

# **2008 STEPwise Approach to Chronic Disease Risk Factor Survey Report**

A baseline for non-communicable disease surveillance  
in St Kitts

Non-Communicable Disease Program  
Ministry of Health

# St Kitts STEPS Report 2008

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## Chronic Diseases Risk Factor Survey

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## Executive Summary

The St Kitts STEPS Survey was a population-based country cross-sectional assessment of the key chronic diseases and their risk factors in adults aged 25-64 years. It was carried out from October 2007 – January 2008 using the Pan American version of the WHO STEPS surveillance methodology and questionnaire. The key premise for implementing STEPS in St Kitts was to develop and strengthen the country's capacity to better monitor non-communicable diseases and risk factors through consistent data collection.

St Kitts and Nevis adopted the STEPS guidelines to calculate the appropriate sample size and the STEPS methodology to select a nationally representative sample. The level of confidence and the corresponding margin of error used for the sample size calculations for the survey were 95% and 0.05, respectively. Due to insufficient historical information on baseline levels of the indicators, an estimated prevalence of 50% was utilized, ensuring the most conservative sample size.

Using these values and population estimates for each 10-year age group by sex cluster for the combined population of St. Kitts and Nevis (based on the 2001 population census), sample size estimates (Fig 2.) were calculated for each age/sex strata. The total sample size estimate (obtained by summing across the age/sex strata) was then adjusted for the design effect and for the expected non-response rate. Since random sampling was conducted the design effect for the survey was 1. The expected response rate for the STEPS survey was 90%. Therefore, the total sample size calculated for St. Kitts and Nevis was 2,903. This total was then proportionately divided between St. Kitts and Nevis, based on the results of the 2001 population census as follows: St. Kitts: 2,177 and Nevis: 726. This calculation allowed for accurate reporting of estimates for St. Kitts and Nevis, separately. A total of 1501 households were visited and data were obtained from 1443 individuals in the 9 parishes of St Kitts. Nevis opted to defer the survey after several weeks of initiation.

The key findings of behavioural risks present the baseline data on various health behaviours, including smoking, drinking alcohol, eating fruits and vegetables and physical activity. The percentage that currently smokes tobacco daily was 8.7% with a gender difference of 16.2% males and 1.1% of females. The overall prevalence of current alcohol consumption in the population was 29.8% with 45.1% of males and 14.3% of females classified as current drinkers of alcohol. There were 20.1% of current male consumers of alcohol in the study and 20.7% of current female consumers of alcohol that had participated in binge drinking. Binge drinking was defined as males having had 5 or more standard drinks on at least one day in the previous week, while females binge drinkers had 4 or more standard drinks on at least one day in the previous week.

The mean number of servings of fruit eaten per day was 0.7% for males and 0.8% for females. The mean number of servings of vegetables eaten per day was 0.8% for both males and females. Overall, 97.3% of the respondents consumed fewer than 5 of the combined servings of fruit and vegetables per day. [Note that “starchy vegetables” or “ground provisions” are not considered as vegetables in this study]. Of interest is that 42.1% of the participants ate at least 1-2 meals outside the home on a weekly basis (males 39.4% and females 44.7%).



In general 38.3% of the study population was classified to be moderately inactive, or with low levels of physical activity (28.3% of males and 48.5% of females). The results suggest that males and females undertake the majority of their physical activity during work time. The amount of physical activity undertaken during leisure time was smaller than that during work time for both males and females.

The summary of physical measurements includes weight, height, waist and blood pressure measurements. The overall proportion of those that are overweight or obese (defined as  $BMI \geq 25 \text{ kg/m}^2$ ) in the study population was 78.5% and the proportion of those with obesity ( $BMI \geq 30 \text{ kg/m}^2$ ) was 45.0%. For males, 74.1% were classified as either overweight or obese with 37.9% being obese. For females, 83.0% were classified as either overweight or obese with 52.5% being classified as obese.

Mean waist circumferences for males and females were 94.0 cm (37 inches) and 95.1cm (37.1 inches) respectively. Of these values the waist circumference of males are at acceptable measurement; but the value for females exceed the accepted 80cm (31.5 inches) considered to infer increased risk for cardiovascular disease.

The total prevalence of high blood pressure amongst males in the survey was 33.2% while that amongst females was 19.6%. The mean systolic and diastolic blood pressure was 132.4/78.9mmHg in males and 123.5/76.7mmHg in females.

There are 5 common risk factors for NCDs including current daily smokers, overweight or obese ( $BMI \geq 25 \text{ kg/m}^2$ ), raised blood pressure (SBP  $\geq 140$  and /or DBP  $\geq 90$ mmHg or currently on medication for raised BP), less than 5 servings of fruits and vegetables per day and low level activity ( $< 600$  MET minutes per week). The study population that were at low risk for NCDs (that is with none of the 5 risk factors) was 0.1% while 45.4% of those under 45 years old were also at increased risk for NCDs with at least three of the key risk factors.

### **Opportunities for intervention and action**

Data from the diabetes, cardiovascular diseases and cancer were already among leading morbidity and mortality statistics of St Kitts. However the high level of risk factors observed in the survey can only result in more disability and reduced quality of life if preventive measures are not effective. The findings also provide an opportunity for a “risk approach” to NCD surveillance and control with a shift in emphasis from individual to public health. High priority must be given to review of systems and the execution of actions necessary for ongoing surveillance, prevention and control of non-communicable diseases. Specific recommendations emanating from the survey are:

- Disseminate and utilize findings of survey to inform NCD planning and actions
- Set up a community-based risk factor surveillance system
- Set up a morbidity and mortality data collection and analysis system
- Include step 3 of the STEPS survey (biochemical measures) in future surveys to determine the prevalence of diabetes and dyslipidemias in the country for a more complete picture.

- Conduct further analyses of the data, such as exploring correlations between education/literacy status and other results or employment status and fruit consumption or alcohol consumption.
- Design a national media plan to inform the public on the NCDs and their risk factors.
- Bring awareness to the health risks associated with smoking and benefits of smoke cessation.
- Integrated approach 'risk management' for tackling hypertension, diabetes and cardiovascular diseases.
- Strengthen and support programs that aim to prevent youths from engaging in substance use and abuse, including alcohol.
- Instigate strategies that encourage healthy eating across all age groups by promoting the availability and consumption of more fruits and vegetables.
- Create a supportive environment that promote weight reduction and promote physical activity especially during transportation and leisure.
- Adopt/adapt guidelines and algorithms for the management of specific major NCDs.
- Provide basic equipment to the different health facilities depending on the technical level.
- Ensure that the health system adequately monitors compliance with national standards for the management of hypertension, performs monitoring and treatment of hypertension, diabetes and cardiovascular disease.
- Explore policy measures for decreasing consumption of salt and fatty foods.

## 1. INTRODUCTION

### 1.1 Background to the Implementation of NCD STEPS Surveillance

Chronic non-communicable diseases (NCDs) are an increasing global challenge. Globally, 60% of all deaths and 47 % of disease burden are attributed to them. In fact it is projected that by 2020 they will be responsible for 73% deaths and 60 % of the global burden<sup>1</sup>.

In developing countries, the burden caused by chronic diseases is rapidly increasing and will have significant social, economical and health consequences. St. Kitts is no exception to this trend as its epidemiological profile is dominated by these NCDs. There are some common preventable risk factors which underlie most chronic diseases. These modifiable risk factors, which are lifestyle-related, include tobacco use, harmful alcohol consumption, low fruit and vegetable consumption and physical inactivity; while the major biological risk factors are overweight, obesity, raised blood pressure, raised blood sugar and raised cholesterol. Together, these major risk factors account for 80% of deaths from heart disease and stroke<sup>2</sup>.

The eight major behavioural and biological risk factors investigated in risk factor surveys using the methodology. Heart disease, stroke, cancer, chronic respiratory diseases and diabetes are some of the chronic diseases to which such risk factors contribute. The key to controlling this global epidemic of chronic diseases is primary prevention based on comprehensive population-wide programmes. The aim is to avert these epidemics wherever possible and, to control them as quickly as possible where they are already present. The basis therefore, for the prevention of chronic diseases is the identification of major risk factors in the population and implementation of initiatives to facilitate prevention and control.

### 1.2. NCDs in St. Kitts

The Federation of St. Kitts and Nevis occupies the northern part of the Leeward Islands chain: the area of the twin-island state is 261 square kilometres (km<sup>2</sup>) with Saint Kitts occupying a surface area of 176.2 km<sup>2</sup> and Nevis spans 93 km<sup>2</sup>. The twin-island nation is an independent Commonwealth Caribbean country, having assumed full sovereignty from Great Britain in 1983.

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<sup>1</sup> WHO. (2002) STEPS: Framework for Surveillance. WHO STEPwise Approach to Surveillance of Non-communicable Disease. (STEPS) World Health Organization.

<sup>2</sup> World Health Organization. Preventing Chronic Diseases : A Vital Investment (WHO, Geneva, 2005)

The economy of St. Kitts and Nevis experienced strong growth for most of the 1990s. It is dominated by the tertiary sector, which accounts for approximately 50% of the work force. The leading employment area was the service industry (36.5%), which is heavily dominated by tourism-related activities, followed by professional and technical services (13.6%), agriculture and fishing (12.9%), and construction and manufacturing (12.7%). The GDP growth rate was 6.4% in 2004, followed by 4.1% growth in 2005.

The crude death rate for Saint Kitts and Nevis during the 1992–1995 period was 9.2 per 1,000 population. Between 1992 and 1995, the infant mortality rate fluctuated between a low of 22.4 per 1,000 live births in 1993 to a high of 25.1 per 1,000 in 1995. According to the "Annual Digest of Statistics, 1994," life expectancy at birth for both sexes was estimated at 68.9 years at the end of 1994.

The Federation is currently faced with several development challenges fuelled by new technology, and the burden of managing chronic non-communicable diseases. Over the last three decades there has been an epidemiological profile shift from infectious diseases of to lifestyle-related chronic non-communicable diseases.

The St. Kitts and Nevis Strategic Plan for Health 2008-2012 cites NCDs to be among the leading causes of death in 2004 (Table 1).

CAUSE OF MORTALITY	PERCENTAGE
Cerebrovascular Diseases	13.2%
Ischemic Heart Disease	11.3%
Septicaemia	7.1%
Influenza and Pneumonia	7.0%
Cardiac Arrest	5.7%
Diseases of the Urinary System	4.2%
Conditions Originating out of the Perinatal Period	3.3%
Heart Failure and Ill-defined Heart Disease	3.1%
Malignant Neoplasm of the Prostate	2.4%
Pulmonary Heart disease	2.0%

Table 1. Leading Causes of Mortality in St. Kitts and Nevis 2004

The NCDs which are most frequently manifested share a set of risk factors that include smoking, high blood cholesterol, obesity and physical inactivity. In 2000, a workplace-based prevalence survey of three hundred and fifty three (353) adults (aged 25 and older) done in St. Kitts, indicated that 25% of men and more than 50% of women were not sufficiently physically active. It was also noted that about 60% of men and almost 70% of women were overweight. Additionally, very high proportions of men (70%) and women (60%) did not eat adequate fresh fruits and vegetables on a regular basis. A combination of these factors predisposes one to develop NCDs. This was also reflected in the findings of the Exercise Behavioural Survey, done

in 2001, where 53.6% of the adult population in St. Kitts and Nevis was found to have at least one chronic disease.

### **1.3 Description of STEPS**

The World Health Organization STEPwise approach to chronic disease risk factor surveillance is intended to provide information on risk factor in the population to help control and prevent the increasing impact of NCDs. It provides an entry point for low and middle income countries to get started on chronic disease surveillance activities and build and strengthen capacity to conduct surveillance as well as to facilitate the implementation of realistic interventions for chronic disease prevention and control.

The STEPS methodology is standardized approach to data collection of risk factors for chronic disease. It includes data collection on risk factors using a standardized questionnaire, taking of physical measurements and blood samples to biochemical analyses from a random sample of the population.

### **1.4 Purpose of Study**

The key premise for implementing STEPS in St. Kitts & Nevis is to develop and strengthen the country's capacity to better monitor non-communicable diseases and their risk factors through consistent data collection. The specific objectives are:

- To develop standardized tools to enable comparisons over time and across countries in the Region
- To prevent chronic disease epidemics before they occur
- To help health services plan and determine public health priorities
- To predict future caseloads of chronic diseases and
- To provide a baseline for evaluation of future population-wide interventions

## 2. SURVEY METHOD AND OPERATION

### 2.0 Scope of Study

The study was a population-based assessment of the main risk factors of the priority NCDs in the Federation and was carried out among adults 25-64 years old from October 2007 to January 2008. The WHO STEPwise approach (Fig.1), which provides a framework for surveillance of NCD risk factors and NCD-specific morbidity and mortality, was adopted for the survey. For this survey the intent was to include Step 1 and 2 core items, expanded and optional items but conduct Step 3 core and expanded on a subsample of the participants. The response rate for Step 3 was too low to give significant meaning to the survey. The results therefore reflect findings for Step 1 and Step 2 with information on tobacco use, alcohol consumption, fruit and vegetable consumption, physical activity, physical measurement, raised blood pressure, chronic disease history and family health.

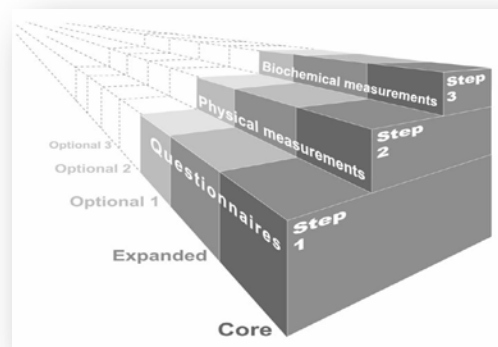


Figure 1. The WHO STEPwise Approach to Surveillance of NCDs

Data collected from this survey will form the basis for the surveillance of NCDs locally as well as, contribute to Regional and Global databases on NCD risk factors.

Exclusion from the survey was permitted if persons (within the age criterion) were bedridden and had chronic disabilities. Pregnant participants were also excluded from having hip to waist measurements done. Excluded from the survey were also those who qualified but refused to participate and who consented but failed to keep appointment after 3 visits.

### 2.1 Sampling and Sample Size Calculation

St Kitts and Nevis adopted the STEPS guidelines to calculate the appropriate sample size and the STEPS methodology to select a nationally representative sample. The level of confidence and the corresponding margin of error used for the sample size calculations for the survey were 95% and 0.05, respectively. Due to insufficient historical information on baseline levels of the indicators, an estimated prevalence of 50% was utilized, as this ensures the most conservative sample size.

Using these values and population estimates for each 10-year age group by sex cluster for the combined population of St. Kitts and Nevis (based on the 2001 population census), sample size

estimates (Fig 2.) were calculated for each age/sex strata. The total sample size estimate (obtained by summing across the age/sex strata) was then adjusted for the design effect and for the expected non-response rate. Since random sampling was conducted the design effect for the survey was 1. The expected response rate for the STEPS survey was 90%. Therefore, the total sample size calculated for St. Kitts and Nevis was 2,903. This total was then proportionately divided between St. Kitts and Nevis, based on the results of the 2001 population census as follows: St. Kitts: 2,177 and Nevis: 726. Nevis opted to defer the survey after several weeks of initiation.

Z	E	P	1-P	SS1	Population Census 2001						SS2 by AGE/SEX			
					Males			Females			Males		Females	
1.96	0.05	0.5	0.5	384.2	25-34	3713	25-34	3676	25-34	348.1	25-34	347.8		
					35-44	3612	35-44	3563	35-44	347.2	35-44	346.8		
					45-54	2190	45-54	2051	45-54	326.8	45-54	323.6		
					55-64	1073	55-64	1168	55-64	282.9	55-64	289.1		
Total SS2		Deff	SS3	RR	Final SS		Final Sample Size							
							Total	St. Kitts	Nevis					
2612.3		1	2612.3	0.9	2902.6		2903	2177	726					

<b>Where:</b>		
<b>SS1</b>	$= Z^2 \frac{P(1-P)}{e^2}$	
<b>SS2</b>	$= \frac{n}{1 + \frac{n}{population}}$	
<b>SS3</b> = Total x SS2 x Deff		
<b>SS4</b> = SS3 ÷ RR		

<b>Z</b>	<b>Level of Confidence</b>
<b>P</b>	<b>Baseline Indicator Level</b>
<b>e</b>	<b>Margin of Error</b>
<b>Strata</b>	<b>Number of age/sex strata</b>
<b>Deff</b>	<b>Design Effect</b>
<b>RR</b>	<b>Response Rate</b>
<b>SS</b>	<b>Sample size calculation</b>

Figure 2. Sample Size Calculations

## **2.2 Ethical Approval**

In the absence of a Research Ethical Committee, the STEPs survey protocol/proposal was submitted to the Medical Board for St Kitts and Nevis for consideration and ethical review. The Board approved the implementation of the survey with few amendments. Participants were to be told their results for Steps 2 and 3 and advised to see a doctor if tests results were abnormally high.

## **2.3 Staff Recruitment, Training and Pilot Testing**

In preparation for the study twenty five (25) persons were recruited and trained for the fieldwork. They were selected from a cross section of persons who had experience working in health or participated in previous population censuses and /or conducting other surveys. The training was conducted over four (4) days, September 24-27, 2007, with assistance from the WHO Geneva Steps team and the CAREC Regional Office. The training session included introduction to NCDs, interview techniques and detailed introduction to the data collection instruments and physical measurement equipment. The tasks, roles and responsibilities of the interviewers were covered during the first 3 days; followed by pilot testing of the instrument for Step 1 and 2 on the final day. Two persons and the survey coordinator were also trained for data entry on days 3-4. The residential area identified for the pilot testing was changed because of the perceived high proportion of persons within the age parameters likely to be at work during that time. The questionnaire was piloted and field tested on a convenience sample of 50 public sector workers at the government headquarters and other government offices in the town. Changes were made to several phrases and phrasing of questions. Training for fieldworkers was also carried out a second time as new interviewers were recruited due to the discontinuation of some who were previously recruited.

## **2.4 The Instrument and Data Collection**

The STEPS instrument was adapted for the survey. Apart from a few deletions as per adjusting to the country context, the generic questionnaire was used for data collection. The same question codes were used. The entire STEPs instrument was used including both the core and expanded questions. Items that were standardized related to

- Question C5 on ethnic grouping
- Question C6 on level of education grouping
- Question C7 on work status over past 12 months
- Question C10 on estimate of annual household income

## **2.5 Physical Measurements:**

The physical measurements taken were blood pressure, height, weight, hip and waist circumference.



- Height - measurement of the perpendicular distance between the top of the head (vertex) and the bottom of the feet. Head in upright position and participant without footwear and headgear. The height was read in centimeters to exact point and recorded.
- Weight - a large analog bathroom scale (Kennedy) was used for weight measurement. The weight was read and recorded in kilograms but converted to pounds if the participant wanted to know his weight.
- Waist measurement – the cross-handed technique was used for measuring waist girth. The circumference was measured using tension measuring tape graduated to 1 mm and taken with light clothing in semiprivate areas or directly over the skin in private areas. The measured circumference was recorded at the nearest 0.1 cm and taken only once before recording.
- Blood Pressure – the measurements were taken using an OMRON B/P machine (digital automatic blood pressure monitor M4-1). Three measurements were taken for analysis purposes; recording the mean of the second and third readings. The right arm was used for this measurement. If the left arm was used this was noted on the questionnaire. The displayed reading of the systolic and diastolic blood pressure were taken and recorded. If the difference between the 1<sup>st</sup> and 2<sup>nd</sup> readings was 10mmHg or more, then it was necessary to obtain a 3<sup>rd</sup> reading. Participants were required to rest for three minutes between each reading. Large B/P cuffs were made available for arms larger than 32 centimeters.

## 2.6 Method of Data Collection

For the purpose of this study, the selection of households was made from each enumeration district (ED) obtained from the National Planning and Statistics Unit of St. Kitts and Nevis. Using maps and addresses of households selected, a starting point was determined randomly and thereafter, every selected household, depending on the number of households within the district. The Kish method was used to randomly select one individual from eligible persons within that household to be interviewed. If no one was present in the selected household, a notification of visit card was left and the interviewer revisited up to 3 times. The person selected had to be at least 25 years old on their last birthday but not older than 64 years old. For logistical purposes, an interviewer was assigned to selected households within the parish where she was resident or worked.

Data collection on Steps 1 and 2 using the STEPS instrument was done by visiting households or a place of the respondent's convenience.

- **STEP 1 & STEP 2:** Interviewers selected the respondents, conducted interview for socio-demographic and behavioral information for STEP 1. Physical measurements such as height, weight and blood pressure were collected in STEP 2. Written instructions re fasting, appointment date and venue for blood test were then given to the participant if selected for STEP 3.
- **STEP 3:** the clinical workers (lab technologists), medical and nursing teams) took blood samples of participant at assigned health clinics or the hospital pathology laboratory.

Biochemical investigation was done at the pathology laboratory of the Joseph N. France General Hospital. The biochemical analysis for blood glucose and lipid profile was conducted using the standard routine procedures of wet chemistry.

Data collection started from October 2007 but was impeded by the Christmas holiday and Carnival season. Data collection was stopped at the end of January 2008. Of the 2,177 selected for St. Kitts, a total of 1,501 households were visited in the 9 parishes (clusters) of St Kitts. The sample was proportionately distributed according to size and population of parishes. Six hundred and seventy-six (676) households were not visited. Of the 1501 households, there were 36 refusals (2.4%), 5 persons not eligible (0.3%), 7 vacant/ abandon houses (0.5%), 1 person was abroad during survey period (0.07%), 7 hard to find/ never at home (0.5%) and 2 buildings were used for purposes other than residential (0.1%). The number of respondents for the STEP 3 was too small (N=58) for accurate estimates and are not included in this report. Overall response rate was 66.3%.

## **2.7 Data Entry and Analysis**

The completed questionnaires were checked for completeness on the same day by the data collector and submitted to the Field Supervisor in batches according to household clusters. On receipt, the Field Supervisor counter-checked the data sheets for completeness and accuracy, packed them into labelled envelopes which were handed to the data entry personnel. Interviewers tracked the number of completed questionnaires on a tracking sheet which was submitted with the completed questionnaires. Double data entry using a data entry protocol was done on computers that had EpiInfo™ 3.4.3 and Epidata™ software for double data entry installed. The database was saved daily in a different drive as backup so that data would not be lost.

WHO and CAREC provided assistance with data analysis and cleaning. The data were weighted using population weights to adjust for age and sex differences between the sample and population. Percentages, means and corresponding 90% CI were then calculated using the weighted data. Data analysis was performed using EPIINFO 3.4.3 STEPS recommended data analysis and reporting tools were used throughout the data analysis and reporting process, including STEP-developed EPIINFO programmes and the fact sheet and data book templates.

## **2.8 Challenges**

A number of challenges affected the overall response of the survey. At the outset, all of the interviewers were employed in full time jobs; two (2) of the interviewers who received training abandoned the project and new interviewers had to be trained. During the data collection was halted in 3 clusters which eventually resulted in lower households visited in the rural west. Another factor affecting the response rate was the period of the year when the survey was done – shorter daylight hours common to the end and early months of the year affected the number of households visited on a given day.

### 3.0 RESULTS

The targeted sample size was 2177 from 9 parishes. Data were obtained from 1433 individuals in St. Kitts only; thus, we cannot make inferences from the data to the general population. The survey results describe what's going on in the data through simple summaries about the sample and the measures (e.g. mean, frequency distribution and proportions). Further, no exploration was done to determine the degree of relationship between any variables.

#### 3.1 Socio-Demographic

The socio-demographic findings provide summary information by age and sex of the respondents, the marital status of the respondents, highest level of education achieved by respondents and employment status over the previous 12 months.

##### 3.1.1 Demographic and response information

A total of 1,433 persons participated in the survey. The majority of respondents were female comprising 62.9%. There was an almost equitable distribution of respondents by age group (Fig. 3) except for the 55-64 years group that comprised only 12.3% of participants.

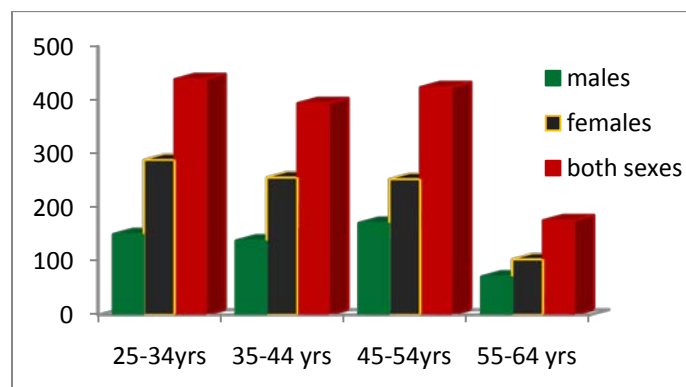


Figure 3. Age Distribution by Gender

##### 3.1.2 Education and Literacy Status

A total of 1,369 persons gave information about the number of years that they spent in full time study. The mean number of years of education was 11.7 and varied little by gender. However there was a trend towards decreasing number of years of education with increasing age. The younger the age group of the participants, the higher was the mean number of years of schooling. Respondents 55-64 years old had up to 10 years of schooling while those under 54 years had up to 12 years. Of all the respondents approached, 98.4% indicated that they were able to read and write, with little variation by gender. This is consistent with the fact that 69.0% of participants had completed secondary level schooling and 13.8% had pursued higher education including college and post graduate studies. Very few respondents (0.4%) had recorded no formal schooling or not attended primary school.

### 3.1.3 Ethnicity

The majority of respondents were of African descent (97.2%) with small percentages reporting that they were of Spanish (1.1%), Asian /Indian (1.0 %) and white (0.6%).

### 3.1.4 Marital Status

The majority of participants were single (63.8%), while just under a third (26.6%) reported being married. 5.3% of participants were divorced /separated and 2.0% were widowed.

### 3.1.5 Economic and Employment Status

The majority of respondents were employed with more than half (61.9%) having non-government and self-employed jobs, while 27.3% had government jobs (Fig 4a). Men were more likely to be self-employed and more women were unemployed. Of those who were unemployed, a substantial proportion (44.2%) indicated they were able to work (Fig 4b).

The survey did not explore the reasons why these individuals were not gainfully employed.

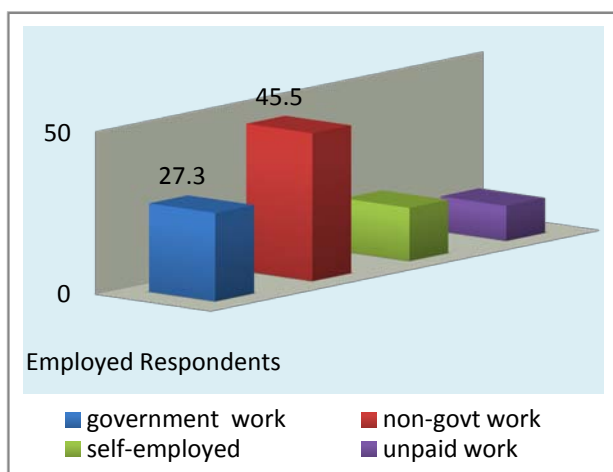


Figure 4a. Employment Status (N=1435)

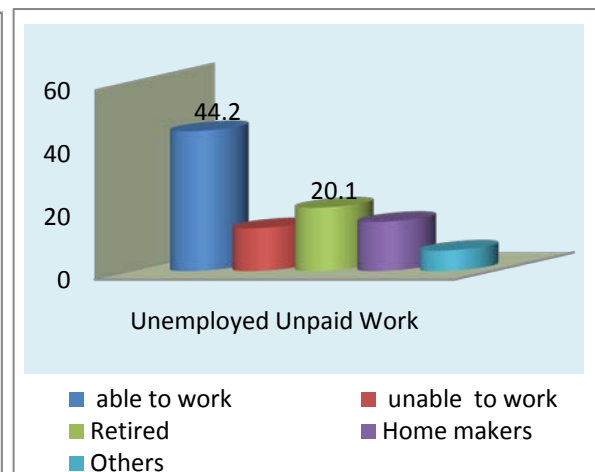


Figure 4b. Unpaid Work/Unemployment Status (N=154)

There was a high non-response rate for the item on annual household income. Of those that responded, 49.6% earned between \$12, 000 - \$24, 000; while 18.0% earned \$24, 000-\$30,000; 22% earned over \$30, 000 and 10.7% made less than \$12,000 annually.

