_⌋	I3
Date of completion of the instrument	⌊_⌊_⌋ ⌊_⌊_⌋ ⌊_⌊_⌊_⌊_⌋ dd mm year	I4

Consent, Interview Language and Name	Response	Code
Consent has been read and obtained	Yes 1 No 2 **If NO, END**	I5
Interview Language *[Insert Language]*	English 1 Cook Islands Maori 2	I6
Time of interview (24 hour clock)	⌊_⌊_⌋ : ⌊_⌊_⌋ hrs mins	I7
Family Surname		I8
First Name		I9
Additional Information that may be helpful		
Contact phone number where possible		I10

Step 1 Demographic Information

CORE: Demographic Information

Question	Response	Code
Sex (*Record Male / Female as observed*)	Male 1 Female 2 Other 3	C1
What is your date of birth? *Don't Know 77 77 7777*	⌊_⌊_⌋ ⌊_⌊_⌋ ⌊_⌊_⌊_⌊_⌋ *If Known, Go to C4* dd mm year	C2
How old are you?	Years ⌊_⌊_⌋	C3
In total, how many years have you spent at school and in full-time study (excluding pre-school)?	Years ⌊_⌊_⌋	C4

EXPANDED: Demographic Information		
What is the **highest level of education** you have completed? *[INSERT COUNTRY-SPECIFIC CATEGORIES]*	No formal schooling 1 Less than primary school 2 Primary school completed 3 Secondary school completed 4 Vocational Training completed 5 University completed 6 Post graduate degree 7 Refused 88	C5
What is your *[insert relevant ethnic group / racial group / cultural subgroup / others]* **background**?	Cook Islands Māori 1 Others 2 3 Refused 88	C6
What is your **marital status**?	Never married 1 Separated 3 Divorced 4 Widowed 5 Defacto 6 Married 7 Refused 88	C7
Which of the following best describes your **main work** status over the past 12 months? *[INSERT COUNTRY-SPECIFIC CATEGORIES]* (*USE SHOWCARD)*	Government employee 1 Non-government employee 2 Self-employed 3 Non-paid 4 Student 5 Homemaker 6 Retired 7 Unemployed (able to work) 8 Unemployed (unable to work) 9 Refused 88	C8
How many people older than 18 years, including yourself, live in your household?	Number of people ⌊_⌊_⌋ *If Not Known, Go to C11*	C9

EXPANDED: Demographic Information, Continued		
Question	**Response**	**Code**
Taking **the past year**, can you tell me what the average earnings of the household have been? *(RECORD ONLY ONE, NOT ALL 3)*	Per week ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *Go to T1*	C10a
	OR per month ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *Go to T1*	C10b
	OR per year ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *Go to T1*	C10c
	Refused 88	C10d
Can you give an **estimate** of the annual household income if I read some options to you? In NZD *[INSERT QUINTILE VALUES IN **NZD**]* *(READ OPTIONS)*	≤ Quintile $10,000 NZD 1 More than $10,000, ≤ $20,000 2 More than ≤ $20,000 ≤ $30,000 3 More than $30,000, ≤ $70,000 4 More than $70,000 5 Don't Know 77 Refused 88	C11

Step 1 Behavioural Measurements

CORE: Tobacco and other use

Now I am going to ask you some questions about tobacco use.

Question	**Response**	**Code**
Do you **currently** smoke any **tobacco** products, such as cigarettes, cigars or pipes, vaping? *(USE SHOWCARD)*	Yes 1 No 2 *If No, go to T8*	T1
Do you currently smoke tobacco products **daily**?	Yes 1 No 2	T2
How old were you when you **first started** smoking?	Age (years) Don't know 77 ⌊_⌋⌊_⌋ *If Known, go to T5a/T5aw*	T3
Do you remember how long ago it was? *(RECORD ONLY 1, NOT ALL 3)* *Don't know 77*	In Years ⌊_⌋⌊_⌋ *If Known, go to T5a/T5aw*	T4a
	OR in Months ⌊_⌋⌊_⌋ *If Known, go to T5a/T5aw*	T4b
	OR in Weeks ⌊_⌋⌊_⌋	T4c
On average, **how many** of the following products do you smoke **each day/week?** *(IF LESS THAN DAILY, RECORD WEEKLY)* *(RECORD FOR EACH TYPE, USE SHOWCARD)* *Don't Know 7777*	DAILY↓ WEEKLY↓	
	Manufactured cigarettes ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T5a/T5aw
	Hand-rolled cigarettes ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T5b/T5bw
	Pipes full of tobacco ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T5c/T5cw
	Cigars, cheroots, cigarillos ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T5d/T5dw
	Vaping ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T5x/T5xw
	Other ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *If Other, go to T5other, else go to T6*	T5f/T5fw
	Other (please specify): ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T5other/ T5otherw
During the past 12 months, have you tried to **stop smoking**?	Yes 1 No 2	T6

During any visit to a doctor or other health worker in the past 12 months, were you advised to quit smoking tobacco?	Yes 1 *If T2=Yes, go to T12; if T2=No, go to T9* No 2 *If T2=Yes, go to T12; if T2=No, go to T9* No visit during the past 12 months 3 *If T2=Yes, go to T12; if T2=No, go to T9*	T7
In the past, did you **ever smoke** any tobacco products? *(USE SHOWCARD)*	Yes 1 No 2 *If No, go to T12*	T8
In the past, did you **ever** smoke **daily**?	Yes 1 *If T1=Yes, go to T12, else go to T10* No 2 *If T1=Yes, go to T12, else go to T10*	T9

EXPANDED: Tobacco Use

Question	Response	Code
How old were you when you **stopped** smoking?	Age (years) Don't Know 77 ⌊_⌋⌊_⌋ *If Known, go to T12*	T10
How **long ago** did you stop smoking? *(RECORD ONLY 1, NOT ALL 3)* *Don't Know 77*	Years ago ⌊_⌋⌊_⌋ *If Known, go to T12*	T11a
	OR Months ago ⌊_⌋⌊_⌋ *If Known, go to T12*	T11b
	OR Weeks ago ⌊_⌋⌊_⌋	T11c
Do you **currently use** any **smokeless tobacco** products such as *[snuff, chewing tobacco, betel]*? *(USE SHOWCARD)*	Yes 1 No 2 *If No, go to T15*	T12
Do you **currently use smokeless tobacco** products **daily?**	Yes 1 No 2 *If No, go to T14aw*	T13
On average, how many **times a day/week** do you use …. *(IF LESS THAN DAILY, RECORD WEEKLY)* *(RECORD FOR EACH TYPE, USE SHOWCARD)* *Don't Know 7777*	DAILY↓ WEEKLY↓	
	Snuff, by mouth ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T14a/ T14aw
	Snuff, by nose ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T14b/ T14bw
	Chewing tobacco ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T14c/ T14cw
	Betel, quid ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T14d/ T14dw
	Other ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *If Other, go to T14other, if T13=No, go to T16, else go to T17*	T14e/ T14ew
	Other (please specify): ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *If T13=No, go to T16, else go to T17*	T14other/ T14otherw
In the **past**, did you **ever use** smokeless tobacco products such as *[snuff, chewing tobacco, or betel]*?	Yes 1 No 2 *If No, go to T17*	T15
In the **past**, did you **ever use** smokeless tobacco products such as *[snuff, chewing tobacco, or betel]* **daily**?	Yes 1 No 2	T16
During the past 30 days, did someone smoke **in your home**?	Yes 1 No 2	T17
During the past 30 days, did someone smoke in closed areas **in your workplace** (in the building, in a work area or a specific office)?	Yes 1 No 2 Don't work in a closed area 3	T18

The next questions TP4 – TP7 are administered to current smokers only.		
During the past 30 days, did you notice any **health warnings on cigarette packages**?	Yes 1 No 2 *If no, go to TP6* Did not see any cigarette packages 3 *If "did not see any cigarette packages", go to TP6* Don't know 77 *If Don't know, go to TP6*	TP4
During the past 30 days, have warning labels on cigarette packages led you to **think about quitting**?	Yes 1 No 2 Don't know 77	TP5
The last time you bought manufactured cigarettes for yourself, **how many cigarettes** did you buy in total?	Number of cigarettes ⌊_⌊_⌊_⌊_⌋ Don't know or Don't smoke or purchase manuf. cigarettes 7777 *If "Don't know or don't smoke or purchase manuf. cig.", end section*	TP6
In total, **how much money** did you pay for this purchase? *(DIGITS TO BE ADAPTED TO COUNTRY NEEDS)*	Amount ⌊_⌊_⌊_⌊_⌋ Don't know 7777 Refused 8888	TP7

CORE: Alcohol Consumption

The next questions ask about the consumption of alcohol.

Question	Response	Code
Have you **ever** consumed any alcohol such as beer, wine, spirits or *[add other local examples]*? *(USE SHOWCARD OR SHOW EXAMPLES)*	Yes 1 No 2 *If No, go to A16*	A1
Have you consumed any alcohol within the **past 12 months**?	Yes 1 *If Yes, go to A4* No 2	A2
Have you stopped drinking due to health reasons, such as a negative impact on your health or on the advice of your doctor or other health worker?	Yes 1 *If Yes, go to A16* No 2 *If No, go to A16*	A3
During the past 12 months, **how frequently** have you had at least one standard alcoholic drink? *(READ RESPONSES, USE SHOWCARD)*	Daily 1 5-6 days per week 2 3-4 days per week 3 1-2 days per week 4 1-3 days per month 5 Less than once a month 6 Never 7	A4
Have you consumed any alcohol within the **past 30 days**?	Yes 1 No 2 *If No, go to A13*	A5
During the past 30 days, on how many **occasions** did you have at least one standard alcoholic drink?	Number Don't know 77 ⌊_⌊_⌋ *If Zero, go to A13*	A6
During the past 30 days, when you drank alcohol, how many **standard drinks on average** did you have during one drinking occasion? *(USE SHOWCARD)*	Number Don't know 77 ⌊_⌊_⌋	A7
During the past 30 days, what was the **largest number** of standard drinks you had on a single occasion, counting all types of alcoholic drinks together?	Largest number Don't Know 77 ⌊_⌊_⌋	A8
During the past 30 days, how many times did you have **six or more** standard drinks in a single drinking occasion?	Number of times Don't Know 77 ⌊_⌊_⌋	A9

During each of the **past 7 days**, how many standard drinks did you have each day? *(USE SHOWCARD)* *Don't Know 77*	Monday ⌊__⌋⌊__⌋	A10a
	Tuesday ⌊__⌋⌊__⌋	A10b
	Wednesday ⌊__⌋⌊__⌋	A10c
	Thursday ⌊__⌋⌊__⌋	A10d
	Friday ⌊__⌋⌊__⌋	A10e
	Saturday ⌊__⌋⌊__⌋	A10f
	Sunday ⌊__⌋⌊__⌋	A10g

CORE: Alcohol Consumption, continued

I have just asked you about your consumption of alcohol during the past 7 days. The questions were about alcohol in general, while the next questions refer to your consumption of homebrewed alcohol, alcohol brought over the border/from another country, any alcohol not intended for drinking or other untaxed alcohol. Please only think about these types of alcohol when answering the next questions.

Question	Response	Code
During the **past 7 days**, did you consume any **homebrewed** alcohol, any alcohol **brought over the border/from another country**, any alcohol **not intended for drinking** or other **untaxed** alcohol? *[AMEND ACCORDING TO LOCAL CONTEXT]* *(USE SHOWCARD)*	Yes 1 No 2 *If No, go to A13*	A11
On average, **how many standard drinks** of the following did you consume **during the past 7 days**? *[INSERT COUNTRY-SPECIFIC EXAMPLES]* *(USE SHOWCARD)* *Don't Know 77*	Homebrewed spirits, e.g. moonshine ⌊__⌋⌊__⌋	A12a
	Homebrewed beer or wine, e.g. beer, palm or fruit wine ⌊__⌋⌊__⌋	A12b
	Alcohol brought over the border/from another country ⌊__⌋⌊__⌋	A12c
	Alcohol not intended for drinking, e.g. alcohol-based medicines, perfumes, after shaves ⌊__⌋⌊__⌋	A12d
	Other untaxed alcohol in the country ⌊__⌋⌊__⌋	A12e

EXPANDED: Alcohol Consumption

During the **past 12 months,** how often have you found that you were not able to stop drinking once you had started?	Daily or almost daily 1 Weekly 2 Monthly 3 Less than monthly 4 Never 5	A13
During the **past 12 months,** how often have you failed to do what was normally expected from you because of drinking?	Daily or almost daily 1 Weekly 2 Monthly 3 Less than monthly 4 Never 5	A14
During the **past 12 months,** how often have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Daily or almost daily 1 Weekly 2 Monthly 3 Less than monthly 4 Never 5	A15

During the **past 12 months**, have you had family problems or problems with your partner due to **someone else's** drinking?	Yes, more than monthly 1 Yes, monthly 2 Yes, several times but less than monthly 3 Yes, once or twice 4 No 5	A16

CORE: Nutrition

The next questions ask about the fruits and vegetables that you usually eat. I have a nutrition card here that shows you some examples of local fruits and vegetables. Each picture represents the size of a serving. As you answer these questions please think of a typical week in the last year.

Question	Response	Code
In a typical week, on how many days do you **eat fruit**? *(USE SHOWCARD)*	Number of days Don't Know 77 ⌊_⌋⌊_⌋ *If Zero days, go to D3*	D1
How many **servings** of fruit do you eat on **one** of those days? (*USE SHOWCARD)*	Number of servings Don't Know 77 ⌊_⌋⌊_⌋	D2
In a typical week, on how many days do you **eat vegetables**? *(USE SHOWCARD)*	Number of days Don't Know 77 ⌊_⌋⌊_⌋ *If Zero days, go to D5*	D3
How many **servings** of vegetables do you eat on one of those days? *(USE SHOWCARD)*	Number of servings Don't know 77 ⌊_⌋⌊_⌋	D4

Dietary salt

With the next questions, we would like to learn more about salt in your diet. Dietary salt includes ordinary table salt, unrefined salt such as sea salt, iodized salt, salty stock cubes and powders, and salty sauces such as soy sauce or fish sauce (see showcard). The following questions are on adding salt to the food right before you eat it, on how food is prepared in your home, on eating processed foods that are high in salt such as *[insert country specific examples]*, and questions on controlling your salt intake. Please answer the questions even if you consider yourself to eat a diet low in salt.

How often do you **add salt or a salty sauce such as soy sauce** to your food right before you eat it or as you are eating it? *(SELECT ONLY ONE)* *(USE SHOWCARD)*	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77	D5
How often is **salt, salty seasoning or a salty sauce added** in cooking or preparing foods in your household?	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77	D6
How often do you eat **processed food high in salt**? By processed food high in salt, I mean foods that have been altered from their natural state, such as packaged salty snacks, canned salty food including pickles and preserves, salty food prepared at a fast food restaurant, cheese, bacon and processed meat *[add country specific examples].* *[INSERT EXAMPLES]* *(USE SHOWCARD)*	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77	D7
How much salt or salty sauce do you think you consume?	Far too much 1 Too much 2 Just the right amount 3 Too little 4 Far too little 5 Don't know 77	D8

EXPANDED: Nutrition		
Question	**Response**	**Code**
Do you think that too much salt or salty sauce in your diet could cause a **health problem**?	Yes 1 No 2 Don't know 77	D10
How important to you is **lowering the salt** in your diet?	Very important 1 Somewhat important 2 Not at all important 3 Don't know 77	D9
Do you do any of the following on a regular basis to **control your salt intake**? *(RECORD FOR EACH)*		
Limit consumption of processed foods	Yes 1 No 2	D11a
Look at the salt or sodium content on food labels	Yes 1 No 2	D11b
Buy low salt/sodium alternatives	Yes 1 No 2	D11c
Use spices other than salt when cooking	Yes 1 No 2	D11d
Avoid eating foods prepared outside of a home	Yes 1 No 2	D11e
Do other things specifically to control your salt intake	Yes 1 *If Yes, go to D11other* No 2	D11f
Other (please specify)	_____	D11other

Sugar and Sweet Beverages (SSB) Module: Local Expanded Questions		
In the last week, on how many days did you have a drink containing sugar including fizzy drinks, juice drinks (excluding pure unsweetened fruit juice), cordials/drink mixes, and home made drinks with added sugar (use showcard)	Number of days Don't Know 77 __ *If Zero days, go to*	X1
On the days when you had a drink containing sugar, how many serves did you have (use showcard. One serve being one can of drink, one large glass)	Number of servings Don't know 77 __	X2
In the last week, how often did you have a drink to which you added sugar, like milo, tea or coffee (use showcard). (If had more than one drink a day, please include this eg 10 times in	Number of times Don't Know 77 __ *If Zero days, go to*	X3
How many teaspoons of sugar did you add, on average, to each of these drinks	Number of teaspoons Don't know 77 __	X4

CORE: Physical Activity

Next I am going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.
Think first about the time you spend doing work. Think of work as the things that you have to do such as paid or unpaid work, study/training, household chores, harvesting food/crops, fishing or hunting for food, seeking employment. *[Insert other examples if needed].* In answering the following 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.

Question	Response	Code
Work		
Does your work involve vigorous-intensity activity that causes large increases in breathing or heart rate like *[carrying or lifting heavy loads, digging or construction work]* for at least 10 minutes continuously? *[INSERT EXAMPLES] (USE SHOWCARD)*	Yes 1 No 2 *If No, go to P 4*	P1
In a typical week, on how many days do you do vigorous-intensity activities as part of your work?	Number of days ⌊__⌋	P2
How much time do you spend doing vigorous-intensity activities at work on a typical day?	Hours : minutes ⌊__⌋⌊__⌋ : ⌊__⌋⌊__⌋ hrs mins	P3 (a-b)
Does your work involve moderate-intensity activity, that causes small increases in breathing or heart rate such as brisk walking *[or carrying light loads]* for at least 10 minutes continuously? *[INSERT EXAMPLES] (USE SHOWCARD)*	Yes 1 No 2 *If No, go to P 7*	P4
In a typical week, on how many days do you do moderate-intensity activities as part of your work?	Number of days ⌊__⌋	P5
How much time do you spend doing moderate-intensity activities at work on a typical day?	Hours : minutes ⌊__⌋⌊__⌋ : ⌊__⌋⌊__⌋ hrs mins	P6 (a-b)
Travel to and from places		
The next questions exclude the physical activities at work that you have already mentioned. Now I would like to ask you about the usual way you travel to and from places. For example to work, for shopping, to market, to place of worship. *[Insert other examples if needed]*		
Do you walk or use a bicycle *(pedal cycle)* for at least 10 minutes continuously to get to and from places?	Yes 1 No 2 *If No, go to P 10*	P7
In a typical week, on how many days do you walk or bicycle for at least 10 minutes continuously to get to and from places?	Number of days ⌊__⌋	P8
How much time do you spend walking or bicycling for travel on a typical day?	Hours : minutes ⌊__⌋⌊__⌋ : ⌊__⌋⌊__⌋ hrs mins	P9 (a-b)

CORE: Physical Activity Continued		
Question	**Response**	**Code**
Recreational activities		
The next questions exclude the work and transport activities that you have already mentioned. Now I would like to ask you about sports, fitness and recreational activities (leisure), *[Insert relevant terms]*.		
Do you do any vigorous-intensity sports, fitness or recreational *(leisure)* activities that cause large increases in breathing or heart rate like *[running or football]* for at least 10 minutes continuously? *[INSERT EXAMPLES] (USE SHOWCARD)*	Yes 1 No 2 *If No, go to P 13*	P10
In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational *(leisure)* activities?	Number of days ⌊__⌋	P11
How much time do you spend doing vigorous-intensity sports, fitness or recreational activities on a typical day?	Hours : minutes ⌊__⌋⌊__⌋ : ⌊__⌋⌊__⌋ hrs mins	P12 (a-b)
Do you do any moderate-intensity sports, fitness or recreational *(leisure)* activities that cause a small increase in breathing or heart rate such as brisk walking, *[cycling, swimming, volleyball, bowling, golf]* for at least 10 minutes continuously? *[INSERT EXAMPLES] (USE SHOWCARD)*	Yes 1 No 2 *If No, go to P16*	P13
In a typical week, on how many days do you do moderate-intensity sports, fitness or recreational *(leisure)* activities?	Number of days ⌊__⌋	P14
How much time do you spend doing moderate-intensity sports, fitness or recreational *(leisure)* activities on a typical day?	Hours : minutes ⌊__⌋⌊__⌋ : ⌊__⌋⌊__⌋ hrs mins	P15 (a-b)
EXPANDED: Physical Activity Continued		
Sedentary behaviour		
The following 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, traveling in car, bus, train, reading, playing cards or watching television, but do not include time spent sleeping. *[INSERT EXAMPLES] (USE SHOWCARD)*		
How much time do you usually spend sitting or reclining on a typical day?	Hours : minutes ⌊__⌋⌊__⌋ : ⌊__⌋⌊__⌋ hrs mins	P16 (a-b)
How many hours do you sleep at night	Hours : minutes ⌊__⌋⌊__⌋ : ⌊__⌋⌊__⌋ hrs mins	X12

CORE: History of Raised Blood Pressure		
Question	**Response**	**Code**
Have you ever had your blood pressure measured by a doctor or other health worker?	Yes 1 No 2 *If No, go to H6*	H1
Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?	Yes 1 No 2 *If No, go to H6*	H2a
Were you first told in the past 12 months?	Yes 1 No 2	H2b
In the past two weeks, have you taken any drugs (medication) for raised blood pressure prescribed by a doctor or other health worker?	Yes 1 No 2	H3
Have you ever seen a traditional healer for raised blood pressure or hypertension after you have been diagnosed?	Yes 1 No 2	H4
Are you currently taking any herbal or traditional remedy for your raised blood pressure?	Yes 1 No 2	H5
CORE: History of Diabetes		
Have you ever had your blood sugar measured by a doctor or other health worker?	Yes 1 No 2 *If No, go to H12*	H6
Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?	Yes 1 No 2 *If No, go to H12*	H7a
Were you first told in the past 12 months?	Yes 1 No 2	H7b
In the past two weeks, have you taken any drugs (medication) for diabetes prescribed by a doctor or other health worker?	Yes 1 No 2	H8
Are you currently taking insulin for diabetes prescribed by a doctor or other health worker?	Yes 1 No 2	H9
Have you ever seen a traditional healer for diabetes or raised blood sugar after you have been diagnosed?	Yes 1 No 2	H10
Are you currently taking any herbal or traditional remedy for your diabetes?	Yes 1 No 2	H11

CORE: History of Raised Total Cholesterol		
Question	**Response**	**Code**
Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker?	Yes 1 No 2 *If No, go to H17*	H12
Have you ever been told by a doctor or other health worker that you have raised cholesterol?	Yes 1 No 2 *If No, go to H17*	H13a
Were you first told in the past 12 months?	Yes 1 No 2	H13b

In the past two weeks, have you taken any oral treatment (medication) for raised total cholesterol prescribed by a doctor or other health worker?	Yes 1 No 2	H14
Have you ever seen a traditional healer for raised cholesterol after you have been diagnosed?	Yes 1 No 2	H15
Are you currently taking any herbal or traditional remedy for your raised cholesterol?	Yes 1 No 2	H16

CORE: History of Cardiovascular Diseases

Have you ever had a heart attack or chest pain from heart disease (angina) or a stroke (cerebrovascular accident or incident)?	Yes 1 No 2	H17
Are you currently taking medicine to control or prevent heart disease?	Yes 1 No 2	H18
Are you currently taking medicine regularly to prevent or treat heart disease?	Yes 1 No 2	H19

CORE: Lifestyle Advice

Question	Response	Code
During the past 12 months, have you visited a doctor or other health worker?	Yes 1 No 2 *If No and C1=1, go to M1* *If No and C1=2, go to CX1*	H20
During any of your visits to a doctor or other health worker in the past 12 months, were you advised to do any of the following? *(RECORD FOR EACH)*		
Quit using tobacco or don't start	Yes 1 No 2	H20a
Reduce salt in your diet	Yes 1 No 2	H20b
Eat at least five servings of fruit and/or vegetables each day	Yes 1 No 2	H20c
Reduce fat in your diet	Yes 1 No 2	H20d
Start or do more physical activity	Yes 1 No 2	H20e
Maintain a healthy body weight or lose weight	Yes 1 No 2	H20f
Reduce sugary beverages in your diet	Yes 1 *If C1=1 go to M1* No 2 *If C1=1 go to M1*	H20g

Cervical Cancer

CORE (for women only): Cervical Cancer Screening

The next question asks about cervical cancer prevention. Screening tests for cervical cancer prevention can be done in different ways, including pap smear and Human Papillomavirus (HPV) test. For both pap smear and HPV test, a doctor or nurse uses a swab to wipe from inside your vagina, take a sample and send it to a laboratory. The laboratory checks for abnormal cell changes if a pap smear is done, and for the HP virus if an HPV test is done.

Question	Response	Code
Have you ever had a screening test for cervical cancer, using any of these methods described above?	Yes 1 No 2 Don't know 77	CX1

The next questions CX2; CX3; CX7 & CX11 Also X12-X15 are administered only to those that ever had a screening test for cervical cancer (CX1=1). If CX1=2, go to Mental Health (X16).

Cancer Questions: Expanded Local Questions

Additional cancer question

At what age were you first tested for cervical cancer?	Age ⌊_⌊_⌋ Don't know 77 Refused 88	CX2
When was your last (most	Less than 1 year ago 1 1-2 years ago 2 3-5 years ago 3 More than 5 years ago 4 Don't know 5 Refused 88	CX3
[Women only] What type o ever had?	VIA 1 Pap smear 2 HPS test 3 None 4 More than one type 5 I don't know what it was 77	X13
Did you have any follow-up	Yes 1 No 2 Don't know 3 Refused 4	CX7
What is the **main** reason you have never had a cervical canc	Did not know how/where to get test 1 Embarrassment 2 Too expensive 3 Didn't have time 4 Clinic too far away 5 Poor service quality 6	CX11

	Fear (afraid of procedure; afraid of social stigma) 7 Cultural beliefs 8 Family member would not allow it 9 Don't know 77 Refused 88	
[Women only] Have you ever been taught how to conduct a breast self-examination (BSE)	Yes 1 No 2 Don't know 3	X14
[Women only] When did y examination?	Within the last month 1 Within the last year 2 More than 1 year ago 3 I have never done this 4	X15
[Men and women] How would you describe your knowledge of cancer?	I don't know anything about cancer 1 I know what cancer is but I don't know when to go to a doctor 2 I know what the signs and symptoms of common cancers 3 I think that if cancer is found early then treatment can be successful 4 I think that if someone has cancer, they will probably not survive 5	X16
Have you ever been screened for prostate cancer	Yes 1 No 2 Don't know 3	X17

Oral Health

Core Questions : Oral Health

The next questions ask about your oral health status and related behaviours.