## 3.2 NCD RISK FACTORS (STEP 1)

### 3.2.1 Smoking

Overall, 8.7% of the survey population indicated they currently smoke tobacco. The distribution of smoking prevalence by age group and sex (Table 3) revealed that the prevalence of smoking was significantly higher among males (16.2%) than females (1.1%). Among the current smokers 6.1% smoked daily, while 2.6 % declared they did not smoke daily. Among men, 11.4% smoked tobacco daily in contrast to 0.7% of women who indicated they smoked tobacco daily. The highest proportions of daily smokers for both males (14.1 %) as well as females (1.6 %) were in the age group 45-54 years. However, there was a substantial decline in the proportions of daily smokers in the older age group of 55 – 64 years for both men (8.3 %) and women (0.0 %).

	Age Group and Sex								Total	
	25-34		35-44		45-54		55-64		25-64	
	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Male	Fem
N	148	289	136	256	170	253	72	103	526	901
Current daily (%)	10.1	0.7	11.8	0.4	14.1	1.6	8.3	0.0	11.4	0.7
Current smokers (%)	15.0	1.0	17.6	0.4	19.3	2.4	8.3	1.0	16.1	1.1
Current Non-daily (%)	4.7	0.3	5.9	0.0	5.3	1.8	0.0	1.0	4.8	0.4
Non smokers (%)	85.1	99	82.4	99.6	80.6	97.6	91.7	99	83.8	98.9

Table 2 - Prevalence of Smoking by Age- group and Gender

The majority of smokers started smoking as teenagers at an average age of 17.2 years and smoked for a duration of 13 to 23 years. Data for women could not be disaggregated because of small numbers.

### 3.2.2 Exposure to Environmental Tobacco Smoke (ETS)

A fair proportion (9.2 %) of the respondents reported they were exposed to environmental tobacco smoke at home (Fig. 5). On average, 11.2 % of men said they were exposed to ETS at home, while 7.2 % of the women reported likewise. Also, within the age categories, a higher proportion of men indicated they were exposed to ETS at home within the last week except in the 25 -34 age category where women outnumbered men (12.1%:10.7%).

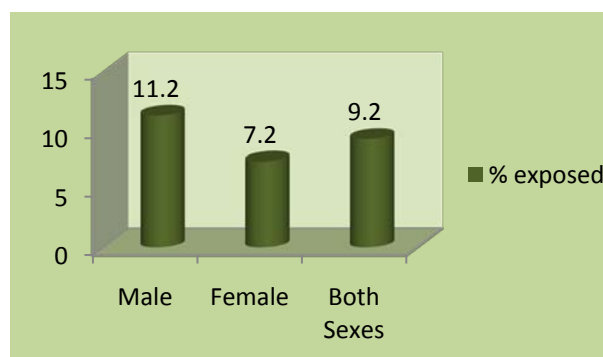


Figure 5. Proportion Exposed to ETS at home

Almost three times as many men (16.6 %) as women (6.2 %) reported being exposed to environmental tobacco smoke at the workplace. On average, 11.5 % of the respondents reported they were exposed to ETS at the work place. (Fig. 7)

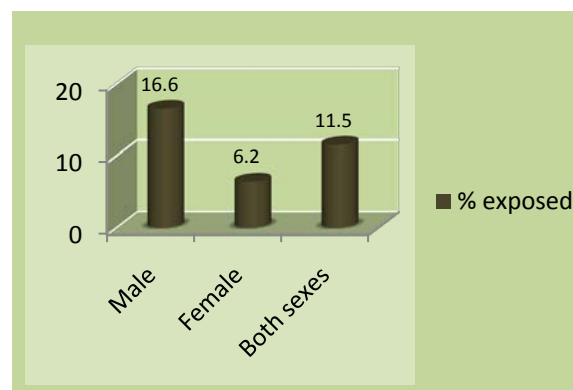


Figure 6. Proportion Exposed to ETS at the workplace

### 3.2.3 Alcohol Consumption

For the survey, harmful drinking is defined as  $\geq 60$  g. of pure alcohol (6 drinks) on average per day for men and  $\geq 40$  g (4 drinks) for women. A standard drink contains approximately 10 g. of pure alcohol. Almost sixty percent (59.4%) of the respondents indicated they were not currently drinking but drank alcohol in the last 12 months. Among women, 73.6 % abstained in the last 12 months while 45.4% among men reported not drinking alcohol during the same period. The prevalence (Fig. 7a) of current drinkers (alcohol consumption in the past 30 days) was three times higher for males (45.1%) than females (14.3%). The prevalence increased within each age category for both sexes until the age group 55 -64 where the trend was reversed.

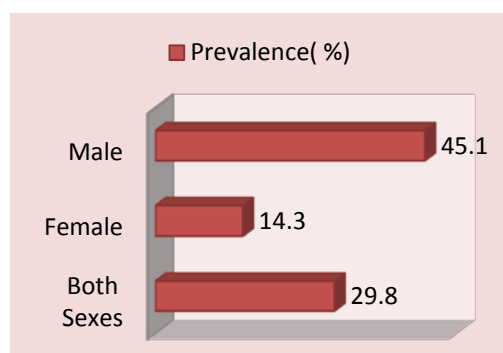


Figure 7a. Pattern of Current Alcohol Drinking

On average, 24.7 % of the respondents reported drinking alcohol on four or more days in the last week. Meanwhile, almost four times as many men (29.9 %) as women (7.8%) drank alcohol during that time period. Of the men who drank alcohol in the last seven days (Fig. 7b), on average more than a quarter (27.4 %) consumed five or more drinks of alcohol on any given day, with the highest proportion (33.8 %) in the 35-44 age category, followed by the 45-54 age group with 25.3%.

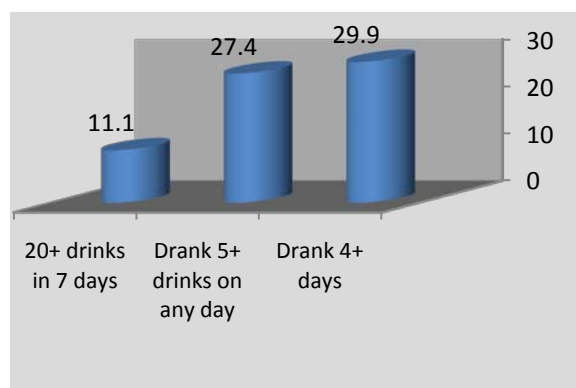


Figure 7b. Frequency and Quantity of Alcoholic Drinks Consumed by Men (in last 7 days)

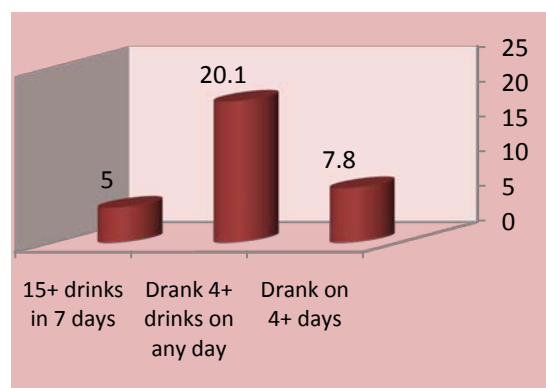


Figure 7c. Frequency and Quantity of Alcoholic Drinks Consumed by Women (in last 7 days)

Of the women who drank alcohol in the last seven days, on average just over one-fifth (20.1%) consumed four or more drinks on any given day(Fig.7c), with the highest prevalence (25.5%) in the 25-34 age category, followed by the 45-54 age group with 22.2% .

The findings further revealed that on average, 27.4 % of men had taken alcoholic drinks on 5 or more days in the previous week and 7.8% women had alcoholic drinks on 4 or more days in the same period (Fig.7d).

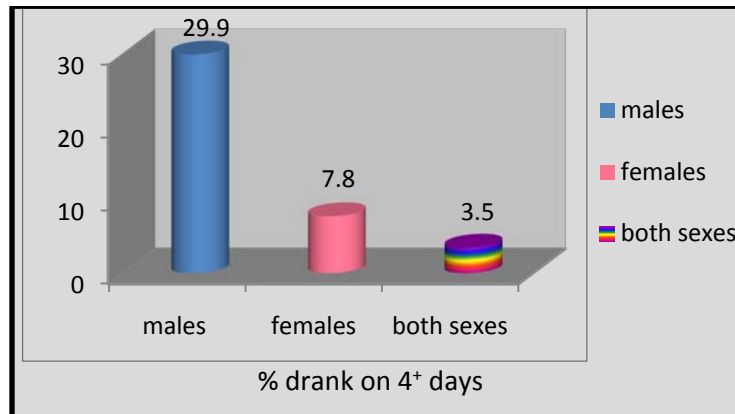


Figure 7d. Prevalence of Heavy Drinking

### 3.3 Fruit & Vegetable Consumption

In a typical week the mean number of days that fruit was consumed was 3.7 (Fig. 8a), although on an average day, respondents consumed less than one (1) serving of fruit. The mean number of days per week that vegetables were consumed was 4.1 (Fig. 8b). Similarly the average daily consumption of vegetables was low (<1 serving). Findings did not vary by gender or age group with respect to consumption of fruits or vegetables.

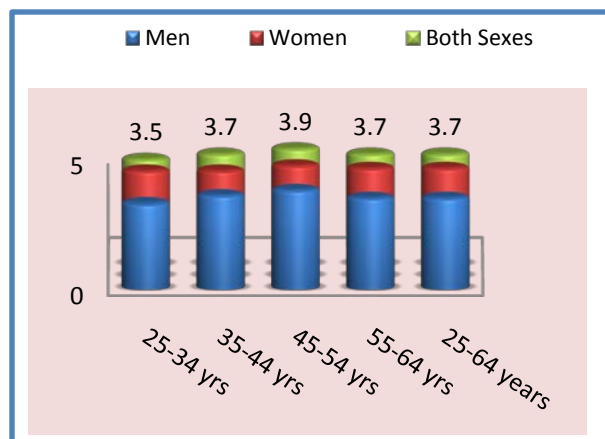


Figure 8a. Average Days Fruits Eaten /Week

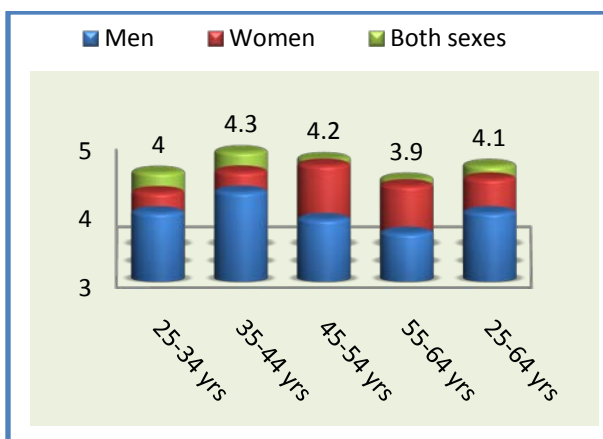


Figure 8b. Average Days Vegetables Eaten /Week

It was also noted that over a third (35.1%) of respondents ate no fruit and/or vegetables on an average day. Only 2.7% of persons consumed 5 servings of fruits / vegetables per day. The majority of respondents (53.4%) consumed 1-2 servings of fruit and /or vegetables on average per day (Fig.8c).

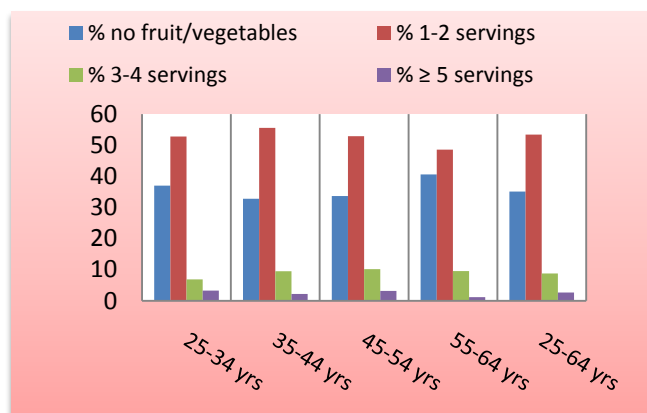


Figure 8c. No of Servings of Fruit and/or Vegetables/ day

#### 3.3.1 Eating outside the home

In a typical week, almost half (42.1%) of the respondents reported that they consumed 1-2 meals outside the home; while 20.4% ate 3-5 meals away from home. On average men had slightly more meals (2.0) than women (1.4) outside of the home in a typical week.

#### 3.3.2 Type of oil/fat most used for meal preparation

A high proportion of the respondents use fat in meal preparation; 70.0% used vegetable oil, 11.7% used saturated fats (lard, butter and margarine) and 12.0% used unnamed fats or oils. Only 6.4% used no fat.



### 3.4 Physical Activity

The survey measured physical activity in two ways. An estimate of the mean physical activity (PA) was calculated as MET (metabolic equivalent in minutes) - minutes per week and respondents physical activity was categorised as low, moderate and high. The domains investigated activity at work, in travel, sports, fitness and recreational/leisure.

Among respondents 38.3% engaged in low levels of PA while 25.5% and 36.2% engaged in moderate and high levels respectively (Fig 9a). Levels of total activity varied considerably by gender. A higher proportion of males (51.0%) engaged in 'high levels of physical activity'. Almost half of the females (48.5%) were sedentary and engaged in low levels of physical activity. As many as 72.2% of the respondents (55.7% males and 89.0% females), were not engaging in vigorous physical activity (described as burning 8 time more calories than it would take to sit quietly).

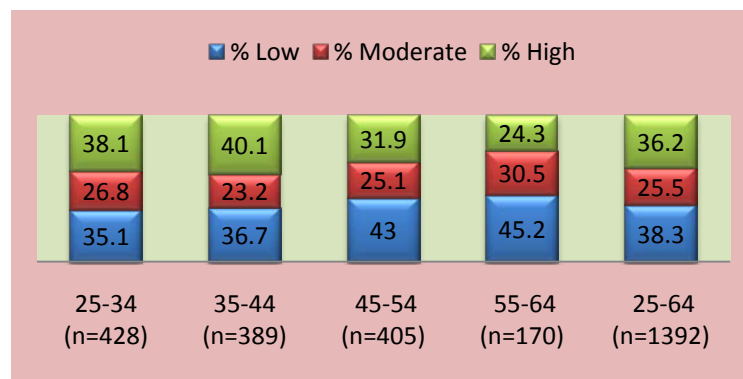


Figure 9a – Percentage Engaged in Physical Activity (both sexes)

The median minutes of total physical activity on average per day was 51.4 minutes (Fig.9b). There was marked variation with gender. Females spent only 30 minutes on an average day while men spent 107.1 minutes (1hr 8 mins).

The majority of total physical activity was attributable to work (43%) while 33.4% was spent in transport and just under a quarter (23.6%) was spent in leisure time.

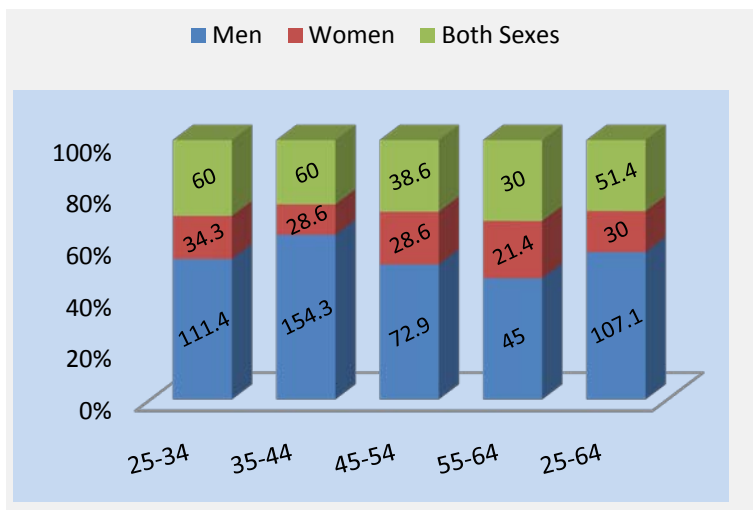


Figure 9b – Average Time Spent in Physical Activity (both sexes)

## 3.5 Blood Pressure, Diabetes and Cholesterol History

### 3.5.1 Blood Pressure: Diagnosis and Treatment

The proportion of persons who reported having ever being diagnosed by a doctor or health worker with hypertension was 19.5%. The occurrence of diagnosed hypertension was found to increase almost linearly with age in both men and women, from 7.4% men and 10.4% women in the age group 25-34 years, to 37.5% males and 53.4% women in the age group 55-64 years, respectively. On average, 14.8% of the men and 24.3% of women reported having already been diagnosed as having hypertension (Figure 10a).

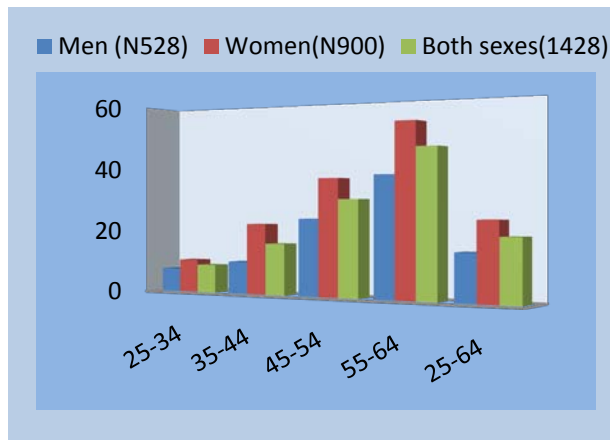


Figure 10a – Proportion of BP Ever Diagnosed

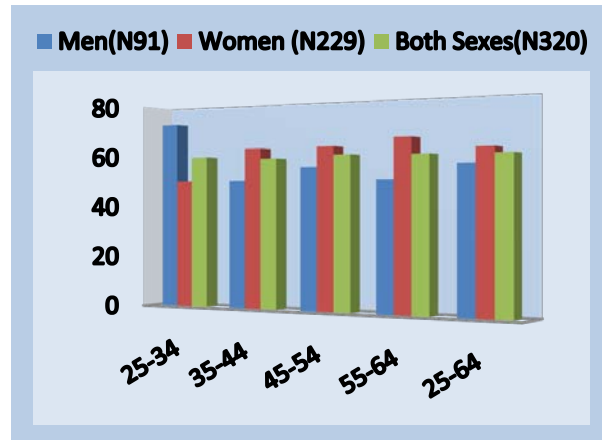


Figure 10b- Proportion of Raised BP Diagnosed (last 12 months)

Of the men and women who were diagnosed as ever being hypertensive, 55.6% and 61.3% were reported having been diagnosed the previous 12 months (Fig.10b).

Also, 51.1% of the men and 71.5% of women who were diagnosed as ever being hypertensive were currently taking antihypertensive medications. Interestingly, in women, use of medication was higher in the older age group 55-64 years compared to the younger age group of 35-44 years with rates of 96.5% compared to 65.1%, respectively (Fig 11).

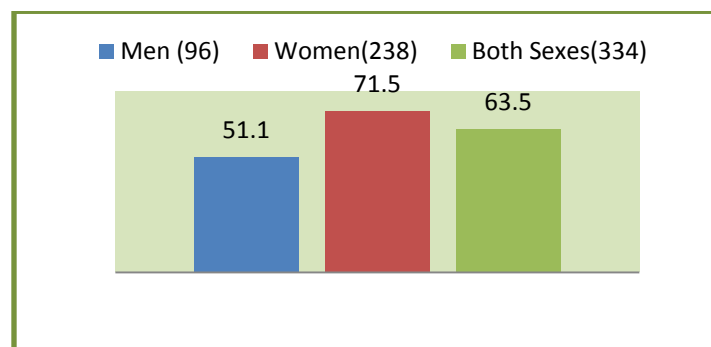


Figure 11- Proportion Currently Taking Prescribed BP Medication

### 3.5.2 Blood Pressure Advice by a Traditional Healer

With regards to seeing a traditional healer (one who attend to basic needs within their communities using plant and animal remedies) none of the men but 2.7% of women sought advice for their hypertension in the last 12 months. Of note, 4.4% of those who were diagnosed with hypertension were taking herbal remedies for their hypertension, more so in the older age group than in the younger age group.

### 3.5.3 Blood Pressure Lifestyle Advice

More than half of the respondents were advised by a doctor or health worker to have special diet (62.9%), to lose weight (58.1%) or to start or do more exercise (56.8%) to treat raised blood pressure (Table 3). Few respondents (5.2%) were advised to stop smoking. Of note, these lifestyle advices were not biased to a particular age group or gender.

Age Group (Years)	n	Advised to have special diet %	Advised to start or do more exercise %	Advised to lose weight %	Advised to stop smoking %
25-34	37	54.2	58.4	54.2	0.0
35-44	78	55.9	54.0	62.4	4.2
45-54	130	65.3	57.4	54.5	5.0
55-64	82	75.0	58.9	59.6	9.9
25-64	327	62.9	56.8	58.1	5.2

Table 3. Proportion that had Lifestyle Advice for BP

## 3.6 Diabetes History

### 3.6.1 Diabetes: Diagnosis and Treatment

The respondents who reported ever having been diagnosed with diabetes by a doctor or health worker was 7.6% (4.8% of the men and 10.4% of women). Reported diagnosis of diabetes was also found to increase with age in both men and women, from 1.4% and 3.9% in the age group 25-34 years, to 18.3% and 29.8% in the age group 55-64 years, respectively (Fig.12).

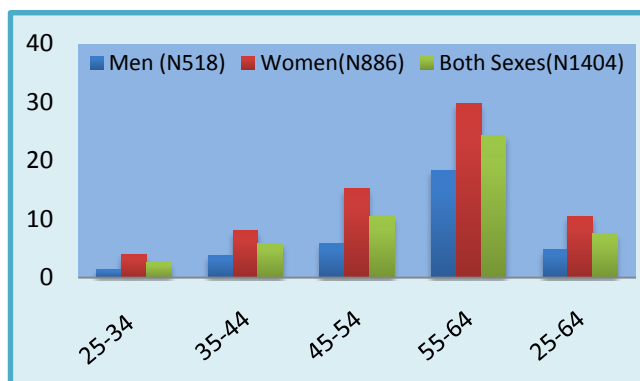


Figure 12- Respondents Ever Diagnosed with Diabetes

Of those already diagnosed with diabetes, 58.3% of the respondents reported being diagnosed in the last 12 months, 29.1% indicated they were currently taking insulin prescribed by a doctor or health worker and 60.7% were taking oral drugs prescribed for diabetes. Close to one third (30.9%) of women were taking insulin prescribed by the doctor or health worker.

NB. The number of male respondents (96) was too small for accurate estimate of medication use.

### 3.6.2 Diabetes Lifestyle Advice

Of the women already diagnosed with diabetes, 100 reported having had lifestyle advice by a doctor or health worker for diabetes. A large proportion (80.2%) was prescribed a special diet, 3.7% were advised to stop smoking, 74% were advised to start or do more exercise and 62.8% were advised to lose weight (Fig.13). Nb. The number of men that responded to having lifestyle advice was too small for accurate estimates.

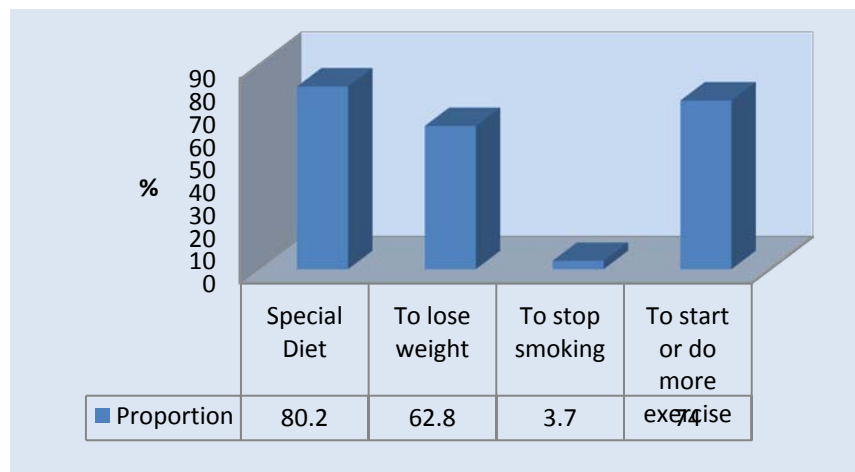


Figure 13 - Women Receiving Lifestyle Advice for Diabetes  
(from Health Worker or Doctor)

Of those already diagnosed with diabetes, 58.3% of the respondents were diagnosed in the last 12 months, 29.1% indicated they were currently taking insulin prescribed by a doctor or health worker and 60.7% were taking oral drugs prescribed for diabetes.

### 3.6.3 Traditional Healer

With regards to seeing a traditional healer, 2.6% sought advice for their diabetes. Of note, 11.9% of those who were diagnosed with diabetes were taking herbal remedies for their diabetes, irrespective of their age group.

## 3.7 Cholesterol

### 3.7.1 Cholesterol Diagnosis and Treatment

On average, 8.8% of the respondents reported having been diagnosed with raised cholesterol. Fewer men (6.5 %) than women (11.1%) were diagnosed as having raised cholesterol (Fig. 14a). The prevalence of reported raised cholesterol was found to increase with age in both men and women, from 1.4% and 3.9% in the age group 25-34 years, to 15.3% and 26.2% in the age group 55-64 years, respectively.

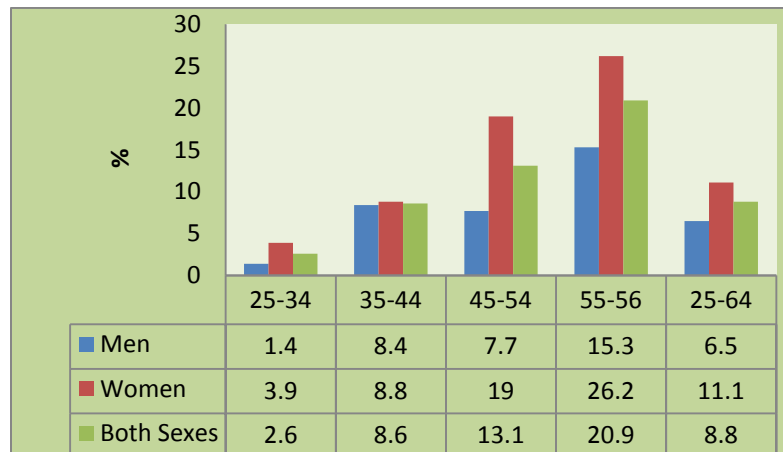


Figure 14a- Proportion Diagnosed as Having Raised Cholesterol

Of those who reported having been diagnosed with raised cholesterol, 42.4% indicated that they were diagnosed in the last 12 months and 16.4% of them were taking medication. A substantial proportion of the participants with raised cholesterol received advice (Fig 14b) from a doctor or health worker.

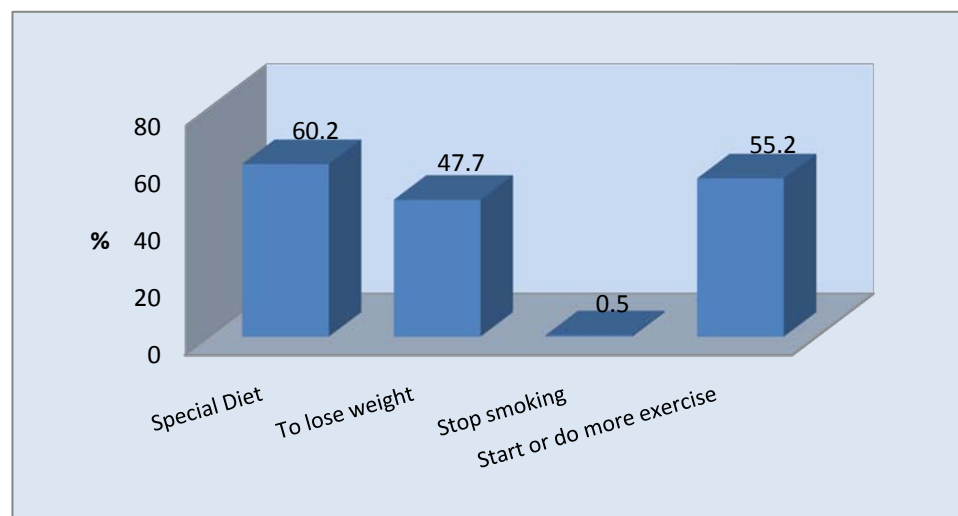


Figure 14b - Proportion Receiving Lifestyle Advice for Raised Cholesterol  
(from Health Worker or Doctor)

Of those who reported having been diagnosed with raised cholesterol, 0.8% sought advice from traditional healers and 2.3% had been taking herbal or traditional treatment. NB. The number of male respondents was too small (n<50) to estimate accurately their use of medications and lifestyle advice and disaggregate by gender.

### 3.8 Family History of Chronic Disease Conditions

The majority of respondents (Table 4) had a family history of diabetes or hypertension (66.9% and 72.0%, respectively). Almost a third of respondents had a family history of stroke (31.0%). Just over a quarter (29.6%) had a history of cancer while smaller proportions had a family history of raised cholesterol (21.7%) and early myocardial infarction (13.9%).

Gender	Age Group (Years)	n	% Diabetes or high blood sugar	% Raised blood pressure	% Stroke	% Cancer or Malignant Tumour	% Raised Cholesterol	% Early myocardial infarction
<b>Men</b>	25-34	150	60.0	72.0	27.3	26.2	16.0	4.7
	35-44	137	66.4	64	27.9	27.9	19.9	15.6
	45-54	171	56.1	65.5	28.2	18.8	18.5	17
	55-64	71	70.4	69.0	39.4	31	19.7	15.5
	<b>25-64</b>	<b>529</b>	<b>62.4</b>	<b>67.5</b>	<b>28.9</b>	<b>25.6</b>	<b>18.2</b>	<b>12.2</b>
<b>Women</b>	25-34	288	69.1	74.7	33.7	28.3	24	11.2
	35-44	255	72.2	75.5	28.9	36.1	26.3	14.7
	45-54	252	72.6	80.5	37.5	38.9	23.2	22.4
	55-64	104	74	79.6	42.3	31.7	30.1	20.2
	<b>25-64</b>	<b>899</b>	<b>71.4</b>	<b>76.6</b>	<b>33.4</b>	<b>33.6</b>	<b>25.3</b>	<b>15.6</b>
<b>Both Sexes</b>	25-34	438	64.5	73.3	30.4	27.2	20	7.9
	35-44	392	69.3	69.7	27.9	32.0	23.1	15.1
	45-54	175	64.1	72.7	32.6	28.5	20.8	19.6
	55-64	176	72.3	74.5	40.9	31.4	25.1	17.9
	<b>25-64</b>	<b>1436</b>	<b>66.9</b>	<b>72.0</b>	<b>31.0</b>	<b>29.6</b>	<b>21.7</b>	<b>13.9</b>

Table 4. Family History of Chronic Disease Conditions

### 3.9 Cancer Knowledge and Screening

#### 3.9.1 Breast Cancer

The survey also provided for optional items investigating women's health, as well as history of screening for prostate and colon cancers. A high proportion of women had previously heard of breast cancer(99.4%), and 8.5% were shown how to examine their breasts ( Fig. 15a)

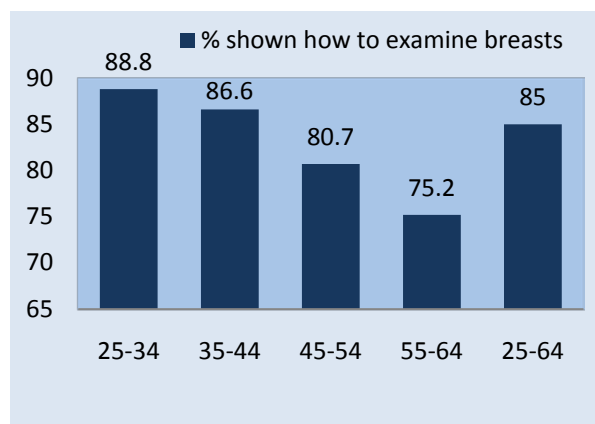


Figure 15a - Proportion Shown How to Examine Breasts

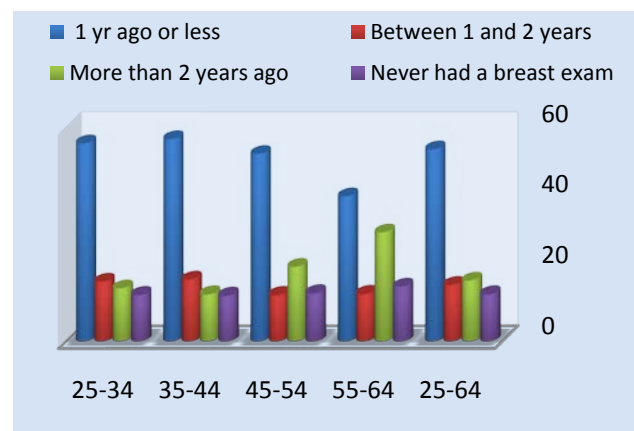


Figure 15b – Last Time Breasts Examined

In response to the timing of the last breast examination, most women (53.9%) had 1 year ago but a considerable proportion indicated never having had one (13.2%) Fig. 15b).

The survey further assessed the last time women had a mammogram and the proportion that had a mammogram done because of irregularity seen on film of previous testing or examination. Among women (25-64years old) 81.3% had never had a mammogram (Fig. 16).

Of those that had mammogram, 32.9% had their last mammogram done because of irregularity in previous mammogram.

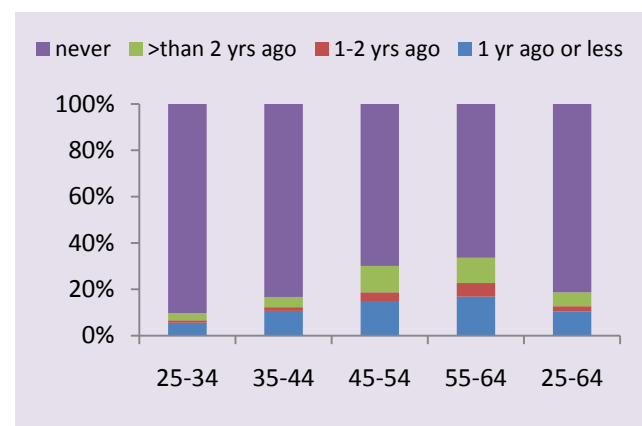


Figure 16- Timing of Last Mammogram by Age

#### 3.9.2 Cervical Cancer

The survey also investigated the proportion of women that had heard about cervical cancer and the date of their last pap smear. Of the 892 respondents, 96.1% (93.7-98.4) had previously heard of this type of cancer.

Almost half (49.7%) had taken a pap smear within the last year but about 11% had never had a pap smear and 20.6% more than 2 years ago. Figure 17 represents the proportion of women and timing of the last Pap smear.

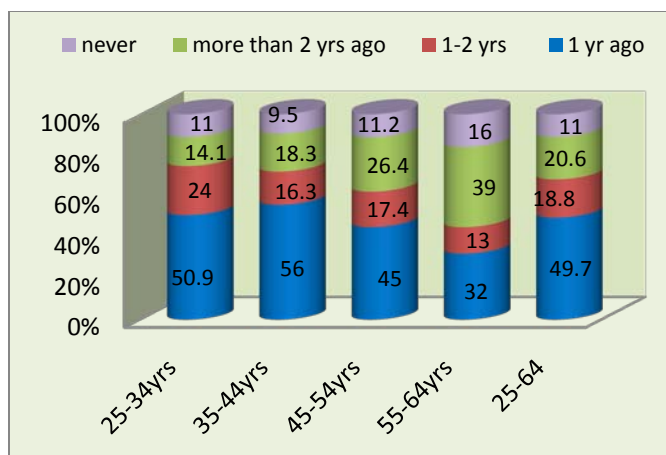


Figure 17 - Timing of Last Pap Smear by Age

### 3.9.2 Prostate Cancer Screening

All male respondents were asked about having a medical examination of the rectum. Of a total of 506 males, 15.8% indicated they had a rectal exam; most men were in the 55-64 years age group (37.5%) followed by males in the 45-54 years old age group (27.1%).

### 3.9.3 Colon Cancer Screening

Among the respondents surveyed, 17.5% had faeces checked for hidden blood. Slightly more males (18.3%) than females (16.6%) had this kind of examination with the highest proportion (30.6%) being the 55—64 years old males.

Of all the respondents, slightly more men had a colonoscopy examination than women but less than 5% of them had the test (Fig. 18).

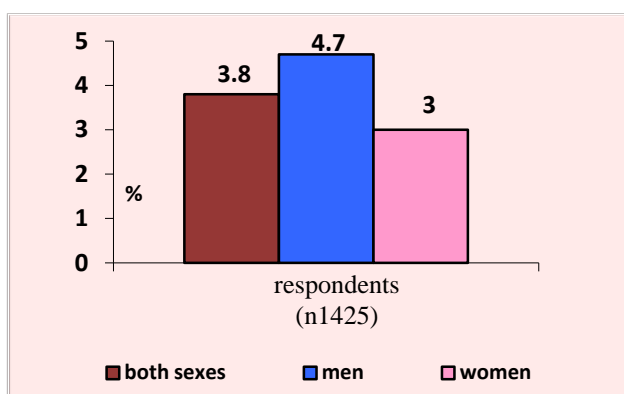


Figure 18 – Proportion that had Colonoscopy



## 4.0 NCD RISK FACTORS (STEP2 -Physical Measurements)

### 4.1 Height, Weight and BMI

Men were on average taller than women with a mean height of 170.3 cm and 161.6 cm, respectively. The men and women had a mean BMI of 29.2 kg/m<sup>2</sup> and 31.2 kg/m<sup>2</sup>, respectively (Fig. 19a). However, the mean weight for both men and women was not obviously different, at 84.5 kg and 83.0 kg, respectively (Fig 19b).

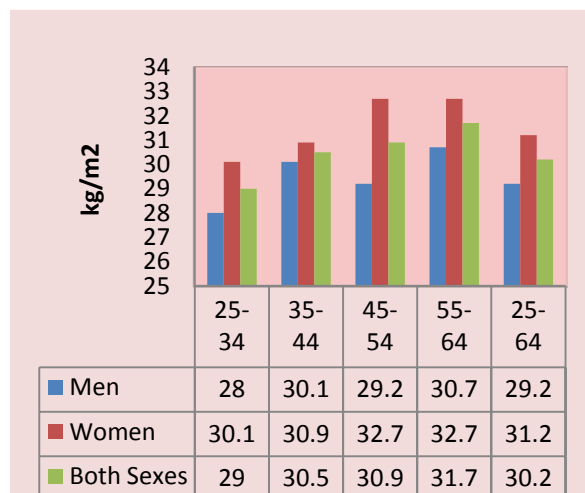


Figure 19a: Average BMI of Respondents

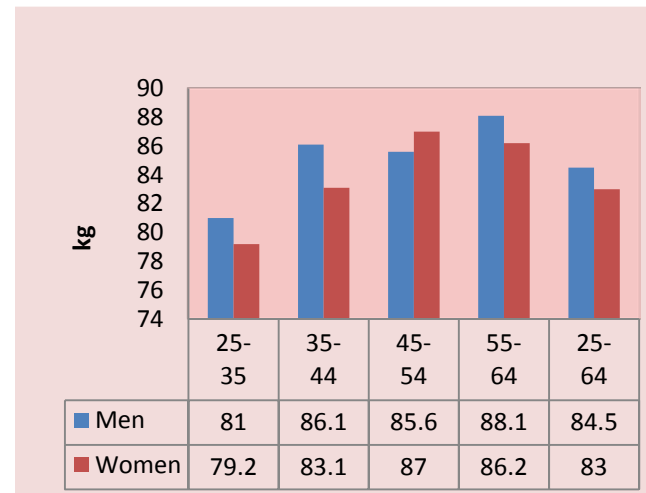


Figure19b: Average Weight of Respondents(kg)

### 4.2 BMI Categories

When both sexes and all ages are combined, we find that 33.5% were overweight, and 45% were obese, or if we add these values together, 78.5% of the population is above the normal BMI 25 (Fig.20). Only 0.9% of men and 1.0% of women were underweight and 24.9% of men and 16.0% of women were of normal weight.

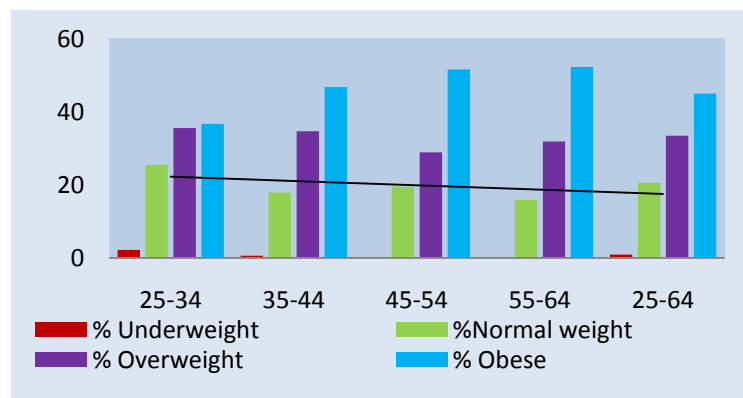


Figure 20- BMI Classification of Respondents

However, 36.2% of men and 30.6% of women were overweight, while 37.9% of men (Fig.21a) and 52.5% of women were obese (Fig. 21b). Interestingly, 74.1% of men, and 83% of women were at least overweight.

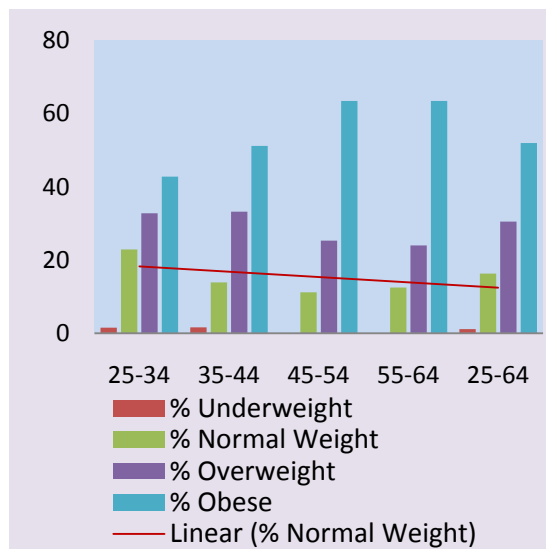


Figure 21a- BMI Status of Men

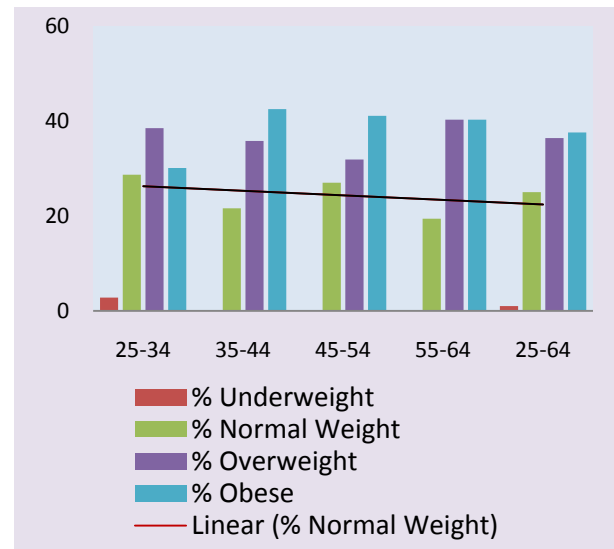


Figure 21b- BMI Status of Women

Of note, there is not much difference in the age group 25-34, but after age 55 more than 80% of the men were at least overweight.

## 4.3 Waist Circumference and Waist/Hip Ratio

### 4.3.1 Mean Waist Circumference

Waist circumference is a measure of central obesity, which is the type of obesity that predisposes to the chronic non-communicable diseases. A waist circumference that is greater than 94cm (37inches) in males and 80cm (31.5 inches) in females defines central obesity. As shown below (Fig. 22a), the mean waist circumference in men was 94.0 cm, which is below 94 cm, whereas for women it was 95.1 cm, which is above of 80cm. Also, note that the mean waist circumference for women was already 91.2 cm in the 25-34 age groups, and this increased to 99.9 cm in the 55-64 age groups.

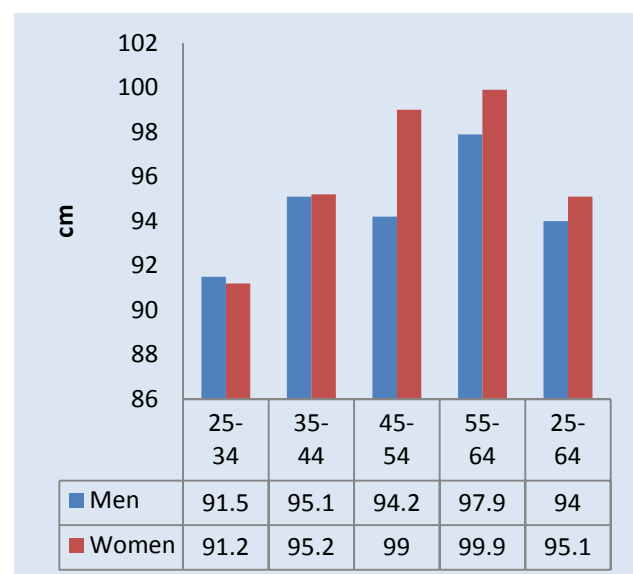


Fig 22a Waist Circumference (cm) of Adults

### 4.3.2 Mean Hip Circumference

Another measure of central obesity is the waist/hip ratio. In men, one is said to be obese if it is above 1 and in women if it is above 0.8cm. To calculate this ratio, the hip circumference was measured and the mean was found to be 107.6 cm in men and 111.6 cm in women (Fig. 22b).

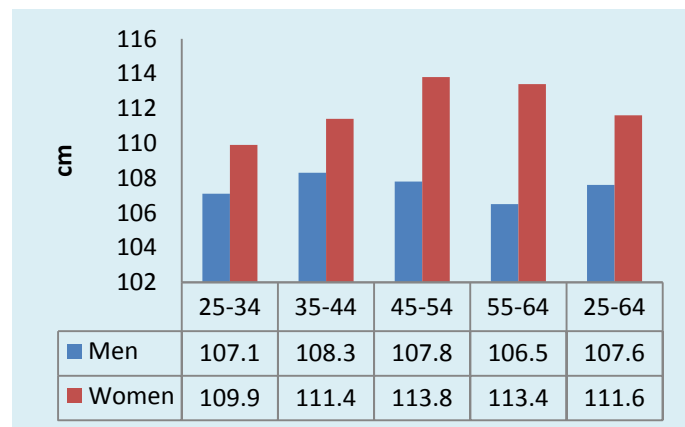


Figure - 22b Hip Circumference (cm) of Adults

### 4.3.3 Mean Waist/Hip Ratio

On average the waist /hip ratio for males was below the 1. There was no variation in mean waist/hip ratio (0.9) among men with age differences. The mean waist/hip ratio for women increased with age from 0.8cm in the 25-34 age groups to 0.9 in the older age groups, with a mean in women of 0.9, just above the 0.8 cut-off definition for central obesity.

### 4.4 Blood Pressure Check

Blood pressure is the force that the blood exerts on your arteries as it flow through the body. The systolic blood pressure (top number)is the measurement of the pressure exerted on the arteries when the heart beats. An ideal systolic blood pressure is less than 120. The diastolic blood pressure (bottom number) is the measurement of the pressure exerted by the blood on the arteries when the heart is at rest. An acceptable diastolic blood pressure is equal to or less than 80.

#### 4.4.1 Mean Systolic Blood Pressure

The mean systolic blood pressure (SBP) increased with age from 127.5 mmHg in men and 119.1 mmHg in women in the 25-34 age group, to a 140.7 mmHg in men and 137.8 mmHg in women, with a mean SBP of 132.4 mmHg in men and 123.5 mmHg in women (Figure 23a).

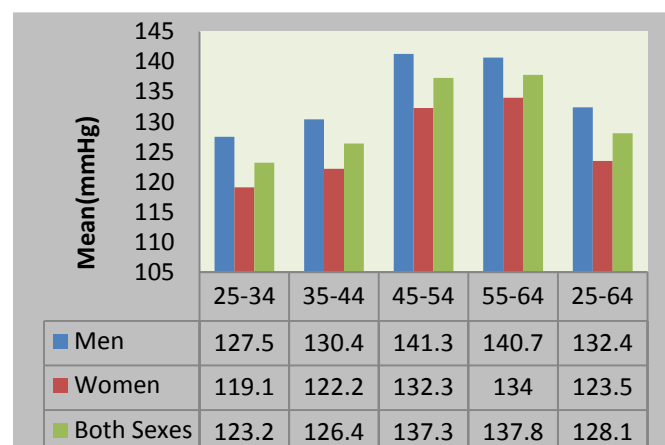


Figure 23a - Mean Systolic Blood Pressure of adults

#### 4.4.2 Mean Diastolic Blood Pressure (DBP)

The mean diastolic blood pressure (DBP) increased with age from 74.6 mmHg in men and 73.7 mmHg in women in the 25-34 age group, to a 85.1 mmHg in men and 83.8 mmHg in women in the 45 to 54 age group, with a mean DBP of 78.9 mmHg in men and 76.7 mmHg in women (Figure 23b).

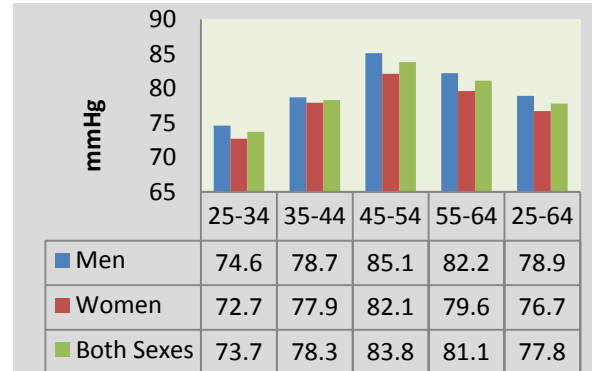


Figure 23b - Mean Diastolic Blood Pressure of adults

#### 4.5 Respondents with Raised Blood Pressure

##### 4.5.1 Currently on Medication for blood pressure

Medication use for raised blood pressure increased with age from 1.6% in men and 1.9% in women in the 24-34 years age group, to 24.6% to 47.8% in the 55-64 year age group, with an average use of 7.5% in men, and 15.3% in women (Figure 24).

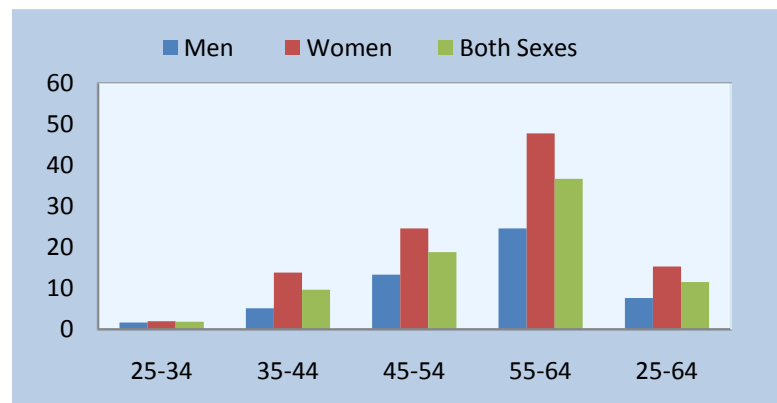


Figure 24- Proportion Currently on Medication for Raised Blood Pressure

##### 4.5.2 Stage 1 High blood pressure (SBP $\geq 140$ and /or DBP $\geq 90$ ), excluding those currently on medication

Among the respondents with raised blood pressure but **not** taking antihypertensive medications, 26.5% had **Stage 1 high blood pressure** or reading of **SBP  $\geq 140$  and/or DBP  $\geq 90$  mmHg** (Fig 25a). A smaller proportion, 7.8% had **Stage 2 high blood pressure** or a reading of **SBP  $\geq 160$  and/or DBP  $\geq 100$** .

Of the same respondents, 33.2% of men and 19.6% of women had a **Stage 1 high blood pressure** (Fig. 25a); while 8.6% of men and 7.0% of women had **Stage 2 hypertension**.

When those who were taking antihypertensive medications were included, 38.2% of men and 31.9% of women had a Stage 1 high blood pressure (**SBP  $\geq$  140 and /or DBP  $\geq$ 90mmHg**) or currently on medication for raised blood pressure (Fig.25b).

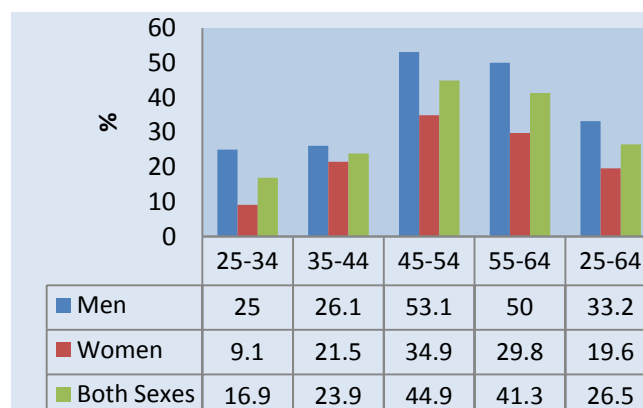


Figure 25a - Stage 1 Hypertension but not Taking Medication

Of those with raised blood pressure and currently on medications 15.5% of men and 21.2% of women had **Stage 2 hypertension**.

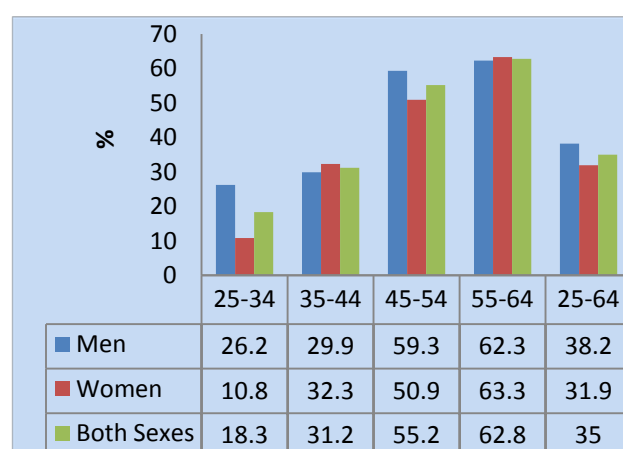


Figure 25b - Stage 1 Hypertension and Currently Taking Medications

#### 4.5.3 Stage 1 High Blood Pressure or Currently Taking Medications and Stroke in Family

It is interesting to note, that 69.9% of men, and 87.3% of women who had hypertension also had a family member who had a stroke, one of the well recognized complications of hypertension itself (Figure 26).

Also, 25.7% of men and 37.7% of women who had **SBP $\geq$ 140 and/or DBP  $\geq$ 90 mmHg** or currently on medication for raised blood pressure had a family member who had high blood pressure.

On average 78% of the respondents had a family member who had a stroke and 31.3% had family members who had high blood pressure.

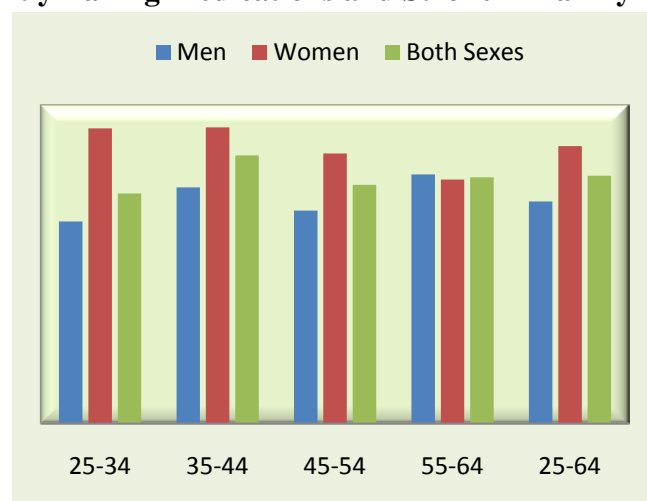


Figure 26 - Family Member had Stroke

#### 4.5.4 Stage 2 High Blood Pressure or Currently

##### Taking Medications and Family Member had stroke

Of those respondents with SBP $\geq$ 160 and/or DBP $\geq$ 100 mmHg or currently on medication for raised blood pressure hypertension, 80.2% had a family member who had a stroke and 36.6% had had high blood pressure.

It was further noted, that 67.2% of those men, and 89.4% of women also had a family member who had a stroke.

Also, 31.8% of men and 40% of men who had SBP $\geq$ 160 and/or DBP $\geq$ 100 mmHg or currently on medication for raised blood pressure had a family member who had high blood pressure (Figure 27).