Question	Response	Code
How many **natural teeth** do you have?	No natural teeth 1 *If no natural teeth, go to O3* 1 to 9 teeth 2 10 to 19 teeth 3 20 teeth or more 4 Don't know 77	O1
How would you describe the **state of your teeth?**	Excellent 1 Very Good 2 Good 3 Average 4 Poor 5 Very Poor 6 Don't Know 77	O2
How would you describe the **state of your gums?**	Excellent 1 Very Good 2 Good 3 Average 4 Poor 5 Very Poor 6 Don't know 77	O3

Do you have any **removable dentures**?	Yes 1 No 2 *If No, go to O7*	O5
Which of the following removable dentures do you have? *(RECORD FOR EACH)*		
An upper jaw denture	Yes 1 No 2	O6a
A lower jaw denture	Yes 1 No 2	O6b
During the past 12 months, did your teeth, gums or mouth cause any **pain or discomfort**?	Yes 1 No 2	O7
How long has it been since you last **saw a dentist**?	Less than 6 months 1 6-12 months 2 More than 1 year but less than 2 years 3 2 or more years but less than 5 years 4 5 or more years 5 Never received dental care 6 *If Never, go to O10*	O8
What was the **main reason for your last visit** to the dentist?	Consultation / advice 1 Pain or trouble with teeth, gums or mouth 2 Treatment / Follow-up treatment 3 Routine check-up treatment 4 Other 5 *If Other, go to O9other*	O9
	Other (please specify) _____	O9other

Oral Health, Continued

Question	Response	Code
How **often do you clean** your teeth?	Never 1 *If Never, go to O14a* Once a month 2 2-3 times a month 3 Once a week 4 2-6 times a week 5 Once a day 6 Twice or more a day 7	O10
Do you use **toothpaste** to clean your teeth?	Yes 1 No 2 *If No, go to O13a*	O11
Do you use **toothpaste**?	Yes 1 No 2 Don't know 77	O12
Do you use any of the following to **clean your teeth**? *(RECORD FOR EACH)*		
Toothbrush	Yes 1 No 2	O13a
Wooden toothpicks	Yes 1 No 2	O13b
Plastic toothpicks	Yes 1 No 2	O13c
Thread (dental floss)	Yes 1 No 2	O13d
Other	Yes 1 *If Yes, go to O13other* No 2	O13g
Other (please specify) _____		O13other

Have you **experienced any of the following problems** during the past 12 months because of the **state of your teeth, gums or mouth**? *(RECORD FOR EACH)*		
Difficulty in chewing foods	Yes 1 No 2	O14a
Difficulty with speech/trouble pronouncing words	Yes 1 No 2	O14b
Mouth feels dry	Yes 1 No 2	O14c
Have a persistent wound and/or swelling in the mouth for more than three weeks	Yes 1 No 2	O14d
Have a red or red and white patch in the mouth	Yes 1 No 2	O14e
Felt tense because of problems with teeth or mouth	Yes 1 No 2	O14f
Embarrassed about appearance of teeth	Yes 1 No 2	O14g
Avoid smiling because of teeth	Yes 1 No 2	O14h
Sleep is often interrupted	Yes 1 No 2	O14i
Days not at work because of teeth or mouth	Yes 1 No 2	O14j
Difficulty doing usual activities	Yes 1 No 2	O14k
Less tolerant of spouse or people close to you	Yes 1 No 2	O14l
Reduced participation in social activities	Yes 1 No 2	O14m

Step 2 Physical Measurements

CORE: Blood Pressure

Question	Response	Code
Interviewer ID	⌊__⌋⌊__⌋⌊__⌋⌊__⌋	M1
Device ID for blood pressure	⌊__⌋⌊__⌋	M2
Cuff size used	Small 1 Medium 2 Large 3	M3
Reading 1	Systolic (mmHg) ⌊__⌋⌊__⌋⌊__⌋	M4a
	Diastolic (mmHg) ⌊__⌋⌊__⌋⌊__⌋	M4b
Reading 2	Systolic (mmHg) ⌊__⌋⌊__⌋⌊__⌋	M5a
	Diastolic (mmHg) ⌊__⌋⌊__⌋⌊__⌋	M5b
Reading 3	Systolic (mmHg) ⌊__⌋⌊__⌋⌊__⌋	M6a
	Diastolic (mmHg) ⌊__⌋⌊__⌋⌊__⌋	M6b
During the past two weeks, have you been treated for raised blood pressure with drugs (medication) prescribed by a doctor or other health worker?	Yes 1 No 2	M7

CORE: Height and Weight

For women: Are you pregnant?	Yes 1 *If Yes, go to M 16* No 2	M8
Interviewer ID	⌊__⌋⌊__⌋⌊__⌋⌊__⌋	M9
Device IDs for height and weight	Height ⌊__⌋⌊__⌋	M10a
	Weight ⌊__⌋⌊__⌋	M10b
Height	in Centimetres (cm) ⌊__⌋⌊__⌋⌊__⌋ . ⌊__⌋	M11
Weight *If too large for scale 666.6*	in Kilograms (kg) ⌊__⌋⌊__⌋⌊__⌋ . ⌊__⌋	M12

CORE: Waist

Device ID for waist	⌊__⌋⌊__⌋⌊__⌋	M13
Waist circumference	in Centimetres (cm) ⌊__⌋⌊__⌋⌊__⌋ . ⌊__⌋	M14

Step 3 Biochemical Measurements

Question	Response	Code
CORE: Blood Glucose		
During the past 12 hours have you had anything to eat or drink, other than water?	Yes 1 No 2	B1
Technician ID	⌊_⌊_⌊_⌊_⌋	B2
Device ID	⌊_⌊_⌋	B3
Time of day blood specimen taken (24 hour clock)	Hours : minutes ⌊_⌊_⌋ : ⌊_⌊_⌋ (hrs mins)	B4
Fasting blood glucose *[CHOOSE ACCORDINGLY: MMOL/L OR MG/DL]*	mmol/l ⌊_⌊_⌋ . ⌊_⌊_⌋ mg/dl ⌊_⌊_⌊_⌋ . ⌊_⌋	B5
Today, have you taken insulin or other drugs (medication) that have been prescribed by a doctor or other health worker for raised blood glucose?	Yes 1 No 2	B6
CORE: Blood Lipids		
Device ID	⌊_⌊_⌋	B7
Total cholesterol *(MG/DL)*	mg/dl ⌊_⌊_⌊_⌋ . ⌊_⌋	B8
During the past two weeks, have you been treated for raised cholesterol with drugs (medication) prescribed by a doctor or other health worker?	Yes 1 No 2	B9
CORE: Urinary sodium and creatinine		
Have you been selected to be participated in the urine collection?	Yes 1 No 2	X18
Consent has been obtained to participate in the urine collection?	Yes 1 No 2	X19
Had you been fasting prior to the urine collection?	Yes 1 No 2	B10
Technician ID	⌊_⌊_⌊_⌊_⌋	B11
Device ID	⌊_⌊_⌋	B12
Time of day urine sample taken (24 hour clock)	Hours : minutes ⌊_⌊_⌋ : ⌊_⌊_⌋ (hrs mins)	B13
Urinary sodium	mmol/l ⌊_⌊_⌊_⌋ . ⌊_⌋	B14
Urinary creatinine	mmol/l ⌊_⌊_⌋ . ⌊_⌊_⌋	B15

Appendix 3: Cook Islands STEPS Survey Data Book

WHO STEPS

NONCOMMUNICABLE DISEASE RISK FACTOR SURVEY

DATA BOOK FOR COOK ISLANDS STEPS NOV 8TH 2022

Table of Contents

IMPORTANT:

- ALL analyses use the variables **AgeRange**, **Sex**, and **Valid**. You may use the AgeRange1869 and MissingAgeSex programs to generate these variables from **C1**, **C2**, and **C3**.
- ALL weighted programs use the variables **PSU, Stratum,** and one of either **WStep1, WStep2,** or **WStep3**.
- Unweighted tables will not have confidence intervals associated with them.

Introduction

Purpose of the data book

This data book is a tool used to compile a complete set of data results relating to each question and measurement in the STEPS Instrument. The STEPS data book

- Provides detailed information for the data analyst on producing the results for the tables.
- Provides examples of which tables to use in the country report.
- Provides examples and suggestions on the layout of tables.

Format of the data book

Each page in the data book contains a different table with:

- Title and description of the table
- Data tables for men, women and both sexes
- Questions used to produce the table (actual question text)
- Analysis information (Epi Info program name to produce the table).

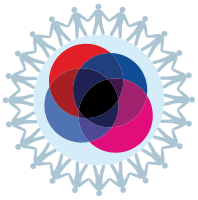
Global Action Plan 2013-2020 and Global Monitoring Framework

STEPS captures 11 of the 25 indicators outlined in the Global Action Plan 2013-2020 and the Comprehensive Global Monitoring Framework for the Prevention and Control of NCDs[1], relating to 7 of the 9 global targets.

Indicators captured in STEPS are marked in **bold** and *italic* in the table below.

Tables in the data book relating to the Global Monitoring Framework

Tables in the data book relating to the Global Monitoring Framework are identified with this symbol:



Framework Element	Target	Indicator
MORTALITY AND MORBIDITY		
Premature mortality from noncommunicable disease	1. A 25% relative reduction in the overall mortality from CVDs, cancer, diabetes, or chronic respiratory diseases	1. Unconditional probability of dying between ages of 30 and 70 from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases
Additional indicator		2. Cancer incidence, by type of cancer, per 100 000 population
BEHAVIOURAL RISK FACTORS		
Harmful use of alcohol	2. At least 10% relative reduction in the harmful use of alcohol, as	3. Total (recorded and unrecorded) alcohol per capita (aged 15+ years old) consumption within a calendar year in litres of pure alcohol, as appropriate, within the national context

[1] World Health Organization. Global action plan for the prevention and control of NCDs 2013-2020. Geneva: World Health Organization; 2013.

	appropriate, within the national context	***4. Age-standardized prevalence of heavy episodic drinking among*** adolescents and ***adults***, as appropriate, within the national context 5. Alcohol-related morbidity and mortality among adolescents and adults, as appropriate, within the national context
Physical inactivity	3. A 10% relative reduction in prevalence of insufficient physical activity	6. Prevalence of insufficiently physically active adolescents, defined as less than 60 minutes of moderate to vigorous intensity activity daily ***7. Age-standardized prevalence of insufficiently physically active persons aged 18+ years (defined as less than 150 minutes of moderate-intensity activity per week, or equivalent)***
Salt/sodium intake	4. A 30% relative reduction in mean population intake of salt/sodium	***8. Age-standardized mean population intake of salt (sodium chloride) per day in grams in persons aged 18+ years***
Tobacco use	5. A 30% relative reduction in prevalence of current tobacco use	9. Prevalence of current tobacco use among adolescents ***10. Age-standardized prevalence of current tobacco use among persons aged 18+ years***
BIOLOGICAL RISK FACTORS		
Raised blood pressure	6. A 25% relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances	***11. Age-standardized prevalence of raised blood pressure among persons aged 18+ years (defined as systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg) and mean systolic blood pressure***
Diabetes and obesity	7. Halt the rise in diabetes & obesity	***12. Age-standardized prevalence of raised blood glucose/diabetes among persons aged 18+ years (defined as fasting plasma glucose concentration ≥ 7.0 mmol/l (126 mg/dl) or on medication for raised blood glucose)*** 13. Prevalence of overweight and obesity in adolescents (defined according to the WHO growth reference for school-aged children and adolescents, overweight – one standard deviation body mass index for age and sex, and obese – two standard deviations body mass index for age and sex) ***14. Age-standardized prevalence of overweight and obesity in persons aged 18+ years (defined as body mass index ≥ 25 kg/m² for overweight and body mass index ≥ 30 kg/m² for obesity)***
Additional indicators		15. Age-standardized mean proportion of total energy intake from saturated fatty acids in persons aged 18+ years ***16. Age-standardized prevalence of persons (aged 18+ years) consuming less than five total servings (400 grams) of fruit and vegetables per day*** ***17. Age-standardized prevalence of raised total cholesterol among persons aged 18+ years (defined as total cholesterol ≥5.0 mmol/l or 190 mg/dl); and mean total cholesterol concentration***
Framework Element	**Target**	**Indicator**
NATIONAL SYSTEMS RESPONSE		
Drug therapy to prevent heart attacks and strokes	8. At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes	***18. Proportion of eligible persons (defined as aged 40 years and older with a 10-year cardiovascular risk ≥30%, including those with existing cardiovascular disease) receiving drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes***

Essential noncommunicable disease medicines and basic technologies to treat major noncommunicable diseases	9. An 80% availability of the affordable basic technologies and essential medicines, including generics required to treat major noncommunicable diseases in both public and private facilities	19. Availability and affordability of quality, safe and efficacious essential noncommunicable disease medicines, including generics, and basic technologies in both public and private facilities
Additional indicators		20. Access to palliative care assessed by morphine-equivalent 21. Adoption of national policies that limit saturated fatty acids and virtually eliminate partially hydrogenated vegetable oils in the food supply, as appropriate, within the national context and national programmes 22. Availability, as appropriate, if cost-effective and affordable, of vaccines against human papillomavirus, according to national programmes and policies 23. Policies to reduce the impact on children of marketing of foods and non-alcoholic beverages high in saturated fats, trans fatty acids, free sugars, or salt 24. Vaccination coverage against hepatitis B virus monitored by number of third doses of Hep-B vaccine (HepB3) administered to infants ***25. Proportion of women between the ages of 30–49 screened for cervical cancer at least once, or more often, and for lower or higher age groups according to national programmes or policies***

Sampling and Response Proportions

Response proportions

Description: Summary results for overall response proportions.

Response proportions									
Age Group (years)	Men			Women			Both Sexes		
	Eligible	Responded		Eligible	Responded		Eligible	Responded	
	n	n	%	n	n	%	n	n	%
18-44	451	204	45.2	552	269	48.7	1003	698	69.6
45-69	513	494	96.3	486	471	96.9	999	740	74.1
18-69	**964**	**698**	**72.4**	**1038**	**740**	**71.3**	**2002**	**1438**	**71.8**

Analysis Information:

- Use the age and sex information for the non-responders (if available) plus the Epi Info program Cagesex.

Demographic Information Results

Age group by sex

Description: Summary information by age group and sex of the respondents.
Instrument question:

- Sex
- What is your date of birth?

Age group and sex of respondents						
Age Group (years)	Men		Women		Both Sexes	
	n	%	n	%	n	%
18-44	204	43.1	269	56.9	473	32.9
45-69	494	51.2	471	48.8	965	67.1
18-69	**698**	**48.5**	**740**	**51.5**	**1438**	**100**

Analysis Information:

- Questions used: C1, C2, C3
- Epi Info program name: Cagesex (unweighted)

Education

Description: Mean number of years of education among respondents.
Instrument question:

- In total, how many years have you spent at school or in full-time study (excluding pre-school)?

Mean number of years of education						
Age Group (years)	Men		Women		Both Sexes	
	n	Mean	n	Mean	n	Mean
18-44	197	12.7	265	13.2	462	13.0
45-69	469	12.1	450	12.4	919	12.2
18-69	**666**	**12.3**	**715**	**12.7**	**1381**	**12.5**

Analysis Information:

- Questions used: C4
- Epi Info program name: Ceduyears (unweighted)

Highest level of education

Description: Highest level of education achieved by the survey respondents.
Instrument question:

- What is the highest level of education you have completed?

Highest level of education								
	Men							
Age Group (years)	n	% No formal schooling	% Less than primary school	% Primary school completed	% Secondary school completed	% Vocational Training completed	% University completed	% Post graduate degree completed
18-44	203	0	0.5	12.8	52.7	8.4	21.2	4.4
45-69	491	0.6	0.8	12.8	55.4	8.1	17.3	4.9
18-69	**694**	**0.4**	**0.7**	**12.8**	**54.6**	**8.2**	**18.4**	**4.8**

Highest level of education								
	Women							
Age Group (years)	n	% No formal schooling	% Less than primary school	% Primary school completed	% Secondary school completed	% Vocational Training completed	% University completed	% Post graduate degree completed
18-44	268	0	0.4	10.1	56.7	6.0	23.1	3.7
45-69	466	0.4	0.6	11.4	58.2	4.9	17.8	6.7
18-69	**734**	**0.3**	**0.5**	**10.9**	**57.6**	**5.3**	**19.8**	**5.6**

Highest level of education								
	Both Sexes							
Age Group (years)	n	% No formal schooling	% Less than primary school	% Primary school completed	% Secondary school completed	% Vocational Training completed	% University completed	% Post graduate degree completed
18-44	471	0	0.4	11.3	55.0	7.0	22.3	4.0
45-69	957	0.5	0.7	12.1	56.7	6.6	17.6	5.7
18-69	**1428**	**0.4**	**0.6**	**11.8**	**56.2**	**6.7**	**19.1**	**5.2**

Analysis Information:

- Questions used: C5
- Epi Info program name: Ceduhigh (unweighted)

Ethnicity

Description: Summary results for the ethnicity of the respondents.
Instrument Question:

- What is your [insert relevant ethnic group/racial group/cultural subgroup/others] background?

Ethnic group of respondents			
Age Group (years)	Both Sexes		
	n	% Ethnic Cook Islands Maori	% Others
18-44	473	85.4	14.6
45-69	965	92.0	8.0
18-69	**1438**	**89.8**	**10.2**

Analysis Information:

- Questions used: C6
- Epi Info program name: Cethnic (unweighted)

Martial status

Description: Marital status of survey respondents.
Instrument question:

- What is your marital status?

Marital status							
Age Group (years)	Men						
	n	% Never married	% Separated	% Divorced	% Widowed	% Defacto	% Married
18-44	122	49.2	10.7	0.8	1.6	0.0	37.7
45-69	188	27.7	30.3	4.8	8.5	10.1	18.6
18-69	**310**	**36.1**	**22.6**	**3.2**	**5.8**	**6.1**	**26.1**

Marital status							
Age Group (years)	Women						
	n	% Never married	% Separated	% Divorced	% Widowed	% Defacto	% Married
18-44	195	38.5	9.7	2.6	1.0	2.6	45.6
45-69	250	32.4	20.8	6.8	5.2	21.6	13.2
18-69	**445**	**35.1**	**16.0**	**4.9**	**3.4**	**13.3**	**27.4**

Marital status							
Age Group (years)	Both Sexes						
	n	% Never married	% Separated	% Divorced	% Widowed	% Defacto	% Married
18-44	317	42.6	10.1	1.9	1.3	1.6	42.6
45-69	438	30.4	24.9	5.9	6.6	16.7	15.5
18-69	**35.5**	**35.5**	**18.7**	**4.2**	**4.4**	**10.3**	**26.9**

Analysis Information:

- Questions used: C7
- Epi Info program name: Cmaritalstatus (unweighted)

Employment status

Description: Proportion of respondents in paid employment and those who are unpaid. Unpaid includes persons who are non-paid, students, homemakers, retired, and unemployed.
Instrument question:

- Which of the following best describes your main work status over the past 12 months?

Employment status					
Age Group (years)	Men				
	n	% Government employee	% Non-government employee	% Self-employed	% Unpaid
18-44	204	39.2	42.2	11.8	6.9
45-69	183	37.1	27.2	18.1	17.6
18-69	**697**	**37.7**	**31.6**	**16.2**	**14.5**

Employment status					
Age Group (years)	Women				
	n	% Government employee	% Non-government employee	% Self-employed	% Unpaid
18-44	267	34.5	43.1	8.2	14.2
45-69	467	26.6	28.9	14.6	30.0
18-69	**734**	**29.4**	**34.1**	**12.3**	**24.3**

Employment status					
Age Group (years)	Both Sexes				
	n	% Government employee	% Non-government employee	% Self-employed	% Unpaid
18-44	471	36.5	42.7	9.8	11.0
45-69	960	32.0	28.0	16.4	23.6
18-69	**1431**	**33.5**	**32.8**	**14.2**	**19.5**

Analysis Information:

- Questions used: C8
- Epi Info program name: Cworkpaid (unweighted)

Unpaid work and unemployed

Description: Proportion of respondents in unpaid work.
Instrument question:

- Which of the following best describes your main work status over the past 12 months?

Unpaid work and unemployed							
Age Group (years)	Men						
	n	% Non-paid	% Student	% Home-maker	% Retired	Unemployed	
						% Able to work	% Not able to work
18-44	14	7.1	14.3	14.3	0.0	57.1	7.1
45-69	87	11.5	3.4	3.4	77.0	11.5	3.4
18-69	**101**	**5.0**	**2.0**	**5.0**	**66.3**	**17.8**	**4.0**

Unpaid work and unemployed							
Age Group (years)	Women						
	n	% Non-paid	% Student	% Home-maker	% Retired	Unemployed	
						% Able to work	% Not able to work
18-44	38	10.5	10.5	26.3	0.0	44.7	7.9
45-69	140	4.3	0.0	24.3	56.4	12.1	2.9
18-69	**178**	**5.6**	**2.2**	**24.7**	**44.4**	**19.1**	**3.9**

Unpaid work and unemployed							
Age Group (years)	Both Sexes						
	n	% Non-paid	% Student	% Home-maker	% Retired	Unemployed	
						% Able to work	% Not able to work
18-44	52	9.6	11.5	23.1	0.0	48.1	7.7
45-69	227	4.4	0.0	16.3	64.3	11.9	3.1
18-69	**279**	**5.4**	**2.2**	**17.6**	**52.3**	**18.6**	**3.9**

Analysis Information:

- Questions used: C8
- Epi Info program name: Cworknotpaid (unweighted)

Estimated household earnings

Description: summary of participant household earnings by quintile.
Instrument question:

- If you don't know the amount, can you give an estimate of the annual household income if I read some options to you?

Estimated household earnings					
n	% Quintile 1: Under $10,000	% Quintile 2: $10,000-$20,000$	% Quintile 3: $20,000 - $30,000	% Quintile 4: $30,000 - $70,000	% Quintile 5: Over $70,000
192	31	45	41	58	17
%	16.1%	23.4%	21.4%	30.2%	8.9%

Analysis Information:

- Questions used: C11
- Epi Info program name: Cquintile (unweighted)

Tobacco Use

Current smoking

Description: Current smokers among all respondents.
Instrument question:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?

Percentage of current smokers									
Age Group (years)	Men			Women			Both Sexes		
	n	% Current smoker	95% CI	n	% Current smoker	95% CI	n	% Current smoker	95% CI
18-44	202	44.4	38.9-49.8	269	31.6	25.0-38.2	471	38.3	33.9-42.6
45-69	491	26.2	19.8-32.7	466	26.4	19.8-33.0	957	26.3	21.0-31.6
18-69	693	39.0	34.3-43.7	735	29.9	24.6-35.2	1428	34.5	30.3-38.7

Analysis Information:

- Questions used: T1, T2, T8
- Epi Info program name: Tsmokestatus (unweighted); TsmokestatusWT (weighted)

Smoking Status

Description: Smoking status of all respondents.
Instrument questions:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- In the past, did you ever smoke any tobacco products?

Smoking status									
Age Group (years)	Men								
	n	Current smoker				Non-smokers			
		% Daily	95% CI	% Non-daily	95% CI	% Former smoker	95% CI	% Never smoker	95% CI
18-44	202	31.4	23.9-38.9	12.9	8.9-17.0	12.2	8.5-16.0	43.4	36.4-50.4
45-69	491	20.7	14.1-27.3	5.5	2.9-8.2	22.6	17.9-27.3	51.2	44.1-58.3
18-69	693	28.2	22.0-34.5	10.8	7.3-14.2	15.3	12.3-18.3	45.7	40.1-51.4

Smoking status									
Age Group (years)	Women								
	n	Current smoker				Non-smokers			
		% Daily	95% CI	% Non-daily	95% CI	% Former smoker	95% CI	% Never smoker	95% CI
18-44	269	24.6	18.1-31.2	7.0	3.9-10.2	15.3	10.9-19.7	53.0	45.5-60.6
45-69	466	20.3	13.5-27.0	6.1	3.6-8.6	15.6	11.5-19.7	58.1	50.8-65.3
18-69	735	23.2	17.8-28.6	6.7	4.4-9.1	15.4	11.8-19.0	54.7	48.1-61.3

Smoking status									
Age Group (years)	Both Sexes								
	n	Current smoker				Non-smokers			
		% Daily	95% CI	% Non-daily	95% CI	% Former smoker	95% CI	% Never smoker	95% CI
18-44	471	28.2	23.0-33.4	10.1	7.6-12.6	13.7	10.7-16.7	48.0	42.6-53.4
45-69	957	20.5	15.2-25.7	5.8	3.9-7.8	19.0	15.5-22.5	54.7	48.6-60.9
18-69	1428	25.8	21.0-30.6	8.8	6.8-10.7	15.4	12.7-18.1	50.1	45.1-55.1

Analysis Information:

- Questions used: T1, T2, T8
- Epi Info program name: Tsmokestatus (unweighted); TsmokestatusWT (weighted)

Daily smoking

Description: Percentage of current daily smokers among smokers.
Instrument questions:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?

Current daily smokers among smokers

Age Group (years)	Men			Women			Both Sexes		
	n	% Daily smokers	95% CI	n	% Daily smokers	95% CI	n	% Daily smokers	95% CI
18-44	93	71.1	60.8-81.4	91	77.8	67.8-87.8	184	73.7	66.3-81.1
45-69	135	78.9	68.1-89.7	119	76.9	66.3-87.5	254	77.9	70.0-85.7
18-69	228	72.6	62.9-82.4	210	77.6	69.3-85.8	438	74.7	68.1-81.3

Analysis Information:

- Questions used: T1, T2
- Epi Info program name: Tsmokefreq (unweighted); TsmokefreqWT (weighted)

Initiation and duration of smoking

Description: Mean age of initiation and mean duration of smoking, in years, among daily smokers (no total age group for mean duration of smoking as age influences these values).
Instrument questions:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- How old were you when you first started smoking?
- Do you remember how long ago it was?

Mean age started smoking

Age Group (years)	Men			Women			Both Sexes		
	n	Mean age	95% CI	n	Mean age	95% CI	n	Mean age	95% CI
18-44	65	17.3	16.3-18.4	68	16.5	15.1-17.9	133	17.0	16.1-17.9
45-69	97	19.5	17.4-21.6	90	21.5	19.0-23.9	187	20.5	18.8-22.1
18-69	162	17.8	16.7-18.9	158	18.0	16.4-19.5	320	17.9	16.8-18.9

Mean duration of smoking

Age Group (years)	Men			Women			Both Sexes		
	n	Mean duration	95% CI	n	Mean duration	95% CI	n	Mean duration	95% CI
18-44	65	16.9	14.7-19.1	68	18.8	16.5-21.1	133	17.7	16.2-19.2
45-69	97	35.3	32.9-37.7	90	32.7	29.5-36.0	187	34.0	32.0-36.0
18-69	162	20.9	18.9-22.9	158	22.9	21.1-24.7	320	21.8	20.5-23.0

Analysis Information:

- Questions used: T1, T2, T3, T4a-c
- Epi Info program name: Tsmokeagetime (unweighted); TsmokeagetimeWT (weighted)

Manufactured cigarette smokers

Description: Percentage of smokers who use manufactured cigarettes among daily smokers and among current smokers.
Instrument questions:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- On average, how many of the following products do you smoke each day?

Manufactured cigarette smokers among daily smokers

Age Group (years)	Men			Women			Both Sexes		
	n	% Manu-factured cigarette smoker	95% CI	n	% Manu-factured cigarette smoker	95% CI	n	% Manu-factured cigarette smoker	95% CI
18-44	57	62.3	43.5-81.1	59	65.8	48.6-82.9	116	63.8	48.1-79.5
45-69	88	58.9	45.0-72.9	85	81.1	72.4-89.8	173	70.4	60.5-80.2
18-69	145	61.5	45.3-77.7	144	70.5	57.5-83.4	289	65.5	52.1-79.0

Manufactured cigarette smokers among current smokers

Age Group (years)	Men			Women			Both Sexes		
	n	% Manu-factured cigarette smoker	95% CI	n	% Manu-factured cigarette smoker	95% CI	n	% Manu-factured cigarette smoker	95% CI
18-44	78	61.3	46.5-76.1	80	67.4	50.8-84.0	158	63.8	51.4-76.3
45-69	121	62.3	49.8-74.8	110	76.2	66.1-86.3	231	69.6	60.9-78.3
18-69	199	61.5	48.4-74.6	190	70.1	57.0-83.2	389	65.3	54.4-76.2

Analysis Information:

- Questions used: T1, T2, T5a, T5aw
- Epi Info program name: Tsmokeman (unweighted); TsmokemanWT (weighted)

Amount of tobacco used among daily smokers by type

Description: Mean amount of tobacco used by daily smokers per day, by type.
Instrument questions:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- On average, how many of the following products do you smoke each day?