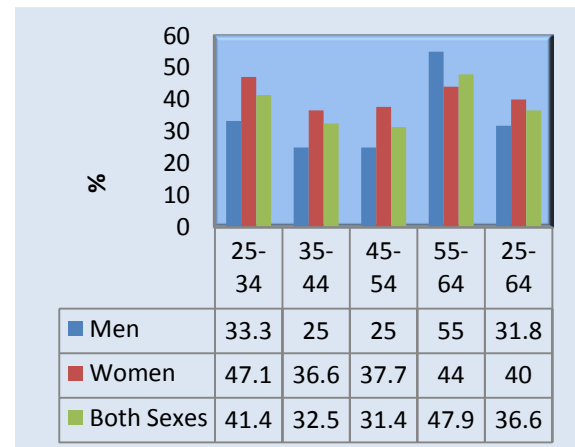


Figure 27- Family member had High Blood Pressure

##### Heart Rate

On average the heart rate for the population was 76.5 beats per minute. The mean heart rate per minute for men and women was 74.9 and 77.8, respectively. A few of the respondents, 2.3% of men and 1.5% of women had heart rate over 100 beats / min.

## 4.6 Raised Risk

### 4.6.1 Combing lifestyle risk factors with available physical measurements

The survey also provided the percentage of respondents with 0, 1-2 or 3-5 of the factors that placed them at increased risk for chronic diseases. In general, a negligible proportion of the respondents had low risk factor for chronic diseases. About half of them (25 to 64 years) were at increased risk for NCDs with three or more of the key risk factors (Figure 28).

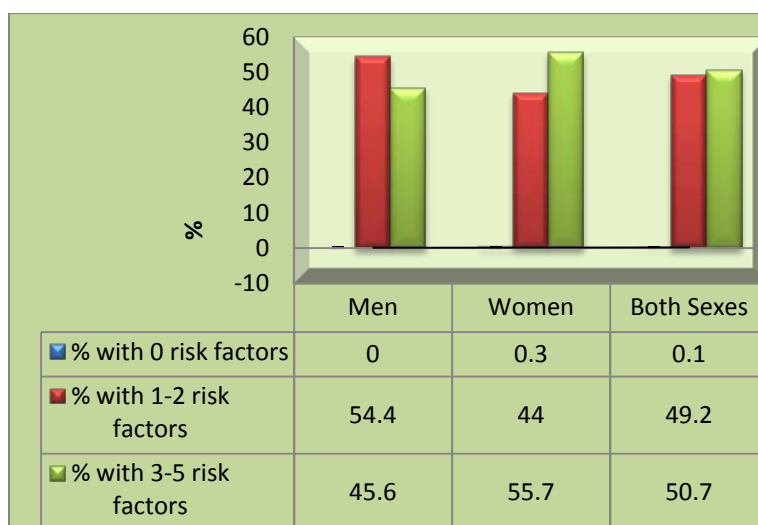


Figure 28 - Proportion with Combined Risk Factors

In the younger age group 25-44 years, none of the men and 0.3% of women had 0 risk factors. 63.0% of men and 49.9% of women had 1-2 risk factors, and 37.0% of men and 49.7% of women had 3-5 risk factors.

In the older age group 45-64 years, none of the men and 0.3% of women had 0 risk factors. As expected, more risk factors were common in the older age group; 34.8% men and 30.4% of women had 1-2 risk factors, and 65.2% of the men and 69.6% of women had 3-5 risk factors.

## **5.0 DISCUSSION of FINDINGS**

The findings of the survey, present the prevalence of chronic non-communicable diseases and their risk factors among the 25-64 years old age in St Kitts only. It is reflective of respondents, representing the 9 parishes and includes males and females. An eligible adult respondent was randomly selected from each household. Data was collected through face-to-face interviews after each respondent signed a consent form.

The survey provided current evidence that chronic non communicable diseases and related risk factors are critical threats to the health and wellbeing of the people of St. Kitts. The data highlight behaviours that need to be targeted in prevention programmes in order to achieve long term health improvements and provides a baseline against which these initiatives can be evaluated.

### **Tobacco Smoking**

While smoking is not a major public health threat given that the majority (91.3%) do not smoke, but there is still a substantial (16.2%) proportion of males who currently smoke tobacco products. It is noteworthy that initiation of smoking occurs in the late teens and the most common tobacco product used is the manufactured cigarette. These findings suggest that strategies to lower the rates of smoking initiation during late adolescence and to reduce demand for manufactured cigarettes (e.g. advertising restrictions, increased excise taxes) are important to consider. Smoking cessation programmes are also needed to assist persons who want to change their behaviour.

### **Alcohol Consumption**

The patterns of alcohol consumption varied by gender. It is noteworthy that the proportion of abstainers was higher among women (73.4%) than men (45.8%). The data also showed that men were more likely than women to have been drinkers in the past 30 days (44.7% and 14.5% respectively) although the percentage of women who had consumed alcohol in the past 12 months was slightly higher than among men (12% and 9.6%). Among current drinkers (consumption of alcohol in the past 30 days), levels of harmful drinking (defined as 60g of alcohol per day for men and 40g for women) were high among both sexes (94% and 92.1% respectively) in contrast to hazardous drinking that occurred in 4% of males and 5.5% of females. These findings might be explained by the socio-cultural context in which drinking occurs. It is generally more socially acceptable for men to consume alcohol than it is for women. This concurs with the higher frequency of alcohol consumption among men with 13.4% (versus 3.3%) drinking daily, 28.7% (versus 7.7%) on 1 – 4 days per week and 23.2% (versus 60.8%) less than once per month.

Levels of harmful drinking are cause for concern and suggest that strong disincentives are needed to punish irresponsible behaviour such as driving under the influence of alcohol. The gender differences in alcohol consumption highlight the importance of understanding the mechanisms that socialize persons about drinking as well as the gender roles and identities that promote high risk drinking as a norm among males. Only then can targeted interventions be



devised that are sensitive to and effective in the current socio-cultural context. There is also a need for treatment programmes for persons that engage in problem drinking.

### **Fruit and Vegetable Intake**

The majority (97.3%) of the respondents in the study reported eating less than five servings of fruit and vegetables per day. The mean number of daily servings of fruit and or vegetable was 1.6 and 35.9% of persons ate no fruit or vegetables on an average day. Strategies to be considered to increase the supply of these foods should include local cultivation in home and community gardens as well as government subsidies to stimulate the local agricultural sector. This should be coupled with community education about the importance and benefits of consumption of adequate quantities of fruits and vegetables.

The fact that a considerable proportion (42.1%) of the respondents ate at least one meal outside the house presents an opportunity to increase fruit and vegetable consumption by targeting the proprietors of food handling establishments to incorporate fruits and vegetables in their menu choices. This would have to be tailored to the individual establishments and take into account the cost of implementing the menu changes, customer preferences, profiles and baseline consumption.

### **Physical Activity**

Gender and age were notable determinants of levels of physical activity. Men were more likely to report high physical activity (51.0%) than women (21.1%). Levels of total physical activity also seemed to decline with age with older persons reporting lower levels of physical activity in each of the three activity strata. Most of the physical activity was related to work and to a lesser extent to travelling from place to place. The lowest amount of physical activity was reported in the recreation domain and probably reflects the priority accorded to leisure as well as the opportunity to participate in organized community physical activity programmes. While a median of 107.1 minutes of total physical activity per day was reported for men, only 30 minutes was recorded for women. It is recommended that adults should accumulate 30 minutes or more of moderate physical activity over the course of most, preferably all days of the week. Of note is that a segment of the participants, especially women and older persons, were not achieving levels of physical activity that are beneficial to their health.

### **Overweight and Obesity Levels**

Data obtained from the physical measurements confirmed a high prevalence of risk factors and markers for chronic disease in the survey population. Consistent with the findings related to physical activity and nutrition, more than three quarters of the respondents (78.5%) were overweight or obese, with the prevalence increasing with age and being slightly higher in females. Waist to hip ratio (WHR) is a measure of central adiposity and is correlated with cardiovascular disease risk. In women a ratio of less than 0.80cm is desirable while in men less than 0.9cm is considered healthy. The mean WHR for women was 0.854 while it was 0.88 for men indicating an increased risk for mortality among women.

The study confirms that levels of overweight and obesity are at epidemic proportions that require urgent intervention. Urbanization, improvements in socioeconomic status, better affordability of modern transportation, adoption of eating habits similar to developed countries (e.g. increased consumption of fats and proteins) and moves towards a sedentary lifestyle all contribute to the increasing prevalence of obesity. Given the complexity of these factors, any attempt to shift the population's mean to lower levels must incorporate an integrated approach that empowers the individual through education about optimal dietary and physical activity habits but also creates the supportive environment through healthy public policies that increase access to healthy food choices and safe spaces for physical activity in a variety of settings.

There is also a cultural and gender dimension that fuels the epidemic among women. Persons of African descent appear to be more tolerant of obesity than other groups. Women who appear thinner even if their body mass index is within normal limits are perceived as not having a 'healthy weight' and being less socially desirable to their peers and male partners. This results in women who are overweight being more likely to be satisfied with their body image as well as acceptance and even preference for larger body sizes. This construct needs to be explored in further studies in order to devise successful interventions that address prevailing cultural norms that relate to body size.

### **Raised Blood Pressure /Hypertension**

The mean systolic and diastolic blood pressures in the study were 128.1 mmHg and 77.8 mmHg respectively. While this is within the normal range, it is noteworthy that the mean systolic blood pressure among males was 132.4 mmHg which can be considered 'high normal' (i.e. between 130 and 139 mmHg). This suggests that the population norm for this parameter needs to be optimized especially among males. These gender differences were also observed in the prevalence of hypertension. Males had a higher prevalence of both stage I and stage II hypertension (33.2% and 8.6% versus 19.6% and 7.0% respectively). Despite this observation, a higher percentage of women (15.3%) as compared to men (7.6%) reported receiving medication for the treatment of their hypertension. This may partially be explained by client treatment preferences, client compliance and differential access to health care services fuelled by cultural norms that encourage poor health seeking behaviour by males.

Given the prevalence of hypertension, secondary prevention strategies should include interventions tailored to increase people's awareness of elevated blood pressure and to ensure that medications are taken correctly. However it is unlikely that a strategy aimed solely at increasing levels of awareness and compliance in treatment will bring about measurable changes in the blood pressure distribution. As a priority, a broader community prevention strategy might include encouraging the reduction of salt consumption as well as exploring policy levers that regulate the salt content of commonly consumed and locally produced foods (e.g. bread).

### **Combined Risk Factors**

Population risk was assessed in the study. A substantial proportion of the population was identified to be at risk with three to five risk factors. This finding was even more magnified among older persons (45 – 64 years) with just over two thirds (67.4%) having greater than three

risk factors. Not surprisingly, the gender disaggregated data showed a greater percentage of women with  $\geq 3$  factors. This raises cause for concern regarding the future non communicable disease distribution in the population. It also offers the opportunity to implement programmes to adjust the population distribution towards that of a healthier profile.

### **Cancer Knowledge and Screening**

The overwhelming majority of women surveyed had heard of breast cancer. Similarly the majority had also been shown how to examine their breasts. Despite this there was a relatively low uptake of screening services for breast cancer. The majority (66.3%) of older women (55 – 64 years) had never had a mammogram. This is cause for concern given that early diagnosis of breast cancer impacts positively on survival. While the survey did not explore women's knowledge of breast cancer, it is important to educate women about breast cancer and its risks as well as the benefits of mammography. An increased role also exists for general practitioners and other health professionals within a general health screening context to encourage women to access these services.

The majority (96%) of women interviewed had heard about cervical cancer. A sizeable proportion (10.9%) of women however had never been screened for cervical cancer. Of those who had been screened, the majority (76.9%) had done so in the past two years. Older women (55–64 years) were over represented among those who had either been screened more than two years ago or had never been screened. These findings suggest that specific interventions need to be devised to promote uptake among older women who may still be at risk of cervical cancer while maintaining coverage among younger women. The needs assessment conducted in 2004–2005 identified a number of reasons for failure to screen for cervical cancer and include lack of knowledge, lack of time, forgotten appointments, fear of the procedure, fear of results and cost of the test. Any interventions must be informed by the available data and be sensitive to the cultural and social context.

Only 15.8% of men reported ever being screened for prostate cancer with a digital rectal examination (DRE). Age was a determinant in the uptake with older men accounting for just over a third (37.5%) of those who had been screened. The American Cancer Society recommends annual screening beginning at age 50 years. For those at higher risk such as persons with family history, screening should begin at younger ages. There is a need to inform men about this disease as well as the benefits and risk of screening. It may also be important to explore the psychosocial constructs that are relevant to initiation and maintenance of screening among eligible persons.

The uptake for both faecal occult blood testing (17.5%) and colonoscopy (3.8%) were low. This is a reflection of the opportunistic nature of screening and relatively poor acceptance of the screening methods especially in the latter case. There is a need to develop a systematic national cancer screening programme and educate the public about rationale and recommendations for screening for various cancers.

## **6.0 IMPLICATIONS AND RECOMMENDATIONS**

The survey data indicate that non-communicable diseases (NCDs) as well as their risk factors are common in St Kitts. It is also clear that NCDs such as diabetes, cardiovascular diseases and cancer are already leading morbidity and mortality statistics of St Kitts. However the high level of risk factors observed in the survey can only result in more disability and reduced quality of life if preventive measures are not effective. The findings also provides an opportunity for a “risk approach” to NCD surveillance and control with a shift in emphasis from individual to community health.

Overall, more than 90% of the respondents were found to have one or more of the major risk factors for NCDs. The presence of overweight or obese is prominent, many individuals did not include sufficient quantities of fruit and vegetables in the diet and have low levels of physical activity. There are persons who smoke or are exposed to tobacco smoke mostly at home and workplaces and close to one third of the study population drank alcohol regularly. Of great concern is that 43.4% of the people under 45 years old have at least three of the risk factors; an indication of the high prevalence of the major risk factors among the productive age group and a forecast of the disease burden if left unchecked.

It is imperative that high priority is given to the review of systems and execution of actions necessary for the ongoing surveillance, prevention and wellness promotion and control of non-communicable diseases. Specific recommendations are:

### **Surveillance**

- Disseminate and utilize findings of survey to inform NCD planning and actions
- Set up a community-based risk factor surveillance system
- Set up a morbidity and mortality data collection and analysis system
- Include step 3 of the STEPS survey (biochemical measures) in future surveys to determine the prevalence of diabetes and dyslipidemias in the country for a more complete picture.
- Conduct further analyses of the data, such as exploring correlations between education/literacy status and other results or employment status and fruit consumption or alcohol consumption.

### **Prevention and wellness promotion**

- Design a national media plan to inform the public about NCDs and their risk factors
- Bring awareness to the health risks associated with smoking and benefits of smoke cessation
- Employ an integrated approach ‘risk management’ for tackling hypertension, diabetes and cardiovascular diseases
- Strengthen and support programs preventing youths from engaging in substance use and abuse, including alcohol.

- Initiate strategies that encourage healthy eating across all age groups by promoting the availability and consumption of more fruits and vegetables.
- Create a supportive environment that promote weight reduction and promote physical activity especially during transportation and leisure.

### **Control**

- Adopt/adapt guidelines and algorithms for the management of specific major NCDs.
- Provide basic equipment to the different health facilities depending on the technical level
- Ensure that the health system adequately monitors compliance with national standards for the management of hypertension, performs monitoring and treatment of hypertension, diabetes and cardiovascular disease.
- Explore policy measures for decreasing consumption of salt and fatty foods.

## GLOSSARY OF TERMS USED AND REFERENCES

1. WHO – World Health Organization
2. STEPS – the WHO STEPwise approach to surveillance
3. Non-communicable diseases (NCDs)– diseases or conditions that are not infectious
4. Chronic diseases - diseases that are long-lasting or recurrent
5. BMI – Body mass index
6. SBP – Systolic blood pressure
7. DBP – diastolic blood pressure
8. CHD – coronary heart disease
9. CVD – cardiovascular disease

### References

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# APPENDICES

## Appendix A

### The STEPwise Approach Chronic Disease Risk Factor Survey



St Kitts and Nevis

2007







# STEPS Instrument

For Chronic Disease  
Risk Factor Surveillance

St. Kitts and Nevis  
2007

## Survey Information

Location and Date		Response	Code
1	District code	<input type="text"/>	I1
2	Center/Village name	<input type="text"/>	I2
3	Center/Village code	<input type="text"/>	I3
4	Interviewer Identification	<input type="text"/>	I4
5	Date of completion of the instrument	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> dd mm year	I5

Consent, Interview Language and Name		Response	Code
6	Consent has been read out to participant.	Yes 1	I6
		No 2 If NO, read Consent	
7	Consent has been obtained (verbal or written)	Yes 1	I7
		No 2 If NO, END	
8	Interview Language	English 1	I8
		Spanish 2	
		[Add others] 3	
		[Add others] 4	
9	Time of interview (24 hour clock)	<input type="text"/> : <input type="text"/> hours minutes	I9
10	Last name	<input type="text"/>	I10
11	First name	<input type="text"/>	I11
Additional Information that may be helpful			
12	Contact phone number where possible	<input type="text"/>	I12
13	Specify whose phone	Work 1	I13
		Home 2	
		Neighbour 3	
		Other 4	
14	Address	<input type="text"/>	I14

The information in I6 to I14 should be kept separate from the document, since it contains confidential information.

## Step 1 Demographic information

CORE: Demographic <i>information</i>			
Question		Response	Code
15	Sex ((Record Male/Female as observed))	Male 1 Female 2	C1
16	What is your date of birth?  Do not know 77 777 7777	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> If known, go to C4 Day Month Year	C2
17	How old are you?	Years <input type="text"/> <input type="text"/>	C3
18	In total, how many years have you spent at school or in full-time study (excluding pre-school)?	Years <input type="text"/> <input type="text"/>	C4
EXPANDED: Demographic Information		Response	Code
19	What is your ethnic/racial background?	Black/African 1 Spanish 2 Asian 3 White 4 Refused 8	C5
20	What is your marital status?	Single 1 Married 2  Living together 3 Widow/Widower 4  Separated / Divorced 5	C5a
21	What is the highest level of education you have completed?	No formal education 1 Primary school incomplete 2 Primary school completed 3 Secondary school completed 4  High school completed 5  College/university completed 6 Post graduate degree 7 Refused 8	C6
22	Can you read and write?	Yes 1 No 2	C6a
23	Which of the following best describes your <u>main</u> work status over the last 12 months?  (USE SHOWCARD)	Government employee 1 Non-government employee 2 Self-employed 3 Non paid 4 Student 5 Home maker 6 Retired 7 Unemployed (able to work) 8 Unemployed (unable to work) 9  Refused 88	C7
24	How many people older than 18 years, including yourself, live in your household?	Number of people <input type="text"/> <input type="text"/>	C8

25	Taking <b>the past year</b> , can you tell me what the average earnings of the household have been?  (RECORD ONLY ONE, NOT ALL 3)	Per week <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> <i>Go to T1</i>									C9a
		Per month <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> <i>Go to T1</i>									C9b
Per year <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> <i>Go to T1</i>									C9c		
Refused 8	C9d										
26	If you don't know the amount, can you give an <b>estimate</b> of the annual household income if I read some options to you? Is it (READ OPTIONS)	$\leq \$12,000$ 1	C10								
		More than \$12, 000 $\leq$ \$18,000 2									
		More than \$18,00 $\leq$ \$24,000 3									
		More than \$24,000 $\leq$ \$30,000 4									
		More than \$30,000 5									
		Do not know 7									
Refused 8											

## Step 1 Behavioral measurements

### CORE: Tobacco use

Now I am going to ask you some questions about various health behaviours. This includes things like smoking, drinking alcohol, eating fruits and vegetables and physical activity. Let's start with tobacco.

Question	Response	Code
27 Do you currently smoke any <b>tobacco products</b> , such as cigarettes, cigars or pipes?	Yes 1 No 2 <i>If No, go to T6</i>	T1
28 <u>If Yes,</u> Do you currently smoke tobacco products daily?	Yes 1 No 2 <i>If No, go to T6</i>	T2
29 How old were you when you <b>first started</b> smoking daily?	Age (years) <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span> <i>If known, go to T5a</i> Don't remember 777	T3
30 Do you remember how long ago it was?  (RECORD ONLY 1, NOT ALL 3)  Don't remember 777	In Years <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span> <i>If known go to T5a</i>	T4a
	Or in months <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span> <i>If known go to T5a</i>	T4b
	Or in weeks <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span>	T4c
31 On average, <b>how many</b> of the following do you smoke each day?  (RECORD FOR EACH TYPE)  Don't remember 777	Manufactured cigarettes <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span>	T5a
	Hand-rolled cigarettes <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span>	T5b
	Pipes full of tobacco <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span>	T5c
	Cigars, cheroots, cigarillos <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span>	T5d
	Other <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span> <i>If other go to T5</i>	T5e
	Other (please specify): <span style="border-bottom: 1px solid black; display: inline-block; width: 100px;"></span>	T5other

### EXPANDED: Tobacco use

Question	Response	Code
32 In the past, did you ever smoke daily?	yes 1 No 2 <i>If No, go to T9</i>	T6
33 <u>If Yes,</u> How old were you when stopped smoking daily?	Age (years) <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span> <i>If known go to T9</i> Don't remember 777	T7
34 How <b>long ago</b> did you stop smoking daily?  (RECORD ONLY 1, NOT ALL 3)  Don't remember 777	Years ago <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span> <i>If known go to T9</i>	T8a
	Or Months ago <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span> <i>If known go to T9</i>	T8b
	Or Weeks before <span style="border-bottom: 1px solid black; display: inline-block; width: 50px;"></span>	T8c
35 Do you <b>currently use</b> any <b>smokeless tobacco</b> such as [snuff, chewing tobacco, betel]?	Yes 1 No 2 <i>If no, go to T12</i>	T9
36 <u>If Yes,</u> Do you <b>currently use</b> smokeless tobacco products daily?	Yes 1 No 2 <i>If no, go to T12</i>	T10

EXPANDED: Tobacco use, contd.										
37	On average, how many <b>times a day</b> do you use...  (RECORD FOR EACH TYPE)  Don't know 777	Snuff, by mouth	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td></tr></table>					T11a		
		Snuff, by nose	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td></tr></table>					T11b		
		Chewing tobacco	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td></tr></table>					T11c		
Betel, quid	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td></tr></table>					T11d				
Other	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td></tr></table> If yes, go to T11other					T11e				
Other (please specify)	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>									T11other
38	In the past, did you <b>ever use</b> smokeless tobacco such as [snuff, chewing tobacco, or betel] <b>daily</b> ?	Yes No	1 2	T12						
39	In the last 7 days, how many days did someone in the house smoke when you were present?	0 day 1 - 2 days 3 - 4 days 5 - 6 days 7 days	1 2 3 4 5	T13						
40	During the last 7 days, how many days did someone smoke in closed areas in your workplace (in the building, in a work area or a specific office) when you were present?	0 day 1 - 2 days 3 - 4 days 5 - 6 days 7 days You do not work in a closed area Don't know	1 2 3 4 5 6 7	T14						

**CORE: Alcohol consumption**

The next questions ask about the consumption of alcohol.

Questions	Response	Code
41 Have you consumed alcohol (such as beer, wine, spirits, fermented cider or stout within the <b>past 12 months</b> ? (USE SHOW CARDS OR SHOW EXAMPLES)	Yes 1 No 2 If No go to D1	A1
42 In the past 12 months, <b>how frequently</b> have you had at least one drink?  (READ RESPONSES or SHOW CARDS)	Daily 1 5-6 days per week 2 1-4 days per week 3 1-3 days per month 4 Less than once a month 5	A2
43 When you drink alcohol, <b>on average</b> , how many drinks do you have during one day? (READ RESPONSES SHOW CARDS)	Number <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span> Don't Know 77	A3
44 Have you consumed alcohol (such as beer, wine, spirits, fermented cider or [add other local examples] within the <b>past 30 days</b> ? (USE SHOW CARDS OR SHOW EXAMPLES)	Yes 1 No 2 If no go to A6	A4
45 During each of the <b>past 7 days</b> , how many standard drinks of any alcoholic drink did you have each day?  (RECORD FOR EACH DAY USE SHOWCARD)  If no drinks record 00. Don't know 77	Monday <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	A5a
	Tuesday <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	A5b
	Wednesday <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	A5c
	Thursday <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	A5d
	Friday <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	A5e
	Saturday <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	A5f
	Sunday <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	A5g
<b>EXPANDED: Alcohol consumption</b>		
Questions	Response	Code
46 In the past 12 months, what was the <b>largest number</b> of drinks you had on a single occasion, counting all types of standard drinks together?	Largest Number <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	A6
47 <b>For men only:</b> In the past 12 months, on how many days did you have five or more standard drinks in a single day?	Number of Days <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	A7
48 <b>For women only:</b> In the past 12 months, on how many days did you have four or more standard drinks in a single day?	Number of Days <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	A8
49 In the last 30 days, how many days on an average did you consume alcoholic beverages?	Days <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>  Don't remember/Not sure 77  Don't want to respond 99	A9

CORE: Diet			
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.			
Questions	Response		Code
50 In a typical week, on how many days do you <b>eat fruit</b> ? (USE SHOWCARD)	Number of days <input type="text"/> Do not know 77	<input type="text"/> If none go to D3	D1
51 How many <b>servings</b> of fruit do you eat on <b>one</b> of those days? (USE SHOWCARD)	Number of servings <input type="text"/> Do not know 77		D2
52 In a typical week, on how many days do you <b>eat vegetables</b> ? (USE SHOWCARD)	Number of days <input type="text"/> Do not know 77	<input type="text"/> If none go to D5	D3
53 How many <b>servings</b> of vegetables do you eat on one of those days? (USE SHOWCARD)	Number of servings <input type="text"/> Do not know 77		D4
EXPANDED: Diet			
54 What type of <b>oil or fat</b> is <b>most often</b> used for meal preparation in your household?  (USE SHOWCARD SELECT ONLY ONE)	Vegetable oil 1 Lard or suet 2 Butter 3 Margarine 4 Other 5 None in particular 6 None used 7 Do not know 77	<input type="text"/> If other, go to D5 other	D5
	Other <input type="text"/>		D5other
55 In a typical week how many meals do you eat outside the house?	Number <input type="text"/> Do not know 77		D6

**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. 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.

Questions	Response	Code
<b>Activity at work</b>		
56 Does your work involve vigorous-intensity activity that causes large increases in breathing or heart rate like <i>[carrying or lifting heavy loads, digging or construction work]</i> for at least 10 minutes continuously? <i>[INSERT EXAMPLES] (USE SHOWCARD)</i>	Yes 1  No 2 If No, go to P 4	P1
57 In a typical week, on how many days do you do vigorous-intensity activities as part of your work?	Number of days <input type="text"/>	P2
58 How much time do you spend doing vigorous-intensity activities at work on a typical day?	Hours : minutes <input type="text"/> : <input type="text"/> hrs mins	P3 (a-b)
59 Does your work involve moderate-intensity activity, that causes small increases in breathing or heart rate such as brisk walking <i>[or carrying light loads]</i> for at least 10 minutes continuously? <i>[INSERT EXAMPLES] (USE SHOWCARD)</i>	Yes 1  No 2 If No, go to P7	P4
60 In a typical week, on how many days do you do moderate-intensity activities as part of your work?	Number of days <input type="text"/>	P5
61 How much time do you spend doing moderate-intensity activities at work on a typical day?	Hours : minutes <input type="text"/> : <input type="text"/> 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]*

62 Do you walk or use a bicycle ( <i>pedal cycle</i> ) for at least 10 minutes continuously to get to and from places?	Yes 1  No 2 If No, go to P 10	P7
63 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 <input type="text"/>	P8
64 How much time do you spend walking or bicycling for travel on a typical day?	Hours : minutes <input type="text"/> : <input type="text"/> Hrs mins	P9 (a-b)

**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*).

65 Do you do any vigorous-intensity sports, fitness or recreational ( <i>leisure</i> ) activities that cause large increases in breathing or heart rate like <i>[running or football, ]</i> for at least 10 minutes continuously? <i>[INSERT EXAMPLES] (USE SHOWCARD)</i>	Yes 1  No 2 If No, go to P 13	P10
66 In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational ( <i>leisure</i> ) activities?	Number of days <input type="text"/>	P11
67 How much time do you spend doing vigorous-intensity sports, fitness or recreational activities on a typical day?	Hours : minutes <input type="text"/> : <input type="text"/> hrs mins	P12 (a-b)