Mean amount of tobacco used by daily smokers by type

Age Group (years)	Men								
	n	Mean # of manufactured cig.	95% CI	n	Mean # of hand-rolled cig.	95% CI	n	Mean # of pipes of tobacco	95% CI
18-44	57	5.9	3.1-8.7	61	7.5	**5.3-9.7**	58	0.0	**0.0-0.0**
45-69	88	5.9	3.6-8.2	95	8.7	**6.8-10.6**	88	0.0	**0.0-0.0**
18-69	145	5.9	3.7-8.1	156	7.7	**6.0-9.5**	146	0.0	**0.0-0.0**

Mean amount of tobacco used by daily smokers by type

Age Group (years)	Men								
	n	Mean # of cigars, cheerot, cigarillos	95% CI	n	Mean # of Vaping	95% CI	n	Mean # of other type of tobacco	95% CI
18-44	58	0.1	**0.0-0.3**	57	0.0	**0.0-0.0**	56	0.3	**0.0-0.6**
45-69	89	0.0	**0.0-0.0**	90	0.0	**0.0-0.0**	89	0.2	**0.0-0.6**
18-69	147	0.1	**0.0-0.3**	147	0.0	**0.0-0.0**	145	0.2	**0.0-0.6**

Mean amount of tobacco used by daily smokers by type			
Men			
Age Group (years	n	Mean # of cigs	95% CI
18-44	50	15.1	**10.6-19.6**
45-69	77	16.8	**13.0-20.6**
18-69	127	15.5	**11.8-19.2**

Mean amount of tobacco used by daily smokers by type									
Age Group (years)	**Women**								
	n	Mean # of manufactured cig.	95% CI	n	Mean # of hand-rolled cig.	95% CI	n	Mean # of pipes of tobacco	95% CI
18-44	59	5.5	**3.4-7.7**	69	7.1	**4.7-9.5**	79	0.0	**0.0-0.1**
45-69	85	6.1	**4.9-7.3**	87	6.7	**4.8-8.5**	140	0.3	**0.0-0.9**
18-69	144	5.7	**4.1-7.3**	156	7.0	**5.2-8.8**	79	0.0	**0.0-0.1**

Mean amount of tobacco used by daily smokers by type									
Age Group (years)	**Women**								
	n	Mean # of cigars, cheerots, cigarillos	95% CI	n	Mean # Vaping	95% CI	n	Mean # of other type of tobacco	95% CI
18-44	61	0.0	**0.0-0.0**	61	0.0	0.0-0.1	60	0.0	**0.0-0.1**
45-69	82	0.0	**0.0-0.0**	84	0.0	0.0-0.1	83	1.0	**0.2-1.9**
18-69	143	0.0	**0.0-0.0**	145	0.0	0.0-0.1	143	0.3	**0.1-0.6**

Mean amount of tobacco used by daily smokers by type			
Men			
Age Group (years)	n	Mean # of cigs	95% CI
18-44	54	13.6	**8.7-18.4**
45-69	79	13.5	**11.1-15.8**
18-69	133	13.5	**10.1-17.0**

Mean amount of tobacco used by daily smokers by type									
Age Group (years)	**Both Sexes**								
	n	Mean # of manufactured cig.	95% CI	n	Mean # of hand-rolled cig.	95% CI	n	Mean # of pipes of tobacco	95% CI
18-44	116	5.7	**3.8-7.7**	130	7.3	**5.5-9.2**	119	0.2	**0.0-0.5**
45-69	173	6.0	**4.7-7.4**	182	7.7	**6.3-9.0**	167	0.0	**0.0-0.1**
18-69	289	5.8	**4.2-7.4**	312	7.4	**5.9-8.9**	286	0.1	**0.0-0.4**

Mean amount of tobacco used by daily smokers by type									
Age Group (years)	**Both Sexes**								
	n	Mean # of cigars, cheerots, cigarillos	95% CI	n	Mean # Vaping	95% CI	n	Mean # of other type of tobacco	95% CI
18-44	119	0.1	**0.0-0.2**	118	0.0	**0.0-0.0**	116	0.2	**0.0-0.4**
45-69	171	0.0	**0.0-0.0**	174	0.0	**0.0-0.0**	172	0.6	**0.2-1.1**
18-69	290	0.1	**0.0-0.1**	292	0.0	**0.0-0.0**	288	0.3	**0.1-0.5**

Mean amount of tobacco used by daily smokers by type			
Men			
Age Group (years)	n	Mean # of cigs	95% CI
18-44	104	14.4	**10.6-18.2**
45-69	156	15.0	**12.7-17.3**
18-69	260	14.6	**11.6-17.5**

Analysis Information:

- Questions used: T1, T2, T5a-T5f
- Epi Info program name: Tsmoketype (unweighted); TsmoketypeWT (weighted)

Smoked tobacco consumption

Description: Percentage of current smokers who smoke each of the following products.
Instrument questions:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- On average, how many of the following products do you smoke each day/week?

Percentage of current smokers smoking each of the following products									
Age Group (years)	**Men**								
	n	% Manuf. cigs.	95% CI	n	% Hand-rolled cigs.	95% CI	n	% Pipes of tobacco	95% CI
18-44	78	61.3	46.5-76.1	83	83.0	71.5-94.6	83	0.5	0.0-1.6
45-69	121	62.3	49.8-74.8	128	77.1	68.2-86.0	118	1.0	0.0-2.9
18-69	199	61.5	48.4-74.6	211	81.8	72.2-91.4	201	0.6	0.0-1.5

Percentage of current smokers smoking each of the following products									
Age Group (years)	**Men**								
	n	% Cigars, cheroots, cigarillos	95% CI	n	% Shisha	95% CI	n	% Other	95% CI
18-44	83	1.7	0.0-4.5	82	2.2	0.0-6.6	81	5.8	0.0-13.8
45-69	120	1.0	0.0-2.9	121	1.0	0.0-2.9	121	6.7	2.9-10.6
18-69	203	1.6	0.0-3.8	203	2.0	0.0-5.4	202	6.0	0.0-12.2

Percentage of current smokers smoking each of the following products									
Age Group (years)	**Women**								
	n	% Manuf. cigs.	95% CI	n	% Hand-rolled cigs.	95% CI	n	% Pipes of tobacco	95% CI
18-44	80	67.4	50.8-84.0	89	78.9	70.1-87.8	81	5.0	0.0-10.6
45-69	110	76.2	66.1-86.3	112	71.7	62.4-81.1	103	2.2	0.0-5.9
18-69	190	70.1	57.0-83.2	201	76.9	69.6-84.2	184	4.2	0.1-8.3

Percentage of current smokers smoking each of the following products									
Age Group (years)	**Women**								
	n	% Cigars, cheroots, cigarillos	95% CI	n	% Shisha	95% CI	n	% Other	95% CI
18-44	81	2.4	0.0-7.3	81	5.3	0.0-12.1	80	6.5	0.0-13.8
45-69	105	1.1	0.0-3.3	107	1.4	0.0-3.7	107	7.5	2.8-12.1
18-69	186	2.0	0.0-5.5	188	4.2	0.0-8.8	187	6.8	1.9-11.7

Percentage of current smokers smoking each of the following products									
Age Group (years)	Both Sexes								
	n	% Manuf. cigs.	95% CI	n	% Hand-rolled cigs.	95% CI	n	% Pipes of tobacco	95% CI
18-44	158	63.8	51.4-76.3	172	81.3	72.2-90.4	164	2.3	0.2-4.4
45-69	231	69.6	60.9-78.3	240	74.3	66.6-82.1	221	1.6	0.0-3.6
18-69	389	65.3	54.4-76.2	412	79.6	72.3-87.0	385	2.1	0.3-3.9

Percentage of current smokers smoking each of the following products									
Age Group (years)	Both Sexes								
	n	% Cigars, cheroots, cigarillos	95% CI	n	% Shisha	95% CI	n	% Other	95% CI
18-44	164	2.0	0.0-4.3	163	3.4	0.0-6.8	161	6.1	1.0-11.2
45-69	225	1.1	0.0-2.4	228	1.2	0.0-2.6	228	7.1	4.5-9.7
18-69	389	1.8	0.0-3.7	391	2.9	0.3-5.5	389	6.4	2.5-10.2

Analysis Information:

- Questions used: T1, T2, T5a-T5fw
- Epi Info program name: Tsmoketypeprev (unweighted); TsmoketypeprevWT (weighted)

Frequency of daily cigarette smoking

Description: Percentage of daily cigarette smokers smoking given quantities of manufactured or hand-rolled cigarettes per day.

Instrument questions:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- On average, how many of the following products do you smoke each day?

Percentage of daily smokers smoking given quantities of manufactured or hand-rolled cigarettes per day											
Age Group (years)	Men										
	n	% <5 Cigs.	95% CI	% 5-9 Cigs.	95% CI	% 10-14 Cigs.	95% CI	% 15-24 Cigs.	95% CI	% ≥ 25 Cigs.	95% CI
18-44	50	10.1	0.0-20.6	17.8	5.6-30.0	38.1	19.5-56.7	19.6	8.7-30.5	14.4	3.2-25.5
45-69	77	8.9	1.3-16.5	19.4	7.7-31.2	27.8	16.0-39.7	24.1	12.0-36.3	19.7	5.0-34.3
18-69	127	9.8	1.5-18.2	18.2	9.0-27.4	35.7	22.4-49.0	20.7	12.6-28.7	15.6	5.8-25.5

Percentage of daily smokers smoking given quantities of manufactured or hand-rolled cigarettes per day											
Age Group (years)	Women										
	n	% <5 Cigs.	95% CI	% 5-9 Cigs.	95% CI	% 10-14 Cigs.	95% CI	% 15-24 Cigs.	95% CI	% ≥ 25 Cigs.	95% CI
18-44	54	20.6	3.9-37.3	22.2	8.4-35.9	25.7	12.9-38.5	15.3	4.1-26.5	16.2	0.0-33.0
45-69	79	11.9	4.3-19.5	38.1	25.9-50.3	9.9	3.1-16.7	29.1	15.5-42.7	10.9	4.2-17.7
18-69	133	17.9	5.5-30.4	27.1	16.7-37.5	20.8	11.6-30.1	19.6	11.7-27.4	14.6	2.6-26.6

Percentage of daily smokers smoking given quantities of manufactured or hand-rolled cigarettes per day											
	Both Sexes										
Age Group (years)	n	% <5 Cigs.	95% CI	% 5-9 Cigs.	95% CI	% 10-14 Cigs.	95% CI	% 15-24 Cigs.	95% CI	% ≥ 25 Cigs.	95% CI
18-44	104	14.7	4.3-25.1	19.7	10.3-29.2	32.7	22.1-43.2	17.7	8.5-26.9	15.2	5.3-25.0
45-69	156	10.5	4.9-16.1	29.4	22.2-36.6	18.3	11.6-24.9	26.8	18.9-34.7	15.0	7.0-23.1
18-69	260	13.6	5.5-21.6	22.3	15.5-29.1	28.8	21.4-36.2	20.1	13.8-26.5	15.1	7.4-22.9

Analysis Information:

- Questions used: T1, T2, T5a, T5b
- Epi Info program name: Tcig (unweighted); TcigWT (weighted)

Former daily smokers and former smokers

Description: Percentage of former daily smokers among all respondents and among ever daily smokers, and the mean duration, in years, since former smokers quit smoking.

Instrument questions:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- In the past did you ever smoke any tobacco products?
- In the past, did you ever smoke daily?
- How old were you when you stopped smoking?

Former daily smokers (who don't smoke currently) among all respondents									
	Men			Women			Both Sexes		
Age Group (years)	n	% Former daily smokers	95% CI	n	% Former daily smokers	95% CI	n	% Former daily smokers	95% CI
18-44	202	8.0	4.1-11.9	269	7.8	5.5-10.2	471	7.9	5.1-10.7
45-69	491	19.8	14.2-25.3	466	9.3	6.0-12.5	957	14.4	10.7-18.1
18-69	693	11.5	8.0-15.0	735	8.3	6.2-10.5	1428	9.9	7.3-12.5

Former daily smokers (who don't smoke currently) among ever daily smokers									
	Men			Women			Both Sexes		
Age Group (years)	n	% Former daily smokers	95% CI	n	% Former daily smokers	95% CI	n	% Former daily smokers	95% CI
18-44	88	20.3	11.8-28.8	92	24.2	16.2-32.2	180	22.0	14.9-29.0
45-69	202	48.8	36.4-61.3	138	31.4	21.3-41.6	340	41.2	32.3-50.1
18-69	290	28.9	20.7-37.1	230	26.4	19.5-33.4	520	27.8	21.0-34.6

Mean years since cessation									
	Men			Women			Both Sexes		
Age Group (years)	n	Mean years	95% CI	n	Mean years	95% CI	n	Mean years	95% CI
18-44	24	12.4	8.0-16.7	36	7.8	5.2-10.3	60	9.9	7.7-12.1
45-69	95	20.7	17.3-24.1	62	21.6	15.9-27.3	157	21.1	17.4-24.7
18-69	119	15.9	12.8-19.0	98	12.3	8.7-16.0	217	14.2	12.2-16.2

Analysis Information:

- Questions used: T1, T2, T8, T9, T10, T11a-c
- Epi Info program name: Tsmokeexdaily (unweighted); TsmokeexdailyWT (weighted)

Cessation

Description: Percentage of current smokers who have tried to stop smoking during the past 12 months.
Instrument questions:
- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- During the past 12 months, have you tried to stop smoking?

Current smokers who have tried to stop smoking									
Age Group (years)	Men			Women			Both Sexes		
	n	% Tried to stop smoking	95% CI	n	% Tried to stop smoking	95% CI	n	% Tried to stop smoking	95% CI
18-44	93	59.1	47.6-70.5	91	48.3	37.8-58.9	184	54.8	45.3-64.4
45-69	135	62.6	55.0-70.3	119	64.6	51.9-77.3	254	63.7	57.1-70.2
18-69	228	59.8	50.9-68.7	210	53.0	44.9-61.2	438	56.9	49.4-64.5

Analysis Information:
- Questions used: T1, T2, T6
- Epi Info program name: Tcessation (unweighted); TcessationWT (weighted)

Advice to stop smoking

Description: Percentage of current smokers who have been advised by a doctor or other health worker to stop smoking, among those smokers who have had a visit to a doctor or other health worker in the past 12 months.
Instrument questions:
- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- During any visit to a doctor or other health worker in the past 12 months, were you advised to quit smoking tobacco?

Current smokers who have been advised by doctor to stop smoking									
Age Group (years)	Men			Women			Both Sexes		
	n	% Advised to stop smoking	95% CI	n	% Advised to stop smoking	95% CI	n	% Advised to stop smoking	95% CI
18-44	84	48.1	34.9-61.3	84	56.7	42.1-71.3	168	51.6	40.8-62.4
45-69	129	66.7	59.0-74.5	108	62.2	52.1-72.2	237	64.4	58.6-70.3
18-69	213	52.1	40.9-63.3	192	58.3	46.9-69.6	405	54.8	45.9-63.6

Analysis Information:
- Questions used: T1, T2, T7
- Epi Info program name: Tcessation (unweighted); TcessationWT (weighted)

Current users of smokeless tobacco

Description: Percentage of current users of smokeless tobacco among all respondents.
Instrument question:
- Do you currently use any smokeless tobacco such as [snuff, chewing tobacco, betel]?

Current users of smokeless tobacco									
Age Group (years)	Men			Women			Both Sexes		
	n	% Current users	95% CI	n	% Current users	95% CI	n	% Current users	95% CI
18-44	202	4.5	0.0-9.8	269	1.3	0.0-3.4	471	3.0	0.0-6.1
45-69	491	0.2	0.0-0.5	466	0.0	0.0-0.0	957	0.1	0.0-0.2
18-69	693	3.2	0.0-7.0	735	0.9	0.0-2.3	1428	2.1	0.0-4.2

Analysis Information:
- Questions used: T12, T13, T15
- Epi Info program name: TsmokelessstatusWT (weighted)

Status of smokeless tobacco use

Description: Status of using smokeless tobacco among all respondents.
Instrument questions:

- Do you currently use any smokeless tobacco such as [snuff, chewing tobacco, betel]?
- Do you currently use smokeless tobacco products daily?
- In the past, did you ever use smokeless tobacco such as [snuff, chewing tobacco, betel]?

Smokeless tobacco use									
	Men								
Age Group (years)		Current user				Non user			
	n	% Daily	95% CI	% Non-daily	95% CI	% Past user	95% CI	% Never used	95% CI
18-44	202	0.4	0.0-1.2	4.1	0.0-9.4	1.4	0.0-3.1	94.2	88.9-99.4
45-69	491	0.2	0.0-0.5	0.0	0.0-0.0	0.6	0.0-1.6	99.2	98.2-100.0
18-69	693	0.3	0.0-1.0	2.9	0.0-6.6	1.2	0.0-2.3	95.6	92.0-99.3

Smokeless tobacco use									
	Women								
Age Group (years)		Current user				Non user			
	n	% Daily	95% CI	% Non-daily	95% CI	% Past user	95% CI	% Never used	95% CI
18-44	269	1.3	0.0-3.4	1.6	0.0-3.3	97.1	94.4-99.7	269	1.3
45-65	466	0.0	0.0-0.0	0.4	0.0-0.8	99.6	99.2-100.0	466	0.0
18-69	735	0.9	0.0-2.3	1.2	0.0-2.4	97.9	96.1-99.7	735	0.9

Smokeless tobacco use									
	Both Sexes								
Age Group (years)		Current user				Non user			
	n	% Daily	95% CI	% Non-daily	95% CI	% Past user	95% CI	% Never used	95% CI
18-44	471	0.2	0.0-0.6	2.8	0.0-5.8	1.5	0.4-2.5	95.6	92.4-98.7
45-65	957	0.1	0.0-0.2	0.0	0.0-0.0	0.5	0.1-1.0	99.4	98.9-99.9
18-69	1428	0.2	0.0-0.5	1.9	0.0-4.0	1.2	0.4-1.9	96.8	94.6-98.9

Analysis Information:

- Questions used: T12, T13, T15
- Epi Info program name: TsmokelessstatusWT (weighted); TsmokelessstatusWT (weighted)

Former daily users of smokeless tobacco

Description: Percentage of former daily users of smokeless tobacco among all respondents and among ever daily users.
Instrument questions:

- Do you currently use any smokeless tobacco such as [snuff, chewing tobacco, betel]?
- Do you currently use smokeless tobacco products daily?
- In the past, did you ever use smokeless tobacco such as [snuff, chewing tobacco, betel]?
- In the past, did you ever use smokeless tobacco such as [snuff, chewing tobacco, betel] daily?

Former daily smokeless tobacco users (who don't use tobacco currently) among all respondents									
Age Group (years)	Men			Women			Both Sexes		
	n	% Former daily users	95% CI	n	% Former daily users	95% CI	n	% Former daily users	95% CI
18-29	202	0.5	0.0-1.4	269	0.6	0.0-1.5	471	0.6	0.0-1.2
30-44	491	0.3	0.0-0.8	466	0.1	0.0-0.3	957	0.2	0.0-0.5
18-69	693	0.5	0.0-1.1	735	0.5	0.0-1.1	1428	0.5	0.0-0.9

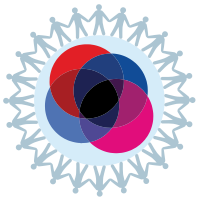
Former daily smokeless tobacco users (who don't use tobacco currently) among ever daily users

Age Group (years)	Men			Women			Both Sexes		
	n	% Former daily users	95% CI	n	% Former daily users	95% CI	n	% Former daily users	95% CI
18-44	3	55.9	0.0-100.0	3	100.0	0-100.0	6	73.2	21.3-100.0
45-69	3	68.4	0.0-100.0	1	100.0	0-100.0	4	73.6	14.0-100.0
18-69	6	58.2	0.0-100.0	**4**	100.0	0-100.0	10	73.3	21.7-100.0

Analysis Information:

- Questions used: T12, T13, T15, T16
- Epi Info program name: TsmokelessexdailyWT (weighted); TsmokelessexdailyWT (weighted)

Current tobacco users



Description: Percentage of daily and current (daily plus non-daily) tobacco users, includes smoking and smokeless, among all respondents.

Instrument questions:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- Do you currently use any smokeless tobacco such as [snuff, chewing tobacco, betel]?
- Do you currently use smokeless tobacco products daily?

Current tobacco users									
Age Group (years)	Men			Women			Both Sexes		
	n	% Current users	95% CI	n	% Current users	95% CI	n	% Current users	95% CI
18-44	202	46.9	41.0-52.8	269	32.4	25.6-39.3	471	40.0	34.8-45.2
45-69	491	26.2	19.8-32.7	466	26.4	19.8-33.0	957	26.3	21.0-31.6
18-69	693	40.8	36.1-45.4	735	30.5	25.0-35.9	1428	35.7	31.1-40.3

Daily tobacco users									
Age Group (years)	Men			Women			Both Sexes		
	n	% Daily users	95% CI	n	% Daily users	95% CI	n	% Daily users	95% CI
18-44	202	31.8	24.5-39.2	269	24.6	18.1-31.2	471	28.4	23.2-33.6
45-69	491	20.7	14.1-27.3	466	20.3	13.5-27.0	957	20.5	15.2-25.7
18-69	693	28.5	22.4-34.7	735	23.2	17.8-28.6	1428	25.9	21.1-30.7

Analysis Information:

- Questions used: T1, T2, T12, T13
- Epi Info program name: TdailyuserWT (weighted); TdailyuserWT (weighted)

Exposure to second-hand smoke in home in past 30 days

Description: Percentage of respondents exposed second-hand smoke in the home in the past 30 days.

Instrument question:

- In the past 30 days, did someone smoke in your home?

Exposed to second-hand smoke in home during the past 30 days

Age Group (years)	Men			Women			Both Sexes		
	n	% Exposed	95% CI	n	% Exposed	95% CI	n	% Exposed	95% CI
18-44	203	40.9	32.5-49.3	269	40.9	34.5-47.4	472	40.9	35.7-46.2
45-69	491	32.0	24.1-39.9	466	30.4	22.4-38.4	957	31.2	24.5-37.9
18-69	694	38.3	31.3-45.3	735	37.5	31.4-43.6	1429	37.9	32.9-42.9

Analysis Information:

- Questions used: T17
- Epi Info program name: Tetshome (unweighted); TetshomeWT (weighted)

Exposure to second-hand smoke in the workplace in past 30 days

Description: Percentage of respondents exposed to second-hand smoke in the workplace in the past 30 days.

Instrument question:

- During the past 30 days, did someone smoke in closed areas in your workplace (in the building, in a work area or a specific office)?

Exposed to second-hand smoke in the workplace during the past 30 days									
Age Group (years)	Men			Women			Both Sexes		
	n	% Exposed	95% CI	n	% Exposed	95% CI	n	% Exposed	95% CI
18-44	192	36.6	28.3-45.0	252	20.7	13.9-27.5	444	29.0	22.9-35.2
45-69	460	27.6	18.9-36.4	414	12.1	7.1-17.1	874	19.9	14.1-25.7
18-69	652	34.0	26.8-41.2	666	18.0	12.4-23.6	1318	26.3	20.7-31.9

Analysis Information:

- Questions used: T18
- Epi Info program name: Tetswork (unweighted); TetsworkWT (weighted)

Tobacco Policy

Cigarette package health warnings

Description: Percentage of current smokers who noticed health warnings on cigarette packages during the past 30 days.

Instrument questions:

- During the past 30 days, did you notice any health warnings on cigarette packages?

Current smokers who noticed health warnings on cigarette packages									
Age Group (years)	**Men**			**Women**			**Both Sexes**		
	n	**%**	**95% CI**	**n**	**%**	**95% CI**	**n**	**%**	**95% CI**
18-44	91	80.0	69.4-90.6	89	92.6	87.1-98.1	180	84.9	78.5-91.2
45-69	133	85.8	80.2-91.3	115	88.3	83.1-93.5	248	87.1	83.7-90.4
18-69	224	81.1	72.4-89.8	204	91.4	86.9-95.9	428	85.4	80.3-90.5

Analysis Information:
Questions used: TP4
Epi Info program name: TPwarnings (unweighted); TPwarningsWT (weighted)

Quitting

Description: Percentage of current smokers who noticed health warnings on cigarette packages during the past 30 days that thought about quitting due to the health warnings they saw.

Instrument questions:

- During the past 30 days, did you notice any health warnings on cigarette packages?
- During the past 30 days, have warning labels on cigarette packages led you to think about quitting?

Current smokers who saw health warnings on cigarette packages that thought of quitting									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	75	60.3	46.1-74.4	82	43.7	31.5-56.0	157	53.2	41.8-64.6
45-69	111	57.3	40.1-74.4	102	48.2	35.4-61.0	213	52.5	41.6-63.4
18-69	186	59.6	47.4-71.9	184	45.0	35.0-55.0	370	53.0	43.3-62.7

Analysis Information:

- Questions used: TP4, TP5
- Epi Info program name: TPquitting (unweighted); TPquittingWT (weighted)

Cigarette costs

Description: Average price paid for 20 manufactured cigarettes, based on the last manufactured cigarette purchase.

Instrument questions:

- The last time you bought manufactured cigarettes for yourself, how many cigarettes did you buy in total?
- In total, how much money did you pay for this purchase?

Average price paid for 20 manufactured cigarettes									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean NZD	95% CI	n	Mean NZD	95% CI	n	Mean NZD	95% CI
18-44	64	274.3	166.2-382.5	59	134.5	63.5-205.5	123	215.6	140.9-290.3
45-69	79	238.4	159.4-317.3	81	227.8	146.6-309.4	160	232.4	172.0-292.8
144	143	268.1	178.0-358.3	140	159.9	101.7-218.0	283	219.3	157.7-280.8

Analysis Information:

- Questions used: TP6, TP7
- Epi Info program name: TPcost (unweighted); TPcostWT (weighted)

Average price paid for monthly expenses on cigarettes									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean NZD	95% CI	n	Mean NZD	95% CI	n	Mean NZD	95% CI
18-44	42	2520.4	1064.5-3976.4	40	937.8	278.4-1597.0	82	1871.4	792.5-2950.2
45-69	57	1772.5	742.6-2802.4	63	1984.7	754.9-3214.7	120	1899.3	843.4-2955.3
144	143	2394	1191.3-3596.7	103	1254.6	563.1-1946.1	202	1877.8	979.3-2776.2

Analysis Information:

- Questions used: TP6, TP7
- Epi Info program name: TPcost (unweighted); TPcostWT (weighted)

Alcohol Consumption

Alcohol consumption status

Description: Alcohol consumption status of all respondents.
Instrument questions:

- Have you ever consumed any alcohol such as …?
- Have you consumed any alcohol in the past 12 months?
- Have you consumed any alcohol in the past 30 days?