**CORE: Physical Activity (Recreational activities) continued.**

Questions	Response	Code
68 Do you do any moderate-intensity sports, fitness or recreational ( <i>leisure</i> ) activities that causes a small increase in breathing or heart rate such as brisk walking, ( <i>cycling, swimming, volleyball</i> ) for at least 10 minutes continuously? [INSERT EXAMPLES] (USE SHOWCARD)	Yes 1  No 2 If No, go to P 16	P13
69 In a typical week, on how many days do you do moderate-intensity sports, fitness or recreational ( <i>leisure</i> ) activities?	Number of days <input type="text"/>	P14
70 How much time do you spend doing moderate-intensity sports, fitness or recreational ( <i>leisure</i> ) activities on a typical day?	Hours : minutes <input type="text"/> : <input type="text"/> hrs mins	P15 (a-b)
<b>Sedentary behaviour</b>		
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, travelling in car, bus, train, reading, playing cards or watching television], but do not include time spent sleeping. [INSERT EXAMPLES] (USE SHOWCARD)		
71 How much time do you usually spend sitting or reclining on a typical day?	Hours : minutes <input type="text"/> : <input type="text"/> hrs mins	P16 (a-b)

**EXPANDED: History of raised Blood Pressure**

Questions	Response	Code
72 Have you ever had your blood pressure measured by a health professional?	Yes No 2 If No, go to H 6a	H1a
73 Have you been told by a doctor or other health worker that you have raised blood pressure or hypertension?	Yes 1 No 2 1 If No, go to H 6a	H2a
74 <b>If yes</b> Were you told in the last 12 months?	Yes 1 No 2	H2b
75 Are you currently receiving any of the following treatments/advice for high blood pressure prescribed by a doctor or other health worker?		
Drugs (medication) that you have taken in the last 2 weeks  Special prescribed diet  Advice or treatment to lose weight  Advice or treatment to stop smoking  Advice to start or do more exercise	Yes 1 No 2	H3a
	Yes 1 No 2	H3b
	Yes 1 No 2	H3c
	Yes 1 No 2	H3d
	Yes 1 No 2	H3e
	Yes 1 No 2	H3e
	Yes 1 No 2	H4
	Yes 1 No 2	H4
	Yes 1 No 2	H5
	Yes 1 No 2	H5

EXPANDED: History of Diabetes			
Questions		Response	Code
78	Have you ever had your blood sugar measured by a health professional?	Yes 1	H6a
		No 2 <i>If No, go to L1a</i>	
79	Have you ever been told by a doctor or other health worker that you have diabetes?	Yes 1	H7a
		No 2 <i>If No, go to L1a</i>	
80	<u>If yes</u> Were you told in the last 12 months?	Yes 1	H7b
		No 2	
81	Are you currently receiving any of the following treatments/advice for diabetes prescribed by a doctor or other health worker?		
	Insulin	Yes 1	H8a
		No 2	
	Oral drug (medication) that you have taken in the last 2 weeks s	Yes 1	H8b
		No 2	
	Special prescribed diet	Yes 1	H8c
		No 2	
	Advice or treatment to lose weight	Yes 1	H8d
		No 2	
	Advice or treatment to stop smoking	Yes 1	H8e
		No 2	
	Advice to start or do more exercise	Yes 1	H8f
		No 2	
82	During the past 12 months have you seen a traditional healer for diabetes?	Yes 1	H9
		No 2	
83	Are you currently taking any herbal or traditional remedy for your diabetes?	Yes 1	H10
		No 2	
EXPANDED: History of raised total cholesterol			
Questions		Response	Code
84	Have you ever had your cholesterol measured by a health professional?	Yes 1	L1a
		No 2 <i>If No, go to F1a</i>	
85	Have you ever been told by a doctor or other health worker that you have raised cholesterol?	Yes 1	L2a
		No 2 <i>If No, go to F1a</i>	
86	<u>If yes</u> Were you told in the last 12 months?	Yes 1	L2b
		No 2	
87	Are you currently receiving any of the following treatments/advice for raised cholesterol prescribed by a doctor or other health worker?		
	Oral treatment (medication) taken in the last 2 weeks	Yes 1	L3a
		No 2	
	Special prescribed diet	Yes 1	L3b
		No 2	
	Advice or treatment to lose weight	Yes 1	L3c
		No 2	
	Advice or treatment to stop smoking	Yes 1	L3d
		No 2	
	Advice to start or do more exercise	Yes 1	L3e
		No 2	
88	During the past 12 months have you seen a traditional healer for raised cholesterol?	Yes 1	L4
		No 2	
89	Are you currently taking any herbal or traditional remedy for your raised cholesterol?	Yes 1	L5
		No 2	

EXPANDED: Family history			
Questions		Response	Code
90	Have some of your family members been diagnosed with the following diseases?		
	Diabetes or blood sugar	Yes 1	F1a
		No 2	
	Raised Blood pressure	Yes 1	F1b
		No 2	
	Stroke	Yes 1	F1c
		No 2	
	Cancer or malignant tumor	Yes 1	F1d
		No 2	
	Raised Cholesterol	Yes 1	F1e
		No 2	
	Early Myocardial Infarction	Yes 1	F1f
		No 2	

Step 1 Optional modules			
Section: Women Health		Response	Code
91	Have you heard about breast cancer?	Yes 1 No 2	W1
92	Have you been shown how to examine your breasts?	Yes 1 No 2	W2
93	When was the last time you had an examination of your breasts?	1 year or less 1 Between 1 and 2 years 2 More than 2 years 3 Never 4 Do not remember 7	W3
94	A mammogram is an x-ray of each breast to check for the possibility of a breast cancer. When was the last time you had a mammogram?	1 year or less 1 Between 1 and 2 years 2 More than 2 years 3 Never 4 If Never, go to W6 Do not remember 7	W4
95	The mammograms are done as routine examinations, but are sometimes carried out after a visit to the physician or a health professional due to some irregularity. Was the last mammogram carried out for that reason?	Yes 1 No 2	W5
96	Have you heard about cervical cancer?	Yes 1 No 2	W6
97	Pap test or a cytological test is an exam to detect cervical cancer. When was the last time you had a Pap test?	1 year or less 1 Between 1 and 2 years 2 More than 2 years 3 Never 4 Do not remember 7	W7

Cancer screening		Response	Code
98	A medical exam of the rectum is an exam in which a physician or health professional carries out with gloves in order to explore the prostate of the patient and look at the size, shape or hardness. Have you ever had this kind of examination?	Yes 1 No 2	R1
99	An examination of hidden blood in feces is an examination used to know if there is blood in the feces. Have you ever had this kind of examination?	Yes 1 No 2	R2
100	A colonoscopy is a medical examination in which a tube is introduced in the rectum to be able to visualize the intestine in order to know if there are alterations or problems. Have you ever had this kind of examination?	Yes 1 No 2	R3

## Step 2 Physical Measurements

CORE: Height and Weight		Response	Code
101	Interviewer ID	<span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M1
102	Device IDs for height and weight	Height <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M2a
		Weight <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M2b
103	Height	In Centimeters (cm) <span style="border-bottom: 1px solid black; display: inline-block; width: 60px;"></span>	M3
104	Weight If too large for scale , code 666.6	In Kilograms (kg) <span style="border-bottom: 1px solid black; display: inline-block; width: 60px;"></span>	M4
105	(For women) Are you pregnant?	Yes 1    If Yes, go to M8 No 2	M5
CORE: Waist			
106	Device ID for waist	<span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M6
107	Waist circumference	In centimeters (cm) <span style="border-bottom: 1px solid black; display: inline-block; width: 60px;"></span>	M7
CORE: Blood pressure			
108	Interviewer ID	<span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M8
109	Device ID for blood pressure	<span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M9
110	Cuff size used	Small 1 Medium 2 Large 3	M10
111	Reading 1	Systolic (mmHg) <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M11a
		Diastolic (mmHg) <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M11b
112	Reading 2	Sistólica ( mmHg) <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M12a
		Diastólica (mmHg) <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M12b
113	Reading 3	Systolic (mmHg) <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M13a
		Diastolic (mmHg) <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M13b
114	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	M14
EXPANDED: Hip circumference and Heart rate			
115	Hip circumference	In centimeters (cm) <span style="border-bottom: 1px solid black; display: inline-block; width: 60px;"></span>	M15
116	Heart Rate (Record if automatic blood pressure device is used)		
	Reading 1	Beat per minute <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M16a
	Reading 2	Beat per minute <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M16b
	Reading 3	Beat per minute <span style="border-bottom: 1px solid black; display: inline-block; width: 40px;"></span>	M16c

### Step 3 Biochemical measurements

CORE: Blood glucose		Response	Code
117	During the last 12 hours have you had anything to eat or drink, other than water?	Yes 1 No 2	B1
118	Technician ID	<input type="text"/>	B2
119	Device ID	<input type="text"/>	B3
120	Time of day blood specimen taken (24 hour clock)	Hours : minutes <input type="text"/> : <input type="text"/> hrs mins	B4
121	Fasting Blood glucose	mmol/l <input type="text"/> . <input type="text"/>	B5

CORE: Blood lipids			
122	Device ID	<input type="text"/>	B6
123	Total cholesterol	mmol/l <input type="text"/> . <input type="text"/>	B7

EXPANDED: Triglycerides and HDL Cholesterol			
124	Triglycerides	mmol/l <input type="text"/> . <input type="text"/>	B8
125	HDL Cholesterol	mmol/l <input type="text"/> . <input type="text"/>	B9



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## TYPICAL PHYSICAL ACTIVITIES

**For use with**

This show card relates to:

Step	Section	Items
Step 1, core physical activity	P	P1 to P15




WORK RELATED PHYSICAL ACTIVITY		LEISURE /SPARE TIME RELATED PHYSICAL ACTIVITY	
<b>MODERATE Intensity Activities</b> Makes you breathe somewhat harder than normal	<b>VIGOROUS Intensity Activities</b> Makes you breathe much harder than normal	<b>MODERATE Intensity Activities</b> Makes you breathe somewhat harder than normal	<b>VIGOROUS Intensity Activities</b> Makes you breathe much harder than normal
<b>Examples:</b> <ul style="list-style-type: none"> <li>- Cleaning (vacuuming, mopping, scrubbing, sweeping, ironing)</li> <li>- Washing (by hand)</li> <li>- Gardening</li> <li>- Milking cows</li> <li>- Planting and harvesting crops</li> <li>- Digging dry soil</li> <li>- Weaving</li> <li>- Woodwork (chiselling, sawing, softwood)</li> <li>- Mixing cement (with shovel)</li> <li>- Labouring (pushing loaded wheelbarrow, operating jackhammer)</li> <li>- Walking with load on head</li> <li>- Tending animals</li> </ul>	<b>Examples:</b> <ul style="list-style-type: none"> <li>- Forestry (cutting, chopping, carrying wood)</li> <li>- Sawing hardwood</li> <li>- Ploughing</li> <li>- Cutting crops (sugar cane, bananas)</li> <li>- Gardening (with pick axe)</li> <li>- Labouring (shovelling sand)</li> <li>- Loading furniture (stoves, fridge)</li> <li>- Instructing sports aerobics</li> <li>- Sorting postal parcels (fast pace)</li> <li>- Cycling rickshaw driving</li> </ul>	<b>Examples:</b> <ul style="list-style-type: none"> <li>- Cycling</li> <li>- Jogging</li> <li>- Dancing</li> <li>- Horseracing</li> <li>- Tai chi</li> <li>- Yoga</li> <li>- Pilates</li> <li>- Low-impact aerobics</li> <li>- Cricket</li> </ul>	<b>Example:</b> <ul style="list-style-type: none"> <li>- Basketball</li> <li>- Football</li> <li>- Tennis</li> <li>- High-impact aerobics</li> <li>- Beach volleyball</li> <li>- Dancing (soca, ballroom, salsa etc)</li> <li>- Fast swimming</li> </ul>






## Diet (Typical Fruit and Vegetables and Serving Sizes)

For use with

This show card relates to:

Step	Section	Items
Step 1, core diet	D	D1 to D4

VEGETABLES are considered to be:	1 Serving =	Examples
Raw green leafy vegetables	1 cup	 Spinach, salad, etc.
Other vegetables, cooked or chopped raw	½ cup	Tomatoes, carrots, pumpkin, corn, Chinese cabbage, fresh beans, onion, etc.  
Vegetable juice	½ cup	

FRUIT Is considered to be:	1 Serving =	Examples
Apple, banana, orange, guava, star fruit,	1 medium size piece	    
Chopped, cooked, canned fruit	½ cup	
Fruit juice	½ cup	Juice from fruit, not artificially flavoured

**Serving size** One standard serving = 80 grams (translated into different units of cups depending on type of vegetable and standard cup measures available in the country).

### WHO

#### Recommendation

The World Health Organization recommends at least:

- 400 grams of vegetables and fruits per day, or
- Five servings of 80 grams each.

**Note:** Tubers such as potatoes and cassava, however, are not included in this recommendation.

## ALCOHOL CONSUMPTION Show Card

For use with

This show card relates to:

Step	Section	Items
Step 1, core alcohol consumption	A	A1 to A5



1 standard bottle  
of **regular beer**  
(285ml)  
guinness  
stout



1 single measure  
of **spirits**  
(30 ml)e.g.  
scotch  
vodka  
gin  
bourbon



1 medium size  
**glass of wine**  
(120 ml) e.g.  
dry wine  
sweet wine  
red wine  
white wine



1 measure  
**apetitif**  
(60ml) e.g.  
sherry  
cocktails  
martini  
campari

List of Tobacco Products

For use with            This show card relates to:

Step	Section	Items
Step 1, core tobacco use	T	T1 to T8

<ul style="list-style-type: none"><li>Cigarettes</li></ul>
<ul style="list-style-type: none"><li>Cigarellos</li></ul>
<ul style="list-style-type: none"><li>Cigars</li></ul>
<ul style="list-style-type: none"><li>Cheroots</li></ul>
<ul style="list-style-type: none"><li>Chuttas</li></ul>
<ul style="list-style-type: none"><li>Bidis</li></ul>
<ul style="list-style-type: none"><li>Goza / Hookah</li></ul>

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# List of Tobacco Products

For use with      This show card relates to:

Step	Section	Items
Step 1, core tobacco use	T	T1 to T8

<ul style="list-style-type: none"><li>Cigarettes</li></ul>
<ul style="list-style-type: none"><li>Cigarellos</li></ul>
<ul style="list-style-type: none"><li>Cigars</li></ul>
<ul style="list-style-type: none"><li>Cheroots</li></ul>
<ul style="list-style-type: none"><li>Chuttas</li></ul>
<ul style="list-style-type: none"><li>Bidis</li></ul>
<ul style="list-style-type: none"><li>Goza / Hookah</li></ul>

## List of Work Status

For use with

This show card relates to:

Step	Section	Items
Step 1, core demographic information	C	C7

Work Status	Description
Government employees	An individual who is hired by the government office or agency and paid a salary. This includes employees of: <ul style="list-style-type: none"> <li>• Government Ministries (public sector workers, civil servants)</li> <li>• State (Police, Defence Force, etc)</li> <li>• Semi-autonomous institutions (such as social security, SSMC, Port Authority, Solid Waste Co, institutions) that are owned by the government.</li> <li>• Institutions like religious schools (if paid by the government).</li> </ul>
Non-Government employee	An individual who is hired to work and is paid a salary or wages. This includes any employees not working for the government.
Self-employed	An individual who produces goods for sale or earns an income through provision of services to different people or firms.  The individual works alone or with intermittent assistance from others, but does not employ anyone for a paid wage or salary on a regular basis.
Non-paid - subsistence farming etc	An individual who spends significant amount of time working for a volunteer organization, family business, family farm or other similar activity without pay.
Student	An individual whose primary activity is engaging in studies at elementary, secondary, university or technical schools.
Homemaker (household chores)	An individual whose primary activity is in carrying out household tasks without being paid.
Retired	An individual who has earned income during some period in the workforce or as an employer and who is no longer working due to age.
Unemployed - unable to work	An individual who cannot work because of his/her health status.

## Appendix C



### The STEPwise Approach to Chronic Disease and Risk Factor Survey

#### Implementation Plan

for

St. Kitts and Nevis

2007

## Executive Summary

The disease burden caused by chronic diseases is increasing rapidly and has significant social, economical and health consequences. Globally, chronic non-communicable diseases (NCDs) are responsible for 60% of all deaths. Additionally, in the Caribbean, the four leading causes of deaths (51%) in 2000 were chronic NCDs.

Chronic NCDs also rank among the main causes of morbidity and mortality in St. Kitts and Nevis. A chronic disease survey of workers done in St. Kitts in 2000 indicated that 25% of men and more than 50% of women were not sufficiently physically active. It was also noted that about 60% of men and almost 70% of women were overweight. Additionally, very high proportions of men (70%) and women (60%) did not eat adequate fresh fruits and vegetables on a regular basis. In a later study, the 2001 Diet and Exercise Behaviour Survey, 53.6% of the adult population in the Federation, had at least 1 chronic disease.

This situation is serious considering that at least 80% of all heart disease, stroke and diabetes are preventable. The key to controlling the global epidemics of chronic diseases is primary prevention based on the comprehensive population-wide programmes. The aim is to avert these epidemics wherever possible and to control them as quickly as possible where they are already present. The World Health Organization supports the implementation of the STEPwise approach (STEPS) to the surveillance of chronic diseases risk factor and chronic disease specific morbidity and mortality.

**Goal:** To develop and strengthen the country's capacity to better monitor non-communicable diseases and their risk factors through consistent data collection.

### Objectives

- To develop standardized tools to enable comparisons over time and across countries
- To prevent chronic disease epidemics before they occur
- To help health services plan and determine public health priorities
- To predict future caseloads of chronic diseases and
- To monitor and evaluate population –wide interventions

The STEPS survey provides an entry point for surveillance activities. Following a sequential process, key information is gathered about behavioral and biological risk factors across the population. A total of 2903 adult males and females, aged 25 to 64 years will be invited to participate in the survey. The optimal recommended time frame for conducting a STEPS survey of chronic disease risk factors is approximately 6-8 months. Data collection will be done during October to December 2007.

Resources for the completion of the research project are extensive. A comprehensive budget, estimated around **EC\$62, 241.07** is required to sufficiently cover related expenses. The WHO STEPS team and the CAREC will provide global coordination and technical assistance for the implementation of the STEPS surveillance.



## **Protocol for the WHO STEPwise Approach to Chronic Disease Risk Factor Surveillance**

### **Introduction**

Chronic non-communicable diseases are responsible for 60% of all deaths globally. In developing countries, the disease burden caused by chronic diseases is increasing rapidly and will have significant social, economical and health consequences. The main chronic diseases attributable to common risk factors are heart diseases, stroke, chronic respiratory diseases and diabetes.

There are some common preventable risk factors which underlie most chronic diseases. They are the leading causes of death and disability burden in all countries irrespective of their economic status. The modifiable risk factors, which are lifestyle-related, include tobacco use, harmful alcohol consumption, low fruit and vegetable consumption and physical inactivity; while the major biological risk factors are overweight and obesity, raised blood pressure, raised blood sugar and raised cholesterol. Together, these major risk factors account for 80% of deaths from heart disease and stroke.

A chronic disease survey of workers done in St. Kitts in 2000 indicated that 25% of men and more than 50% of women were not sufficiently physically active. It was also noted that about 60% of men and almost 70% of women were overweight. Additionally, very high proportions of men (70%) and women (60%) did not eat adequate fresh fruits and vegetables on a regular basis. In a later study, the 2001 Diet and Exercise Behaviour Survey, 53.6% of the adult population had at least 1 chronic disease.

The key to controlling the global epidemics of chronic diseases is primary prevention based on the comprehensive population-wide programmes. The aim is to avert these epidemics wherever possible and to control them as quickly as possible where they are already present. The basis therefore, for the prevention of chronic diseases is the identification of major risk factors and their prevention and control.

### **Goal**

To develop and strengthen the country's capacity to better monitor non-communicable diseases and their risk factors through consistent data collection.

### **Objectives**

- To develop standardized tools to enable comparisons over time and across countries
- To prevent chronic disease epidemics before they occur
- To help health services plan and determine public health priorities
- To predict future caseloads of chronic diseases and
- To monitor and evaluate population –wide interventions

## **Scope**

In 2005, the World Health Organization recommended a STEPWise approach (STEPS) to the surveillance of chronic diseases risk factors and chronic disease specific morbidity and mortality. The tool used to collect data and measure chronic disease risk factors is called the STEPS Instrument or 'steps' of risk factor assessment. STEPS, a household survey uses a sequential process of gathering information about behavioral and biological risk factors across the population: Step1, Step 2 and Step 3 with Core, Expanded and Optional items.

STEPS surveillance starts with gathering key information with a questionnaire, and then moves to simple physical measurements, followed by more complex collection of blood samples for biochemical analysis. For this survey, the intent is to include core and expanded items from Steps 1, 2 and 3, but will conduct Step 3 on a simple random subsample of the participants. The subsample will be drawn from 25% of the sample size, stratified by sex and ten year age groups.

## **Population and Sample Size**

The WHO/PAHO/CAREC is providing support with the sample calculation and the Ministry of Planning and Statistical Department in St. Kitts and Nevis will assist with the sample selection. As is typical, the level of confidence and the corresponding margin of error used for the sample size calculations for the survey were 95% and 0.05, respectively. Due to insufficient historical information on baseline levels of the indicators, and estimated prevalence of 50% was utilized. This is the most conservative estimate as it assumes a highly variable population and encourages accurate prevalence estimates for all indicators from the survey results. Using these values and population estimates for each 10-year age group by sex clusters for the combined population of St. Kitts and Nevis (based on the 2001 population census), sample size estimates were calculated for each age /sex strata. This encourages accurate reporting of the survey results to each of these levels for the entire population. The total sample size estimate (obtained by summing across the age/sex strata) was then adjusted for the design effect and for the expected non-response rate. Since random sampling will be conducted the design effect for the survey is 1 and based on previous surveys, the expected response rate for the STEPS survey is 90%.

Therefore, the total sample size calculated for this survey is 2,903 (appendix 3 for detailed calculations) This total was then proportionately divided between St. Kitts and Nevis, based on the results of the 2001 population census as follows: St. Kitts: 2,177 and Nevis: 726.

For the purpose of this survey, random selections will be made based on available household listings. The selection of households will be made from each enumeration district (ED). A starting point will be determined randomly and thereafter, every selected household, depending on the number of households within the ED. The Kish method will be used to select one individual from eligible persons within that household to be interviewed. If no one is present in the selected household, a notification of visit card will

be left and the interviewer will revisit. The interviewer then moves on to the next house on the list in the original order. The person selected for interview must be at least 25 years on the last birthday but not older than 64 years old. Exclusion from the study is acceptable only if persons (within the age criterion) are bedridden and have chronic disabilities. Pregnant participants will be excluded from having hip to waist measurement done.

Data collection will be done over a period of eight to tens weeks - October to December 2007. Interviewers will meet participants at home in the evenings and on weekends. However, the collection of blood samples will be done in a clinic setting at mornings while participants are fasting. The survey is expected to be completed in six to eight months. This timeframe is based on ideal environmental considerations and human resource capacity for the STEPS project.

## **Resources**

### **Human Resources**

The survey team comprises of all those involved in the data collection, management and analysis processes. The WHO Geneva Steps team and the CAREC (Regional Office) will provide guidance and technical support for the STEPS surveillance. There are several entities involved in STEPS with roles and responsibilities at different levels.

- STEPS Site Coordinator (STEPS Coord) - Key person responsible for planning and implementing STEPS and sits on the Implementation /Coordinating Committee.
- Coordinating/Implementation
- Committee for Surveillance (CCS)-responsible for overseeing the practical and logistic issues relating to the overall implementation of the STEPS.
- Data Collection Team - undertakes a core function in STEPS and includes all those who have been recruited to collect the survey data, namely
  - Data collection Supervisor
  - Interviewers
  - Clinical health professionals
- Data Management Team- comprises those who have been recruited to enter, check, clean, correct and analyze the data gathered by the survey team. A team leader or supervisor may be the STEPS Site Coordinator or the STEPS data analyst.
- Statistical Adviser- plays a key role in the sample and data management process. The statistical adviser may be part of the coordinating committee or the analysis team. WHO Geneva STEPS team and the focal point from the CAREC will provide support and advise with this role in the absence of a statistical adviser in country.

- Data Analysis team – includes persons that will undertake the descriptive and statistical analysis of the data gathered using the STEPS instrument. The team will work closely with site coordinator, data management team and statistical adviser to produce results for STEPS reports.

## Equipment and Supplies

The following general office equipment and supplies will be required for the STEPS coordination and data entry office:

- Photocopier
- Shelving
- Filing cabinet or boxes
- Telephone
- Printer
- At least 1 computer with internet connection
- Office stationery supplies (pens, paper, envelopes, staples etc)
- Blank CDs
- USB flash –stick

For Step 1 and Step 2 the following general supplies will be required in sufficient quantity for the whole survey:

- STEPS Instrument
- Question by question guide
- Show cards
- Consent forms
- Participant information form
- Interview tracking form
- Field log books to record each data collection team's daily activities
- Clipboards
- Pens, pencils, ID cards
- District and area maps
- Household lists
- Adult portable height –length measuring devices
- Weighing scales
- Constant tension tape measure
- Digital automatic blood pressure monitors (small, medium and large cuffs)

A clinic setting is preferred for taking blood samples for the biochemical measurements required in Step3. The following supplies and equipment will be required:

- Tourniquets
- Vacutainers
- Needles and syringes
- Exam gloves
- Sharps disposal containers
- Cotton balls
- Vacutainer needle holders
- Ice chests (ice) storage
- Access to transportation (for transfer of specimens)

## Input from International and Regional Organizations

The WHO STEPS team and the CAREC will provide global coordination for the implementation of the STEPS surveillance. Technical assistance, computer software and utilities and materials will be made available for the training of workers, data analysis and reporting.

## **STEPS Action Plan**

The optimal recommended time frame for conducting a STEPS survey of chronic disease risk factors is approximately 6-8 months. This timeframe is based on seasonal considerations and the Federation's ability to "second" staff to the STEPS project for its duration. A chart of the main tasks with estimated timeline is provided.

## Action Plan for Implementing STEPS Risk Factor Survey

Component	Activity	Duration	Timeline
Establishment	<ul style="list-style-type: none"> <li>○ Set up coordinating committee</li> <li>○ Identify survey coordinator</li> </ul>	4 weeks	January –February 2007
Planning and Scoping	<ul style="list-style-type: none"> <li>○ Identify scope of STEPS survey</li> <li>○ Develop implementation plan</li> </ul>	4-6 weeks	February - March 2007
	<ul style="list-style-type: none"> <li>○ Design and select sample frame</li> <li>○ Adapt STEPS instrument</li> <li>○ Apply for ethical approval</li> <li>○ Pilot test</li> <li>○ Communication strategy (meetings, print and electronic media)</li> </ul>	3-4 weeks 2-3 weeks 1 day 2- 4 weeks 1-2 weeks	March-April 2007 July 2007 July 2007 September 2007
Recruitment and Training	<ul style="list-style-type: none"> <li>○ Recruit staff</li> </ul>	2-3 weeks	August 2007
	<ul style="list-style-type: none"> <li>○ Procure equipment and supplies</li> </ul>	4-6 weeks	July- August 2007
	<ul style="list-style-type: none"> <li>○ Training of interviewers</li> </ul>	1 week	September 2007
Data Collection	<ul style="list-style-type: none"> <li>○ Approach selected households</li> <li>○ Conduct survey</li> </ul>	8-10 weeks	October – December 2007
Data Entry	<ul style="list-style-type: none"> <li>○ Enter data (1<sup>st</sup> &amp; 2<sup>nd</sup> ) key entry</li> <li>○ Clean and check data</li> <li>○ Merge databases</li> </ul>	6-8 weeks	November 2007 – January 2008
Data Analysis	<ul style="list-style-type: none"> <li>○ Conduct preliminary data analyses</li> </ul>	2 weeks	February 2008
	<ul style="list-style-type: none"> <li>○ Conduct descriptive and comparative analyses</li> </ul>	3-5 weeks	February – March 2008
Reporting and Disseminating Results	<ul style="list-style-type: none"> <li>○ Produce preliminary reports</li> <li>○ Produce Fact Sheet</li> <li>○ Produce Country Report</li> </ul>	6-8 weeks	March 2008

## **Communication Strategy and Dissemination of Results**

General information about the survey will be provided to the public via the newspapers, local radio and television stations and the government information service. Additionally, households involved in the survey will be specifically notified through town-hall/community meetings, house to-house visits by nursing assistants and by letters. Relevant government bodies and any sponsoring or interest groups will receive information from the Ministry of Health through the usual official channels.

On completion of the survey, the findings and highlights of the issues that will be covered in the comprehensive report will be disseminated to key stakeholders, the media and STEPS team. The methods of communication will include the print and electronic mass media, newsletters, brochures and verbal presentations.