Alcohol consumption status									
	Men								
Age Group (years)	n	% Current drinker (past 30 days)	95% CI	% Drank in past 12 months, not current	95% CI	% Past 12 months abstainer	95% CI	% Lifetime abstainer	95% CI
18-44	203	62.3	53.2-71.4	10.2	4.8-15.5	8.3	2.8-13.9	19.2	12.8-25.6
45-69	489	44.7	37.0-52.4	11.3	6.9-15.6	14.0	10.4-17.6	30.0	22.0-38.1
18-69	692	57.1	49.2-65.0	10.5	6.3-14.7	10.0	5.8-14.1	22.4	16.3-28.5

Alcohol consumption status									
	Women								
Age Group (years)	n	% Current drinker (past 30 days)	95% CI	% Drank in past 12 months, not current	95% CI	% Past 12 months abstainer	95% CI	% Lifetime abstainer	95% CI
18-44	269	46.8	38.9-54.6	20.1	11.6-28.6	8.9	4.6-13.1	24.3	19.5-29.0
45-69	465	32.3	28.2-36.5	13.0	9.5-16.6	16.0	12.8-19.3	38.6	33.0-44.3
18-69	734	42.1	36.7-47.5	17.8	11.7-23.8	11.2	8.6-13.8	29.0	24.5-33.4

Alcohol consumption status									
	Both Sexes								
Age Group (years)	n	% Current drinker (past 30 days)	95% CI	% Drank in past 12 months, not current	95% CI	% Past 12 months abstainer	95% CI	% Lifetime abstainer	95% CI
18-44	472	54.9	48.1-61.7	14.9	9.0-20.7	8.6	5.1-12.1	21.6	17.0-26.3
45-69	954	38.3	33.7-43.0	12.2	9.6-14.8	15.0	12.2-17.9	34.5	28.6-40.3
18-69	1426	49.8	44.3-55.2	14.0	9.8-18.3	10.6	8.2-13.0	25.6	21.0-30.2

Analysis Information:

- Questions used: A1, A2, A5
- Epi Info program name: Aconsumption (unweighted); AconsumptionWT (weighted)

Stopping drinking due to health reasons

Description: Percentage of former drinkers (those who did not drink during the past 12 months) who stopped drinking due to health reasons, such as a negative impact of drinking on your health or as per advice of a doctor or other health worker among those respondents who drank in their lifetime, but not in the last 12 months.

Instrument questions:

- Have you consumed any alcohol in the past 12 months?
- Did you stop drinking due to health reasons, such as a negative impact of drinking on your health or as per advice of your doctor or other health worker?

Stopping drinking due to health reasons									
Age Group (years)	Men			Women			Both Sexes		
	n	% stopping due to health reasons	95% CI	n	% stopping due to health reasons	95% CI	n	% stopping due to health reasons	95% CI
18-44	17	33.9	9.5-58.2	22	39.4	19.7-59.2	39	36.6	22.9-50.3
45-69	66	39.3	26.7-51.8	73	15.1	7.1-23.1	139	26.0	18.9-33.1
18-69	83	36.1	21.5-50.7	95	28.0	17.9-38.2	178	31.9	24.0-39.9

Analysis Information:

- Questions used: A1, A2, A3
- Epi Info program name: Astopdrink (unweighted); AstopdrinkWT (weighted)

Frequency of alcohol consumption

Description: Frequency of alcohol consumption in the past 12 months among those respondents who drank in the last 12 months.

Instrument question:

- During the past 12 months, how frequently have you had at least one alcoholic drink?

Frequency of alcohol consumption in the past 12 months															
Age Group (years)	Men														
	n	% Daily	95% CI	% 5-6 days/ week	95% CI	% 3-4 days/ week	95% CI	% 1-2 days/ week	95% CI	% 1-3 days/ month	95% CI	% < once a month	95% CI		
18-44	25	1.8	0.0-4.0	1.2	0.0-2.9	8.4	1.9-14.9	42.7	32.4-52.9	25.5	16.0-35.0	16.5	9.8-23.2		
45-69	45	3.9	1.0-6.9	2.4	0.0-5.2	7.6	3.8-11.3	45.4	37.4-53.4	20.8	14.9-26.7	16.7	10.6-22.8		
18-69	70	2.3	0.6-4.0	1.5	0.1-2.8	8.2	2.9-13.5	43.3	35.2-51.5	24.3	17.0-31.7	16.5	11.7-21.4		

Frequency of alcohol consumption in the past 12 months															
Age Group (years)	Women														
	n	% Daily	95% CI	% 5-6 days/ week	95% CI	% 3-4 days/ week	95% CI	% 1-2 days/ week	95% CI	% 1-3 days/ month	95% CI	% < once a month	95% CI		
18-44	62	0.7	0.0-1.5	0.7	0.0-1.8	4.6	0.3-8.9	28.6	20.9-36.3	23.1	17.7-28.4	38.9	28.3-49.6		
45-69	63	3.0	0.8-5.2	0.4	0.0-1.0	5.2	2.1-8.4	34.4	24.7-44.1	20.8	13.9-27.8	29.9	19.7-40.1		
18-69	125	1.3	0.3-2.2	0.6	0.0-1.4	4.7	1.1-8.4	30.0	23.4-36.7	22.5	18.2-26.9	36.7	27.8-45.6		

Frequency of alcohol consumption in the past 12 months													
Age Group (years)	Both Sexes												
	n	% Daily	95% CI	% 5-6 days/ week	95% CI	% 3-4 days/ week	95% CI	% 1-2 days/ week	95% CI	% 1-3 days/ month	95% CI	% < once a month	95% CI
18-44	87	1.3	0.1-2.5	1.0	0.0-2.0	6.7	2.8-10.5	36.3	28.9-43.6	24.4	18.5-30.2	26.7	19.3-34.1
45-69	108	3.5	1.8-5.2	1.5	0.0-2.9	6.5	4.6-8.4	40.3	34.7-46.0	20.8	15.9-25.8	22.8	16.5-29.1
18-69	195	1.8	0.8-2.9	1.1	0.3-1.9	6.6	3.5-9.7	37.3	31.1-43.4	23.5	19.0-28.0	25.8	19.9-31.6

Analysis Information:

- Questions used: A1, A2, A4
- Epi Info program name: Afrequency (unweighted); AfrequencyWT (weighted)

Drinking occasions in the past 30 days

Description: Mean number of occasions with at least one drink in the past 30 days among current (past 30 days) drinkers.

Instrument question:

- During the past 30 days, on how many occasions did you have at least one alcoholic drink?

Mean number of drinking occasions in the past 30 days among current (past 30 days) drinkers									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	102	5.6	3.9-7.2	115	3.5	**2.7-4.2**	217	4.7	**3.7-5.7**
45-69	205	5.4	4.5-6.2	135	4.9	**3.9-5.9**	340	5.2	**4.6-5.7**
18-69	307	5.5	4.2-6.8	250	3.8	**3.1-4.5**	557	4.8	**4.0-5.5**

Analysis Information:

- Questions used: A1, A2, A5, A6
- Epi Info program name: Aoccasions (unweighted); AoccasionsWT (weighted)

Standard drinks per drinking occasion

Description: Mean number of standard drinks consumed on a drinking occasion among current (past 30 days) drinkers.

Instrument question:

- During the past 30 days, when you drank alcohol, on average, how many standard alcoholic drinks did you have during one occasion?

Mean number of standard drinks per drinking occasion among current (past 30 days) drinkers									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	110	9.3	**7.3-11.2**	116	6.7	**5.5-7.9**	226	8.2	**6.8-9.6**
45-69	213	8.1	**6.8-9.5**	139	4.7	**3.4-6.1**	352	6.7	**5.4-8.0**
18-69	323	9.0	**7.7-10.3**	255	6.2	**5.2-7.2**	578	7.8	**6.9-8.8**

Analysis Information:

- Questions used: A1, A2, A5, A7
- Epi Info program name: Anumdrinkperday (unweighted); AnumdrinkperdayWT (weighted)

Average volume drinking levels among all respondents

Description: Percentage of respondents with different drinking levels.
A standard drink contains approximately 10g of pure alcohol.
Instrument questions:

- During the past 30 days, when you drank alcohol, on average, how many standard alcoholic drinks did you have during one occasion?

Drinking at high-end level among all respondents (≥60g of pure alcohol on average per occasion among men and ≥40g of pure alcohol on average per occasion among women)									
Age Group (years)	Men			Women			Both Sexes		
	n	% ≥60g	95% CI	n	% ≥40g	95% CI	n	% high-end level	95% CI
18-44	191	38.1	27.8-48.4	257	28.2	20.0-36.4	448	33.3	27.3-39.4
45-69	462	24.3	18.8-29.8	449	14.2	8.0-20.5	911	19.1	14.0-24.1
18-69	653	34.0	25.9-42.1	706	23.6	17.6-29.6	1359	28.9	23.7-34.0

Drinking at intermediate level among all respondents (40-59.9g of pure alcohol on average per occasion among men and 20-39.9g of pure alcohol on average per occasion among women)									
Age Group (years)	Men			Women			Both Sexes		
	n	% 40-59.9g	95% CI	n	% 20-39.9g	95% CI	n	% intermediate level	95% CI
18-44	191	6.3	2.7-9.8	257	11.9	6.1-17.6	448	9.0	5.7-12.3
45-69	462	5.5	3.2-7.8	449	9.8	5.6-14.0	911	7.7	5.1-10.3
18-69	653	6.0	3.1-9.0	706	11.2	6.9-15.5	1359	8.6	5.9-11.3

Drinking at lower-end level among all respondents (<40g of pure alcohol on average per occasion among men and <20g of pure alcohol on average per occasion among women)									
Age Group (years)	Men			Women			Both Sexes		
	n	% <40g	95% CI	n	% <20g	95% CI	n	% lower-end level	95% CI
18-44	191	15.4	8.1-22.7	257	4.5	1.3-7.6	448	10.1	5.6-14.6
45-69	462	12.4	9.3-15.6	449	5.8	2.9-8.7	911	9.0	7.0-11.0
18-69	653	14.5	9.5-19.5	706	4.9	2.3-7.6	1359	9.8	6.6-12.9

Analysis Information:

- Questions used: A1, A2, A5, A7
- Epi Info program name: Acategories (unweighted); AcategoriesWT (weighted)

Average volume drinking levels among current (past 30 days) drinkers

Description: Percentage of current (past 30 days) drinkers with different drinking levels.
A standard drink contains approximately 10g of pure alcohol.
Instrument questions:

- During the past 30 days, when you drank alcohol, on average, how many standard alcoholic drinks did you have during one occasion?

High-end, intermediate, and lower-end level drinking among current (past 30 days) drinkers							
Age Group (years)	Men						
	n	% high-end (≥60g)	95% CI	% intermediate (40-59.9g)	95% CI	% lower-end (<40g)	95% CI
18-44	110	63.8	50.0-77.6	10.5	4.4-16.5	25.7	14.3-37.1
45-69	213	57.5	50.9-64.2	13.1	8.3-17.9	29.4	23.7-35.1
18-69	323	62.3	51.3-73.3	11.1	5.7-16.4	26.6	17.9-35.3

High-end, intermediate, and lower-end level drinking among current (past 30 days) drinkers							
Age Group (years)	Women						
	n	% high-end (≥40g)	95% CI	% intermediate (20-39.9g)	95% CI	% lower-end (<20g)	95% CI
18-44	116	63.3	50.6-75.9	26.7	13.6-39.7	10.0	3.5-16.6
45-69	139	47.7	27.0-68.5	32.8	19.5-46.1	19.5	10.0-28.9
18-69	255	59.4	46.9-72.0	28.2	17.7-38.7	12.4	6.1-18.7

High-end, intermediate, and lower-end level drinking among current (past 30 days) drinkers							
Age Group (years)	Both sexes						
	n	% high-end	95% CI	% intermediate	95% CI	% lower-end	95% CI
18-44	226	63.6	54.5-72.7	17.1	10.5-23.7	19.3	12.2-26.5
45-69	352	53.3	42.7-63.8	21.6	14.2-28.9	25.1	19.9-30.4
18-69	578	61.1	52.5-69.7	18.2	12.3-24.1	20.7	15.2-26.1

Analysis Information:
- Questions used: A1, A2, A5, A7
- Epi Info program name: Acategories (unweighted); AcategoriesWT (weighted)

Largest number of drinks in the past 30 days

Description: Largest number of drinks consumed during a single occasion in the past 30 days among current (past 30 days) drinkers.
Instrument question:
- During the past 30 days, what was the largest number of standard alcoholic drinks you had on a single occasion, counting all types of alcoholic drinks together?

Mean maximum number of standard drinks consumed on one occasion in the past 30 days									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean maximum number	95% CI	n	Mean maximum number	95% CI	n	Mean maximum number	95% CI
18-44	104	15.0	11.8-18.1	116	10.3	**7.8-12.8**	220	13.0	**10.6-15.4**
45-69	212	10.6	9.3-11.9	139	6.7	**4.9-8.6**	351	8.9	**7.5-10.4**
18-69	316	13.9	11.7-16.2	255	9.4	**7.3-11.5**	571	12.0	**10.2-13.8**

Analysis Information:
- Questions used: A1, A2, A5, A8
- Epi Info program name: Alargestnum (unweighted); AlargestnumWT (weighted)

Six or more drinks on a single occasion ("heavy episodic drinking")

Description: Percentage of respondents who had six or more drinks on any occasion in the past 30 days during a single occasion among the total population.
Instrument question:
- During the past 30 days, how many times did you have **six or more** standard alcoholic drinks in a single drinking occasion?

Six or more drinks on a single occasion at least once during the past 30 days among total population									
Age Group (years)	Men			Women			Both Sexes		
	n	% ≥ 6 drinks	95% CI	n	% ≥ 6 drinks	95% CI	n	% ≥ 6 drinks	95% CI
18-44	186	49.7	40.5-58.9	249	31.7	23.3-40.1	435	41.0	34.1-47.9
45-69	439	32.9	25.9-39.8	441	19.3	15.9-22.7	880	25.8	21.9-29.6
18-69	625	44.7	37.0-52.5	690	27.6	21.8-33.5	1315	36.2	30.8-41.7

Analysis Information:
- Questions used: A1, A2, A5, A9
- Epi Info program name: Aepisodic (unweighted); AepisodicWT (weighted)

Six or more drinks on a single occasion

Description: Mean number of times in the past 30 days on which current (past 30 days) drinkers consumed six or more drinks during a single occasion.
Instrument question:

- During the past 30 days, how many times did you have **six or more** standard alcoholic drinks in a single drinking occasion?

Mean number of times with six or more drinks during a single occasion in the past 30 days among current drinkers									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of times	95% CI	n	Mean number of times	95% CI	n	Mean number of times	95% CI
18-44	105	3.0	2.4-3.7	108	2.4	1.6-3.2	213	2.8	2.3-3.3
45-69	190	3.2	2.7-3.7	131	1.7	1.2-2.2	321	2.5	2.1-2.8
18-69	295	3.1	2.6-3.6	239	2.2	1.5-2.9	534	2.7	2.3-3.1

Analysis Information:

- Questions used: A1, A2, A5, A9
- Epi Info program name: Aepisodic (unweighted); AepisodicWT (weighted)

Past 7 days drinking

Description: Frequency of alcohol consumption in the past 7 days by current (past 30 days) drinkers.
Instrument question:

- During each of the past 7 days, how many standard drinks of any alcoholic drink did you have each day?

Frequency of alcohol consumption in the past 7 days											
Age Group (years)	Men										
	n	% Daily	95% CI	% 5-6 days	95% CI	% 3-4 days	95% CI	% 1-2 days	95% CI	% 0 days	95% CI
18-44	115	0.0	0.0-0.0	1.1	0.0-2.7	11.7	3.5-20.0	75.9	64.4-87.4	11.3	3.0-19.5
45-69	221	4.0	1.6-6.4	2.8	0.0-6.1	12.4	9.4-15.4	67.6	59.2-75.9	13.2	7.8-18.5
18-69	336	0.9	0.4-1.4	1.5	0.0-3.1	11.9	5.6-18.2	74.0	64.1-83.9	11.7	4.5-18.9

Frequency of alcohol consumption in the past 7 days											
Age Group (years)	Women										
	n	% Daily	95% CI	% 5-6 days	95% CI	% 3-4 days	95% CI	% 1-2 days	95% CI	% 0 days	95% CI
18-44	123	1.1	0.0-2.5	0.4	0.0-1.1	3.1	0.3-6.0	77.0	69.6-84.5	18.4	9.7-27.0
45-69	145	4.2	1.4-7.0	2.3	0.0-5.7	10.0	2.8-17.3	72.9	65.0-80.8	10.6	6.0-15.2
18-69	268	1.8	0.6-3.0	0.8	0.0-1.9	4.8	2.1-7.6	76.0	70.2-81.9	16.5	10.0-23.0

Frequency of alcohol consumption in the past 7 days											
Age Group (years)	Both Sexes										
	n	% Daily	95% CI	% 5-6 days	95% CI	% 3-4 days	95% CI	% 1-2 days	95% CI	% 0 days	95% CI
18-44	238	0.4	0.0-1.0	0.8	0.0-1.8	8.2	2.9-13.4	76.4	67.7-85.1	14.2	6.3-22.1
45-69	366	4.1	2.7-5.5	2.6	0.3-4.8	11.4	8.0-14.9	69.8	64.3-75.4	12.1	9.2-14.9
18-69	604	1.3	0.7-1.9	1.2	0.2-2.2	8.9	4.7-13.2	74.8	67.5-82.2	13.7	7.3-20.2

Analysis Information:

- Questions used: A1, A2, A5, A10a-g
- Epi Info program name: Apastweek (unweighted); ApastweekWT (weighted)

Standard drinks per day in the past 7 days

Description: Mean number of standard drinks consumed on average per day in the past 7 days among current (past 30 days) drinkers.
Instrument question:

- During each of the past 7 days, how many standard drinks of any alcoholic drink did you have each day?

Mean number of standard drinks consumed on average per day in the past 7 days among current drinkers									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number	95% CI	n	Mean number	95% CI	n	Mean number	95% CI
18-44	115	1.9	**1.3-2.5**	123	1.1	0.7-1.6	238	1.6	1.1-2.0
45-69	221	1.5	**1.3-1.7**	145	0.9	0.6-1.2	366	1.2	1.1-1.4
18-69	336	1.8	**1.3-2.3**	268	1.1	0.7-1.4	604	1.5	1.2-1.8

Analysis Information:

- Questions used: A1, A2, A5, A10a-g
- Epi Info program name: Apastweek (unweighted); ApastweekWT (weighted)

Consumption of unrecorded alcohol

Description: Percentage of respondents that consumed unrecorded alcohol (homebrewed alcohol, alcohol brought over the border, not intended for drinking or other untaxed alcohol) during the past 7 days among current (past 30 days) drinkers.
Instrument questions:

- Have you consumed any alcohol within the past 30 days?
- During the past 7 days, did you consume any homebrewed alcohol, any alcohol brought over the border, not intended for drinking or other untaxed alcohol?

Consumption of unrecorded alcohol									
Age Group (years)	Men			Women			Both Sexes		
	n	% consuming unrecorded alcohol	95% CI	n	% consuming unrecorded alcohol	95% CI	n	% consuming unrecorded alcohol	95% CI
18-29	116	5.0	0.6-9.4	124	3.0	0.0-7.1	240	4.2	0.9-7.5
30-44	223	4.5	1.0-8.1	150	1.9	0.0-4.3	373	3.4	1.3-5.5
18-69	339	4.9	1.0-8.8	274	2.7	0.0-6.3	613	4.0	1.2-6.8

Analysis Information:

- Questions used: A1, A2, A5, A10a-g, A11
- Epi Info program name: Aunrecorded (unweighted); AunrecordedWT (weighted)

Standard drinks of unrecorded alcohol per day in the past 7 days

Description: Mean number of standard drinks of unrecorded alcohol consumed on average per day in the past 7 days among current (past 30 days) drinkers.
Instrument question:

- On average, how many standard drinks of the following did you consume during the past 7 days?

Mean number of standard drinks of unrecorded alcohol consumed on average per day in the past 7 days among current drinkers									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number	95% CI	n	Mean number	95% CI	n	Mean number	95% CI
18-44	6	1.5	0.0-3.7	3	0.9	**0.2-1.5**	9	1.3	**0.0-2.7**
45-69	6	0.4	0.2-0.7	2	0.6	**0.1-1.2**	8	0.5	**0.3-0.7**
18-69	12	1.3	0.0-3.0	5	0.8	**0.3-1.4**	17	1.2	**0.0-2.3**

Analysis Information:

- Questions used: A1, A2, A5, A10a-g, A11, A12a-e
- Epi Info program name: Ameanunrecorded (unweighted); AmeanunrecordedWT (weighted)

Frequency of impaired control over drinking

Description: Frequency of not being able to stop drinking once started during the past 12 months among past 12-month drinkers.
Instrument questions:

- Have you consumed any alcohol within the past 12 months?
- How often during the past 12 months have you found that you were not able to stop drinking once you had started?

Frequency of not being able to stop drinking once started during the past 12 months among past 12 month drinkers

Age Group (years)	Men						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	143	13.3	7.1-19.6	5.4	0.0-11.7	81.3	73.3-89.3
45-69	288	15.6	9.5-21.7	3.0	1.3-4.8	81.3	75.2-87.5
18-69	431	13.9	8.8-19.0	4.8	0.0-9.8	81.3	75.1-87.5

Frequency of not being able to stop drinking once started during the past 12 months among past 12 month drinkers							
Age Group (years)	Women						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	178	12.4	2.4-22.4	8.2	2.6-13.8	79.4	69.7-89.2
45-69	209	10.3	5.2-15.5	3.4	1.3-5.5	86.3	80.9-91.7
18-69	387	11.9	3.6-20.2	7.0	2.8-11.2	81.1	73.1-89.2

Frequency of not being able to stop drinking once started during the past 12 months among past 12 month drinkers							
Age Group (years)	Both Sexes						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	321	12.9	6.9-18.9	6.6	2.2-11.1	80.5	73.9-87.0
45-69	497	13.2	8.6-17.7	3.2	1.7-4.7	83.6	79.0-88.3
18-69	818	13.0	8.0-17.9	5.8	2.3-9.3	81.2	76.2-86.3

Analysis Information:

- Questions used: A1, A2, A13
- Epi Info program name: Anotabletostop (unweighted); AnotabletostopWT (weighted)

Frequency of failing to do what was normally expected because of drinking

Description: Frequency of failing to do what was normally expected from you because of drinking during the past 12 months among past 12 month drinkers.
Instrument questions:

- Have you consumed any alcohol within the past 12 months?
- How often during the past 12 months have you failed to do what was normally expected from you because of drinking?

Frequency of failing to do what was normally expected from you during the past 12 months among past 12 month drinkers							
Age Group (years)	Men						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	143	11.9	5.0-18.8	3.5	0.0-7.4	84.6	74.7-94.6
45-69	288	7.1	4.2-10.0	3.5	0.0-7.4	89.4	84.9-93.8
18-69	431	10.7	5.4-16.0	3.5	0.6-6.3	85.8	78.4-93.2

Frequency of failing to do what was normally expected from you during the past 12 months among past 12 month drinkers							
Age Group (years)	Women						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	178	5.6	0.0-11.4	4.4	1.6-7.2	90.0	83.9-96.1
45-69	209	4.4	0.8-8.0	1.4	0.4-2.4	94.2	90.8-97.7
18-69	387	5.3	0.4-10.3	3.7	1.5-5.8	91.0	86.0-96.1

Frequency of failing to do what was normally expected from you during the past 12 months among past 12 month drinkers							
Age Group (years)	Both Sexes						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	321	9.0	4.5-13.6	3.9	1.3-6.5	87.1	81.1-93.0
45-69	497	5.9	3.3-8.4	2.5	0.3-4.8	91.6	88.1-95.1
18-69	818	8.3	4.5-12.0	3.6	1.8-5.3	88.2	83.7-92.7

Analysis Information:

- Questions used: A1, A2, A14
- Epi Info program name: Afailexpected (unweighted); AfailexpectedWT (weighted)

Frequency of morning drinking

Description: Frequency of needing a first drink in the morning to get going after a heavy drinking session during the past 12 months among past 12 month drinkers.
Instrument questions:

- Have you consumed any alcohol within the past 12 months?
- How often during the past 12 months have you needed a first drink in the morning to get yourself going after a heavy drinking session?

Frequency of needing a first drink in the morning to get going during the past 12 months among past 12 month drinkers							
Age Group (years)	Men						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	143	1.2	0.0-2.7	0.0	0.0-0.0	98.8	97.3-100.0
45-69	288	3.0	0.8-5.2	2.2	0.0-4.6	94.9	91.6-98.1
18-69	431	1.6	0.2-3.1	0.5	0.0-1.1	97.8	96.3-99.4

Frequency of needing a first drink in the morning to get going during the past 12 months among past 12 month drinkers							
Age Group (years)	Women						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	178	2.5	0.0-5.9	0.5	0.0-1.7	96.9	93.3-100.0
45-69	209	1.9	0.0-4.6	0.2	0.0-0.6	97.9	95.2-100.0
18-69	387	2.4	0.0-5.6	0.5	0.0-1.3	97.2	93.9-100.0

Frequency of needing a first drink in the morning to get going during the past 12 months among past 12 month drinkers							
Age Group (years)	Both Sexes						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	321	1.8	0.0-4.0	0.2	0.0-0.8	98.0	95.7-100.0
45-69	497	2.5	0.4-4.6	1.2	0.0-2.5	96.3	93.9-98.6
18-69	818	2.0	0.0-4.1	0.5	0.0-1.0	97.5	95.4-99.7

Analysis Information:
- Questions used: A1, A2, A15
- Epi Info program name: Amorningdrink (unweighted); AmorningdrinkWT (weighted)

Frequency of problems with family/ partner due to someone else's drinking

Description: Frequency of having had problems with family or partner due to someone else's drinking in the past 12 months among all respondents.
Instrument question:
- Have you had family problems or problems with your partner due to someone else's drinking within the past 12 months?

Frequency of family/partner problems due to someone else's drinking during the past 12 months among all respondents							
Age Group (years)	Men						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	203	2.2	0.0-5.0	8.7	3.4-14.0	89.1	83.4-94.8
45-69	489	1.0	0.2-1.9	4.0	1.7-6.3	95.0	92.3-97.6
18-69	692	1.9	0.0-3.9	7.3	3.6-11.0	90.8	86.9-94.7

Frequency of family/partner problems due to someone else's drinking during the past 12 months among all respondents							
Age Group (years)	Women						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	269	4.7	2.1-7.3	7.0	4.0-10.0	88.4	83.7-93.0
45-69	465	1.0	0.0-2.4	5.8	2.7-8.9	93.2	89.7-96.7
18-69	734	3.5	1.6-5.3	6.6	4.0-9.2	89.9	86.0-93.9

Frequency of family/partner problems due to someone else's drinking during the past 12 months among all respondents							
Age Group (years)	Both Sexes						
	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-44	472	3.4	1.8-5.0	7.9	4.5-11.3	88.7	84.8-92.7
45-69	954	1.0	0.2-1.8	4.9	2.5-7.3	94.1	91.2-96.9
18-69	1426	2.7	1.5-3.8	6.9	4.5-9.4	90.4	87.4-93.3

Analysis Information:

- Question used: A16
- Epi Info program name: Afamproblem (unweighted); AfamproblemWT (weighted)

Diet

Mean number of days of fruit and vegetable consumption

Description: mean number of days fruit and vegetables consumed.
Instrument questions:
- In a typical week, on how many days do you eat fruit?
- In a typical week, on how many days do you eat vegetables?

Mean number of days fruit consumed in a typical week									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	95% CI
18-44	196	3.8	**3.4-4.1**	267	3.8	**3.3-4.2**	463	3.8	**3.5-4.1**
45-69	486	3.9	**3.6-4.1**	459	4.4	**4.1-4.7**	945	4.2	**3.9-4.4**
18-69	682	3.8	**3.5-4.1**	726	4.0	**3.6-4.4**	1408	3.9	**3.6-4.2**

Mean number of days vegetables consumed in a typical week									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	95% CI
18-44	198	5.0	**4.7-5.4**	268	5.0	**4.6-5.3**	466	5.0	**4.7-5.2**
45-69	487	4.4	**4.1-4.7**	461	5.1	**4.8-5.4**	948	4.8	**4.5-5.0**
18-69	685	4.8	**4.5-5.1**	729	5.0	**4.7-5.3**	1414	4.9	**4.7-5.1**

Analysis Information:
- Questions used: D1, D3
- Epi Info program name: Ddays (unweighted); DdaysWT (weighted)

Mean number of servings of fruit and vegetable consumption

Description: mean number of fruit, vegetable, and combined fruit and vegetable servings on average per day.
Instrument questions:
- In a typical week, on how many days do you eat fruit?
- How many servings of fruit do you eat on one of those days?
- In a typical week, on how many days do you eat vegetables?
- How many servings of vegetables do you eat on one of those days?