## **Budget**

Before pursuing with the research project, it is relevant to ascertain that the budget sufficiently covers related expenses, personnel, maintenance and miscellaneous costs anticipated. The budget, which follows, comprehensively outlines what financial resources needed for the implementation of the STEPS survey.

### Budget for Implementing STEPS Risk Factor Survey

Name of Item	Amount EC\$	Justification
<b>1. ALLOWANCES</b>		
1.1. Data management team	<b>1600.00</b>	Incentive for 2 field supervisor @ \$50 per week (maximum 8 weeks) and 2 officers for data management ( ie to check, clean and correct data gathered)
1.2. Interviewers (field work)	<b>23,224.00</b>	Incentive for 22 interviewers @ \$8. 00 per household (based on 2,903 participants) (must be completed questionnaire and measuring of BP, height and weight)
1.3. Clinical data collectors (field work)	<b>3630. 00</b>	Incentive for 10 clinical data collectors- max of 726 specimens @\$5.00 per/participant (glucose and lipid profile = one specimen)
1.4. Data entry clerks	<b>2,903.00</b>	Incentive for data entry @ 1.00 per questionnaire (based on 2, 903 questionnaires) 2 clerks
<b>Total Allowances</b>	<b><u>\$31, 357.00</u></b>	
<b>2. TRAVEL SUBSISTENCE</b>		
2.1 Boat Transport from Nevis	<b>1340.00</b>	Eight (8) persons to attend training in St. Kitts – return fare@ \$42/person/day for 5 days
2.2 Subsistence for travelers in St. Kitts	<b>4032.00</b>	To travel within St. Kitts @ \$6/day x 12 persons (max of 8 weeks ) - public trans
2.3 Subsistence for travelers in Nevis	<b>2440.00</b>	To travel within Nevis @ \$10/day x 4 persons (maximum of 8 weeks)
	<b>1800.00</b>	To travel within St. Kitts and Nevis @ \$300 x 6 persons – private transportation
<b>Total Travelling Subsistence</b>	<b><u>\$9,412.00</u></b>	
<b>3. PRINTING AND REPRODUCTION</b>		
3.1 Printing and duplicating	<b>220.00</b>	To purchase ink for printer
3.2 Photocopying, Photography & Blueprinting	<b>750.00</b>	Cost for photocopier toner ( for photocopying 3000 questionnaires, 16 field manuals, participant consent forms and other stationery necessary to carry out study)
<b>Total Printing Cost</b>	<b><u>\$970.00</u></b>	
<b>4. TRAINING &amp; MEETINGS</b>		
<b>4.1 Training of field staff</b>	<b>3, 900.00</b>	To purchase refreshments@ \$39./person/day for 5-day training workshop in St. Kitts for research teams
	<b>760.00</b>	To use UWI Centre as facility @ \$190.00 x 4
<b>4.2 Reporting Writing Retreat</b>	<b>210.00</b>	To purchase refreshment for Core Team members when conducting report writing retreat.
<b>4.3 Meetings of Coordinating Committee</b>	<b>3600.00</b>	(2 ½ - day sessions) Government facilities to be utilized as venue.
	<b><u>\$8, 470.00</u></b>	
<b>Total Cost Training &amp; Meetings</b>		



Name of Item	Amount EC\$	Justification
<b>5. STATIONERY</b>		To purchase stationery and related supplies for the study and training.
5.1 Office Supplies & Stationery	690.00	• Copy paper @ \$115/pk x 6
	100.00	• Composition books @ \$5 x 20
	62.00	• Electric pencil sharpener
	150.00	• Pencils (#2/HB) @ \$15/pk x10
	105.00	• Clipboards @ \$10.50 x 10
	24.00	• Small sharpeners @ \$2. x 12
	24.00	• Erasers @ \$2 x 12
	2265.60	• Brief bags @\$94.40 x 24
<b>Total Stationery Costs</b>	<b><u>\$3,420.60</u></b>	
<b>6. CLINICAL DATA COLLECTION</b>		
6.1 Supplies for BP and anthropometric measurements	3502.20	For purchasing clinical data collection devices:
	780.00	• 12 OMRON digital BP monitor @ 291.05 each
	60.00	• 12 scales @ \$65.00
	15.00	• 12 measuring tapes @ \$5.00
	\$4,357.20	• 12 rulers @ \$1.25
6.2 Supplies for biochemical measurements	1324.76	To procure supplies for the collection of blood samples (726 specimens)
	609.40	• Vacutainer needle holders 200/Cs @ 662.38 x 2
	108.40	• Vacutainer grey tubes 100/box @ 121.88 x5
	138.86	• Disposable tourniquet (latex) 100/box @ 54.20 x 2
	\$2,181.42	• Exam gloves (l) @ 138/case
	\$1,520.85	
6.3 Transportation of samples to lab	312.00	To conduct biochemical analysis (glucose, lipid profile)
	240.00	Transporting samples by land (3 days /wk x\$8.00@ \$13 /g/m)
	\$552.00	Transporting samples by boat (3 days /wk x 8 @ \$10
<b>Total Clinical Data Collection &amp; Equipment cost</b>	<b><u>\$8, 611.47</u></b>	
<b>GRAND TOTAL FOR SURVEY :\$62, 241.07</b>		

## APPENDIX 1

### Overview of Personnel Required for STEPS

Key Role	Core Responsibilities	Officer(s)	No
STEPS Site Coordinator (STEPS Coord)	<ul style="list-style-type: none"> <li>• Key player in STEPS planning and implementation</li> <li>• Sits on and reports to Chairperson of Coordinating Committee</li> <li>• Drafts and oversees progress of the implementation plan</li> <li>• Supervises data collection &amp; data management teams</li> <li>• Develops partnerships &amp; contributes to health communication activities</li> <li>• Prepare future STEPS surveys</li> </ul>	-Ministry appointed	1
Coordinating Committee for Surveillance (CCS)	<ul style="list-style-type: none"> <li>• Support the STEPS site coordinator</li> <li>• Act as an advocacy and management body</li> <li>• Oversees the overall implementation of STEPS</li> <li>• Assists in translating the data into policy and programmes</li> <li>• Ensures the long term sustainability of STEPS surveillance</li> </ul>	-University Rep -Public Health Specialist -Epidemiologist -Statistician -Internist -Health Educator -Lab Manager -DMO -NCD Coordinator	7-9
Data Collection Team	<ul style="list-style-type: none"> <li>• Participates in training of field staff</li> <li>• Obtains lists of the selected sample &amp; maps of ED</li> <li>• Obtains necessary supplies and equipment</li> <li>• Supervises interview processes and record daily activities</li> <li>• Sends progress reports to STEPS Coord</li> <li>• Provides completed instruments to data entry staff.</li> <li>• Ensures quality of data</li> </ul>	Field Supervisor (St. Kitts and Nevis)	2
	<ul style="list-style-type: none"> <li>• Interviews participants in household settings</li> <li>• Takes physical measurements</li> </ul>	Interviewers (St. Kitts and Nevis)	14-22
	<ul style="list-style-type: none"> <li>• Check for appropriate participant consent</li> <li>• Take blood samples from participant &amp; record results for Step 3</li> <li>• Label samples and record participant ID numbers</li> </ul>	Clinical health professional	7-10
Data Management Team	<ul style="list-style-type: none"> <li>• Ensure proper sample is selected</li> <li>• Drawing the survey sample</li> <li>• Applying weights to survey data</li> <li>• Providing statistical advice during the analysis and reporting process</li> </ul>	Statistical Adviser	1
	<ul style="list-style-type: none"> <li>• Logs receipt of completed instruments</li> <li>• Files paper copies of instrument</li> <li>• Enters survey data</li> <li>• Checks, cleans and corrects data gathered</li> <li>• Identify errors and resolving problems with supervisor</li> </ul>	Data entry  Data management support staff	2  2

### Personnel Required for STEPS (cont'd)

Key Role	Core Responsibilities	Officer(s)	No
Data Management Team (cont'd)	<ul style="list-style-type: none"> <li>• Supervising and/or conducting variable checks on entered data</li> <li>• Importing dataset, creating database, and guardianship</li> <li>• Generating derived variables</li> <li>• Undertaking exploratory data analysis</li> <li>• Undertaking descriptive analyses</li> <li>• Undertaking additional analyses if needed</li> <li>• Calculating weights for estimation</li> <li>• Producing tables and graphs for reports</li> <li>• Assisting in report preparation</li> </ul>	Data analyst	1

## APPENDIX 2

### STEPS Instrument

STEP	Description	Purpose	WHO Recommendation
1	An affordable option which provides basic demographic and behavioural information using a questionnaire.	To obtain information on <ul style="list-style-type: none"> <li>- socio-demographics</li> <li>- tobacco use</li> <li>- alcohol consumption</li> <li>- fruit and vegetable consumption</li> <li>- physical activity</li> </ul>	All countries should undertake the core items of Step 1.
2	Collection of simple physical measurements in the household setting. Also affordable and can be done at the same time as Step 1	To build on the core data in Step 1 and determine the proportion of adults that : <ul style="list-style-type: none"> <li>- Are overweight and obese</li> <li>- Have raised blood pressure</li> </ul>	Most countries should undertake the core items of Step 2
3	Taking blood samples for biochemical measurements in a clinic setting	To detect the prevalence of diabetes or raised blood glucose and raised cholesterol.	If not viable to survey all participants due to costs, a useful option is to conduct tests on a sub-sample of the participants.

## Appendix 3

### Population Estimates:

ST. KITTS AND NEVIS 2001 Population Census						
AGE GROUP	MALES		FEMALES		TOTAL	
	n	%	n	%	n	%
25-34	3713	35.1	3676	35.2	7389	35.1
35-44	3612	34.1	3563	34.1	7175	34.1
45-54	2190	20.7	2051	19.6	4241	20.2
55-64	1073	10.1	1168	11.2	2241	10.6
TOTAL	10588	100	10458	100.0	21046	100.0

### Sample Size Calculations:

Z	e	P	1-P	SS1	Population Census 2001				SS2 by AGE/SEX			
					Males		Females		Males		Females	
1.96	0.05	0.5	0.5	384.2	25-34	3713	25-34	3676	25-34	348.1	25-34	347.8
					35-44	3612	35-44	3563	35-44	347.2	35-44	346.8
					45-54	2190	45-54	2051	45-54	326.8	45-54	323.6
					55-64	1073	55-64	1168	55-64	282.9	55-64	289.1

Total SS2	Deff	SS3	RR	Final SS	Final Sample Size		
					Total	St. Kitts	Nevis
2612.3	1	2612.3	0.9	2902.6	2903	2177	726

Where:

$$SS1 = Z^2 \frac{P(1-P)}{e^2}$$

$$SS2 = \frac{n}{1 + \frac{n}{population}}$$

$$SS3 = SS2 \times Deff$$

$$SS4 = SS3 \div RR$$

Where:

Z	Level of Confidence
P	Baseline Indicator Level
e	Margin of Error
Strata	Number of age/sex strata
Deff	Design Effect
RR	Response Rate
SS	Sample size calculation

ST. KITTS AND NEVIS - SAMPLE SIZE CALCULATIONS																		
RR=85%				Population Census 2001					SS2 by AGE/SEX					Final Sample Size				
Z	e	P	1-P	SS1	Males		Females		Males		Females		Total SS2	Deff	SS3	RR	SS4	Total St. Kitts Nevis
1.96	0.05	0.5	0.5	384.2	25-34	3713	25-34	3676	25-34	348.1	25-34	347.8	2612.3	1	2612.3	0.85	3073.3	3073 2305 768
					35-44	3612	35-44	3563	35-44	347.2	35-44	346.8						
					45-54	2190	45-54	2051	45-54	326.8	45-54	323.6						
					55-64	1073	55-64	1168	55-64	282.9	55-64	289.1						
Sarah Quesnel: Recommended																		
RR=90%				Population Census 2001					SS2 by AGE/SEX					Final Sample Size				
Z	e	P	1-P	SS1	Males		Females		Males		Females		Total SS2	Deff	SS3	RR	SS4	Total St. Kitts Nevis
1.96	0.05	0.5	0.5	384.2	25-34	3713	25-34	3676	25-34	348.1	25-34	347.8	2612.3	1	2612.3	0.9	2902.6	2903 2177 726
					35-44	3612	35-44	3563	35-44	347.2	35-44	346.8						
					45-54	2190	45-54	2051	45-54	326.8	45-54	323.6						
					55-64	1073	55-64	1168	55-64	282.9	55-64	289.1						
RR=95%				Population Census 2001					SS2 by AGE/SEX					Final Sample Size				
Z	e	P	1-P	SS1	Males		Females		Males		Females		Total SS2	Deff	SS3	RR	SS4	Total St. Kitts Nevis
1.96	0.05	0.5	0.5	384.2	25-34	3713	25-34	3676	25-34	348.1	25-34	347.8	2612.3	1	2612.3	0.95	2749.8	2750 2062 687
					35-44	3612	35-44	3563	35-44	347.2	35-44	346.8						
					45-54	2190	45-54	2051	45-54	326.8	45-54	323.6						
					55-64	1073	55-64	1168	55-64	282.9	55-64	289.1						
	Z	Level of Confidence																
	P	Baseline Indicator Level																
	e	Margin of Error																
	Strat:	Number of age/sex strata																
	Deff	Design Effect																
	RR	Response Rate																
	pop	Census 2001																
														Proportions				
														St. Kitts:		75% (=15681/21046 x 100)		
														Nevis:		25% (=5365/21046 x 100)		



## St Kitts STEPS Survey 2008 Fact Sheet

The STEPS survey of chronic disease risk factors in St. Kitts was carried out from October 2007 to January 2008. St. Kitts carried out Step 1 and Step 2. Socio demographic and behavioral information was collected in Step 1. Physical measurements such as height, weight and blood pressure were collected in Step 2. The STEPS survey in St. Kitts, was a population-based survey of adults aged 25-64. A stratified random sampling sample design was used to produce representative data for that age range in St. Kitts. A total of 1443 adults participated in the St. Kitts STEPS survey. The overall response rate was 66.3%. A repeat survey is planned for 2011 if funds permit.

Results for adults aged 25-64 years (incl. 95% CI)	Both Sexes	Males	Females
<b>Step 1 Tobacco Use</b>			
Percentage who currently smoke tobacco	8.7% (5.6-11.75)	16.2% (12.3-20.1)	1.1% (0.0-2.2)
Percentage who currently smoke tobacco daily	6.0% (3.3-8.8)	11.4% (6.9-15.9)	0.7% (0.1-1.3)
<i>For those who smoke tobacco daily</i>			
Average age started smoking (years)	17.2 (15.7 – 18.7)	16.9 (15.6-18.3)	*
Percentage smoking manufactured cigarettes	51.8% (32.9- 70.7)	50.9% (31.4-70.4)	*
Mean number of manufactured cigarettes smoked per day (by smokers of manufactured cigarettes)	6.3 (3.6 – 9.0)	6.4 (3.5-9.2)	*
Percentage exposed to smoke at home on 1 or more days per week	9.2% (0.0-19.6)	11.2% (0.0 -22.6)	7.2% (0.0 -16.9)
Percentage exposed to smoke at workplace on 1 or more days per week	11.5% (9.0-14.0)	16.6% (12.4- 20.8)	6.2% (3.7-8.6)
<b>Step 1 Alcohol Consumption</b>			
Percentage of abstainers (who did not drink alcohol in the last year )	10.8% (6.4-15.3)	9.5% (4.2 -14.8)	12.1% (8.1-16.1)
Percentage of current drinkers (who drank alcohol in the past 30 days)	29.8% (25.6-34.1)	45.1% (39.4-50.7)	14.3% (11.5-17.2)
<i>For those who drank alcohol in the last 30 days</i>			
Percentage who drank alcohol on 4 or more days in the last week	24.7% (19.2-30.1)	29.9% (22.2-37.7)	7.8% (2.2-13.4)
Percentage of women who had 4 or more drinks on any day in the last week			20.7% (10.3-31.1)
Percentage of men who had 5 or more drinks on any day in the last week		20.1% (10.1-30.1)	
<b>Step 1 Fruit and Vegetable Consumption (in a typical week)</b>			
Mean number of days fruit consumed	3.7 (3.5 – 3.9)	3.5 (3.2-3.8)	3.9 (3.6- 4.1)
Mean number of servings of fruit consumed per day	0.8 (0.6-0.9)	0.7 (0.5-1.0)	0.8 (0.7-0.9)
Mean number of days vegetables consumed	4.1 (3.8- 4.5)	4.0 (3.7-4.4)	4.2 (3.8-4.6)
Mean number of servings of vegetables consumed per day	0.8 (0.7-1.0)	0.8 (0.7-1.0)	0.8 (0.7-0.9)
Percentage who ate less than 5 of combined servings of fruit & vegetables per day	97.3% (95.4-99.2)	97.6% (95.7-99.6)	97.0% (94.8-99.2)
<b>Step 1 Physical Activity</b>			
Percentage with low levels of activity (defined as <600 MET-minutes/week)	38.3% (34.6-41.9)	28.3% (24.8-31.8)	48.5% (44.6-52.4)
Percentage with high levels of activity (defined as ≥3000 MET-minutes/week)	36.2% (30.7 -41.8)	51.0% (42.4-59.6)	21.1% (15.6-26.5)
Median time spent in physical activity per day (minutes) (presented with Inter-quartile range)	51.4 (12.9-227.1)	107.1 (25.7-304.3)	30.0 (0.0-102.9)
Percentage not engaging in vigorous physical activity	72.2% (64.3 -80.0)	55.7% (42.3-69.2)	89.0% (83.7-94.4)



## St. Kitts STEPS Survey 2008

### Fact Sheet

Results for adults aged 25-64 years (incl. 95% CI)	Both Sexes	Males	Females
<b>Step 2 Physical Measurements</b>			
Mean body mass index - BMI (kg/m <sup>2</sup> )	<b>30.2</b> (29.6-30.8)	<b>29.2</b> (28.0-30.4)	<b>31.2</b> (30.6-31.8)
Percentage who are overweight or obese (BMI ≥ 25 kg/m <sup>2</sup> )	<b>78.5%</b> (74.5-82.4)	<b>74.1%</b> (67.7-80.5)	<b>83.0%</b> (79.9-86.1)
Percentage who are obese (BMI ≥ 30 kg/m <sup>2</sup> )	<b>45.0%</b> (40.6-49.4)	<b>37.9%</b> (30.9-44.9)	<b>52.5%</b> (47.9-57.0)
Average waist circumference (cm)		<b>94.0</b> (91.3-96.6)	<b>95.1</b> (93.6-96.7)
Mean systolic blood pressure - SBP (mmHg), excluding those currently on medication for raised BP	<b>128.1</b> (125.8-130.4)	<b>132.4</b> (130.0-134.9)	<b>123.5</b> (120.7-126.4)
Mean diastolic blood pressure - DBP (mmHg), excluding those currently on medication for raised BP	<b>77.8</b> (75.9-79.7)	<b>78.9</b> (76.8-80.9)	<b>76.7</b> (74.9-78.6)
Percentage with raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP)	<b>35.0%</b> (27.7-42.3)	<b>38.2%</b> (27.6-48.9)	<b>31.9%</b> (27.5-36.2)
Percentage with raised BP (SBP ≥ 160 and/or DBP ≥ 100 mmHg or currently on medication for raised BP)	<b>18.4%</b> (12.4-24.4)	<b>15.5%</b> (7.6-23.4)	<b>21.2%</b> (15.8-26.6)
<b>Summary of combined risk factors</b>			
<ul style="list-style-type: none"> <li>current daily smokers</li> <li>less than 5 servings of fruits &amp; vegetables per day</li> <li>low level of activity (&lt;600 MET -minutes)</li> <li>overweight or obese (BMI ≥ 25 kg/m<sup>2</sup>)</li> <li>raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP)</li> </ul>			
Percentage with low risk (i.e. none of the risk factors included above)	<b>0.1%</b> (0.0-0.4)	<b>0.0%</b> (0.0-0.0)	<b>0.3%</b> (0.0-0.8)
Percentage with raised risk (at least three of the risk factors included above), aged 25 to 44 years old	<b>43.4%</b> (39.4-47.5)	<b>37.0%</b> (29.9-44.1)	<b>49.7%</b> (46.8- 52.7)
Percentage with raised risk (at least three of the risk factors included above), aged 45 to 64 years old	<b>67.4%</b> (63.6-71.2)	<b>65.2%</b> (54.8-75.6)	<b>69.6%</b> (65.9-73.2)

\* Number of respondents too small for accurate estimate

**For additional information, please contact the STEPS Focal Point:**

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Tel: 469-467-1237



# **WHO STEPS**

## **Chronic Disease Risk Factor Surveillance**

### **DATA BOOK FOR ST. KITTS**

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### IMPORTANT:

- You need to run the Epi Info programmes **AgeRange2564** (or **AgeRange1564**) and **MissingAgeSex** prior to running any of the programmes in the data book. You should only need to run these programmes one time. If age and/or sex can be entered for any records missing this information, then enter this missing information and run **Rerun\_AgeRange2564** (or **Rerun\_AgeRange1564**) followed by **MissingAgeSex**.
- ALL questions that report results by age and/or sex use the variables **AgeRange**, **Sex**, and **Valid**. These variables are created in the above AgeRange and MissingAgeSexConsent programmes using the variables **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.

## 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	%
25-34											
35-44											
45-54											
55-64											
25-64											

### Analysis Information:

- Questions used: interview tracking form
  - Epi Info programme name: ResponseOverall (unweighted)
- 

**Step 3 response proportions**      Description: Summary results for the response proportions for Step 3 for countries that have done Step 3 with a sub-set of the sample.

Response proportions for Step 3											
Age Group (years)	Men				Women				Both Sexes		
	Eligible	Responded			Eligible	Responded			Eligible	Responded	
	n	n	%		N	n	%		n	n	%
25-34											
35-44											
45-54											
55-64											
25-64											

### Analysis Information:

- Questions used: interview tracking form (if applicable)
  - Epi Info programme name: ResponseStep3 (unweighted)
-

## 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	%	
25-34	150	34.2	289	65.8	439	30.7	
35-44	138	35.0	256	65.0	394	27.4	
45-54	171	40.3	253	59.7	424	29.5	
55-64	72	40.9	104	59.1	176	12.3	
<b>25-64</b>	<b>531</b>	<b>37.1</b>	<b>902</b>	<b>62.9</b>	<b>1433</b>	<b>100.0</b>	

**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	
25-34	145	12.3	282	12.3	427	12.3	
35-44	131	11.9	246	11.9	377	11.9	
45-54	162	11.7	244	11.4	406	11.5	
55-64	64	10.4	95	10.3	159	10.4	
<b>25-64</b>	<b>502</b>	<b>11.8</b>	<b>867</b>	<b>11.7</b>	<b>1369</b>	<b>11.7</b>	

**Ethnicity** Description: Summary results for the ethnicity of the respondents.

Instrument Question:

- What is your ethnic group/racial background?

Ethnic group of respondents					
Age Group (years)	Both Sexes				
	n	% Black/ African	% Spanish	% Asian/ Indian	% White
25-34	439	96.6	1.1	1.6	0.7
35-44	393	96.2	0.8	2.0	1.0
45-54	423	98.1	1.7	0.0	0.2
55-64	174	98.9	0.6	0.0	0.6
<b>25-64</b>	<b>1429</b>	<b>97.2</b>	<b>1.1</b>	<b>1.0</b>	<b>0.6</b>

**Literacy** Description: Proportion of respondents being able to read and write.

Instrument question:

- Can you read and write?

Respondents being able to read and write						
Age Group (years)	Men		Women		Both Sexes	
	n	%	n	%	n	%
25-34	148	97.3	282	100.0	430	99.1
35-44	135	99.3	252	99.2	387	99.2
45-54	169	97.0	244	100.0	413	98.8
55-64	71	93.0	103	94.2	174	93.7
<b>25-64</b>	<b>523</b>	<b>97.1</b>	<b>881</b>	<b>99.1</b>	<b>1404</b>	<b>98.4</b>

**Martial status**

Description: Marital status of survey respondents.

Instrument question:

- What is your marital status?

Marital status						
Age Group (years)	Men					
	n	% single	% married	% living together	% widower	% separated / divorced
25-34	149	87.2	10.7	2.0	0.0	0.0
35-44	137	64.2	32.1	2.2	0.0	1.5
45-54	171	53.8	30.4	4.1	0.6	11.1
55-64	72	41.7	41.7	2.8	6.9	6.9
<b>25-64</b>	<b>529</b>	<b>64.3</b>	<b>26.8</b>	<b>2.8</b>	<b>1.1</b>	<b>4.9</b>

Marital status						
Age Group (years)	Women					
	n	% single	% married	% living together	% widow	% separated / divorced
25-34	287	75.6	18.5	2.8	0.0	3.1
35-44	256	67.2	27.7	1.6	0.0	3.5
45-54	251	55.8	32.3	0.8	3.6	7.6
55-64	104	40.4	31.7	2.9	12.5	12.5
<b>25-64</b>	<b>898</b>	<b>63.6</b>	<b>26.5</b>	<b>1.9</b>	<b>2.4</b>	<b>5.6</b>

Marital status						
Age Group (years)	Both Sexes					
	n	% single	% married	% living together	% widow / widower	% separated / divorced
25-34	436	79.6	15.8	2.5	0.0	2.1
35-44	393	66.2	29.3	1.8	0.0	2.8
45-54	422	55.0	31.5	2.1	2.4	9.0
55-64	176	40.9	35.8	2.8	10.2	10.2
<b>25-64</b>	<b>1427</b>	<b>63.8</b>	<b>26.6</b>	<b>2.2</b>	<b>2.0</b>	<b>5.3</b>

**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								
Age Group (years)	Men							
	n	% No formal schooling	% Less than primary school	% Primary school completed	% Secondary school completed	% High school completed	% College/ University completed	% Post graduate degree completed
25-34	150	0.7	0.7	8.0	18.0	56.0	14.7	2.0
35-44	137	0.7	0.7	9.5	20.4	48.9	17.5	2.2
45-54	170	0.0	1.2	20.6	22.4	42.4	12.9	0.6
55-64	71	1.4	5.6	23.9	38.0	19.7	9.9	1.4
<b>25-64</b>	<b>528</b>	<b>0.6</b>	<b>1.5</b>	<b>14.6</b>	<b>22.7</b>	<b>44.9</b>	<b>14.2</b>	<b>1.5</b>

Highest level of education								
Age Group (years)	Women							
	n	% No formal schooling	% Less than primary school	% Primary school completed	% Secondary school completed	% High school completed	% College/ University completed	% Post graduate degree completed
25-34	287	0.0	0.0	5.6	20.2	56.8	16.7	0.7
35-44	253	0.4	0.4	13.4	23.3	47.8	13.4	1.2
45-54	251	0.0	1.6	22.7	27.1	39.0	8.8	0.8
55-64	103	1.0	4.9	35.9	29.1	26.2	1.9	1.0
<b>25-64</b>	<b>894</b>	<b>0.2</b>	<b>1.1</b>	<b>16.1</b>	<b>24.0</b>	<b>45.7</b>	<b>11.9</b>	<b>0.9</b>

Highest level of education								
Age Group (years)	Both Sexes							
	n	% No formal schooling	% Less than primary school	% Primary school completed	% Secondary school completed	% High school completed	% College/ University completed	% Post graduate degree completed
25-34	437	0.2	0.2	6.4	19.5	56.5	16.0	1.1
35-44	390	0.5	0.5	12.1	22.3	48.2	14.9	1.5
45-54	421	0.0	1.4	21.9	25.2	40.4	10.5	0.7
55-64	174	1.1	5.2	31.0	32.8	23.6	5.2	1.1
<b>25-64</b>	<b>1422</b>	<b>0.4</b>	<b>1.3</b>	<b>15.5</b>	<b>23.6</b>	<b>45.4</b>	<b>12.7</b>	<b>1.1</b>



**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 last 12 months?

Employment status					
Men					
Age Group (years)	n	% Government employee	% Non-government employee	% Self-employed	% Unpaid
25-34	147	29.9	46.9	17.0	6.1
35-44	136	27.9	42.6	27.9	1.5
45-54	169	23.7	47.9	25.4	3.0
55-64	72	18.1	29.2	25.0	27.8
<b>25-64</b>	<b>524</b>	<b>25.8</b>	<b>43.7</b>	<b>23.7</b>	<b>6.9</b>

Employment status					
Women					
Age Group (years)	n	% Government employee	% Non-government employee	% Self-employed	% Unpaid
25-34	288	28.5	53.8	10.1	7.6
35-44	256	26.2	53.1	10.9	9.8
45-54	253	31.2	39.9	15.0	13.8
55-64	104	25.0	26.0	14.4	34.6
<b>25-64</b>	<b>901</b>	<b>28.2</b>	<b>46.5</b>	<b>12.2</b>	<b>13.1</b>

Employment status					
Both Sexes					
Age Group (years)	n	% Government employee	% Non-government employee	% Self-employed	% Unpaid
25-34	435	29.0	51.5	12.4	7.1
35-44	392	26.8	49.5	16.8	6.9
45-54	422	28.2	43.1	19.2	9.5
55-64	176	22.2	27.3	18.8	31.8
<b>25-64</b>	<b>1425</b>	<b>27.3</b>	<b>45.5</b>	<b>16.4</b>	<b>10.8</b>

**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 last 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
25-34	9	11.1	11.1	0.0	0.0	77.8	0.0
35-44	2	0.0	0.0	0.0	0.0	100.0	0.0
45-54	5	0.0	0.0	0.0	20.0	60.0	20.0
55-64	20	5.0	0.0	0.0	60.0	25.0	10.0
<b>25-64</b>	<b>36</b>	<b>5.6</b>	<b>2.8</b>	<b>0.0</b>	<b>36.1</b>	<b>47.2</b>	<b>8.3</b>

Unpaid work and unemployed							
Age Group (years)	Women						
	n	% Non-paid	% Student	% Home-maker	% Retired	Unemployed	
						% Able to work	% Not able to work
25-34	22	13.6	4.5	27.3	0.0	54.5	0.0
35-44	25	4.0	0.0	16.0	0.0	68.0	12.0
45-54	35	0.0	0.0	22.9	5.7	45.7	25.7
55-64	36	5.6	0.0	16.7	44.4	16.7	16.7
<b>25-64</b>	<b>118</b>	<b>5.1</b>	<b>0.8</b>	<b>20.3</b>	<b>15.3</b>	<b>43.2</b>	<b>15.3</b>

Unpaid work and unemployed							
Age Group (years)	Both Sexes						
	n	% Non-paid	% Student	% Home-maker	% Retired	Unemployed	
						% Able to work	% Not able to work
25-34	31	12.9	6.5	19.4	0.0	61.3	0.0
35-44	27	3.7	0.0	14.8	0.0	70.4	11.1
45-54	40	0.0	0.0	20.0	7.5	47.5	25.0
55-64	56	5.4	0.0	10.7	50.0	19.6	14.3
<b>25-64</b>	<b>154</b>	<b>5.2</b>	<b>1.3</b>	<b>15.6</b>	<b>20.1</b>	<b>44.2</b>	<b>13.6</b>

**Per capita annual income**

Description: Mean reported per capita annual income of respondents in local currency.