Mean number of servings of fruit on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI
18-44	191	1.3	**1.1-1.4**	265	1.2	**1.0-1.4**	456	1.2	**1.1-1.4**
45-69	482	1.4	**1.2-1.5**	454	1.6	**1.3-1.8**	936	1.5	**1.3-1.6**
18-69	673	1.3	**1.2-1.4**	719	1.3	**1.2-1.5**	1392	1.3	**1.2-1.4**

Mean number of servings of vegetables on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI
18-44	196	1.6	**1.4-1.8**	266	1.6	**1.4-1.8**	462	1.6	**1.5-1.8**
45-69	485	1.5	**1.3-1.7**	459	1.6	**1.5-1.8**	944	1.6	**1.4-1.7**
18-69	681	1.6	**1.4-1.7**	725	1.6	**1.5-1.8**	1406	1.6	**1.5-1.7**

Mean number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI
18-44	196	2.8	**2.5-3.1**	267	2.8	**2.6-3.1**	463	2.8	**2.6-3.0**
45-69	487	2.8	**2.6-3.1**	462	3.2	**2.8-3.5**	949	3.0	**2.8-3.2**
18-69	683	2.8	**2.6-3.0**	729	2.9	**2.7-3.1**	1412	2.9	**2.7-3.0**

Analysis Information:

- Questions used: D1, D2 , D3, D4
- Epi Info program name: Dservings (unweighted); DservingsWT (weighted)

Fruit and vegetable consumption per day

Description: Frequency of fruit and/or vegetable consumption.
Instrument questions:

- In a typical week, on how many days do you eat fruit?
- How many servings of fruit do you eat on one of those days?
- In a typical week, on how many days do you eat vegetables?
- How many servings of vegetables do you eat on one of those days?

Number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Men								
	n	% no fruit and/or vegetables	95% CI	% 1-2 servings	95% CI	% 3-4 servings	95% CI	% ≥5 servings	95% CI
18-44	196	16.5	12.4-20.6	49.8	41.5-58.2	19.3	11.8-26.8	14.4	10.6-18.3
45-69	487	16.8	12.8-20.9	45.6	39.6-51.7	22.8	18.8-26.8	14.7	9.9-19.6
18-69	683	16.6	13.2-20.0	48.6	43.0-54.1	20.3	14.6-26.0	14.5	11.5-17.5

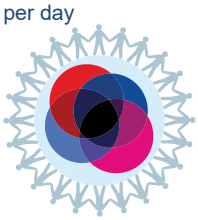
Number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Women								
	n	% no fruit and/or vegetables	95% CI	% 1-2 servings	95% CI	% 3-4 servings	95% CI	% ≥5 servings	95% CI
18-44	267	13.4	7.1-19.8	49.3	43.4-55.1	22.2	14.4-30.0	15.1	10.7-19.5
45-69	462	13.5	10.0-17.1	40.2	34.5-46.0	28.3	23.1-33.4	18.0	12.9-23.0
18-69	729	13.5	8.7-18.3	46.3	41.3-51.3	24.2	17.9-30.4	16.1	12.7-19.4

Number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Both Sexes								
	n	% no fruit and/or vegetables	95% CI	% 1-2 servings	95% CI	% 3-4 servings	95% CI	% ≥5 servings	95% CI
18-44	463	15.0	11.1-18.9	49.6	43.3-55.8	20.7	14.6-26.8	14.8	12.2-17.3
45-69	949	15.1	12.2-18.0	42.9	39.1-46.6	25.6	22.6-28.6	16.4	12.4-20.4
18-69	1412	15.1	12.0-18.1	47.5	42.8-52.1	22.2	17.6-26.8	15.3	12.9-17.7

Analysis Information:

- Questions used: D1, D2 , D3, D4
- Epi Info program name: Dfiveormore (unweighted); DfiveormoreWT (weighted)

Fruit and vegetable consumption per day



Description: Percentage of those eating less than five servings of fruit and/or vegetables on average per day.
Instrument questions:

- In a typical week, on how many days do you eat fruit?
- How many servings of fruit do you eat on one of those days?
- In a typical week, on how many days do you eat vegetables?
- How many servings of vegetables do you eat on one of those days?

Less than five servings of fruit and/or vegetables on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	% < five servings per day	95% CI	n	% < five servings per day	95% CI	n	% < five servings per day	95% CI
18-44	196	85.6	81.7-89.4	267	84.9	80.5-89.3	463	85.2	82.7-87.8
45-69	487	85.3	80.4-90.1	462	82.0	77.0-87.1	949	83.6	79.6-87.6
18-69	683	85.5	82.5-88.5	729	83.9	80.6-87.3	1412	84.7	82.3-87.1

Analysis Information:

- Questions used: D1, D2 , D3, D4
- Epi Info program name: Dfiveormore (unweighted); DfiveormoreWT (weighted)

Adding salt at meal

Description: Percentage of all respondents who always or often add salt or salty sauce to their food before eating or as they are eating.
Instrument question:

- How often do you add salt or a salty sauce such as soya sauce to your food right before you eat it or as you are eating it?

Add salt always or often before eating or when eating									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	203	44.6	36.1-53.2	269	38.2	31.1-45.3	472	41.6	36.5-46.6
45-69	488	34.1	29.2-39.1	464	32.6	28.5-36.7	952	33.3	30.5-36.2
18-69	691	41.6	35.0-48.1	733	36.4	31.4-41.3	1424	39.0	35.3-42.8

Analysis Information:

- Question used: D5
- Epi Info program name: Deating (unweighted); DeatingWT (weighted)

Adding salt when cooking

Description: Percentage of all respondents who always or often add salt to their food when cooking or preparing foods at home.
Instrument question:

- How often is salt, salty seasoning or a salty sauce added in cooking or preparing foods in your household?

Add salt always or often when cooking or preparing food at home									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	202	61.8	55.0-68.7	269	63.1	55.9-70.3	471	62.4	56.5-68.4
45-69	488	51.8	46.2-57.3	465	51.3	44.6-58.0	953	51.5	46.2-56.8
18-69	690	58.9	53.8-63.9	734	59.2	53.2-65.2	1424	59.0	54.4-63.7

Analysis Information:

- Question used: D6
- Epi Info program name: Dooking (unweighted); **DcookingWT** (weighted)

Salty processed food consumption

Description: Percentage of all respondents who always or often eat processed foods high in salt.
Instrument question:

- How often do you eat processed food high in salt?

Always or often consume processed food high in salt									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	202	29.1	19.5-38.8	268	36.2	27.9-44.5	470	32.5	25.5-39.6
45-69	489	22.9	17.9-27.9	465	23.8	17.5-30.1	954	23.4	18.7-28.1
18-69	691	27.3	20.1-34.5	733	32.1	25.9-38.3	1424	29.7	24.1-35.2

Analysis Information:

- Question used: D7
- Epi Info program name: Dprocessed (unweighted); DprocessedWT (weighted)

Salt consumption

Description: Percentage of all respondents who think they consume far too much or too much salt.
Instrument question:

- How much salt or salty sauce do you think you consume?

Think they consume far too much or too much salt									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	195	24.1	14.9-33.4	264	23.4	17.4-29.5	459	23.8	17.6-30.0
45-69	479	15.6	11.5-19.7	457	17.2	12.7-21.7	936	16.4	13.3-19.5
18-69	674	21.6	14.8-28.3	721	21.4	16.8-26.0	1395	21.5	16.8-26.2

Self-reported quantity of salt consumed											
	Men										
Age Group (years)	n	% Far too much	95% CI	% Too much	95% CI	% Just the right amount	95% CI	% Too little	95% CI	% Far too little	95% CI
18-44	195	7.2	3.2-11.2	17.0	9.4-24.5	64.1	55.3-72.9	8.0	2.6-13.3	3.8	0.0-7.8
45-69	479	3.6	2.0-5.1	12.0	7.6-16.4	64.2	58.6-69.7	14.9	11.6-18.3	5.3	3.1-7.6
18-69	674	6.1	3.2-9.0	15.5	10.0-21.0	64.1	57.7-70.5	10.0	6.2-13.9	4.3	1.5-7.1

Self-reported quantity of salt consumed

Age Group (years)	Women										
	n	% Far too much	95% CI	% Too much	95% CI	% Just the right amount	95% CI	% Too little	95% CI	% Far too little	95% CI
18-44	264	4.5	2.3-6.6	19.0	13.1-24.8	66.7	60.3-73.2	7.9	5.1-10.8	1.9	0.1-3.7
45-69	457	5.2	2.9-7.5	12.0	9.0-14.9	62.0	56.0-68.0	12.1	7.9-16.3	8.7	4.6-12.7
18-69	721	4.7	2.8-6.6	16.7	12.4-20.9	65.2	59.7-70.7	9.3	6.9-11.8	4.1	1.8-6.4

Self-reported quantity of salt consumed											
Age Group (years)	Both Sexes										
	n	% Far too much	95% CI	% Too much	95% CI	% Just the right amount	95% CI	% Too little	95% CI	% Far too little	95% CI
18-44	459	5.9	3.7-8.1	17.9	11.9-23.9	65.4	59.2-71.6	459	5.9	3.7-8.1	17.9
45-69	936	4.4	2.9-5.9	12.0	9.0-15.0	63.1	58.2-68.0	936	4.4	2.9-5.9	12.0
18-69	1395	5.4	3.7-7.2	16.1	11.7-20.4	64.6	59.8-69.5	1395	5.4	3.7-7.2	16.1

Analysis Information:

- Question used: D8
- Epi Info program name: Dsaltquantity (unweighted); DsaltquantityWT (weighted)

Lowering salt

Description: Percentage of respondents who think lowering salt in diet is very, somewhat or not at all important.

Instrument question:

- How important to you is lowering the salt in your diet?

Importance of lowering salt in diet							
Age Group (years)	Men						
	n	% Very important	95% CI	% Somewhat important	95% CI	%Not at all important	95% CI
18-44	193	62.7	53.8-71.5	23.9	16.4-31.5	13.4	7.9-18.9
45-69	471	77.3	73.3-81.2	15.5	12.3-18.8	7.2	4.8-9.6
18-69	664	67.0	60.3-73.7	21.4	15.8-27.1	11.5	7.4-15.7

Importance of lowering salt in diet							
Age Group (years)	Women						
	n	% Very important	95% CI	% Somewhat important	95% CI	% Not at all important	95% CI
18-44	261	66.4	57.0-75.9	20.5	12.6-28.3	13.1	7.3-18.8
45-69	451	74.9	68.7-81.1	15.2	9.9-20.6	9.9	6.3-13.4
18-69	712	69.2	61.9-76.5	18.8	13.2-24.3	12.0	7.6-16.4

Importance of lowering salt in diet							
Age Group (years)	Both Sexes						
	n	% Very important	95% CI	% Somewhat important	95% CI	% Not at all important	95% CI
18-44	454	64.5	58.1-70.8	22.3	15.9-28.6	13.2	9.6-16.9
45-69	922	76.1	72.0-80.1	15.4	11.9-18.9	8.6	6.1-11.0
18-69	1376	68.1	63.2-73.0	20.1	15.6-24.7	11.8	8.8-14.8

Analysis Information:

- Question used: D9
- Epi Info program name: Dlower (unweighted); DlowerWT (weighted)

Salt knowledge

Description: Percentage of respondents who think consuming too much salt could cause a serious health problem.
Instrument question:

- Do you think that too much salt or salty sauce in your diet could cause a health problem?

Think consuming too much salt could cause serious health problem									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	203	83.7	78.0-89.4	269	88.3	83.0-93.7	472	85.9	82.0-89.8
45-69	489	82.2	76.9-87.6	465	90.0	85.8-94.2	954	86.2	82.5-90.0
18-69	692	83.3	78.6-87.9	734	88.9	85.1-92.7	1426	86.0	82.9-89.1

Analysis Information:

- Question used: D10
- Epi Info program name: Dhealth (unweighted); DhealthWT (weighted)

Controlling salt intake

Description: Percentage of respondents who take specific action on a regular basis to control salt intake.
Instrument question:

- Do you do any of the following on a regular basis to control your salt intake?

Limit consumption of processed foods									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	203	67.5	60.5-74.6	269	75.3	69.8-80.9	472	71.3	67.6-74.9
45-69	489	81.6	77.4-85.8	465	80.9	76.9-84.8	954	81.2	78.2-84.2
18-69	692	71.7	65.7-77.6	734	77.1	73.2-81.0	1426	74.3	71.4-77.3

Look at the salt or sodium content on food labels									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	203	27.4	18.8-35.9	269	33.8	27.9-39.7	472	30.4	24.3-36.5
45-69	489	35.4	26.6-44.2	465	39.5	34.1-44.9	954	37.5	31.8-43.3
18-69	692	29.7	22.2-37.3	734	35.7	31.2-40.1	1426	32.6	27.4-37.8

Buy low salt/sodium alternatives									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	203	31.8	23.5-40.1	269	42.2	36.3-48.1	472	36.8	31.5-42.0
45-69	489	29.7	23.7-35.7	465	39.6	35.2-43.9	954	34.8	31.1-38.5
18-69	692	31.2	24.5-37.9	734	41.4	37.3-45.5	1426	36.2	32.3-40.0

Use spices other than salt when cooking									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	203	84.1	78.0-90.2	269	84.4	78.7-90.1	472	84.2	81.1-87.4
45-69	489	72.8	65.2-80.4	465	77.5	72.2-82.8	954	75.2	69.4-81.0
18-69	692	80.8	75.2-86.3	734	82.1	77.9-86.4	1426	81.4	78.2-84.7

Avoid eating foods prepared outside of a home									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	203	44.8	35.3-54.2	269	46.1	35.5-56.6	472	45.4	38.4-52.4
45-69	489	45.0	38.4-51.6	465	51.4	44.0-58.7	954	48.3	42.2-54.3
18-69	692	44.8	37.9-51.7	734	47.8	39.5-56.2	1426	46.3	40.5-52.1

Do other things specifically to control your salt intake									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	203	14.2	8.3-20.2	269	21.7	15.0-28.3	472	17.8	13.2-22.4
45-69	489	19.2	15.3-23.0	465	19.9	15.2-24.6	954	19.6	16.3-22.8
18-69	692	15.7	11.6-19.8	734	21.1	16.3-25.9	472	17.8	13.2-22.4

Analysis Information:

- Questions used: D11a-f
- Epi Info program name: Dcontrol (unweighted); DcontrolWT (weighted)

Physical Activity

Introduction

A population's physical activity (or inactivity) can be described in different ways. The two most common ways are
(1) to estimate a population's mean or median physical activity using a continuous indicator such as MET-minutes per week or time spent in physical activity, and
(2) to classify certain percentages of a population in specific groups by setting up cut-points for a specific amount of physical activity.

When analyzing GPAQ data, both continuous as well as categorical indicators are used.

Metabolic Equivalent (MET)

METs (Metabolic Equivalents) are commonly used to express the intensity of physical activities, and are also used for the analysis of GPAQ data.

Applying MET values to activity levels allows us to calculate total physical activity. MET is the ratio of a person's working metabolic rate relative to the resting metabolic rate. One MET is defined as the energy cost of sitting quietly, and is equivalent to a caloric consumption of 1 kcal/kg/hour. For the analysis of GPAQ data, existing guidelines have been adopted: It is estimated that, compared to sitting quietly, a person's caloric consumption is four times as high when being moderately active, and eight times as high when being vigorously active.

Therefore, for the calculation of a person's total physical activity using GPAQ data, the following MET values are used:

Domain	MET value
Work	• Moderate MET value = 4.0 • Vigorous MET value = 8.0
Transport	Cycling and walking MET value = 4.0
Recreation	• Moderate MET value = 4.0 • Vigorous MET value = 8.0

WHO global recommen-dations on physical activity for health

For the calculation of the categorical indicator on the recommended amount of physical activity for health, the total time spent in physical activity during a typical week and the intensity of the physical activity are taken into account.

Throughout a week, including activity for work, during transport and leisure time, adults should do at least

- 150 minutes of moderate-intensity physical activity OR
- 75 minutes of vigorous-intensity physical activity OR
- An equivalent combination of moderate- and vigorous-intensity physical activity achieving at least 600 MET-minutes.

Former recommen-dations for comparison purposes

For comparison purposes, tables presenting cut-offs from former recommendations are also included in GPAQ data analysis.

The three levels of physical activity suggested for classifying populations were low, moderate, and high. The criteria for these levels are shown below.

- **High**

A person reaching any of the following criteria is classified in this category:
- Vigorous-intensity activity on at least 3 days achieving a minimum of at least 1,500 MET-minutes/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.

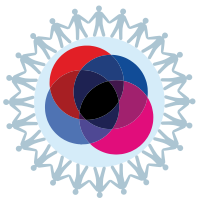
- **Moderate**

A person 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**

A person not meeting any of the above mentioned criteria falls in this category.

Not meeting WHO recommendations on physical activity for health ("Insufficient physical activity")



Description: Percentage of respondents not meeting WHO recommendations on physical activity for health (respondents doing less than 150 minutes of moderate-intensity physical activity per week, or equivalent).

Instrument questions

- activity at work
- travel to and from places
- recreational activities

Not meeting WHO recommendations on physical activity for health									
Age Group (years)	Men			Women			Both Sexes		
	n	% not meeting recs	95% CI	n	% not meeting recs	95% CI	n	% not meeting recs	95% CI
18-44	195	13.0	5.3-20.7	261	23.6	16.7-30.5	456	18.1	11.5-24.7
45-69	475	23.5	16.7-30.3	452	41.3	35.8-46.7	927	32.7	27.3-38.0
18-69	670	16.1	9.2-23.0	713	29.4	24.1-34.7	1383	22.6	16.8-28.5

Analysis Information:

- Questions used: P1-P15b
- Epi Info program name: Pnotmeetingrecs (unweighted); PnotmeetingrecsWT (weighted)

Levels of total physical activity according to former recommen-dations

Description: Percentage of respondents classified into three categories of total physical activity according to former recommendations.

Instrument questions:

- activity at work
- travel to and from places
- recreational activities

Level of total physical activity according to former recommendations							
Age Group (years)	Men						
	n	% Low	95% CI	% Moderate	95% CI	% High	95% CI
18-44	195	20.4	10.7-30.1	9.4	4.5-14.3	70.2	59.4-80.9
45-69	475	32.2	24.9-39.4	15.4	11.1-19.7	52.5	47.1-57.8
18-69	670	23.9	15.6-32.1	11.2	7.6-14.8	64.9	56.6-73.3

Level of total physical activity according to former recommendations							
Age Group (years)	Women						
	n	% Low	95% CI	% Moderate	95% CI	% High	95% CI
18-44	261	35.2	26.8-43.7	18.2	13.2-23.3	46.6	39.5-53.6
45-69	452	49.0	43.0-55.1	16.7	12.2-21.2	34.2	28.3-40.2
18-69	713	39.7	33.3-46.2	17.7	13.5-22.0	42.5	37.1-48.0

Level of total physical activity according to former recommendations							
Age Group (years)	Both Sexes						
	n	% Low	95% CI	% Moderate	95% CI	% High	95% CI
18-44	456	27.5	19.3-35.7	13.7	10.1-17.2	58.8	50.9-66.7
45-69	927	40.9	34.7-47.0	16.1	12.3-19.9	43.1	38.5-47.7
18-69	1383	31.7	24.6-38.8	14.4	11.6-17.2	53.9	47.6-60.3

Analysis Information:

- Questions used: P1-P15b
- Epi Info program name: Ptotallevels (unweighted); PtotallevelsWT (weighted)

Total physical activity- mean

Description: Mean minutes of total physical activity on average per day.

Instrument questions

- activity at work
- travel to and from places
- recreational activities

Mean minutes of total physical activity on average per day

Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
18-44	195	267.6	206.7-328.5	261	167.9	121.3-214.6	456	219.7	174.0-265.5
45-69	475	187.7	167.2-208.1	452	117.9	94.0-141.8	927	151.7	133.4-169.9
18-69	670	243.9	198.2-289.7	713	151.6	114.8-188.3	1383	198.5	162.8-234.3

Analysis Information:
- Questions used: P1-P15b
- Epi Info program name: Ptotal (unweighted); PtotalWT (weighted)

Total physical activity- median

Description: Median minutes of total physical activity on average per day.
Instrument questions
- activity at work
- travel to and from places
- recreational activities

Median minutes of total physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
18-44		212.1	68.6-360		77.1	20.1-225.7		128.6	34.3-328.6
45-69		128.6	25.7-287		34.3	0-150.0		68.6	0-240.0
18-69		**180.0**	**55.7-342.9**		**64.3**	11.4-201.4		**111.4**	**25.7-300.0**

Analysis Information:
- Questions used: P1-P15b
- Epi Info program name: Ptotal (unweighted); PtotalmedianWT (weighted)

Domain-specific physical activity- mean

Description: Mean minutes spent in work-, transport- and recreation-related physical activity on average per day.
Instrument questions:
- activity at work
- travel to and from places
- recreational activities

Mean minutes of work-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
18-44	195	195.3	147.1-243.6	261	98.2	61.9-134.5	456	148.7	111.0-186.3
45-69	475	141.4	121.1-161.8	452	78.0	57.5-98.6	927	108.7	91.0-126.5
18-69	670	179.4	142.2-216.5	713	91.6	62.2-121.0	1383	136.2	106.2-166.3

Mean minutes of transport-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
18-44	195	16.5	9.6-23.4	261	21.9	9.7-34.0	456	19.1	10.7-27.5
45-69	475	19.8	15.5-24.0	452	17.3	9.7-24.9	927	18.5	14.0-23.0
18-69	670	17.5	12.7-22.3	713	20.4	11.1-29.6	1383	18.9	12.5-25.2

Mean minutes of recreation-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
18-44	195	55.8	36.8-74.7	261	47.9	34.6-61.2	456	52.0	39.6-64.4
45-69	475	26.5	20.9-32.0	452	22.6	16.2-29.0	927	24.5	20.4-28.5
18-69	670	47.1	34.0-60.2	713	39.6	30.2-49.0	1383	43.4	34.6-52.2

Analysis Information:
- Questions used: P1-P15b
- Epi Info program name: Psetspecific (unweighted); PsetspecificWT (weighted)

Domain-specific physical activity - median

Description: Median minutes spent on average per day in work-, transport- and recreation-related physical activity.
Instrument questions:

- activity at work
- travel to and from places
- recreational activities

Median minutes of work-related physical activity on average per day

Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
18-44	195	128.6	0-300	261	0.0	0-128.6	456	60.0	0-257.1
45-69	475	68.6	0-235.7	452	0.0	0-85.7	927	0.0	0-171.4
18-69	670	120.0	0-300.0	713	0.0	0-115.7	1383	42.9	0.0-231.4

Median minutes of transport-related physical activity on average per day

Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
18-44	195	0.0	0-17.1	261	0.0	0.0-17.1	456	0.0	0.0-17.1
45-69	475	0.0	0-25.7	452	0.0	0.0-15.0	927	0.0	0.0-17.1
18-69	670	0.0	0.0-17.1	713	0.0	0.0-17.1	1383	0.0	0.0-17.1

Median minutes of recreation-related physical activity on average per day

Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
18-44	195	17.1	0-68.6	261	17.1	0-57.9	456	17.1	0-64.3
45-69	475	0.0	0-34.2	452	0	0-25.7	927	0	0-25.7
18-69	670	12.9	0-60.0	713	0	0-51.4	1383	0-5.7	0-51.4

Analysis Information:

- Questions used: P1-P15b
- Epi Info program name: Psetspecific (unweighted); PsetspecificmedianWT (weighted)

No physical activity by domain

Description: Percentage of respondents classified as doing no work-, transport- or recreational-related physical activity.
Instrument questions:

- activity at work
- travel to and from places
- recreational activities

No work-related physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	% no activity at work	95% CI	n	% no activity at work	95% CI	n	% no activity at work	95% CI
18-44	195	28.2	15.5-41.0	261	51.1	40.3-61.9	456	39.2	28.4-50.0
45-69	475	42.0	35.2-48.8	452	59.4	55.1-63.7	927	51.0	46.3-55.7
18-69	670	32.3	22.3-42.3	713	53.8	45.9-61.7	1383	42.9	34.4-51.3

No transport-related physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	% no activity for transport	95% CI	n	% no activity for transport	95% CI	n	% no activity for transport	95% CI
18-44	195	68.4	60.5-76.2	261	64.7	57.5-71.8	456	66.6	60.1-73.1
45-69	475	63.9	56.9-71.0	452	64.9	56.4-73.5	927	64.4	58.0-70.9
18-69	670	67.0	60.7-73.4	713	64.8	58.2-71.3	1383	65.9	60.2-71.7

No recreation-related physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	% no activity at recreation	95% CI	n	% no activity at recreation	95% CI	n	% no activity at recreation	95% CI
18-44	195	41.5	29.2-53.8	261	43.9	34.9-52.9	456	42.6	32.9-52.3
45-69	475	60.3	51.9-68.6	452	64.7	59.2-70.2	927	62.6	56.7-68.5
18-69	670	47.0	37.1-57.0	713	50.7	43.7-57.7	1383	48.8	40.9-56.8

Analysis Information:

- Questions used: P1-P15b
- Epi Info program name: Pnoactivitybyset (unweighted); PnoactivitybysetWT (weighted)

Composition of total physical activity

Description: Percentage of work, transport and recreational activity contributing to total activity.
Instrument questions :

- activity at work
- travel to and from places
- recreational activities

Composition of total physical activity							
Age Group (years)	Men						
	n	% Activity from work	95% CI	% Activity for transport	95% CI	% Activity during leisure time	95% CI
18-44	175	62.3	54.3-70.2	9.8	3.2-16.5	27.9	21.8-34.0
45-69	383	59.8	53.1-66.6	18.6	14.8-22.5	21.5	17.2-25.8
18-69	558	61.6	55.6-67.6	12.2	7.3-17.1	26.2	21.4-31.0

Composition of total physical activity							
Age Group (years)	Women						
	n	% Activity from work	95% CI	% Activity for transport	95% CI	% Activity during leisure time	95% CI
18-44	222	39.8	31.0-48.5	19.3	12.8-25.8	40.9	32.4-49.5
45-69	308	45.3	39.4-51.3	26.7	19.1-34.3	28.0	22.4-33.5
18-69	530	41.3	33.9-48.7	21.4	15.2-27.6	37.3	30.4-44.2

Composition of total physical activity							
Age Group (years)	Both Sexes						
	n	% Activity from work	95% CI	% Activity for transport	95% CI	% Activity during leisure time	95% CI
18-44	397	51.8	44.6-59.0	14.2	8.0-20.5	34.0	28.2-39.8
45-69	691	52.9	47.7-58.1	22.5	17.5-27.4	24.6	21.2-28.0
18-69	1088	52.1	46.1-58.1	16.5	11.3-21.8	31.4	26.8-35.9

Analysis Information:

- Questions used: P1-P15b
- Epi Info program name: Pcomposition(unweighted); PcompositionWT (weighted)

No vigorous physical activity

Description: Percentage of respondents not engaging in vigorous physical activity.
Instrument questions:

- activity at work
- recreational activities

No vigorous physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	% no vigorous activity	95% CI	n	% no vigorous activity	95% CI	n	% no vigorous activity	95% CI
18-44	195	28.2	18.8-37.6	261	49.1	42.3-55.9	456	38.3	32.6-44.0
45-69	475	49.5	43.7-55.3	452	70.5	63.6-77.4	927	60.3	54.5-66.1
18-69	670	34.5	27.3-41.8	713	56.1	51.3-61.0	1383	45.1	40.3-50.0

Analysis Information:

- Questions used: P1-P15b
- Epi Info program name: Pnovigorous(unweighted); PnovigorousWT (weighted)

Sedentary

Description: Minutes spent in sedentary activities on a typical day.
Instrument question:

- sedentary behaviour

Minutes spent in sedentary activities on average per day					
Age Group (years)	Men				
	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
18-44	203	201.1	162.8-239.3		
45-69	490	197.6	173.3-221.8		
18-69	693	200.0	168.1-232.0		

Minutes spent in sedentary activities on average per day					
Age Group (years)	Women				
	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
18-44	267	271.4	237.6-305.2		
45-69	465	204.0	186.7-221.4		
18-69	732	249.3	225.1-273.4		

Minutes spent in sedentary activities on average per day					
Age Group (years)	Both Sexes				
	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
18-44	470	234.5	209.4-259.6		
45-69	955	200.9	184.6-217.2		
18-69	1425	224.0	204.1-244.0		

Analysis Information:

- Question used : P16a-b
    - Epi Info program name: Psedentary (unweighted); PsedentaryWT and PsedentarymedianWT (weighted)

History of Raised Blood Pressure

Blood pressure measurement and diagnosis

Description: Blood pressure measurement and diagnosis among all respondents.
Instrument questions:

- Have you ever had your blood pressure measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?
- Have you been told in the past 12 months?

Blood pressure measurement and diagnosis									
	Men								
Age Group (years)	n	% Never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-44	202	10.7	4.7-16.7	72.7	64.5-80.8	7.6	3.1-12.1	9.0	3.5-14.5
45-69	490	5.1	2.6-7.6	55.3	47.7-63.0	23.3	19.4-27.3	16.3	11.7-20.8
18-69	692	9.0	4.4-13.7	67.5	61.1-74.0	12.3	8.8-15.8	11.2	7.3-15.0

Blood pressure measurement and diagnosis									
	Women								
Age Group (years)	n	% Never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-44	267	10.4	4.8-16.0	71.4	62.1-80.6	9.0	5.1-13.0	9.2	4.3-14.1
45-69	465	4.8	2.2-7.4	50.7	45.4-56.1	22.9	17.5-28.2	21.6	17.8-25.5
18-69	732	8.6	4.6-12.5	64.6	58.0-71.2	13.6	10.5-16.6	13.3	10.1-16.5

Blood pressure measurement and diagnosis									
	Both sexes								
Age Group (years)	n	% Never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-44	469	10.6	6.4-14.7	72.0	65.5-78.6	8.3	5.8-10.8	9.1	5.0-13.2
45-69	955	4.9	3.1-6.8	53.0	48.4-57.5	23.1	19.3-26.9	19.0	15.9-22.2
18-69	1424	8.8	5.7-11.9	66.1	61.0-71.2	12.9	10.4-15.4	12.2	9.5-14.9

Analysis Information:

- Questions used: H1, H2a, H2b
- Epi Info program name: Hbloodpressure (unweighted); HbloodpressureWT (weighted)

Blood pressure treatment among those diagnosed

Description: Raised blood pressure treatment results among those previously diagnosed with raised blood pressure.

Instrument questions:

- Have you ever had your blood pressure measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?
- In the past two weeks, have you taken any drugs (medication) for raised blood pressure prescribed by a doctor or other health worker?

Currently taking drugs (medication) for raised blood pressure prescribed by doctor or health worker among those diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking meds	95% CI	n	% taking meds	95% CI	n	% taking meds	95% CI
18-44	38	36.2	24.4-47.9	52	33.0	20.0-45.9	90	34.6	27.4-41.8
45-69	212	79.4	74.6-84.1	209	73.2	67.6-78.7	421	76.0	71.9-80.1
18-69	250	57.7	49.0-66.5	261	54.8	47.2-62.5	511	56.2	52.2-60.2

Analysis Information:

- Questions used: H1, H2a, H3
- Epi Info program name: Hbloodpressure (unweighted); HbloodpressureWT (weighted)

Blood pressure advice by a traditional healer

Description: Percentage of respondents who have sought advice or received treatment from a traditional healer for raised blood pressure among those previously diagnosed with raised blood pressure.

Instrument questions:

- Have you ever had your blood pressure measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?
- Have you ever seen a traditional healer for raised blood pressure?
- Are you currently taking any herbal or traditional remedy for your high blood pressure?

Seen a traditional healer among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% seen trad. healer	95% CI	n	% seen trad. healer	95% CI	n	% seen trad. healer	95% CI
18-44	38	15.2	3.6-26.7	52	5.1	0.0-13.7	90	10.2	2.1-18.2
45-69	212	13.0	6.8-19.3	209	13.7	8.7-18.8	421	13.4	8.3-18.6
18-69	250	14.1	7.9-20.3	261	9.8	5.7-13.9	511	11.9	7.7-16.1

Currently taking herbal or traditional remedy for raised blood pressure among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking trad. meds	95% CI	n	% taking trad. meds	95% CI	n	% taking trad. meds	95% CI
18-44	38	25.0	6.1-43.9	52	10.3	2.8-17.9	90	17.7	7.6-27.8
45-69	212	19.1	11.3-26.9	209	24.1	17.1-31.1	421	21.8	15.2-28.5
18-69	250	22.1	13.4-30.7	261	17.8	13.5-22.1	511	19.8	15.9-23.8

Analysis Information:
Questions used: H1, H2a, H4, H5
Epi Info program name: Hraisedbptrad (unweighted); HraisedbptradWT (weighted)

History of Diabetes

Blood sugar measurement and diagnosis

Description: Blood sugar measurement and diagnosis among all respondents.
Instrument questions:

- Have you ever had your blood sugar measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?
- Have you been told in the past 12 months?

Blood sugar measurement and diagnosis									
	Men								
Age Group (years)	n	% Never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-44	202	17.6	10.2-24.9	72.4	64.8-80.0	5.1	0.9-9.2	5.0	0.9-9.1
45-69	490	9.1	5.5-12.7	61.7	55.5-68.0	16.2	13.0-19.5	13.0	9.4-16.5
18-69	692	15.1	9.2-20.9	69.2	63.0-75.5	8.4	4.8-11.9	7.3	4.5-10.2

Blood sugar measurement and diagnosis									
	Women								
Age Group (years)	n	% Never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-44	267	14.6	8.4-20.9	74.6	68.1-81.1	6.1	2.9-9.2	4.7	2.2-7.3
45-69	465	12.5	7.7-17.3	60.1	54.3-65.9	15.1	10.1-20.1	12.3	8.2-16.5
18-69	732	13.9	9.1-18.8	69.8	64.5-75.1	9.0	6.3-11.7	7.2	5.2-9.2

Blood sugar measurement and diagnosis									
	Both sexes								
Age Group (years)	n	% Never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-44	469	16.2	11.3-21.0	73.4	67.8-79.1	5.5	2.9-8.2	4.9	2.5-7.2
45-69	955	10.8	7.2-14.5	60.9	56.3-65.5	15.7	12.6-18.7	12.6	9.7-15.5
18-69	1424	14.5	10.5-18.5	69.5	64.8-74.3	8.7	6.2-11.1	7.3	5.5-9.0

Analysis Information:

- Questions used: H6, H7a, H7b
- Epi Info program name: Hdiabetes (unweighted); HdiabetesWT (weighted)

Diabetes treatment among those diagnosed

Description: Diabetes treatment results among those previously diagnosed with raised blood sugar or diabetes.
Instrument questions:

- Have you ever had your blood sugar measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?
- In the past two weeks, have you taken any drugs (medication) for diabetes prescribed by a doctor or other health worker?
- Are you currently taking insulin for diabetes prescribed by a doctor or other health worker?

Currently taking insulin prescribed for diabetes among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking insulin	95% CI	n	% taking insulin	95% CI	n	% taking insulin	95% CI
18-44	24	19.3	0.6-38.0	28	21.1	2.5-39.8	52	20.2	7.7-32.7
45-69	145	13.5	5.2-21.9	126	21.6	13.7-29.6	271	17.6	12.1-23.1
18-69	169	16.1	6.8-25.5	154	21.4	11.3-31.5	323	18.8	12.7-24.8

Currently taking drugs (medication) prescribed for diabetes among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking meds	95% CI	n	% taking meds	95% CI	n	% taking meds	95% CI
18-44	24	34.1	11.9-56.3	28	40.6	15.5-65.8	52	37.3	22.2-52.4
45-69	145	69.4	59.4-79.3	126	71.1	59.7-82.5	271	70.2	62.7-77.8
18-69	169	53.5	41.9-65.0	154	57.5	42.4-72.6	323	55.5	47.1-63.9

Analysis Information:

- Questions used: H6, H7a, H8, H9
- Epi Info program name: Hdiabetes (unweighted); HdiabetesWT (weighted)

Diabetes advice by traditional healer

Description: Percentage of respondents who are have sought advice or treatment from a traditional healer for diabetes among those previously diagnosed.

Instrument questions:

- Have you ever had your blood sugar measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?
- Have you ever seen a traditional healer for diabetes or raised blood sugar?
- Are you currently taking any herbal or traditional remedy for your diabetes?

Seen a traditional healer for diabetes among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% seen trad. healer	95% CI	n	% seen trad. healer	95% CI	n	% seen trad. healer	95% CI
18-44	24	0.0	0.0-0.0	28	3.1	0.0-9.3	52	1.5	0.0-4.6
45-69	145	9.0	3.6-14.4	126	9.9	3.6-16.3	271	9.5	5.1-13.8
18-69	169	4.9	1.9-7.9	154	6.9	2.7-11.1	323	5.9	3.1-8.7

Currently taking herbal or traditional treatment for diabetes among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking trad. meds	95% CI	n	% taking trad. meds	95% CI	n	% taking trad. meds	95% CI
18-44	24	7.6	0.0-19.0	28	9.0	1.0-17.0	52	8.3	1.5-15.2
45-69	145	13.9	7.2-20.5	126	17.4	8.0-26.9	271	15.6	8.9-22.3
18-69	169	11.1	5.3-16.8	154	13.7	8.4-18.9	323	12.4	7.8-16.9

Analysis Information:

- Questions used: H6, H7a, H10, H11
- Epi Info program name: Hdiabetestrad (unweighted); HdiabetestradWT (weighted)

History of Raised Total Cholesterol

Cholesterol measurement and diagnosis

Description: Total cholesterol measurement and diagnosis among all respondents.
Instrument questions:

- Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised cholesterol?
- Have you been told in the past 12 months?

Total cholesterol measurement and diagnosis									
	Men								
Age Group (years)	n	% Never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-44	202	24.3	16.1-32.5	64.7	55.9-73.5	4.1	1.1-7.1	6.9	2.1-11.7
45-69	490	13.2	8.4-18.0	55.7	47.9-63.4	17.9	12.9-23.0	13.2	9.4-17.0
18-69	692	21.0	14.4-27.6	62.1	54.4-69.7	8.2	5.1-11.3	8.8	5.0-12.5

Total cholesterol measurement and diagnosis									
	Women								
Age Group (years)	n	% Never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-44	267	18.5	9.5-27.5	69.3	58.6-80.0	7.0	2.3-11.6	5.2	1.6-8.7
45-69	465	15.1	9.7-20.6	58.1	51.7-64.5	14.7	10.8-18.6	12.1	8.8-15.3
18-69	732	17.4	10.6-24.2	65.6	56.9-74.3	9.5	6.7-12.4	7.4	4.6-10.3

Total cholesterol measurement and diagnosis									
	Both sexes								
Age Group (years)	n	% Never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-44	469	21.5	15.5-27.6	66.9	59.0-74.8	5.5	2.5-8.4	6.1	3.0-9.1
45-69	955	14.2	9.5-18.9	56.9	50.5-63.4	16.3	12.7-19.9	12.6	9.9-15.4
18-69	1424	19.2	14.0-24.5	63.8	56.8-70.8	8.8	6.4-11.3	8.1	5.5-10.8

Analysis Information:

- Questions used: H12, H13a, H13b
- Epi Info program name: Hchol (unweighted); HcholWT (weighted)

Cholesterol treatment among those diagnosed

Description: Cholesterol treatment results among those previously diagnosed with raised cholesterol.
Instrument questions:

- Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised cholesterol?
- In the past two weeks, have you taken oral treatment (medication) for raised total cholesterol prescribed by a doctor or other health worker?

Currently taking oral treatment (medication) prescribed for raised total cholesterol among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking meds	95% CI	n	% taking meds	95% CI	n	% taking meds	95% CI
18-44	29	14.8	0.0-30.0	31	9.2	0.0-22.1	60	12.0	2.9-21.1
45-69	144	58.7	47.7-69.7	131	55.6	45.6-65.5	275	57.2	48.8-65.6
18-69	173	38.7	24.6-52.8	162	33.2	23.1-43.4	335	36.0	26.2-45.8

Analysis Information:

- Questions used: H12, H13a, H14
- Epi Info program name: Hchol (unweighted); HcholWT (weighted)

Cholesterol advice by traditional healer

Description: Percentage of respondents who are have sought advice or treatment from a traditional healer for raised cholesterol among those previously diagnosed.

Instrument questions:

- Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised cholesterol?
- Have you ever seen a traditional healer for raised cholesterol?
- Are you currently taking any herbal or traditional remedy for your raised cholesterol?

Seen a traditional healer for raised cholesterol among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% seen trad. healer	95% CI	n	% seen trad. healer	95% CI	n	% seen trad. healer	95% CI
18-44	29	0.0	0.0-0.0	31	5.1	0.0-14.9	60	2.6	0.0-7.8
45-69	144	6.7	2.4-11.0	131	9.6	2.7-16.5	275	8.1	4.1-12.1
18-69	173	3.7	1.1-6.3	162	7.5	0.9-14.0	335	5.5	1.7-9.3

Currently taking herbal or traditional treatment for raised cholesterol among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking trad. meds	95% CI	n	% taking trad. meds	95% CI	n	% taking trad. meds	95% CI
18-44	29	7.1	0.0-18.1	31	2.6	0.0-7.4	60	4.8	0.0-10.9
45-69	144	11.1	2.8-19.4	131	14.4	5.6-23.1	275	12.7	6.4-18.9
18-69	173	9.3	3.1-15.4	162	8.7	2.9-14.5	335	9.0	4.4-13.5

Analysis Information:

- Questions used: H12, H13a, H15, H16
- Epi Info program name: Hcholtrad (unweighted); HcholtradWT (weighted)

History of Cardiovascular Diseases

History of cardio-vascular diseases

Description: Percentage of respondents who have ever had a heart attack or chest pain from heart disease (angina) or a stroke among all respondents.
Instrument questions:

- Have you ever had a heart attack or chest pain from heart disease (angina) or a stroke (cerebrovascular accident or incident)?

Having ever had a heart attack or chest pain from heart disease or a stroke									
Age Group (years)	Men			Women			Both Sexes		
	n	% CVD history	95% CI	n	% CVD history	95% CI	n	% CVD history	95% CI
18-44	202	4.1	0.0-8.8	267	4.9	1.8-7.9			
45-69	490	11.9	8.4-15.4	465	12.1	8.9-15.3			
18-69	692	6.4	2.7-10.2	732	7.2	4.8-9.7			

Analysis Information:

- Question used: H17
- Epi Info program name: Hcvd (unweighted); HcvdWT (weighted)

Prevention and treatment of heart disease

Description: Percentage of respondents who are currently taking aspirin or statins regularly to prevent or treat heart disease.
Instrument questions:

- Are you currently taking aspirin regularly to prevent or treat heart disease?
- Are you currently taking statins (Lovostatin/Simvastatin/Atorvastatin or any other statin) regularly to prevent or treat heart disease?

Currently taking aspirin regularly to prevent or treat heart disease									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking aspirin	95% CI	n	% taking aspirin	95% CI	n	% taking aspirin	95% CI
18-44	6	23.4	0-63.1	14	0.0	0.0-0.0	20	11.3	0.0-28.4
45-69	61	42.2	25.2-59.1	53	26.8	16.2-37.4	114	34.2	24.4-44.0
18-69	67	33.7	8.7-58.7	67	14.7	8.2-21.3	134	23.8	12.3-35.4

Currently taking statins regularly to prevent or treat heart disease									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking statins	95% CI	n	% taking statins	95% CI	n	% taking statins	95% CI
18-44	6	23.4	0.0-63.1	14	0.0	0.0-0.0	20	11.3	0.0-28.4
45-69	61	38.7	21.7-55.7	53	29.2	18.2-40.1	114	33.8	24.1-43.4
18-69	67	31.8	8.3-55.2	67	16.0	9.2-22.8	134	23.6	12.5-34.7

Analysis Information:

- Questions used: H18, H19
- Epi Info program name: Hcvdmeds (unweighted); HcvdmedsWT (weighted)

Lifestyle Advice

Lifestyle advice

Description: Percentage of respondents who received lifestyle advice from a doctor or health worker during the past three years among all respondents.

Instrument question:

- During the past three years, has a doctor or other health worker advised you to do any of the following?

Advised by doctor or health worker to quit using tobacco or don't start									
Age Group (years)	Men			Women			Both Sexes		
	n	% advised	95% CI	n	% advised	95% CI	n	% advised	95% CI
18-44	122	37.4	25.3-49.6	171	25.6	15.8-35.4	293	31.7	22.7-40.6
45-69	374	39.0	31.3-46.7	335	34.7	24.2-45.3	709	36.8	29.1-44.5
18-69	496	38.0	28.8-47.1	506	28.9	19.9-37.9	1002	33.5	25.8-41.1

Advised by doctor or health worker to reduce salt in the diet									
Age Group (years)	Men			Women			Both Sexes		
	n	% advised	95% CI	n	% advised	95% CI	n	% advised	95% CI
18-44	122	43.6	33.7-53.5	171	29.4	20.6-38.1	293	36.6	28.3-44.9
45-69	374	58.6	52.4-64.8	335	48.4	39.8-56.9	709	53.5	47.4-59.5
18-69	496	48.7	41.6-55.9	506	36.1	29.0-43.3	1002	42.5	36.1-49.0

Advised by doctor or health worker to eat at least five servings of fruit and/or vegetables each day									
Age Group (years)	Men			Women			Both Sexes		
	n	% advised	95% CI	n	% advised	95% CI	n	% advised	95% CI
18-44	122	52.3	40.6-63.9	171	41.3	31.0-51.6	293	46.9	37.5-56.3
45-69	374	63.2	56.3-70.2	335	54.7	44.5-65.0	709	59.0	51.0-66.9
18-69	496	56.1	47.5-64.6	506	46.1	37.1-55.0	1002	51.1	43.0-59.3

Advised by doctor or health worker to reduce fat in the diet									
Age Group (years)	Men			Women			Both Sexes		
	n	% advised	95% CI	n	% advised	95% CI	n	% advised	95% CI
18-44	122	50.6	39.5-61.6	171	39.0	30.9-47.1	293	44.9	37.5-52.3
45-69	374	66.5	60.3-72.8	335	56.1	49.1-63.1	709	61.3	55.9-66.8
18-69	496	56.1	48.1-64.1	506	45.1	38.9-51.3	1002	50.7	44.5-56.9

Advised by doctor or health worker to start or do more physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	% advised	95% CI	n	% advised	95% CI	n	% advised	95% CI
18-44	122	57.5	46.5-68.6	171	41.0	32.1-49.9	293	49.4	41.5-57.4
45-69	374	70.8	63.5-78.0	335	59.3	52.8-65.8	709	65.0	58.8-71.3
18-69	496	62.1	53.7-70.5	506	47.5	40.9-54.1	1002	54.9	48.1-61.7

Advised by doctor or health worker to maintain a healthy body weight or to lose weight									
Age Group (years)	Men			Women			Both Sexes		
	n	% advised	95% CI	n	% advised	95% CI	n	% advised	95% CI
18-44	122	67.9	55.3-80.5	171	48.9	39.2-58.6	293	58.6	50.3-66.9
45-69	374	75.3	68.6-82.0	335	66.2	58.4-74.0	709	70.7	64.9-76.5
18-69	496	70.4	61.5-79.4	506	55.0	47.8-62.3	1002	62.8	56.0-69.7

Advised by doctor to reduce sugary beverages in diet									
Age Group (years)	Men			Women			Both Sexes		
	n	% advised	95% CI	n	% advised	95% CI	n	% advised	95% CI
18-44	122	53.7	41.1-66.4	171	42.4	33.1-51.7	293	48.2	38.9-57.4
45-69	374	58.5	51.0-66.0	335	55.7	46.6-64.9	709	57.1	50.4-63.8
18-69	496	55.4	45.3-65.4	506	47.1	39.1-55.2	1002	51.3	43.4-59.2

Analysis Information:

- Questions used: H20a-f
- Epi Info program name: Hlifestyle (unweighted); HlifestyleWT (weighted)

Cervical Cancer Screening

Cervical cancer screening

Description: Percentage of female respondents who have ever had a screening test for cervical cancer among all female respondents.
Instrument question:

- Have you ever had a screening test for cervical cancer, using any of these methods described above?

Age Group (years)	Women		
	n	% ever tested	95% CI
18-44	**256**	**53.6**	**43.8-63.3**
45-69	**455**	**76.6**	**70.6-82.7**
18-69	**711**	**61.2**	**53.0-69.4**

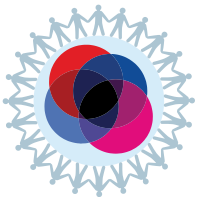
Analysis Information:

- Question used: CX1
- Epi Info program name: Hcervcancer (unweighted); HcervcancerWT (weighted)

Cervical cancer screening among women aged 30-49 years

Description: Percentage of female respondents aged 30-49 years who have ever had a screening test for cervical cancer among all female respondents aged 30-49 years.
Instrument question:

- Have you ever had a screening test for cervical cancer, using any of these methods described above?



Age Group (years)	Women		
	n	% ever tested	95% CI
30-49	**289**	**67.0**	**57.3-76.6**

Analysis Information:

- Question used: CX1
- Epi Info program name: Hcervcancer (unweighted); HcervcancerWT (weighted)

Oral Health

Percentage of respondents having natural teeth

Description: Percentage of respondents who have no natural teeth, 1-9 natural teeth, 10-19 natural teeth, or 20 or more natural teeth.
Instrument question:

- How many natural teeth do you have?

Percentage of respondents with natural teeth

Age Group (years)	Men								
	n	% No natural teeth	95% CI	% 1 - 9 natural teeth	95% CI	% 10 - 19 natural teeth	95% CI	% ≥ 20 natural teeth	95% CI
18-44	193	0.2	0.0-0.6	1.2	0.0-2.5	11.6	7.7-15.6	87.0	82.9-91.0
45-69	463	7.1	2.2-12.0	11.1	7.9-14.4	24.3	17.4-31.3	57.4	50.6-64.2
18-69	**656**	**2.2**	**0.6-3.8**	**4.1**	**2.8-5.4**	**15.4**	**11.6-19.1**	**78.3**	**75.2-81.5**

Percentage of respondents with natural teeth

Age Group (years)	Women								
	n	% No natural teeth	95% CI	% 1 - 9 natural teeth	95% CI	% 10 - 19 natural teeth	95% CI	% ≥ 20 natural teeth	95% CI
18-44	261	0.0	0.0-0.0	1.1	0.0-2.5	13.0	9.2-16.7	85.9	81.8-90.1
45-69	447	6.8	3.0-10.5	11.6	8.4-14.9	24.9	20.0-29.8	56.6	49.3-64.0
18-69	**708**	**2.2**	**1.0-3.4**	**4.5**	**3.1-5.9**	**16.9**	**14.3-19.4**	**76.5**	**73.0-80.0**

Percentage of respondents with natural teeth

Age Group (years)	Both Sexes								
	n	% No natural teeth	95% CI	% 1 - 9 natural teeth	95% CI	% 10 - 19 natural teeth	95% CI	% ≥ 20 natural teeth	95% CI
18-44	454	0.1	0.0-0.3	1.1	0.1-2.1	12.3	9.1-15.4	86.5	83.1-89.9
45-69	910	6.9	3.4-10.5	11.4	8.9-13.9	24.7	20.3-29.0	57.0	51.5-62.5
18-69	**1364**	**2.2**	**1.1-3.3**	**4.3**	**3.2-5.3**	**16.1**	**13.5-18.7**	**77.4**	**74.7-80.1**

Analysis Information:

- Questions used: O1
- Epi Info program name: Onatural (unweighted); OnaturalWT (weighted)

Percentage of respondents having poor or very poor state of teeth

Description: Percentage of respondents having a poor or very poor state of teeth among those having natural teeth.
Instrument question:

- How would you describe the state of your teeth?

Percentage of respondents having poor or very poor state of teeth among those having natural teeth

Age Group (years)	Men			Women			Both Sexes		
	n	% having poor or very poor state of teeth	95% CI	n	% having poor or very poor state of teeth	95% CI	n	% having poor or very poor state of teeth	95% CI
18-44	200	4.5	1.7-7.3	266	5.3	2.6-8.0	466	4.9	3.5-6.3
45-69	459	14.5	11.2-17.8	435	11.4	7.2-15.6	894	12.9	10.8-15.0
18-69	**659**	**7.3**	**5.4-9.2**	**701**	**7.2**	**5.2-9.3**	**1360**	**7.3**	**6.1-8.5**

Analysis Information:

- Questions used: O2
- Epi Info program name: Ohealthteeth (unweighted); OhealthteethWT (weighted)

Percentage of respondents having poor or very poor state of gums

Description: Percentage of respondents having a poor or very poor state of gums among those having natural teeth.
Instrument question:

- How would you describe the state of your teeth?

Percentage of respondents having poor or very poor state of gums among those having natural teeth

Age Group (years)	Men			Women			Both Sexes		
	n	% having poor or very poor state of gums	95% CI	n	% having poor or very poor state of gums	95% CI	n	% having poor or very poor state of gums	95% CI
18-44	201	1.3	0.0-2.5	266	3.2	1.3-5.1	467	2.2	1.1-3.2
45-69	483	5.3	3.3-7.3	459	6.6	3.6-9.6	942	6.0	4.2-7.7
18-69	684	2.4	1.4-3.5	725	4.3	2.5-6.1	1409	3.3	2.3-4.3

Analysis Information:

- Questions used: O3
- Epi Info program name: Ohealthgums (unweighted); OhealthgumsWT (weighted)

Percentage of respondents having removable dentures

Description: Percentage of respondents having removable dentures.
Instrument question:

- Do you have any removable dentures?

Percentage of respondents having removable dentures

Age Group (years)	Men			Women			Both Sexes		
	n	% Having removable dentures	95% CI	n	% Having removable dentures	95% CI	n	% Having removable dentures	95% CI
18-44	202	9.4	5.3-13.5	267	16.3	11.4-21.1	469	12.7	9.2-16.2
45-69	490	40.8	35.7-46.0	466	49.3	43.5-55.1	956	45.2	41.0-49.4
18-69	692	18.7	14.9-22.6	733	27.1	23.0-31.2	1425	22.8	19.6-26.0

Analysis Information:

- Questions used: O4, O5a, O5b
- Epi Info program name: Odentures (unweighted); OdenturesWT (weighted)

Type of removable dentures among those having removable dentures

Description: Percentage of respondents who have an upper jaw denture, a lower jaw denture, or an upper and a lower jaw denture among those having removable dentures.
Instrument questions:

- Do you have any removable dentures?
- Which of the following removable dentures do you have?