Instrument question:

- How many people older than 18 years, including yourself, live in your household?
- Taking the past year, can you tell me what the average earning of the household has been?

Mean annual per capita income	
n	Mean
298	\$72,334.46

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**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 in EC Dollars					
n	% ≤ \$12,000	% > \$12,000 and ≤ \$18,000	% > \$18,000 and ≤ \$24,000	% > \$24,000 and ≤ \$30,000	% > \$30,000
633	10.7	24.8	24.8	18.0	21.8

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## Tobacco Use

**Current smoking** Description: Current smokers among all respondents.

Instrument questions:

- 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
25-34	148	14.9	9.6-20.1		289	1.0	0.0-2.2		437	8.0	4.7-11.3
35-44	136	17.6	11.7-23.6		256	0.4	0.0-1.4		392	9.0	5.2-12.8
45-54	170	19.4	11.6-27.2		253	2.4	0.0-5.4		423	11.2	5.2-17.1
55-64	72	8.3	0.8-15.9		103	1.0	0.0-2.6		175	4.6	0.6-8.5
25-64	526	16.2	12.3-20.1		901	1.1	0.0-2.2		1427	8.7	5.6-11.7

**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?

Smoking status							
Men							
Age Group (years)	n	Current smoker				% Does not smoke	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	148	10.1	3.8-16.5	4.7	1.3-8.2	85.1	79.9-90.4
35-44	136	11.8	6.6-16.9	5.9	1.3-10.5	82.4	76.4-88.3
45-54	170	14.1	8.0-20.2	5.3	1.8-8.8	80.6	72.8-88.4
55-64	72	8.3	0.8-15.9	0.0	0.0-0.0	91.7	84.1-99.2
<b>25-64</b>	<b>526</b>	<b>11.4</b>	<b>6.9-15.9</b>	<b>4.8</b>	<b>3.1-6.5</b>	<b>83.8</b>	<b>79.9-87.7</b>

Smoking status							
Women							
Age Group (years)	n	Current smoker				% Does not smoke	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	289	0.7	0.0-1.5	0.3	0.0-1.0	99.0	97.8-100.0
35-44	256	0.4	0.0-1.4	0.0	0.0-0.0	99.6	98.6-100.0
45-54	253	1.6	0.0-3.4	0.8	0.0-2.1	97.6	94.6-100.0
55-64	103	0.0	0.0-0.0	1.0	0.0-2.6	99.0	97.4-100.0
<b>25-64</b>	<b>901</b>	<b>0.7</b>	<b>0.1-1.3</b>	<b>0.4</b>	<b>0.0-1.0</b>	<b>98.9</b>	<b>97.8-100.0</b>

Smoking status							
Both Sexes							
Age Group (years)	n	Current smoker				% Does not smoke	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	437	5.4	2.1-8.8	2.5	0.5-4.6	92.0	88.7-95.3
35-44	392	6.1	3.0-9.1	2.9	0.6-5.3	91.0	87.2-94.8
45-54	423	8.1	3.8-12.3	3.1	0.7-5.5	88.8	82.9-94.8
55-64	175	4.1	0.3-7.8	0.5	0.0-1.4	95.5	91.5-99.4
<b>25-64</b>	<b>1427</b>	<b>6.1</b>	<b>3.3-8.8</b>	<b>2.6</b>	<b>1.5-3.7</b>	<b>91.3</b>	<b>88.3-94.4</b>

**Frequency of smoking** Description: Percentage of current daily smokers among smokers.

Instrument question:

- 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
25-34	22	68.2	42.1-94.2				25	68.1	43.2-93.0
35-44	24	66.7	44.7-88.7				25	67.4	46.6-88.2
45-54	33	72.7	59.0-86.4				39	72.1	59.4-84.8
55-64	6	100.0	100.0-100.0				7	89.0	70.4-100.0
<b>25-64</b>	<b>85</b>	<b>70.3</b>	<b>56.6-84.0</b>				<b>96</b>	<b>70.0</b>	<b>57.5-82.5</b>

\* n less than 50 across all age groups

**Manufactured cigarette smokers** Description: Percentage of smokers who use manufactured cigarettes among daily smokers.

Instrument question:

- On average, how many of the following do you smoke each day?

Manufactured cigarette smokers among daily smokers									
Age Group (years)	Men			Women *			Both Sexes		
	n	% Manufactured cigarette smoker	95% CI	n	% Manufactured cigarette smoker	95% CI	n	% Manufactured cigarette smoker	95% CI
25-34	15	26.7	0.0-55.6				17	25.0	0.0-51.6
35-44	16	50.0	25.8-74.2				17	51.6	26.9-76.3
45-54	24	70.8	55.3-86.4				28	73.6	58.3-88.9
55-64	6	83.3	51.5-100.0				6	83.3	51.5-100.0
<b>25-64</b>	<b>61</b>	<b>50.9</b>	<b>31.4-70.4</b>				<b>68</b>	<b>51.8</b>	<b>32.9-70.7</b>

\* n less than 50 across all age groups

**Amount of tobacco used among smokers by type**

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

Instrument question:

- On average, how many of the following do you smoke each day?

Mean amount of tobacco used by daily smokers by type												
Men												
Age Group (years)	n	Mean # of manu- factured cig.	95% CI	n	Mean #of hand- rolled cig.	95% CI	n	Mean # of pipes of tobacco	95% CI	n	Mean # of other type of tobacco	95% CI
25-34	13	3.2	0.0-7.4	13	1.3	0.0-3.0	13	0.0	--	13	1.4	0.4-2.4
35-44	13	7.5	3.6-11.5	12	0.8	0.0-1.8	12	0.0	--	13	0.2	0.0-0.6
45-54	21	7.2	3.4-11.1	19	0.1	0.0-0.2	19	0.0	--	19	0.7	0.1-1.3
55-64	6	10.3	5.1-15.6	5	0.0	--	5	0.0	--	5	0.6	0.0-1.6
<b>25-64</b>	<b>53</b>	<b>6.4</b>	<b>3.5-9.2</b>	<b>49</b>	<b>0.7</b>	<b>0.1-1.3</b>	<b>49</b>	<b>0.0</b>	<b>--</b>	<b>50</b>	<b>0.7</b>	<b>0.3-1.2</b>

Mean amount of tobacco used by daily smokers by type												
Women *												
Age Group (years)	n	Mean # of manu- facture d cig.	95% CI	n	Mean #of hand- rolled cig.	95% CI	n	Mean # of pipes of tobacco	95% CI	n	Mean # of other type of tobacco	95% CI
25-34												
35-44												
45-54												
55-64												
<b>25-64</b>												

Mean amount of tobacco used by daily smokers by type												
Both Sexes												
Age Group (years)	n	Mean # of manu- facture d cig.	95% CI	n	Mean #of hand- rolled cig.	95% CI	n	Mean # of pipes of tobacco	95% CI	n	Mean # of other type of tobacco	95% CI
25-34	14	3.0	0.0-7.1	14	1.3	0.0-2.9	15	0.0	--	15	1.4	0.3-2.4
35-44	14	7.3	3.5-11.1	13	0.7	0.0-1.7	13	0.0	--	14	0.2	0.0-0.5
45-54	25	7.5	4.3-10.6	22	0.0	0.0-0.2	22	0.0	--	22	0.6	0.1-1.2
55-64	6	10.3	5.1-15.6	5	0.0	--	5	0.0	--	5	0.6	0.0-1.6
<b>25-64</b>	<b>59</b>	<b>6.3</b>	<b>3.6-9.0</b>	<b>54</b>	<b>0.7</b>	<b>0.1-1.2</b>	<b>55</b>	<b>0.0</b>	<b>--</b>	<b>56</b>	<b>0.7</b>	<b>0.3-1.1</b>

\* n less than 50 across all age groups

**Initiation 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:

- How old were you when you first started smoking daily?
- How long ago did you stop smoking daily?

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
25-34	15	15.7	14.4-17.1						16	15.7	14.4-17.0
35-44	12	16.3	14.8-17.9						12	16.3	14.8-17.9
45-54	21	17.0	14.9-19.1						24	18.1	14.6-21.6
55-64	6	24.2	7.5-40.8						6	24.2	7.5-40.8
<b>25-64</b>	<b>54</b>	<b>16.9</b>	<b>15.6-18.3</b>						<b>58</b>	<b>17.2</b>	<b>15.7-18.7</b>

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
25-34	15	13.4	11.5-15.3					16	13.6	11.6-15.6	
35-44	12	23.0	21.0-25.0					12	23.0	21.0-25.0	
45-54	21	31.9	28.9-34.9					24	30.6	26.3-35.0	
55-64	6	33.7	19.3-48.0					6	33.7	19.3-48.0	
<b>25-64</b>	<b>54</b>	<b>22.9</b>	<b>20.7-25.2</b>					<b>58</b>	<b>22.8</b>	<b>20.5-25.0</b>	

\* n less than 50 across all age groups



**Percentage of ex daily smokers in the population**

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

Instrument question:

- In the past did you ever smoke daily?
- How old were you when you stopped smoking daily?

Ex-daily smokers among all respondents											
Age Group (years)	Men				Women				Both Sexes		
	n	% ex- daily smokers	95% CI		n	% ex- daily smokers	95% CI		n	% ex- daily smokers	95% CI
25-34	132	6.1	2.1-10.0		282	1.8	0.0-3.8		414	3.8	1.5-6.1
35-44	121	5.8	0.0-11.7		255	0.8	0.0-2.1		376	3.1	0.5-5.8
45-54	146	7.5	3.3-11.8		244	2.0	0.4-3.7		390	4.7	2.4-7.1
55-64	66	13.6	3.5-23.8		102	1.0	0.0-3.5		168	6.9	1.9-11.9
25-64	465	7.0	3.3-10.8		883	1.4	0.7-2.1		1348	4.1	2.3-5.8

Mean years since cessation *											
Age Group (years)	Men				Women				Both Sexes		
	n	Mean years	95% CI		n	Mean years	95% CI		n	Mean years	95% CI
25-34											
35-44											
45-54											
55-64											
25-64											

\* n less than 50 across all age groups

**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
25-34	146	0.0	0.0-0.0		283	0.0	0.0-0.0		429	0.0	0.0-0.0
35-44	136	0.7	0.0-2.6		253	0.0	0.0-0.0		389	0.4	0.0-1.3
45-54	169	0.0	0.0-0.0		247	0.4	0.0-1.4		416	0.2	0.0-0.7
55-64	72	0.0	0.0-0.0		103	0.0	0.0-0.0		175	0.0	0.0-0.0
25-64	523	0.3	0.0-0.9		886	0.1	0.0-0.3		1409	0.2	0.0-0.5

**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?

Smokeless tobacco use							
Men							
Age Group (years)	n	Current user				% Does not use smokeless tobacco	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	146	0.0	0.0-0.0	0.0	0.0-0.0	100.0	100.0-100.0
35-44	136	0.7	0.0-2.6	0.0	0.0-0.0	99.3	97.4-100.0
45-54	169	0.0	0.0-0.0	0.0	0.0-0.0	100.0	100.0-100.0
55-64	72	0.0	0.0-0.0	0.0	0.0-0.0	100.0	100.0-100.0
<b>25-64</b>	<b>523</b>	<b>0.3</b>	<b>0.0-0.9</b>	<b>0.0</b>	<b>0.0-0.0</b>	<b>99.7</b>	<b>99.1-100.0</b>

Smokeless tobacco use							
Women							
Age Group (years)	n	Current user				% Does not use smokeless tobacco	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	283	0.0	0.0-0.0	0.0	0.0-0.0	100.0	100.0-100.0
35-44	253	0.0	0.0-0.0	0.0	0.0-0.0	100.0	100.0-100.0
45-54	247	0.0	0.0-0.0	0.4	0.0-1.4	99.6	98.6-100.0
55-64	103	0.0	0.0-0.0	0.0	0.0-0.0	100.0	100.0-100.0
<b>25-64</b>	<b>886</b>	<b>0.0</b>	<b>0.0-0.0</b>	<b>0.1</b>	<b>0.0-0.3</b>	<b>99.9</b>	<b>99.7-100.0</b>

Smokeless tobacco use							
Both Sexes							
Age Group (years)	n	Current user				% Does not use smokeless tobacco	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	429	0.0	0.0-0.0	0.0	0.0-0.0	100.0	100.0-100.0
35-44	389	0.4	0.0-1.3	0.0	0.0-0.0	99.6	98.7-100.0
45-54	416	0.0	0.0-0.0	0.2	0.0-0.7	99.8	99.3-100.0
55-64	175	0.0	0.0-0.0	0.0	0.0-0.0	100.0	100.0-100.0
<b>25-64</b>	<b>1409</b>	<b>0.1</b>	<b>0.0-0.5</b>	<b>0.0</b>	<b>0.0-0.1</b>	<b>99.8</b>	<b>99.5-100.0</b>

**Percentage of ex daily users of smokeless tobacco in the population**

Description: Percentage of ex-daily users of smokeless tobacco among all respondents.

Instrument question:

- In the past, did you ever use smokeless tobacco such as snuff, chewing tobacco, betel daily?

Ex-daily smokeless tobacco users											
Age Group (years)	Men				Women				Both Sexes		
	n	% Ex- daily users	95% CI		n	% Ex- daily users	95% CI		n	% Ex- daily users	95% CI
25-34	147	2.0	0.0-5.9		283	3.2	0.0-8.4		430	2.6	0.0-6.1
35-44	136	1.5	0.0-4.0		254	2.0	0.0-5.9		390	1.7	0.0-4.9
45-54	168	2.4	0.0-6.7		248	2.4	0.1-4.7		416	2.4	0.0-5.5
55-64	71	7.0	0.0-17.8		102	7.8	0.0-19.6		173	7.5	0.0-18.4
25-64	522	2.4	0.0-5.5		887	3.1	0.0-7.8		1409	2.7	0.0-6.6

**Frequency of smokeless tobacco use among users by type** Description: Mean times per day smokeless tobacco used by smokeless tobacco users per day, by type.

Instrument question:

- On average, how many times a day do you use...?

Mean times per day smokeless tobacco used by daily smokeless tobacco users by type												
Age Group (years)	Men *											
	n	Snuff by mouth	95% CI	n	Snuff by nose	95% CI	n	Chewing tobacco	95% CI	n	Betel, quid	95% CI
25-34												
35-44												
45-54												
55-64												
<b>25-64</b>												

Mean times per day smokeless tobacco used by daily smokeless tobacco users by type												
Age Group (years)	Women *											
	n	Snuff by mouth	95% CI	n	Snuff by nose	95% CI	n	Chewing tobacco	95% CI	n	Betel, quid	95% CI
25-34												
35-44												
45-54												
55-64												
<b>25-64</b>												

Mean times per day smokeless tobacco used by daily smokeless tobacco users by type												
Age Group (years)	Both Sexes *											
	n	Snuff by mouth	95% CI	n	Snuff by nose	95% CI	n	Chewing tobacco	95% CI	n	Betel, quid	95% CI
25-34												
35-44												
45-54												
55-64												
<b>25-64</b>												

\* n less than 50 across all age groups

**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 tobacco products daily?
- Do you currently use smokeless tobacco products daily?

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
25-34	145	9.7	3.0-16.3		283	0.7	0.0-1.6		428	5.2	1.8-8.6
35-44	134	11.9	6.2-17.7		253	0.0	0.0-0.0		387	5.9	2.7-9.2
45-54	168	13.1	8.1-18.1		247	1.6	0.0-3.5		415	7.6	4.0-11.2
55-64	72	8.3	0.8-15.9		102	0.0	0.0-0.0		174	4.1	0.3-7.9
25-64	519	11.1	6.6-15.6		885	0.6	0.0-1.1		1404	5.9	3.3-8.4

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
25-34	145	14.5	9.2-19.8		283	1.1	0.0-2.3		428	7.8	4.7-10.9
35-44	134	17.9	11.0-24.9		253	0.0	0.0-0.0		387	8.9	4.9-12.9
45-54	168	18.5	11.8-25.1		247	2.8	0.0-5.8		415	10.9	5.7-16.2
55-64	72	8.3	0.8-15.9		102	1.0	0.0-2.7		174	4.6	0.6-8.5
25-64	519	16.0	12.2-19.7		885	1.0	0.0-2.1		1404	8.5	5.8-11.2

**Exposure to ETS in home in last 7 days** Description: Percentage of people exposed to ETS in the home on one or more days in the last 7 days.

Instrument questions:

- In the last 7 days, how many days did someone in the house smoke when you were present?

Exposed to ETS in home on 1 or more of the past 7 days									
Age Group (years)	Men			Women			Both Sexes		
	n	% Exposed	95% CI	n	% Exposed	95% CI	n	% Exposed	95% CI
25-34	149	10.7	0.0-25.4	282	12.1	0.0-28.2	431	11.4	0.0-26.7
35-44	137	13.1	2.3-24.0	253	4.7	0.0-11.8	390	9.0	0.4-17.5
45-54	171	9.9	0.5-19.4	248	5.2	0.0-11.4	419	7.7	0.0-15.4
55-64	72	8.3	0.0-21.3	104	3.8	0.0-11.1	176	6.0	0.0-15.5
<b>25-64</b>	<b>529</b>	<b>11.2</b>	<b>0.0-22.6</b>	<b>887</b>	<b>7.2</b>	<b>0.0-16.9</b>	<b>1416</b>	<b>9.2</b>	<b>0.0-19.6</b>

**Exposure to ETS at workplace in last 7 days** Description: Percentage of people exposed to ETS at the workplace on one or more days in the last 7 days.

Instrument questions:

- In the last 7 days, how many days did someone smoke in closed areas in your workplace (in the building, in a work area or a specific office) when you were present?

Exposed to ETS at workplace on 1 or more of the past 7 days									
Age Group (years)	Men			Women			Both Sexes		
	n	% Exposed	95% CI	n	% Exposed	95% CI	n	% Exposed	95% CI
25-34	148	13.5	9.3-17.7	279	7.9	2.5-13.2	427	10.8	7.1-14.4
35-44	137	21.2	13.3-29.1	252	6.3	4.0-8.7	389	13.8	9.1-18.5
45-54	169	15.4	10.6-20.2	243	5.4	2.4-8.3	412	10.6	6.9-14.3
55-64	68	13.2	6.8-19.7	96	1.0	0.0-3.5	164	7.0	3.2-10.8
<b>25-64</b>	<b>522</b>	<b>16.6</b>	<b>12.4-20.8</b>	<b>870</b>	<b>6.2</b>	<b>3.7-8.6</b>	<b>1392</b>	<b>11.5</b>	<b>9.0-14.0</b>

## Alcohol Consumption

### Alcohol consumption status

Description: Alcohol consumption status of all respondents. Abstainers have not consumed alcohol in the last 12 months.\*

Instrument questions:

- Have you consumed alcohol (such as beer, wine, spirits, fermented cider, or (add other local examples) within the past 12 months?
- Have you consumed alcohol (such as beer, wine, spirits, fermented cider, or (add other local examples) within the past 30 days?

Alcohol consumption status							
Age Group (years)	Men						
	n	% Current drinker (last 30 days)	95% CI	% Drank in last 12 months, not current	95% CI	% Abstainer	95% CI
25-34	149	36.2	28.1-44.4	53.7	41.7-65.7	10.1	3.1-17.0
35-44	138	50.7	44.1-57.4	39.1	32.9-45.3	10.1	2.8-17.5
45-54	170	52.9	45.4-60.5	39.4	29.2-49.6	7.6	3.6-11.7
55-64	72	37.5	23.8-51.2	52.8	38.8-66.8	9.7	2.8-16.7
<b>25-64</b>	<b>529</b>	<b>45.1</b>	<b>39.4-50.7</b>	<b>45.4</b>	<b>37.7-53.0</b>	<b>9.5</b>	<b>4.2-14.8</b>

Alcohol consumption status							
Age Group (years)	Women						
	n	% Current drinker (last 30 days)	95% CI	% Drank in last 12 months, not current	95% CI	% Abstainer	95% CI
25-34	289	17.3	10.9-23.7	71.3	61.7-80.9	11.4	4.2-18.7
35-44	256	13.3	8.8-17.7	70.7	64.3-77.1	16.0	9.5-22.6
45-54	252	14.7	9.5-19.9	75.0	66.5-83.5	10.3	6.4-14.3
55-64	101	6.9	2.5-11.3	89.1	82.3-95.9	4.0	0.0-8.5
<b>25-64</b>	<b>898</b>	<b>14.3</b>	<b>11.5-17.2</b>	<b>73.6</b>	<b>68.3-78.9</b>	<b>12.1</b>	<b>8.1-16.1</b>

Alcohol consumption status							
Age Group (years)	Both Sexes						
	n	% Current drinker (last 30 days)	95% CI	% Drank in last 12 months, not current	95% CI	% Abstainer	95% CI
25-34	438	26.8	20.1-33.6	62.4	53.7-71.2	10.7	4.1-17.4
35-44	394	32.1	28.3-35.8	54.9	48.9-60.9	13.1	7.6-18.5
45-54	422	34.5	27.7-41.2	56.6	47.8-65.3	8.9	6.1-11.8
55-64	173	21.9	15.0-28.9	71.3	64.6-77.9	6.8	2.4-11.2
<b>25-64</b>	<b>1427</b>	<b>29.8</b>	<b>25.6-34.1</b>	<b>59.4</b>	<b>53.3-65.4</b>	<b>10.8</b>	<b>6.4-15.3</b>



# Frequency of alcohol consumption

Description: Frequency of alcohol consumption in the last year among those respondents who have drunk in the last 12 months.

Instrument question:

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

Frequency of alcohol consumption in the last 12 months											
Age Group (years)	Men										
	n	% Daily	95% CI	% 5-6 days/ week	95% CI	% 1-4 days /week	95% CI	% 1-3 days/ month	95% CI	% < once a month	95% CI
25-34	70	14.3	6.1-22.5	1.4	0.0-3.8	27.1	12.1-42.2	31.4	18.6-44.2	25.7	18.9-32.6
35-44	84	13.1	4.6-21.6	4.8	0.0-9.7	29.8	13.9-45.7	29.8	11.5-48.0	22.6	1.0-44.2
45-54	103	15.5	7.0-24.0	3.9	1.4-6.4	33.0	23.8-42.2	29.1	18.2-40.0	18.4	9.7-27.2
55-64	34	5.9	0.0-15.1	8.8	0.0-19.9	17.6	4.7-30.6	38.2	12.6-63.9	29.4	11.5-47.3
<b>25-64</b>	<b>291</b>	<b>13.4</b>	<b>8.2-18.6</b>	<b>3.9</b>	<b>2.1-5.8</b>	<b>28.8</b>	<b>21.2-36.4</b>	<b>30.8</b>	<b>23.5-38.0</b>	<b>23.1</b>	<b>14.7-31.4</b>

Frequency of alcohol consumption in the last 12 months											
Age Group (years)	Women										
	n	% Daily	95% CI	% 5-6 days /week	95% CI	% 1-4 days/ week	95% CI	% 1-3 day/ month	95% CI	% < once a month	95% CI
25-34	83	1.2	0.0-3.5	3.6	0.0-7.4	8.4	2.1-14.8	22.9	8.3-37.5	63.9	49.7-78.0
35-44	75	2.7	0.0-5.9	0.0	0.0-0.0	6.7	3.4-9.9	29.3	20.1-38.5	61.3	49.6-73.1
45-54	63	7.9	0.5-15.4	0.0	0.0-0.0	11.1	1.8-20.4	25.4	5.8-45.0	55.6	43.5-67.6
55-64	13	7.7	0.0-27.7	0.0	0.0-0.0	0.0	0.0-0.0	30.8	6.1-55.4	61.5	39.9-83.2
<b>25-64</b>	<b>234</b>	<b>3.4</b>	<b>1.0-5.7</b>	<b>1.3</b>	<b>0.0-2.7</b>	<b>7.8</b>	<b>5.2-10.5</b>	<b>26.3</b>	<b>18.5-34.0</b>	<b>61.2</b>	<b>51.2-71.1</b>

Frequency of alcohol consumption in the last 12 months											
Age Group (years)	Both Sexes										
	n	% Daily	95% CI	% 5-6 days p. week	95% CI	% 1-4 days p. week	95% CI	% 1-3 days p. month	95% CI	% < once a month	95% CI
25-34	153	9.4	3.7-15.0	2.3	0.3-4.2	20.1	10.6-29.7	28.2	15.0-41.4	40.1	32.7-47.5
35-44	159	9.7	3.0-16.4	3.2	0.0-6.4	22.3	12.8-31.7	29.6	15.3-44.0	35.1	22.3-48.0
45-54	166	13.4	7.8-19.0	2.8	1.0-4.6	26.9	18.3-35.5	28.1	15.4-40.8	28.8	22.2-35.3
55-64	47	6.3	0.0-14.7	6.9	0.0-16.0	13.8	3.2-24.3	36.6	16.4-56.8	36.5	23.2-49.8
<b>25-64</b>	<b>525</b>	<b>10.2</b>	<b>6.1-14.3</b>	<b>3.1</b>	<b>1.9-4.3</b>	<b>22.0</b>	<b>17.7-26.4</b>	<b>29.3</b>	<b>23.1-35.6</b>	<b>35.4</b>	<b>29.4-41.3</b>

**Standard drinks per drinking day** Description: Number of standard drinks consumed on a drinking day among those respondents who have drank in the last 12 months.

Instrument question:

- When you drink alcohol, on average, how many drinks do you have during one day?