Percentage of respondents having an upper jaw denture among those having removable dentures

Age Group (years)	Men			Women			Both Sexes		
	n	% Having an upper jaw denture	95% CI	n	% Having an upper jaw denture	95% CI	n	% Having an upper jaw denture	95% CI
18-44	19	75.1	47.6-100.0	38	82.5	67.0-98.0	57	79.5	68.3-90.8
45-69	178	91.2	86.0-96.5	214	91.4	86.6-96.3	392	91.4	87.8-94.9
18-69	197	85.5	74.5-96.6	252	87.9	82.6-93.1	449	86.9	82.4-91.4

***Note that out of those who said yes they do have dentures, most of them have upper dentures

Percentage of respondents having a lower jaw denture among those having removable dentures									
Age Group (years)	Men			Women			Both Sexes		
	n	% Having a lower jaw denture	95% CI	n	% Having a lower jaw denture	95% CI	n	% Having a lower jaw denture	95% CI
18-44	19	39.2	12.9-65.4	38	50.4	35.2-65.6	57	46.0	30.3-61.6
45-69	178	53.0	41.4-64.7	214	55.2	47.3-63.1	392	54.3	46.2-62.3
18-69	197	48.2	34.2-62.2	252	53.3	46.3-60.3	449	51.1	42.8-59.4

Percentage of respondents having an upper and a lower jaw denture among those having removable dentures									
Age Group (years)	Men			Women			Both Sexes		
	n	% Having an upper and a lower jaw denture	95% CI	n	% Having an upper and a lower jaw denture	95% CI	n	% Having an upper and a lower jaw denture	95% CI
18-44	19	14.2	1.0-27.4	38	37.3	20.5-54.1	57	28.2	16.7-39.6
45-69	178	45.6	34.9-56.4	214	47.0	39.9-54.2	392	46.4	38.7-54.2
18-69	197	34.6	25.5-43.6	252	43.2	36.2-50.1	449	39.5	33.3-45.7

Analysis Information:

- Questions used: O4, O5a-b
- Epi Info program name: Odentures (unweighted); OdenturesWT (weighted)

Percentage of respondents having oral pain or discomfort

Description: Percentage of respondents who have pain or discomfort caused by their teeth or mouth during the past 12 months.
Instrument question:

- During the past 12 months, did your teeth or mouth cause any pain or discomfort?

Percentage having oral pain or discomfort									
Age Group (years)	Men			Women			Both Sexes		
	n	% Having oral pain or discomfort	95% CI	n	% Having oral pain or discomfort	95% CI	n	% Having oral pain or discomfort	95% CI
18-44	202	24.2	16.6-31.8	267	31.0	26.4-35.5	469	27.4	23.0-31.8
45-69	490	30.3	26.1-34.5	466	29.5	23.3-35.7	956	29.9	26.3-33.4
18-69	692	26.0	20.4-31.6	733	30.5	27.2-33.8	1425	28.2	25.0-31.4

Analysis Information:

- Questions used: O6
- Epi Info program name: Opain (unweighted); OpainWT (weighted)

Percentage of respondents having seen a dentist during the past 12 months

Description: Percentage of respondents having seen a dentist during the past 12 months.

Instrument question:

- How long has it been since you last saw a dentist?

Percentage of respondents having seen a dentist during the past 12 months

Age Group (years)	Men			Women			Both Sexes		
	n	% having seen a dentist during the past 12 months	95% CI	n	% having seen a dentist during the past 12 months	95% CI	n	% having seen a dentist during the past 12 months	95% CI
18-44	202	38.4	29.7-47.1	267	43.9	34.4-53.3	469	41.0	34.1-48.0
45-69	490	43.5	37.7-49.4	466	43.1	37.6-48.5	956	43.3	39.6-46.9
18-69	692	39.9	33.2-46.7	733	43.6	36.8-50.4	1425	41.7	36.7-46.8

Analysis Information:

- Questions used: O7
- Epi Info program name: Odentalvisit (unweighted); OdentalvisitWT (weighted)

Percentage of respondents who have never received dental care

Description: Percentage of respondents who have never received dental care.

Instrument question:

- How long has it been since you last saw a dentist?

Percentage of respondents who have never received dental care

Age Group (years)	Men			Women			Both Sexes		
	n	% never received dental care	95% CI	n	% never received dental care	95% CI	n	% never received dental care	95% CI
18-44	202	8.0	1.8-14.3	267	3.7	0.0-8.5	469	6.0	0.9-11.0
45-69	490	1.6	0.5-2.7	466	2.6	0.6-4.5	956	2.1	0.9-3.3
18-69	692	6.1	1.6-10.7	733	3.3	0.0-7.0	1425	4.8	1.0-8.5

Analysis Information:

- Questions used: O7
- Epi Info program name: Odentalvisit (unweighted); OdentalvisitWT (weighted)

Main reason for last visit to the dentist among those who ever visited a dentist

Description: Main reason for last visit to the dentist among those who ever visited a dentist.

Instrument question:

- What was the reason for your last visit to the dentist?

Main reason for last visit to the dentist among those who ever visited a dentist

Age Group (years)	Men										
	n	% Consul-tation/advice	95% CI	% Pain or trouble with teeth or gums	95% CI	% Follow-up treatment	95% CI	% Routine check-up treatment	95% CI	% Other	95 % CI
18-44	4	8.6	3.1-14.1	36.1	28.4-43.9	26.8	17.4-36.3	27.1	18.3-35.9	4	8.6
45-69	12	8.7	5.4-12.0	36.5	30.8-42.2	37.5	32.4-42.5	15.5	11.9-19.0	12	8.7
18-69	**16**	**8.6**	**4.3-13.0**	**36.3**	**30.4-42.1**	**30.1**	**23.5-36.8**	**23.5**	**17.5-29.5**	**16**	**8.6**

Main reason for last visit to the dentist among those who ever visited a dentist

Age Group (years)	Women										
	n	% Consul-tation/ advice	95 % CI	% Pain or trouble with teeth or gums	95% CI	% Follow-up treatmen t	95% CI	% Rout ine chec k-up treat ment	95% CI	% Other	95 % CI
18-44	5	7.3	4.5-10.2	38.2	31.6-44.8	28.6	22.1-35.1	24.4	18.5-30.3	5	7.3
45-69	17	8.7	4.8-12.7	36.6	31.6-41.6	32.8	27.8-37.8	17.7	14.2-21.1	17	8.7
18-69	22	7.8	5.2-10.4	37.7	32.9-42.4	30.0	25.5-34.5	22.2	17.9-26.4	22	7.8

Main reason for last visit to the dentist among those who ever visited a dentist

Age Group (years)	Both Sexes										
	n	% Consul-tation/ advice	95% CI	% Pain or trouble with teeth or gums	95% CI	% Follow-up treatmen t	95% CI	% Rou tine che ck-up treat men t	95% CI	% Other	95% CI
18-44	9	8.0	4.6-11.4	37.1	31.4-42.9	27.7	22.5-32.9	25.8	20.7-30.8	9	8.0
45-69	29	8.7	5.7-11.8	36.6	31.8-41.3	35.1	31.2-39.0	16.6	13.7-19.5	29	8.7
18-69	38	8.2	5.2-11.3	37.0	32.5-41.4	30.1	26.2-33.9	22.8	19.2-26.4	38	8.2

Analysis Information:

- Questions used: O7, O8
- Epi Info program name: Oreasonvisit (unweighted); OreasonvisitWT (weighted)

Percentage cleaning teeth at least once / at least twice a day

Description: Percentage of respondents cleaning their teeth at least once / at least twice a day.
Instrument question:

- How often do you clean your teeth?

Percentage of respondents cleaning their teeth at least once a day

Age Group (years)	Men			Women			Both Sexes		
	n	% cleaning teeth at least daily	95% CI	n	% cleaning teeth at least daily	95% CI	n	% cleaning teeth at least daily	95% CI
18-44	201	94.2	91.1-97.4	267	96.4	94.0-98.7	468	95.2	93.1-97.4
45-69	463	88.8	84.3-93.4	438	97.8	96.0-99.5	901	93.5	91.2-95.8
18-69	664	92.7	90.6-94.8	705	96.8	95.1-98.5	1369	94.7	93.2-96.2

Percentage of respondents cleaning their teeth at least twice a day

Age Group (years)	Men			Women			Both Sexes		
	n	% cleaning teeth at least twice a day	95% CI	n	% cleaning teeth at least twice a day	95% CI	n	% cleaning teeth at least twice a day	95% CI
18-44	201	65.7	57.9-73.5	267	73.7	65.6-81.7	468	69.5	63.1-76.0
45-69	463	53.9	48.3-59.5	438	78.5	72.8-84.2	901	66.6	62.1-71.1
18-69	664	62.4	57.3-67.5	705	75.2	68.2-82.1	1369	68.6	63.7-73.6

Analysis Information:

- Questions used: O9
- Epi Info program name: Ofreqclean (unweighted); OfreqcleanWT (weighted)

Percentage of respondents using toothpaste

Description: Percentage of respondents using toothpaste among those cleaning their teeth.

Instrument question:

- Do you use toothpaste to clean your teeth?

Percentage of respondents using toothpaste among those cleaning their teeth									
Age Group (years)	Men			Women			Both Sexes		
	n	% using toothpaste	95% CI	n	% using toothpaste	95% CI	n	% using toothpaste	95% CI
18-44	199	99.6	99.0-100.0	267	100.0	100.0-100.	466	99.8	99.5-100.0
45-69	480	97.5	96.1-99.0	466	99.5	98.9-100.0	946	98.5	97.8-99.3
18-69	679	99.0	98.5-99.4	733	99.8	99.6-100.0	1412	99.4	99.1-99.6

Analysis Information:

- Questions used: O10
- Epi Info program name: Otoothpaste (unweighted); OtoothpasteWT (weighted)

Percentage of respondents using toothpaste containing fluoride

Description: Percentage of respondents using toothpaste containing fluoride among those using toothpaste.

Instrument question:

- Do you use toothpaste containing fluoride?

Percentage of respondents using toothpaste containing fluoride among those using toothpaste									
Age Group (years)	Men			Women			Both Sexes		
	n	% using toothpaste containing fluoride	95% CI	n	% using toothpaste containing fluoride	95% CI	n	% using toothpaste containing fluoride	95% CI
18-44	193	99.6	99.0-100.0	258	98.2	96.4-99.9	451	98.9	98.0-99.7
45-69	472	97.1	95.6-98.5	453	96.6	95.2-98.0	925	96.8	95.6-98.0
18-69	665	98.8	98.3-99.3	711	97.6	96.3-99.0	1376	98.2	97.5-99.0

Analysis Information:

- Questions used: O10, O11
- Epi Info program name: Oflouride (unweighted); OflourideWT (weighted)

Percentage using a various tools to clean teeth among those cleaning their teeth

Description: Percentage of respondents who use a tooth brush, wooden toothpicks, plastic toothpicks, thread (dental floss), charcoal, chewstick/miswak or something else to clean their teeth among those cleaning their teeth.

Instrument question:

- Which of the following do you use to clean your teeth?

Percentage of respondents using various tools to clean teeth												
Age Group (years)	Men											
	n	% Tooth-brush	95% CI	n	% Wooden tooth-picks	95% CI	n	% Plastic tooth-picks	95% CI	n	% Thread (dental floss)	95% CI
18-44	199	99.2	98-100.0	199	38.6	32.6-44.6	199	16.2	7.5-24.9	199	35.4	27.6-43.2
45-69	480	97.5	96.-98.9	480	32.7	25.7-39.8	480	10.0	6.7-13.2	480	26.9	20.0-33.8
18-69	679	98.7	97.6-99.8	679	36.9	31.7-42.1	199	16.2	7.5-24.9	679	32.9	26.1-39.7

Percentage of respondents using various tools to clean teeth			
Age Group (years)	Men		
	n	%Other	95% CI
18-44	199	10.3	4.8-15.8
45-69	480	10.8	7.2-14.5
18-69	679	10.4	6.1-14.8

Percentage of respondents using various tools to clean teeth												
Age Group (years)	Women											
	n	% Tooth-brush	95% CI	n	% Wooden tooth-picks	95% CI	n	% Plastic tooth-picks	95% CI	n	% Thread (dental floss)	95% CI
18-44	267	98.9	97.6-100.	267	29.1	22.4-35.8	267	12.4	8.0-16.9	267	52.4	42.4-62.3
45-69	466	99.3	98.1-100.	466	33.2	28.0-38.3	466	9.3	6.0-12.6	466	41.0	33.8-48.2
18-69	733	99.0	98.2-99.9	733	30.4	26.3-34.5	733	11.4	8.1-14.8	733	48.6	40.2-57.1

Percentage of respondents using various tools to clean teeth			
Age Group (years)	Women		
	n	%Other	95% CI
18-44	267	14.0	9.2-18.8
45-69	466	12.4	8.7-16.1
18-69	733	13.5	9.5-17.5

Percentage of respondents using various tools to clean teeth												
Age Group (years)	Both Sexes											
	n	% Tooth-brush	95% CI	n	% Wooden tooth-picks	95% CI	n	% Plastic tooth-picks	95% CI	n	% Thread (dental floss)	95% CI
18-44	466	99.1	98.2-99.9	466	34.0	30.2-37.9	466	14.4	9.3-19.5	466	43.6	36.9-50.3
45-69	946	98.4	97.4-99.4	946	33.0	28.0-37.9	946	9.6	6.9-12.4	946	34.2	28.0-40.4
18-69	1412	98.9	98.2-99.5	1412	33.7	30.3-37.0	1412	12.9	8.9-16.9	1412	40.7	34.5-46.8

Percentage of respondents using various tools to clean teeth			
Age Group (years)	Both Sexes		
	n	% Other	95% CI
18-44	466	12.1	7.6-16.6
45-69	946	11.6	8.5-14.8
18-69	1412	12.0	8.4-15.5

Analysis Information:

- Questions used: O12a-g
- Epi Info program name: Ocleaningtool (unweighted); OcleaningtoolWT (weighted)

Percentage of respondents having difficulty in chewing foods

Description: Percentage of respondents having difficulty in chewing foods during the past 12 months.

Instrument questions:

- Have you experienced any of the following problems during the past year because of the state of your teeth?
- Difficulty in chewing foods?

Percentage of respondents having difficulty in chewing foods during the past 12 months									
Age Group (years)	Men			Women			Both Sexes		
	n	% Difficulty in chewing foods	95% CI	n	% Difficulty in chewing foods	95% CI	n	% Difficulty in chewing foods	95% CI
18-44	202	10.7	5.5-15.9	267	12.2	8.1-16.2	469	11.4	7.9-14.9
45-69	490	22.7	17.5-28.0	466	22.4	18.0-26.8	956	22.6	18.8-26.4
18-69	692	14.2	9.9-18.6	733	15.5	11.9-19.1	1425	14.9	11.8-17.9

Analysis Information:

- Questions used: O13a-j
- Epi Info program name: Oproblem (unweighted); OproblemWT (weighted)

Percentage of respondents having difficulty with speech/trouble pronouncing words

Description: Percentage of respondents having difficulty with speech/trouble pronouncing words during the past 12 months.

Instrument questions:

- Have you experienced any of the following problems during the past year because of the state of your teeth?
- Difficulty with speech/trouble pronouncing words?

Percentage of respondents having difficulty with speech/trouble pronouncing words during the past 12 months									
Age Group (years)	Men			Women			Both Sexes		
	n	% Difficulty with speech/ pronouncing words	95% CI	n	% Difficulty with speech/ pronouncing words	95% CI	n	% Difficulty with speech/ pronouncing words	95% CI
18-44	202	6.2	1.4-11.1	267	3.0	0.6-5.4	469	4.7	2.0-7.4
45-69	490	12.7	7.7-17.7	466	10.0	5.3-14.7	956	11.3	7.6-15.0
18-69	692	8.1	4.3-12.0	733	5.3	3.1-7.5	1425	6.8	4.4-9.1

Analysis Information:

- Questions used: O13a-j
- Epi Info program name: Oproblem (unweighted); OproblemWT (weighted)

Percentage of respondents feeling tense because of problems with teeth or mouth

Description: Percentage of respondents feeling tense because of problems with teeth or mouth during the past 12 months.

Instrument questions:

- Have you experienced any of the following problems during the past year because of the state of your teeth?
- Felt tense because of problems with teeth or mouth?

Percentage of respondents feeling tense because of problems with teeth or mouth during the past 12 months

Age Group (years)	Men			Women			Both Sexes		
	n	% Feeling tense because of problems with teeth or mouth	95% CI	n	% Feeling tense because of problems with teeth or mouth	95% CI	n	% Feeling tense because of problems with teeth or mouth	95% CI
18-44	202	5.2	1.1-9.2	267	7.9	4.6-11.2	469	6.5	3.1-9.9
45-69	490	7.3	4.5-10.1	466	7.0	4.3-9.7	956	7.2	5.2-9.1
18-69	692	5.8	2.9-8.7	733	7.6	5.0-10.2	1425	6.7	4.2-9.2

Analysis Information:

- Questions used: O13a-j
- Epi Info program name: Oproblem (unweighted); OproblemWT (weighted)

Percentage of respondents being embarrassed about appearance of teeth

Description: Percentage of respondents being embarrassed about appearance of teeth during the past 12 months.

Instrument questions:

- Have you experienced any of the following problems during the past year because of the state of your teeth?
- Embarrassed about appearance of teeth?

Percentage of respondents being embarrassed because of appearance of teeth during the past 12 months

Age Group (years)	Men			Women			Both Sexes		
	n	% Embarrassed because of appearance of teeth	95% CI	n	% Embarrassed because of appearance of teeth	95% CI	n	% Embarrassed because of appearance of teeth	95% CI
18-44	202	9.4	3.7-15.0	267	8.9	4.8-13.1	469	9.1	5.0-13.3
45-69	490	14.9	9.9-19.9	466	15.1	10.6-19.6	956	15.0	11.6-18.3
18-69	692	11.0	6.3-15.7	733	10.9	7.2-14.6	1425	11.0	7.5-14.4

Analysis Information:

- Questions used: O13a-j
- Epi Info program name: Oproblem (unweighted); OproblemWT (weighted)

Percentage of respondents avoiding smiling because of teeth

Description: Percentage of respondents avoiding smiling because of teeth during the past 12 months.

Instrument questions:

- Have you experienced any of the following problems during the past year because of the state of your teeth?
- Avoid smiling because of teeth?

Percentage of respondents avoiding smiling because of teeth during the past 12 months

Age Group (years)	Men			Women			Both Sexes		
	n	% Avoiding smiling because of teeth	95% CI	n	% Avoiding smiling because of teeth	95% CI	n	% Avoiding smiling because of teeth	95% CI
18-44	202	8.7	2.8-14.7	267	5.9	3.5-8.3	469	7.4	3.7-11.1
45-69	490	14.2	9.7-18.6	466	11.9	8.3-15.5	956	13.0	10.0-16.0
18-69	692	10.3	5.3-15.4	733	7.9	5.8-9.9	1425	9.1	6.1-12.2

Analysis Information:

- Questions used: O13a-j
- Epi Info program name: Oproblem (unweighted); OproblemWT (weighted)

Percentage of respondents with interruptions in sleep

Description: Percentage of respondents whose sleep was often interrupted during the past 12 months.

Instrument questions:

- Have you experienced any of the following problems during the past year because of the state of your teeth?
- Sleep is often interrupted?

Percentage of respondents with interruptions in sleep during the past 12 months

Age Group (years)	Men			Women			Both Sexes		
	n	% Sleep often interrupted	95% CI	n	% Sleep often interrupted	95% CI	n	% Sleep often interrupted	95% CI
18-44	202	1.9	0.1-3.6	267	5.1	2.6-7.5	469	3.4	2.1-4.7
45-69	490	5.8	2.5-9.1	466	5.5	2.8-8.2	956	5.6	3.6-7.7
18-69	692	3.0	1.6-4.5	733	5.2	3.7-6.7	1425	4.1	3.2-5.0

Analysis Information:

- Questions used: O13a-j
- Epi Info program name: Oproblem (unweighted); OproblemWT (weighted)

Percentage of respondents with days not at work because of teeth or mouth

Description: Percentage of respondents with days not at work because of teeth or mouth during the past 12 months.

Instrument questions:

- Have you experienced any of the following problems during the past year because of the state of your teeth?
- Days not at work because of teeth or mouth?

Percentage of respondents with days not at work because of teeth or mouth during the past 12 months

Age Group (years)	Men			Women			Both Sexes		
	n	% With days not at work	95% CI	n	% With days not at work	95% CI	n	% With days not at work	95% CI
18-44	202	3.1	0.0-6.3	267	1.0	0.0-2.0	469	2.1	0.5-3.6
45-69	490	3.8	1.6-5.9	466	3.3	1.1-5.4	956	3.5	1.9-5.1
18-69	692	3.3	1.0-5.6	733	1.7	0.8-2.6	1425	2.5	1.5-3.5

Analysis Information:

- Questions used: O13a-j
- Epi Info program name: Oproblem (unweighted); OproblemWT (weighted)

Percentage of respondents having difficulty doing usual activities

Description: Percentage of respondents having difficulty doing usual activities during the past 12 months.

Instrument questions:

- Have you experienced any of the following problems during the past year because of the state of your teeth?
- Difficulty doing usual activities?

Percentage of respondents having difficulty doing usual activities during the past 12 months

Age Group (years)	Men			Women			Both Sexes		
	n	% Having difficulty doing usual activities	95% CI	n	% Having difficulty doing usual activities	95% CI	n	% Having difficulty doing usual activities	95% CI
18-44	202	2.4	0.0-6.6	267	0.7	0.0-1.6	469	1.6	0.0-3.7
45-69	490	3.0	1.0-5.1	466	2.7	0.3-5.1	956	2.8	1.1-4.6
18-69	692	2.6	0.0-5.5	733	1.3	0.4-2.3	1425	2.0	0.6-3.4

Analysis Information:

- Questions used: O13a-j
- Epi Info program name: Oproblem (unweighted); OproblemWT (weighted)

Percentage of respondents being less tolerant of spouse or people close to them

Description: Percentage of respondents having been less tolerant of spouse or people close to them during the past 12 months.

Instrument questions:

- Have you experienced any of the following problems during the past year because of the state of your teeth?
- Less tolerant of spouse or people close to you?

Percentage of respondents having been less tolerant of spouse or people close to them during the past 12 months

Age Group (years)	Men			Women			Both Sexes		
	n	% Having been less tolerant	95% CI	n	% Having been less tolerant	95% CI	n	% Having been less tolerant	95% CI
18-44	202	0.6	0.0-1.4	267	1.1	0.0-2.3	469	0.9	0.3-1.4
45-69	490	2.7	0.9-4.5	466	1.8	0.0-3.7	956	2.3	0.7-3.8
18-69	692	1.2	0.6-1.8	733	1.4	0.4-2.4	1425	1.3	0.8-1.8

Analysis Information:

- Questions used: O13a-j
- Epi Info program name: Oproblem (unweighted); OproblemWT (weighted)

Percentage of respondents having reduced participation in social activities

Description: Percentage of respondents having reduced participation in social activities during the past 12 months.

Instrument questions:

- Have you experienced any of the following problems during the past year because of the state of your teeth?
- Reduced participation in social activities?

Percentage of respondents having reduced participation in social activities during the past 12 months

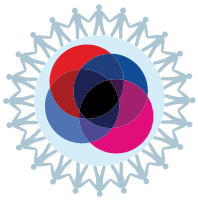
Age Group (years)	Men			Women			Both Sexes		
	n	% Having reduced participation in social activities	95% CI	n	% Having reduced participation in social activities	95% CI	n	% Having reduced participation in social activities	95% CI
18-44	202	2.3	0.0-4.8	267	1.6	0.3-3.0	469	2.0	0.8-3.2
45-69	490	3.4	1.1-5.8	466	2.0	0.2-3.8	956	2.7	1.1-4.3
18-69	692	2.6	0.8-4.5	733	1.7	0.8-2.7	1425	2.2	1.4-3.0

Analysis Information:

- Questions used: O13a-j
- Epi Info program name: Oproblem (unweighted); OproblemWT (weighted)

Physical Measurements

Blood pressure



Description: Mean blood pressure among all respondents, including those currently on medication for raised blood pressure.
Instrument question:

- Reading 1-3 systolic and diastolic blood pressure

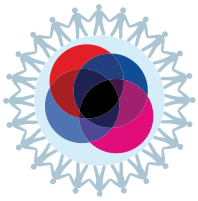
Mean systolic blood pressure (mmHg)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	199	130.7	127.4-134.1	264	123.9	121.0-126.9	463	128.8	126.1-131.5
45-69	486	139.9	137.2-142.5	461	141.3	138.7-144.0	947	140.3	138.1-142.6
18-69	685	135.2	132.8-137.7	725	133.1	130.8-135.4	1410	134.6	132.6-136.6

Mean diastolic blood pressure (mmHg)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	199	84.4	81.8-87.0	264	83.3	80.5-86.1	463	84.1	81.7-86.5
45-69	486	88.5	87.0-90.0	461	88.7	86.5-90.9	947	88.6	87.0-90.1
18-69	685	86.4	84.6-88.2	725	86.1	84.0-88.3	1410	86.3	84.6-88.1

Analysis Information:

- Questions used: M4a, M4b, M5a, M5b, M6a, M6b
- Epi Info program name: Mbloodpressure (unweighted); MbloodpressureWT (weighted)

Raised blood pressure



Description: Percentage of respondents with raised blood pressure.
Instrument question:

- Reading 1-3 systolic and diastolic blood pressure
- During the past two weeks, have you been treated for raised blood pressure with drugs (medication) prescribed by a doctor or other health worker?

SBP ≥140 and/or DBP ≥ 90 mmHg									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	179	32.2	24.1-40.2	238	21.4	14.8-28.0	417	29.1	22.2-36.1
45-69	299	48.7	41.0-56.4	294	52.4	46.4-58.4	593	49.8	44.0-55.7
18-69	478	38.8	32.4-45.2	532	34.8	29.3-40.4	1010	37.6	32.1-43.1

SBP ≥160 and/or DBP ≥ 100 mmHg									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	179	10.5	2.9-18.0	238	9.1	3.8-14.4	417	10.1	3.6-16.6
45-69	299	17.0	13.0-21.0	294	23.4	15.1-31.7	593	19.0	15.1-22.8
18-69	478	13.1	8.3-17.9	532	15.3	9.5-21.1	1010	13.7	9.0-18.5

SBP ≥140 and/or DBP ≥ 90 mmHg or currently on medication for raised blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	196	34.9	26.0-43.7	259	24.7	16.9-32.6	455	32.0	24.0-40.0
45-69	467	56.6	50.8-62.3	444	57.4	51.9-62.9	911	56.8	52.4-61.3
18-69	663	45.4	38.8-52.0	703	41.8	36.7-46.8	1366	44.3	38.7-49.9

SBP ≥160 and/or DBP ≥ 100 mmHg or currently on medication for raised blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	196	12.2	4.0-20.5	259	11.4	6.2-16.6	455	12.0	5.0-19.0
45-69	467	20.8	16.6-25.0	444	27.6	20.5-34.6	911	22.9	18.6-27.2
18-69	663	16.4	11.1-21.7	703	19.8	14.3-25.3	1366	17.4	12.5-22.3

Analysis Information:

- Questions used: H1, H2a, H3, M4a, M4b, M5a, M5b, M6a, M6b, M7
- Epi Info program name: Mraisedbp (unweighted); MraisedbpWT (weighted)

Blood pressure diagnosis, treatment and control

Description: Raised blood pressure diagnosis, treatment and control among those with raised blood pressure (SBP ≥ 140 and/or DBP ≥ 90 mmHg) or on medication for raised blood pressure.
Instrument questions:

- Have you ever had your blood pressure measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?
- During the past two weeks, have you been treated for raised blood pressure with drugs (medication) prescribed by a doctor or other health worker?
- Reading 1-3 systolic and diastolic blood pressure

Raised blood pressure diagnosis, treatment and control among those with raised blood pressure (SBP ≥ 140 and/or DBP ≥ 90 mmHg) or on medication for raised blood pressure									
	Men								
Age Group (years)	n	% with raised blood pressure, not previously diagnosed	95% CI	% with previously diagnosed raised blood pressure, not on medication	95% CI	% with previously diagnosed raised blood pressure, on medication but not controlled	95% CI	% with previously diagnosed raised blood pressure, on medication and blood pressure controlled	95% CI
18-44	83	68.5	53.2-83.9	13.3	4.8-21.7	13.2	4.7-21.6	5.0	0.0-11.0
45-69	325	40.4	33.2-47.6	8.3	5.1-11.4	36.9	29.3-44.6	14.4	9.7-19.1
18-69	408	50.8	43.7-58.0	10.1	6.4-13.8	28.1	23.4-32.8	10.9	6.6-15.3

Raised blood pressure diagnosis, treatment and control among those with raised blood pressure (SBP ≥ 140 and/or DBP ≥ 90 mmHg) or on medication for raised blood pressure									
	Women								
Age Group (years)	n	% with raised blood pressure, not previously diagnosed	95% CI	% with previously diagnosed raised blood pressure, not on medication	95% CI	% with previously diagnosed raised blood pressure, on medication but not controlled	95% CI	% with previously diagnosed raised blood pressure, on medication and blood pressure controlled	95% CI
18-44	77	54.0	40.9-67.2	19.4	10.5-28.4	18.1	9.3-26.9	8.5	3.3-13.6
45-69	303	36.2	30.2-42.3	13.5	9.4-17.5	33.6	27.2-40.0	16.7	10.8-22.7
18-69	380	40.9	34.8-47.1	15.0	10.5-19.6	29.5	23.8-35.1	14.5	10.0-19.1

Raised blood pressure diagnosis, treatment and control among those with raised blood pressure (SBP ≥ 140 and/or DBP ≥ 90 mmHg) or on medication for raised blood pressure									
	Both Sexes								
Age Group (years)	n	% with raised blood pressure, not previously diagnosed	95% CI	% with previously diagnosed raised blood pressure, not on medication	95% CI	% with previously diagnosed raised blood pressure, on medication but not controlled	95% CI	% with previously diagnosed raised blood pressure, on medication and blood pressure controlled	95% CI
18-44	160	65.3	54.1-76.5	14.6	8.2-21.1	14.3	7.9-20.7	5.8	0.6-11.1
45-69	628	39.1	33.7-44.4	9.9	7.4-12.4	35.9	29.8-41.9	15.2	11.2-19.1
18-69	788	48.0	42.7-53.3	11.5	9.1-14.0	28.5	24.5-32.5	12.0	8.1-15.9

Analysis Information:

- Questions used: H1, H2a, H3, M4a, M4b, M5a, M5b, M6a, M6b, M7
- Epi Info program name: Mraisedbp (unweighted); MraisedbpWT (weighted)

Height, weight and BMI

Description: Mean height, weight, and body mass index among all respondents (excluding pregnant women).
Instrument questions:

- For women: Are you pregnant?
- Height
- Weight

Mean height (cm)							
Age Group (years)	Men			Women			
	n	Mean	95% CI	n	Mean	95% CI	
18-44	201	177.0	176.2-177.8	252	166.2	165.0-167.4	
45-69	487	172.3	171.5-173.1	462	162.7	162.0-163.3	
18-69	688	174.7	174.1-175.2	714	164.3	163.5-165.1	

Mean weight (kg)							
Age Group (years)	Men			Women			
	n	Mean	95% CI	n	Mean	95% CI	
18-44	197	110.1	104.7-115.6	251	99.6	96.8-102.4	
45-69	488	108.3	105.4-111.2	462	98.5	95.5-101.4	
18-69	685	109.2	106.5-111.9	713	99.0	96.8-101.2	

Mean BMI (kg/m^2)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	195	34.8	33.2-36.4	248	35.9	34.9-37.0	443	35.1	33.9-36.4
45-69	478	36.0	35.4-36.6	458	36.9	36.0-37.8	936	36.3	35.7-36.8
18-69	673	35.4	34.6-36.2	706	36.5	35.7-37.2	1379	35.7	35.1-36.4

Analysis Information:

- Questions used: M8, M11, M12
- Epi Info program name: Mbmi (unweighted); MbmiWT (weighted)

BMI categories

Description: Percentage of respondents (excluding pregnant women) in each BMI category.
Instrument questions:

- For women: Are you pregnant?
- Height
- Weight

BMI classifications									
Age Group (years)	Men								
	n	% Underweight <18.5	95% CI	% Normal weight 18.5-24.9	95% CI	% BMI 25.0-29.9	95% CI	% Obese ≥30.0	95% CI
18-44	195	0.6	0.0-1.8	9.6	4.6-14.7	19.7	15.3-24.1	70.0	63.1-76.9
45-69	478	0.1	0.0-0.3	4.6	2.2-7.0	16.7	13.6-19.8	78.6	75.1-82.2
18-69	673	0.4	0.0-1.0	7.1	4.4-9.9	18.3	15.4-21.1	74.2	70.0-78.5

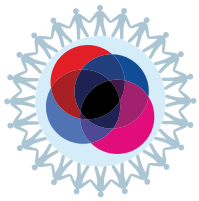
BMI classifications

Age Group (years)	Women								
	n	% Under-weight <18.5	95% CI	% Normal weight 18.5-24.9	95% CI	% BMI 25.0-29.9	95% CI	% Obese ≥30.0	95% CI
18-44	248	0.2	0.0-0.5	7.5	3.2-11.7	16.0	11.3-20.8	76.3	71.2-81.4
45-69	458	0.3	0.0-0.7	6.5	3.4-9.5	16.1	12.6-19.6	77.1	72.7-81.6
18-69	706	0.2	0.0-0.5	6.9	3.7-10.1	16.1	13.5-18.7	76.8	73.3-80.2

BMI classifications									
Age Group (years)	Both Sexes								
	n	% Under-weight <18.5	95% CI	% Normal weight 18.5-24.9	95% CI	% BMI 25.0-29.9	95% CI	% Obese ≥30.0	95% CI
18-44	443	0.5	0.0-1.3	9.0	5.0-13.1	18.7	15.2-22.3	71.7	66.0-77.5
45-69	936	0.1	0.0-0.3	5.2	3.2-7.1	16.5	14.7-18.4	78.2	75.6-80.8
18-69	1379	0.3	0.0-0.7	7.1	4.7-9.4	17.6	15.4-19.8	75.0	71.3-78.7

Analysis Information:
- Questions used: M8, M11, M12
- Epi Info program name: Mbmiclass (unweighted); MbmiclassWT (weighted)

BMI ≥25



Description: Percentage of respondents (excluding pregnant women) classified as overweight (BMI≥25).

Instrument questions:
- For women: Are you pregnant?
- Height
- Weight

BMI≥25									
Age Group (years)	Men			Women			Both Sexes		
	n	% BMI≥25	95% CI	n	% BMI≥25	95% CI	n	% BMI≥25	95% CI
18-44	195	89.7	84.0-95.5	248	92.4	88.1-96.6	443	90.5	85.8-95.1
45-69	478	95.4	93.0-97.7	458	93.3	90.2-96.3	936	94.7	92.7-96.8
18-69	673	92.5	89.5-95.6	706	92.8	89.6-96.1	1379	92.6	90.0-95.2

Analysis Information:
- Questions used: M8, M11, M12
- Epi Info program name: Mbmiclass (unweighted); MbmiclassWT (weighted)

Biochemical Measurements

Mean fasting blood glucose

Description: mean fasting blood glucose results including those currently on medication for diabetes (non-fasting recipients excluded).
Instrument questions:

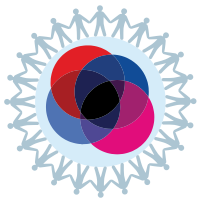
- During the last 12 hours have you had anything to eat or drink, other than water?
- Blood glucose measurement

Mean fasting blood glucose (mmol/L)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	72	6.3	5.7-6.8	126	6.2	5.8-6.6	198	6.2	5.9-6.6
45-69	223	7.2	6.7-7.8	211	7.1	6.6-7.6	434	7.2	6.8-7.6
18-69	295	6.8	6.4-7.2	337	6.7	6.3-7.1	632	6.8	6.5-7.1

Analysis Information:

- Questions used: B1, B5
- Epi Info program name:
  - measurement in mmol/L: Bglucose (unweighted); BglucoseWT (weighted)
  - measurement in mg/dl: BglucoseMg (unweighted); BglucoseMgWT (weighted)

Raised blood glucose



Description: Categorization of respondents into blood glucose level categories and percentage of respondents currently on medication for raised blood glucose (non-fasting recipients excluded).
Instrument questions:

- In the past two weeks, have you taken any drugs (medication) for diabetes prescribed by a doctor or other health worker?
- Are you currently taking insulin for diabetes prescribed by a doctor or other health worker?
- During the last 12 hours have you had anything to eat or drink, other than water?
- Blood glucose measurement
- Today, have you taken insulin or other drugs (medication) that have been prescribed by a doctor or other health worker?

Impaired Fasting Glycaemia*									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	76	17.3	3.4-31.2	129	15.1	7.8-22.3	205	16.6	7.1-26.1
45-69	250	20.1	12.2-28.0	243	17.8	12.0-23.6	493	19.4	14.0-24.7
18-69	326	18.9	11.2-26.6	372	16.6	11.3-21.9	698	18.1	13.0-23.3

Raised blood glucose or currently on medication for diabetes**									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	76	17.8	9.1-26.5	129	22.3	14.8-29.8	205	19.2	12.8-25.7
45-69	250	46.0	37.8-54.2	243	44.8	36.3-53.4	493	45.6	39.0-52.3
18-69	326	33.6	27.4-39.8	372	34.8	27.6-42.1	698	34.0	28.3-39.7

Currently on medication for diabetes									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	204	5.1	1.2-8.9	269	5.4	1.9-8.9	473	5.2	2.4-8.0
45-69	491	23.5	19.7-27.4	466	21.7	16.5-26.9	957	23.0	19.3-26.6
18-69	695	13.9	10.8-17.1	735	14.0	9.9-18.0	1430	13.9	11.0-16.9

* Impaired fasting glycaemia is defined as either

- plasma venous value: ≥6.1mmol/L (110mg/dl) and <7.0mmol/L (126mg/dl)
- capillary whole blood value: ≥5.6mmol/L (100mg/dl) and <6.1mmol/L (110mg/dl)

** Raised blood glucose is defined as either

- plasma venous value: ≥ 7.0 mmol/L (126 mg/dl)
- capillary whole blood value: ≥ 6.1 mmol/L (110 mg/dl)

Analysis Information:

- Questions used: H8, H9, B1, B5, B6
- Epi Info program name:
  - measurement in mmol/L: Bglucose (unweighted); BglucoseWT (weighted)
  - measurement in mg/dl: BglucoseMg (unweighted); BglucoseMgWT (weighted)

Blood glucose diagnosis and treatment

Description: Raised blood glucose diagnosis and treatment among all respondents.
Instrument questions:

- Have you ever had your blood sugar measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?
- In the past two weeks, have you taken any drugs (medication) for diabetes prescribed by a doctor or other health worker?
- Are you currently taking insulin for diabetes prescribed by a doctor or other health worker?
- During the last 12 hours have you had anything to eat or drink, other than water?
- Blood glucose measurement
- Today, have you taken insulin or other drugs (medication) that have been prescribed by a doctor or other health worker?

Raised blood glucose diagnosis and treatment among all respondents

	Men						
Age Group (years)	n	% with raised blood glucose, not previously diagnosed	95% CI	% with previously diagnosed raised blood glucose, not on medication	95% CI	% with previously diagnosed raised blood glucose, on medication	95% CI
18-44	90	10.2	4.0-16.4	13.7	4.3-23.1	10.4	2.6-18.3
45-69	308	12.7	8.5-16.9	12.7	8.4-17.0	34.3	27.7-40.9
18-69	398	11.6	7.4-15.9	13.1	8.5-17.7	24.1	18.5-29.7

Raised blood glucose diagnosis and treatment among all respondents

	Women						
Age Group (years)	n	% with raised blood glucose, not previously diagnosed	95% CI	% with previously diagnosed raised blood glucose, not on medication	95% CI	% with previously diagnosed raised blood glucose, on medication	95% CI
18-44	139	10.4	4.8-16.1	13.1	4.8-21.4	9.4	2.4-16.5
45-69	278	10.5	6.2-14.8	12.7	7.4-18.1	33.2	24.3-42.2
18-69	417	10.5	7.5-13.4	12.9	8.8-17.0	23.1	15.6-30.7

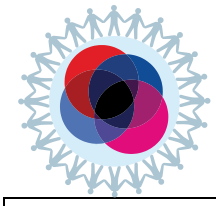
Raised blood glucose diagnosis and treatment among all respondents

	Both Sexes						
Age Group (years)	n	% with raised blood glucose, not previously diagnosed	95% CI	% with previously diagnosed raised blood glucose, not on medication	95% CI	% with previously diagnosed raised blood glucose, on medication	95% CI
18-44	153	10.3	5.6-14.9	13.5	7.0-20.0	10.1	4.3-16.0
45-69	252	12.0	8.5-15.5	12.7	9.1-16.4	34.0	28.3-39.7
18-69	405	11.3	7.9-14.7	13.0	9.6-16.5	23.8	18.7-28.9

Analysis Information:

- Questions used: H6, H7a, H8, H9, B1, B5, B6
- Epi Info program name:
  - measurement in mmol/L: Bglucose (unweighted); BglucoseWT (weighted)
  - measurement in mg/dl: BglucoseMg (unweighted); BglucoseMgWT (weighted)

Total cholesterol

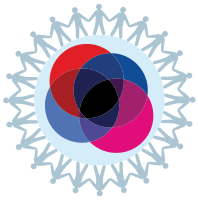


Description: Mean total cholesterol among all respondents including those currently on medication for raised cholesterol.
Instrument question:
- Total cholesterol measurement

Mean total cholesterol (mg/dl)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	148	187.0	180.0-194.1	203	182.6	178.2-187.0	351	185.7	180.6-190.9
45-69	377	188.8	183.5-194.0	357	194.1	189.3-198.9	734	190.4	186.7-194.1
18-69	525	187.9	183.4-192.3	560	188.7	185.8-191.6	1085	188.1	184.9-191.4

Analysis Information:
- Questions used: B8
- Epi Info program name:
  - measurement in mmol/L: Btotallipids (unweighted); BtotallipidsWT (weighted)
  - measurement in mg/dl: BtotallipidsMg (unweighted); BtotallipidsMgWT (weighted)

Raised total cholesterol



Description: Percentage of respondents with raised total cholesterol.
Instrument questions:
- Total cholesterol measurement

Total cholesterol ≥ 5.0 mmol/L or ≥ 190 mg/dl									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	148	48.4	38.7-58.0	203	36.6	29.2-44.0	351	45.0	38.5-51.5
45-69	377	59.6	52.8-66.5	357	63.8	57.2-70.4	734	61.0	56.5-65.4
18-69	525	54.1	48.3-59.8	560	51.1	46.5-55.6	1085	53.2	49.1-57.2

Total cholesterol ≥ 6.2 mmol/L or ≥ 240 mg/dl									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-44	148	8.9	3.9-13.8	203	9.2	4.9-13.5	351	9.0	5.4-12.5
45-69	377	27.3	20.1-34.6	357	27.5	21.4-33.7	734	27.4	22.5-32.3
18-69	525	18.2	12.6-23.7	560	18.9	14.4-23.5	1085	18.4	14.5-22.3

Analysis Information:
- Questions used: B8
- Epi Info program name:
  - measurement in mmol/L: Btotallipids (unweighted); BtotallipidsWT (weighted)
  - measurement in mg/dl: BtotallipidsMg (unweighted); BtotallipidsMgWT (weighted)

Raised total cholesterol

Description: Percentage of respondents with raised total cholesterol and percentage of respondents currently on medication for raised cholesterol.
Instrument questions:
- Total cholesterol measurement
- During the past two weeks, have you been treated for raised cholesterol with drugs (medication) prescribed by a doctor or other health worker?

Total cholesterol ≥ 5.0 mmol/L or ≥ 190 mg/dl or currently on medication for raised cholesterol

Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	148	48.4	38.7-58.0	203	36.6	29.2-44.0	351	45.0	38.5-51.5
30-44	377	59.6	52.8-66.5	357	63.8	57.2-70.4	734	61.0	56.5-65.4
18-69	525	54.1	48.3-59.8	560	51.1	46.5-55.6	1085	53.2	49.1-57.2

Total cholesterol ≥ 6.2 mmol/L or ≥ 240 mg/dl or currently on medication for raised cholesterol									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	148	8.9	3.9-13.8	203	9.2	4.9-13.5	351	9.0	5.4-12.5
30-44	377	27.3	20.1-34.6	357	27.5	21.4-33.7	734	27.4	22.5-32.3
18-69	525	18.2	12.6-23.7	560	18.9	14.4-23.5	1085	18.4	14.5-22.3

Analysis Information:

- Questions used: B8, B9
- Epi Info program name:
  - measurement in mmol/L: Btotallipids (unweighted); BtotallipidsWT (weighted)
  - measurement in mg/dl: BtotallipidsMg (unweighted); BtotallipidsMgWT (weighted)

Introduction to intake of salt per day

Levels of sodium and creatinine in spot urine samples are used in STEPS to estimate population 24 hour salt intake, using the INTERSALT equation:

Estimated 24 hour sodium (Na) intake in mmol for males: 23.51+0.45*spot Na concentration (mmol/L) -3.09*spot creatinine concentration (mmol/L)+4.16*BMI+0.22*Age

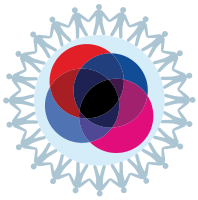
Estimated 24 hour sodium (Na) intake in mmol for females: 3.74+0.33* spot Na concentration (mmol/L)-2.44* spot creatinine concentration (mmol/L)+2.42* BMI +2.34* Age -0.03* Age ^2

The 24 hour sodium values in mmol are divided by 17.1 in order to get grams of salt.

WHO recommendation

The WHO recommendation is less than 5 grams of salt or 2 grams of sodium per person per day.

Intake of salt per day



Description: Mean intake of salt in grams per day among all respondents

Instrument question:

- Are you pregnant?
- Had you been fasting prior to urine collection?
- Urinary sodium measurement
- Urinary creatinine measurement

Mean salt intake (g/day)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-29	52	13.3	12.4-14.3	67	9.6	9.0-10.1	119	12.3	11.7-12.9
30-44	115	13.0	12.5-13.6	127	9.2	8.8-9.6	242	11.6	11.1-12.1
18-69	167	13.2	12.7-13.7	194	9.4	9.0-9.7	361	12.0	11.5-12.4

Analysis Information:

- Questions used: M8, B10, B14, B15
- Epi Info program name: Bsalt (unweighted); BsaltWT (weighted)

Cardiovascular disease risk

CVD risk of ≥20% or existing CVD

Description: Percentage of respondents aged 40-69 years with a 10-year cardiovascular disease (CVD) risk* ≥20% or with existing CVD
Instrument questions: combined from Step 1, 2 and 3

- Gender, age
- Current and former smoking
- History of diabetes, CVD
- Systolic blood pressure measurements
- Fasting status, glucose and total cholesterol measurements.

Raised blood glucose diagnosis and treatment among all respondents							
	Men						
Age Group (years)	n	% with raised blood glucose, not previously diagnosed	95% CI	% with previously diagnosed raised blood glucose, not on medication	95% CI	% with previously diagnosed raised blood glucose, on medication	95% CI
18-44	90	10.2	4.0-16.4	13.7	4.3-23.1	10.4	2.6-18.3
45-69	308	12.7	8.5-16.9	12.7	8.4-17.0	34.3	27.7-40.9
18-69	398	11.6	7.4-15.9	13.1	8.5-17.7	24.1	18.5-29.7

Raised blood glucose diagnosis and treatment among all respondents							
	Women						
Age Group (years)	n	% with raised blood glucose, not previously diagnosed	95% CI	% with previously diagnosed raised blood glucose, not on medication	95% CI	% with previously diagnosed raised blood glucose, on medication	95% CI
18-44	139	10.4	4.8-16.1	13.1	4.8-21.4	9.4	2.4-16.5
45-69	278	10.5	6.2-14.8	12.7	7.4-18.1	33.2	24.3-42.2
18-69	417	10.5	7.5-13.4	12.9	8.8-17.0	23.1	15.6-30.7

Raised blood glucose diagnosis and treatment among all respondents							
	Both Sexes						
Age Group (years)	n	% with raised blood glucose, not previously diagnosed	95% CI	% with previously diagnosed raised blood glucose, not on medication	95% CI	% with previously diagnosed raised blood glucose, on medication	95% CI
18-44	153	10.3	5.6-14.9	13.5	7.0-20.0	10.1	4.3-16.0
45-69	252	12.0	8.5-15.5	12.7	9.1-16.4	34.0	28.3-39.7
18-69	405	11.3	7.9-14.7	13.0	9.6-16.5	23.8	18.7-28.9

CVD risk of ≥10% or existing CVD

Description: Percentage of respondents aged 40-69 years with a 10-year cardiovascular disease (CVD) risk* ≥10% or with existing CVD
Instrument questions: combined from Step 1, 2 and 3

- Gender, age
- Current and former smoking
- History of diabetes, CVD
- Systolic blood pressure measurements
- Fasting status, glucose and total cholesterol measurements.

Percentage of men by age group by level of 10-year CVD risk							
Age Group (years)	Men						
	n	<10%	95% CI	10%-<20%	95% CI	20+%	95% CI
40-54	165	81.4	76.7-85.4	18.4	15.5-23.1	1.8	2.2-1.4
55-69	236	47.1	39.1-55.3	46.7	35.9-55.0	6.21	3.6-10.5
40-69	401	64.36	59.1-69.3	32.5	28.1-37.1	3.2	1.7-5.7

Percentage of men by age group by level of 10-year CVD risk							
Age Group (years)	Women						
	n	<10%	95% CI	10%-<20%	95% CI	20+%	95% CI
40-54	200	88.7	80.3-93.8	10.2	5.3-19.0	1.1	0.2-5.3
55-69	204	56.7	49.1-63.9	36.3	29.1-44.1	7.1	3.2-14.9
40-69	404	74.0	67.5-79.6	22.2	16.5-29.1	3.8	2.0-7.2

Percentage of men by age group by level of 10-year CVD risk							
Age Group (years)	Both Sexes						
	n	<10%	95% CI	10%-<20%	95% CI	20+%	95% CI
40-54	365	8.4	80.2-86.8	15.7	12.7-19.3	0.5	0.1-2.7
55-69	440	49.9	43.6-56.3	43.6	37.5-50.0	6.5	4.4-9.3
40-69	805	67.4	63.7-70.9	29.3	26.1-32.6	3.4	2.3-5.0

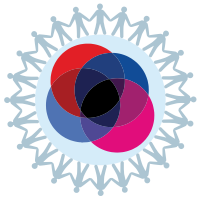
Percentage of respondents with a 10-year CVD risk ≥20% or with existing CVD											
Age Group (years)	**Men**				**Women**				**Both Sexes**		
	n	%	95% CI		n	%	95% CI		n	%	95% CI
40-54	168	6.5	3.9-10.8	207	11.8	7.9-17.3	375	8.3	6.0-11.3	168	6.5
55-69	254	23.3	16.8-31.4	212	20.7	15.1-27.9	466	22.6	17.8-28.2	254	23.3
40-69	422	15.1	11.7-19.2	419	15.9	12.3-20.3	841	15.3	12.7-18.3	422	15.1

* A 10-year CVD risk of ≥20% is defined according to age, sex, blood pressure, smoking status (current smokers OR those who quit smoking less than 1 year before the assessment), total cholesterol, and diabetes (previously diagnosed OR a fasting plasma glucose concentration >7.0 mmol/l (126 mg/dl)).

Analysis Information:

- Questions used: C1, C2, C3, T1, T8T10, T11a-c, H6, H7a, H17, M4a, M5a, M6a, M7, B1, B5, B8
- Epi Info program name: CVDrisk (unweighted); CVDriskWT (weighted)

Drug therapy and counseling for those with CVD risk ≥20% or existing CVD



Description: Percentage of eligible persons (defined as aged 40-69 years with a 10-year cardiovascular disease (CVD) risk* ≥20%, including those with existing CVD) receiving drug therapy and counseling** (including glycaemic control) to prevent heart attacks and strokes.

Instrument questions: combined from Step 1, 2 and 3

- Gender, age
- Current and former smoking
- History of diabetes, CVD
- Lifestyle advice
- Systolic blood pressure measurements
- Fasting status, glucose and total cholesterol measurements.

Percentage of eligible persons receiving drug therapy and counseling to prevent heart attacks and strokes									
Age Group (years)	**Men**			**Women**			**Both Sexes**		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
40-54	14	67.8	36.2-88.6	25	43.7	21.1-69.3	39	56.4	37.1-74.0
55-69	62	49.7	36.0-63.4	43	48.7	27.9-70.0	105	49.4	38.8-60.1
40-69	76	53.5	40.2-66.3	68	46.7	28.0-66.5	144	51.3	41.5-61.0

* A 10-year CVD risk of ≥30% is defined according to age, sex, blood pressure, smoking status (current smokers OR those who quit smoking less than 1 year before the assessment), total cholesterol, and diabetes (previously diagnosed OR a fasting plasma glucose concentration >7.0 mmol/l (126 mg/dl)).

**Counseling is defined as receiving advice from a doctor or other health worker to quit using tobacco or not start, reduce salt in diet, eat at least five servings of fruit and/or vegetables per day, reduce fat in diet, start or do more physical activity, maintain a healthy body weight or lose weight.

Analysis Information:

- Questions used: C1, C2, C3, T1, T8T10, T11a-c, H6, H7a, H8, H9, H13a, H14, H17, H18, H19, H20a-f, M4a, M5a, M6a, M7, B1, B5, B8
- Epi Info program name: CVDrisk (unweighted); CVDriskWT (weighted)

Summary of Combined Risk Factors

Summary of Combined Risk Factors

Description: Percentage of respondents with 0, 1-2, or 3-5 of the following risk factors:

- Current daily smoking
- Less than five servings of fruit and/or vegetables per day
- Not meeting WHO recommendations on physical activity for health (<150 minutes of moderate activity per week, or equivalent)
- Overweight or obese (BMI ≥ 25 kg/m^2)
- Raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP).

Instrument questions: combined from Step 1 and Step 2

Summary of Combined Risk Factors							
Age Group (years)	Men						
	n	% with 0 risk factors	95% CI	% with 1-2 risk factors	95% CI	% with 3-5 risk factors	95% CI
18-44	177	2.0	0.0-5.9	43.1	36.2-49.9	54.9	48.5-61.4
45-69	439	0.0	0.0-0.0	30.1	24.9-35.4	69.9	64.6-75.1
18-69	616	1.0	0.0-3.0	36.7	31.6-41.7	62.3	57.6-67.0

Summary of Combined Risk Factors							
Age Group (years)	Women						
	n	% with 0 risk factors	95% CI	% with 1-2 risk factors	95% CI	% with 3-5 risk factors	95% CI
18-44	236	1.6	0.5-2.6	51.1	43.5-58.8	47.3	39.6-55.0
45-69	425	0.7	0.0-1.6	27.0	21.3-32.7	72.3	66.6-78.1
18-69	661	1.1	0.2-2.0	38.4	34.0-42.7	60.5	56.1-65.0

Summary of Combined Risk Factors							
Age Group (years)	Both Sexes						
	n	% with 0 risk factors	95% CI	% with 1-2 risk factors	95% CI	% with 3-5 risk factors	95% CI
18-44	413	1.9	0.0-4.8	45.4	39.8-50.9	52.7	47.1-58.3
45-69	864	0.2	0.0-0.5	29.1	25.2-33.1	70.6	66.8-74.5
18-69	1277	1.0	0.0-2.6	37.2	33.3-41.0	61.8	58.0-65.5

Analysis Information:

- Questions used: T1, T2, D1-D4, P1-P15b, M4a-M6b, M7, M8, M11, M12
- Epi Info program name: Raisedrisk (unweighted); RaisedriskWT (weighted)