Number of standard drinks consumed on a drinking day											
Age Group (years)	Men										
	n	% 1 drink	95% CI	% 2-3 drinks	95% CI	% 4-5 drinks	95% CI	% 6+ drinks	95% CI	Mean # of standard drinks	95% CI
25-34	66	21.2	4.1-38.3	47.0	33.4-60.5	18.2	12.5-23.8	13.6	6.7-20.6	3.1	2.5-3.7
35-44	77	18.2	9.6-26.8	36.4	23.7-49.0	28.6	15.8-41.3	16.9	9.6-24.1	4.4	3.2-5.6
45-54	91	16.5	11.1-21.8	40.7	26.5-54.8	25.3	15.9-34.6	17.6	6.8-28.4	3.6	3.0-4.3
55-64	30	16.7	8.3-25.0	56.7	37.9-75.5	23.3	7.8-38.9	3.3	0.0-10.6	2.8	2.3-3.3
<b>25-64</b>	<b>264</b>	<b>18.6</b>	<b>13.3-23.9</b>	<b>42.1</b>	<b>34.6-49.6</b>	<b>24.3</b>	<b>17.7-31.0</b>	<b>15.0</b>	<b>11.5-18.6</b>	<b>3.7</b>	<b>3.3-4.1</b>

Number of standard drinks consumed on a drinking day											
Age Group (years)	Women										
	n	% 1 drink	95% CI	% 2-3 drinks	95% CI	% 4-5 drinks	95% CI	% 6+ drinks	95% CI	Mean # of standard drinks	95% CI
25-34	80	53.8	40.8-66.7	35.0	25.8-44.2	6.3	0.4-12.1	5.0	1.1-8.9	1.9	1.6-2.3
35-44	71	50.7	35.9-65.5	35.2	24.1-46.3	9.9	0.7-19.0	4.2	0.3-8.2	2.1	1.4-2.7
45-54	61	47.5	26.0-69.1	32.8	17.1-48.4	13.1	5.0-21.3	6.6	0.0-13.6	2.3	1.7-2.9
55-64	11	90.9	71.5-100.0	9.1	0.0-28.5	0.0	0.0-0.0	0.0	0.0-0.0	1.1	0.9-1.3
<b>25-64</b>	<b>223</b>	<b>52.9</b>	<b>41.7-64.2</b>	<b>33.6</b>	<b>26.3-40.8</b>	<b>8.7</b>	<b>3.3-14.2</b>	<b>4.8</b>	<b>2.6-7.0</b>	<b>2.0</b>	<b>1.7-2.3</b>

Number of standard drinks consumed on a drinking day											
Age Group (years)	Both Sexes										
	n	% 1 drink	95% CI	% 2-3 drinks	95% CI	% 4-5 drinks	95% CI	% 6+ drinks	95% CI	Mean # of standard drinks	95% CI
25-34	146	33.6	20.3-47.0	42.4	31.6-53.2	13.6	8.8-18.4	10.3	5.9-14.8	2.7	2.3-3.1
35-44	148	28.9	21.6-36.3	36.0	27.3-44.6	22.4	14.6-30.2	12.7	7.6-17.8	3.6	2.8-4.4
45-54	152	25.7	16.0-35.4	38.3	27.6-49.0	21.7	13.4-29.9	14.3	5.2-23.4	3.2	2.7-3.8
55-64	41	32.5	24.0-41.0	46.5	35.1-58.0	18.4	4.4-32.3	2.6	0.0-8.5	2.5	2.1-2.8
<b>25-64</b>	<b>487</b>	<b>30.0</b>	<b>23.0-36.9</b>	<b>39.3</b>	<b>34.0-44.5</b>	<b>19.1</b>	<b>14.0-24.3</b>	<b>11.6</b>	<b>8.9-14.4</b>	<b>3.1</b>	<b>2.8-3.5</b>

**Heavy drinking**

Description: Frequency and quantity of drinks consumed in the last 7 days by current (last 30 days) drinker, grouped into three categories.

Instrument question:

- During each of the past 7 days, how many standard drinks of any alcoholic drink did you have each day?

Frequency and quantity of drinks consumed in the last 7 days							
Age Group (years)	Men						
	n	% Drank on 4+ days	95% CI	% 5+ drinks on any day	95% CI	% 20+ drinks in 7 days	95% CI
25-34	51	27.5	18.2-36.7	23.5	6.1-41.0	51	5.9
35-44	68	29.4	12.9-45.9	33.8	17.3-50.3	68	13.2
45-54	83	36.1	26.0-46.3	25.3	7.9-42.7	83	14.5
55-64	27	22.2	1.1-43.4	14.8	0.0-35.1	27	7.4
<b>25-64</b>	<b>229</b>	<b>29.9</b>	<b>22.2-37.7</b>	<b>27.4</b>	<b>19.2-35.6</b>	<b>229</b>	<b>11.1</b>

Frequency and quantity of drinks consumed in the last 7 days							
Age Group (years)	Women						
	n	% Drank on 4+ days	95% CI	% 4+ drinks on any day	95% CI	% 15+ drinks in 7 days	95% CI
25-34	47	8.5	0.0-18.8	25.5	10.1-41.0	8.5	0.0-18.8
35-44	33	6.1	0.0-12.3	15.2	0.0-33.2	3.0	0.0-9.4
45-54	36	11.1	0.0-22.3	22.2	5.0-39.4	2.8	0.0-7.0
55-64	7	0.0	0.0-0.0	0.0	0.0-0.0	0.0	0.0-0.0
<b>25-64</b>	<b>123</b>	<b>7.8</b>	<b>2.2-13.4</b>	<b>20.1</b>	<b>10.1-30.1</b>	<b>5.0</b>	<b>1.1-9.0</b>

Frequency and quantity of drinks consumed in the last 7 days			
Age Group (years)	Both Sexes		
	n	% Drank on 4+ days	95% CI
25-34	98	21.4	13.7-29.1
35-44	101	24.6	10.8-38.4
45-54	119	30.8	21.1-40.5
55-64	34	18.7	0.0-37.8
<b>25-64</b>	<b>352</b>	<b>24.7</b>	<b>19.2-30.1</b>

**Hazardous and harmful drinking**

Description: Percentage of current (last 30 days) drinker engaging in hazardous and harmful drinking in the last 7 days.  
Harmful drinking is defined as  $\geq 60$ g of pure alcohol on average per day for men and  $\geq 40$  g for women.  
Hazardous drinking is defined as 40-59.9g of pure alcohol on average per day for men and 20-39.9g for women.  
A standard drink contains approximately 10g of pure alcohol.

Instrument question:

- During each of the past 7 days, how many standard drinks of any alcoholic drink did you have each day?

Hazardous and harmful drinking in the last 7 days							
Age Group (years)	Men						
	n	% harmful drinking	95% CI	% hazardous drinking	95% CI	% <40g pure alcohol per day	95% CI
25-34	51	0.0	0.0-0.0	3.9	0.0-8.3	96.1	91.7-100.0
35-44	68	4.4	0.0-9.0	1.5	0.0-5.1	94.1	89.4-98.8
45-54	83	1.2	0.0-3.0	7.2	0.0-14.8	91.6	82.3-100.0
55-64	27	0.0	0.0-0.0	3.7	0.0-11.5	96.3	88.5-100.0
<b>25-64</b>	<b>229</b>	<b>2.1</b>	<b>0.0-4.3</b>	<b>3.7</b>	<b>1.4-6.0</b>	<b>94.2</b>	<b>90.7-97.7</b>

Hazardous and harmful drinking in the last 7 days							
Age Group (years)	Women						
	n	% harmful drinking	95% CI	% hazardous drinking	95% CI	% <20g pure alcohol per day	95% CI
25-34	47	2.1	0.0-5.8	10.6	0.7-20.6	87.2	78.2-96.3
35-44	33	3.0	0.0-9.4	0.0	0.0-0.0	97.0	90.6-100.0
45-54	36	2.8	0.0-7.0	5.6	0.0-11.6	91.7	83.7-99.6
55-64	7	0.0	0.0-0.0	0.0	0.0-0.0	100.0	100.0-100.0
<b>25-64</b>	<b>123</b>	<b>2.5</b>	<b>0.0-5.2</b>	<b>5.4</b>	<b>1.5-9.4</b>	<b>92.1</b>	<b>89.2-95.0</b>

**Largest number of drinks in last 12 months**

Description: Largest number of drinks consumed during a single occasion in the last 12 months among last 12 month drinker.

Instrument question:

- In the past 12 months what was the largest number of drinks you had on a single occasion, counting all types of standard drinks together?

Mean maximum number of drinks consumed on one occasion in the last 12 months											
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
25-34	56	7.1	4.6-9.6		71	3.7	2.6-4.7		127	5.8	4.1-7.4
35-44	71	6.6	4.6-8.6		65	3.8	1.6-6.0		136	5.7	4.0-7.4
45-54	80	5.2	4.2-6.2		49	3.6	2.0-5.3		129	4.8	4.0-5.5
55-64	31	4.9	3.9-5.9		10	1.4	0.4-2.4		41	4.2	3.1-5.3
25-64	238	6.3	5.2-7.4		195	3.6	2.6-4.6		433	5.4	4.5-6.3

**Five or more drinks on a single occasion**

Description: Mean number of days in the past 12 months on which consumer drank five or more drinks during a single occasion.

Instrument question:

- In the past 12 months, on how many days did you have five or more standard drinks in a single day?

<b>Five or more drinks on a single occasion</b>			
Age Group (years)	<b>Men</b>		
	n	Mean number of days	95% CI
25-34	52	9.5	<b>2.6-16.5</b>
35-44	67	11.4	<b>0.0-24.9</b>
45-54	75	4.7	<b>2.1-7.3</b>
55-64	28	3.9	<b>1.0-6.8</b>
<b>25-64</b>	<b>222</b>	<b>8.7</b>	<b>3.0-14.4</b>

**Four or more drinks on a single occasion**

Description: Mean number of days in the past 12 months on which consumer drank four or more drinks during a single occasion.

Instrument question:

- In the past 12 months, on how many days did you have four or more standard drinks in a single day?

<b>Four or more drinks on a single occasion</b>			
Age Group (years)	<b>Women</b>		
	n	Mean number of days	95% CI
25-34	55	1.5	<b>0.6-2.4</b>
35-44	47	2.7	<b>0.1-5.3</b>
45-54	38	2.4	<b>0.1-4.7</b>
55-64	9	0.1	<b>0.0-0.3</b>
<b>25-64</b>	<b>149</b>	<b>2.1</b>	<b>1.0-3.1</b>

**Drinking in the last 30 days among current drinkers**

Description: percentage daily drinker in the last 30 days among those who drank alcohol in the last 30 days.

Instrument question:

- In the last 30 days, how many days on average did you consume alcoholic beverages?

* Daily drinkers in last 30 days											
Age Group (years)	Men				Women				Both Sexes		
	n	% daily drinkers	95% CI		n	% daily drinkers	95% CI		n	% daily drinkers	95% CI
25-34	42	11.9	2.2-21.6		46	2.2	0.0-5.8		88	8.4	2.4-14.4
35-44	63	7.9	0.0-18.0		30	3.3	0.0-9.2		93	7.0	0.0-16.1
45-54	71	12.7	0.9-24.5		36	8.3	0.0-16.7		107	11.6	1.1-22.1
55-64	23	0.0	0.0-0.0		7	0.0	0.0-0.0		30	0.0	0.0-0.0
25-64	199	9.4	1.3-17.5		119	3.8	0.0-8.7		318	8.0	0.9-15.1

**Drinking in the last 30 days among current drinkers continued**

Description: mean number of days alcohol consumed during the last 30 days among those who drank alcohol in the last 30 days.

Instrument question:

- In the last 30 days, how many days on average did you consume alcoholic beverages?

Days alcohol consumed during last 30 days											
Age Group (years)	Men				Women				Both Sexes		
	n	Mean days	95% CI		n	Mean days	95% CI		n	Mean days	95% CI
25-34	42	9.0	5.7-12.3		46	3.8	2.7-4.9		88	7.1	4.9-9.4
35-44	63	9.3	7.1-11.5		30	4.0	2.5-5.4		93	8.2	6.1-10.3
45-54	71	9.8	7.2-12.4		36	5.3	2.2-8.5		107	8.7	6.0-11.5
55-64	23	4.5	3.2-5.9		7	1.1	0.9-1.4		30	3.9	2.7-5.1
<b>25-64</b>	<b>199</b>	<b>9.0</b>	<b>8.0-10.0</b>		<b>119</b>	<b>4.0</b>	<b>3.0-5.1</b>		<b>318</b>	<b>7.7</b>	<b>6.8-8.6</b>

## Fruit and Vegetable Consumption

**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
25-34	131	3.3	<b>2.8-3.8</b>	259	3.8	3.6-4.0	390	3.5	3.2-3.9
35-44	127	3.6	<b>3.2-4.0</b>	239	3.8	3.2-4.4	366	3.7	3.3-4.1
45-54	156	3.8	<b>3.3-4.2</b>	223	4.0	3.8-4.3	379	3.9	3.7-4.0
55-64	61	3.5	<b>2.8-4.3</b>	94	3.9	3.4-4.3	155	3.7	3.3-4.1
<b>25-64</b>	<b>475</b>	<b>3.5</b>	<b>3.2-3.8</b>	<b>815</b>	<b>3.9</b>	<b>3.6-4.1</b>	<b>1290</b>	<b>3.7</b>	<b>3.5-3.9</b>

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
25-34	148	4.0	3.5-4.4	283	4.0	3.7-4.3	431	4.0	3.6-4.3
35-44	137	4.3	3.8-4.8	255	4.3	3.8-4.7	392	4.3	3.8-4.7
45-54	164	3.9	3.6-4.2	249	4.4	4.1-4.7	413	4.2	3.9-4.4
55-64	69	3.7	3.0-4.4	104	4.1	3.3-4.9	173	3.9	3.2-4.6
<b>25-64</b>	<b>518</b>	<b>4.0</b>	<b>3.7-4.4</b>	<b>891</b>	<b>4.2</b>	<b>3.8-4.6</b>	<b>1409</b>	<b>4.1</b>	<b>3.8-4.5</b>



**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
25-34	131	0.7	0.4-1.0	259	0.8	0.6-1.0	390	0.8	0.5-1.0
35-44	127	0.8	0.5-1.0	239	0.8	0.7-0.9	366	0.8	0.6-0.9
45-54	156	0.8	0.7-1.0	223	0.9	0.7-1.1	379	0.9	0.7-1.0
55-64	61	0.8	0.4-1.1	94	0.7	0.6-0.9	155	0.8	0.5-1.0
<b>25-64</b>	<b>475</b>	<b>0.7</b>	<b>0.5-1.0</b>	<b>815</b>	<b>0.8</b>	<b>0.7-0.9</b>	<b>1290</b>	<b>0.8</b>	<b>0.6-0.9</b>

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
25-34	148	0.8	0.7-0.9	283	0.8	0.7-0.9	431	0.8	0.7-0.9
35-44	137	0.9	0.6-1.2	255	0.8	0.7-0.9	392	0.9	0.7-1.1
45-54	164	0.8	0.6-0.9	249	0.9	0.7-1.1	413	0.8	0.7-1.0
55-64	69	0.7	0.5-0.9	104	0.8	0.6-1.0	173	0.7	0.6-0.9
<b>25-64</b>	<b>518</b>	<b>0.8</b>	<b>0.7-1.0</b>	<b>891</b>	<b>0.8</b>	<b>0.7-0.9</b>	<b>1409</b>	<b>0.8</b>	<b>0.7-1.0</b>

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
25-34	148	1.4	1.1-1.8	285	1.6	1.3-1.9	433	1.5	1.2-1.8
35-44	137	1.6	1.1-2.1	255	1.6	1.4-1.7	392	1.6	1.3-1.9
45-54	168	1.5	1.2-1.8	249	1.7	1.3-2.1	417	1.6	1.3-1.9
55-64	70	1.4	0.9-1.8	104	1.5	1.1-1.8	174	1.4	1.1-1.8
<b>25-64</b>	<b>523</b>	<b>1.5</b>	<b>1.2-1.9</b>	<b>893</b>	<b>1.6</b>	<b>1.4-1.8</b>	<b>1416</b>	<b>1.6</b>	<b>1.3-1.8</b>

**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
25-34	148	38.5	28.3-48.8	52.0	45.9-58.2	7.4	0.3-14.6	2.0	0.0-4.0
35-44	137	31.4	23.7-39.1	56.2	48.6-63.8	9.5	0.7-18.2	2.9	0.0-6.9
45-54	168	36.3	24.6-48.0	53.6	41.3-65.8	7.7	1.4-14.1	2.4	0.5-4.3
55-64	70	42.9	29.0-56.7	47.1	36.6-57.7	8.6	0.0-20.0	1.4	0.0-5.2
<b>25-64</b>	<b>523</b>	<b>35.9</b>	<b>27.2-44.6</b>	<b>53.4</b>	<b>47.3-59.5</b>	<b>8.3</b>	<b>0.9-15.7</b>	<b>2.4</b>	<b>0.4-4.3</b>

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
25-34	285	35.4	26.0-44.8	53.7	47.3-60.0	6.3	0.7-11.9	4.6	1.2-8.0
35-44	255	34.1	24.3-43.9	54.9	42.3-67.5	9.4	4.2-14.6	1.6	0.2-2.9
45-54	249	30.9	26.0-35.8	52.2	43.3-61.1	12.9	4.7-21.0	4.0	0.0-9.0
55-64	104	38.5	26.5-50.4	50.0	35.3-64.7	10.6	0.0-22.1	1.0	0.0-3.3
<b>25-64</b>	<b>893</b>	<b>34.4</b>	<b>27.9-40.8</b>	<b>53.4</b>	<b>45.4-61.5</b>	<b>9.2</b>	<b>3.9-14.4</b>	<b>3.0</b>	<b>0.8-5.2</b>

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
25-34	433	37.0	27.4-46.6	52.8	48.1-57.6	6.9	0.8-12.9	3.3	0.9-5.6
35-44	392	32.8	24.2-41.3	55.6	47.4-63.7	9.5	3.4-15.5	2.2	0.1-4.4
45-54	417	33.7	27.1-40.3	52.9	44.5-61.4	10.2	3.6-16.8	3.2	0.5-5.8
55-64	174	40.6	29.1-52.0	48.6	36.6-60.7	9.6	0.4-18.8	1.2	0.0-3.5
<b>25-64</b>	<b>1416</b>	<b>35.1</b>	<b>27.8-42.5</b>	<b>53.4</b>	<b>47.3-59.5</b>	<b>8.8</b>	<b>3.0-14.5</b>	<b>2.7</b>	<b>0.8-4.6</b>

**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
25-34	148	98.0	96.0-100.0	285	95.4	92.0-98.8	433	96.7	94.4-99.1
35-44	137	97.1	93.1-100.0	255	98.4	97.1-99.8	392	97.8	95.6-99.9
45-54	168	97.6	95.7-99.5	249	96.0	91.0-100.0	417	96.8	94.2-99.5
55-64	70	98.6	94.8-100.0	104	99.0	96.7-100.0	174	98.8	96.5-100.0
<b>25-64</b>	<b>523</b>	<b>97.6</b>	<b>95.7-99.6</b>	<b>893</b>	<b>97.0</b>	<b>94.8-99.2</b>	<b>1416</b>	<b>97.3</b>	<b>95.4-99.2</b>

**Type of oil used most frequently**

Description: type of oil or fat most often used for meal preparation in households (presented only for both sexes because results are for the household not individuals).

Instrument question:

- What type of oil or fat is most often used for meal preparation in your household?

Type of oil or fat most often used for meal preparation in household												
n (house-holds)	% Vege/oil	95% CI	% Lard	95% CI	% Butter	95% CI	% Margarine	95% CI	% None used	95% CI	% Other	95% CI
<b>1415</b>	<b>70.0</b>	<b>65.0-75.1</b>	<b>0.1</b>	<b>0.0-0.2</b>	<b>6.1</b>	<b>4.7-7.4</b>	<b>5.5</b>	<b>3.6-7.3</b>	<b>6.4</b>	<b>3.5-9.2</b>	<b>12.0</b>	<b>7.5-16.5</b>

**Eating  
Outside  
Home in  
a Typical  
Week**

Description: frequency of meals eaten outside the home in a typical week.

Instrument question:

- In a typical week how many meals do you eat outside the house?

Meals eaten outside the home									
Age Group (years)	Men								
	n	% 0 meals	95% CI	% 1-2 meals	95% CI	% 3-5 meals	95% CI	% 6+ meals	95% CI
25-34	147	22.4	7.8-37.1	38.1	25.3-50.9	33.3	22.6-44.1	6.1	1.6-10.7
35-44	134	31.3	21.5-41.2	40.3	25.3-55.3	23.1	15.7-30.5	5.2	0.7-9.7
45-54	169	30.2	19.3-41.1	42.6	29.2-56.0	23.7	17.1-30.2	3.6	0.1-7.0
55-64	72	47.2	32.6-61.9	34.7	19.5-49.9	13.9	6.7-21.1	4.2	0.0-10.4
<b>25-64</b>	<b>522</b>	<b>29.6</b>	<b>20.7-38.5</b>	<b>39.5</b>	<b>27.9-51.2</b>	<b>25.8</b>	<b>19.9-31.7</b>	<b>5.1</b>	<b>1.9-8.2</b>

Meals eaten outside the home									
Age Group (years)	Women								
	n	% 0 meals	95% CI	% 1-2 meals	95% CI	% 3-5 meals	95% CI	% 6+ meals	95% CI
25-34	286	21.0	13.8-28.1	51.4	42.2-60.6	22.4	17.2-27.5	5.2	1.6-8.9
35-44	252	39.3	29.2-49.4	44.4	33.4-55.5	13.1	8.1-18.1	3.2	1.8-4.5
45-54	247	49.0	36.4-61.6	40.1	27.7-52.4	9.3	5.9-12.8	1.6	0.4-2.9
55-64	103	59.2	47.4-71.1	32.0	20.7-43.3	7.8	0.0-17.0	1.0	0.0-3.3
<b>25-64</b>	<b>888</b>	<b>37.1</b>	<b>28.4-45.7</b>	<b>44.7</b>	<b>35.4-53.9</b>	<b>14.9</b>	<b>11.6-18.3</b>	<b>3.3</b>	<b>1.9-4.7</b>

Meals eaten outside the home									
Age Group (years)	Both Sexes								
	n	% 0 meals	95% CI	% 1-2 meals	95% CI	% 3-5 meals	95% CI	% 6+ meals	95% CI
25-34	433	21.7	12.3-31.1	44.7	34.0-55.4	27.9	21.7-34.1	5.7	3.1-8.3
35-44	386	35.3	25.8-44.8	42.4	29.9-54.8	18.1	12.8-23.4	4.2	1.8-6.6
45-54	416	39.2	31.1-47.2	41.4	30.9-51.8	16.8	11.4-22.2	2.6	0.4-4.8
55-64	175	53.4	41.0-65.8	33.3	22.0-44.7	10.7	3.0-18.4	2.5	0.0-6.6
<b>25-64</b>	<b>1410</b>	<b>33.3</b>	<b>25.7-40.9</b>	<b>42.1</b>	<b>32.4-51.8</b>	<b>20.4</b>	<b>16.5-24.3</b>	<b>4.2</b>	<b>2.3-6.1</b>

**Eating  
Outside  
Home in  
a Typical  
Week,  
continued**

Description: mean number of meals eaten outside the home in a typical week.

Instrument question:

- In a typical week how many meals do you eat outside the house?

Mean number of meals eaten outside the home											
Age Group (years)	Men				Women				Both Sexes		
	n	mean	95% CI		n	mean	95% CI		n	mean	95% CI
25-34	147	2.4	1.9-3.0		286	2.0	1.8-2.2		433	2.2	2.0-2.4
35-44	134	1.9	1.5-2.3		252	1.3	1.1-1.5		386	1.6	1.4-1.8
45-54	169	1.8	1.5-2.0		247	1.0	0.8-1.2		416	1.4	1.3-1.5
55-64	72	1.3	0.8-1.8		103	0.8	0.3-1.2		175	1.0	0.5-1.5
25-64	522	2.0	1.7-2.2		888	1.4	1.3-1.6		1410	1.7	1.6-1.9

# Physical Activity

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**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 a certain percentage of a population as 'inactive' by setting up a cut-point for a specific amount of physical activity.

When analyzing GPAQ data, both continuous as well as categorical indicators are used.

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**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	<ul style="list-style-type: none"><li>• Moderate MET value = 4.0</li><li>• Vigorous MET value = 8.0</li></ul>
Transport	Cycling and walking MET value = 4.0
Recreation	<ul style="list-style-type: none"><li>• Moderate MET value = 4.0</li><li>• Vigorous MET value = 8.0</li></ul>

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**Categorical indicator** For the calculation of a categorical indicator, the total time spent in physical activity during a typical week, the number of days as well as the intensity of the physical activity are taken into account. The three levels of physical activity suggested for classifying populations are 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.

**Levels of total physical activity** Description: Percentage of respondents classified into three categories of total physical activity.

Instrument questions:

- activity at work
- travel to and from places
- recreational activities

Level of total physical activity							
Age Group (years)	Men						
	n	% Low	95% CI	% Moderate	95% CI	% High	95% CI
25-34	147	23.8	18.7-29.0	21.1	18.0-24.2	55.1	48.7-61.5
35-44	137	24.8	20.4-29.3	17.5	4.2-30.8	57.7	44.4-70.9
45-54	162	37.7	23.5-51.8	21.6	14.7-28.5	40.7	25.3-56.2
55-64	71	36.6	32.3-40.9	29.6	18.8-40.4	33.8	22.8-44.8
<b>25-64</b>	<b>517</b>	<b>28.3</b>	<b>24.8-31.8</b>	<b>20.7</b>	<b>15.0-26.4</b>	<b>51.0</b>	<b>42.4-59.6</b>

Level of total physical activity							
Age Group (years)	Women						
	n	% Low	95% CI	% Moderate	95% CI	% High	95% CI
25-34	281	46.6	41.2-52.0	32.7	26.0-39.5	20.6	13.7-27.5
35-44	252	48.8	43.4-54.3	29.0	23.9-34.0	22.2	18.9-25.5
45-54	243	48.6	40.2-57.0	28.8	23.0-34.6	22.6	12.5-32.7
55-64	99	53.5	45.5-61.6	31.3	18.1-44.6	15.2	6.1-24.2
<b>25-64</b>	<b>875</b>	<b>48.5</b>	<b>44.6-52.4</b>	<b>30.4</b>	<b>27.0-33.9</b>	<b>21.1</b>	<b>15.6-26.5</b>

Level of total physical activity							
Age Group (years)	Both Sexes						
	n	% Low	95% CI	% Moderate	95% CI	% High	95% CI
25-34	428	35.1	29.7-40.4	26.8	22.7-31.0	38.1	31.7-44.6
35-44	389	36.7	31.1-42.4	23.2	16.2-30.2	40.1	33.9-46.3
45-54	405	43.0	34.5-51.4	25.1	19.9-30.3	31.9	22.8-41.0
55-64	170	45.2	41.5-48.9	30.5	24.1-36.8	24.3	17.8-30.9
<b>25-64</b>	<b>1392</b>	<b>38.3</b>	<b>34.6-41.9</b>	<b>25.5</b>	<b>21.9-29.1</b>	<b>36.2</b>	<b>30.7-41.8</b>



**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
25-34	147	204.6	125.8-283.4		281	91.2	63.9-118.4		428	148.7	103.3-194.1
35-44	137	195.8	122.9-268.7		252	85.7	71.4-100.1		389	141.2	102.1-180.2
45-54	162	171.5	94.5-248.4		243	94.2	57.9-130.6		405	134.0	83.6-184.3
55-64	71	126.0	62.1-189.9		99	64.9	35.0-94.7		170	95.0	52.5-137.4
25-64	517	187.1	124.2-250.1		875	87.2	65.3-109.2		1392	137.8	100.7-174.8

**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)
25-34	147	111.4	30.0-317.1		281	34.3	2.9-100.0		428	60.0	17.1-240.0
35-44	137	154.3	32.1-317.1		252	28.6	0.0-105.0		389	60.0	10.7-242.9
45-54	162	72.9	10.7-257.1		243	28.6	5.7-120.0		405	38.6	7.9-221.4
55-64	71	45.0	0.0-177.9		99	21.4	2.1-60.0		170	30.0	0.0-102.9
25-64	517	107.1	25.7-304.3		875	30.0	0.0-102.9		1392	51.4	12.9-227.1

**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
25-34	147	124.2	85.6-162.9		281	62.2	30.5-94.0	428	93.7	59.1-128.3
35-44	137	153.0	95.1-210.9		252	50.2	32.3-68.1	389	102.0	67.1-136.9
45-54	162	125.8	63.1-188.5		243	59.3	24.0-94.7	405	93.5	50.3-136.8
55-64	71	93.0	30.4-155.5		99	31.6	8.3-54.9	170	61.8	24.6-99.1
25-64	517	131.9	86.8-177.1		875	54.3	29.4-79.2	1392	93.6	60.9-126.2

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
25-34	147	36.5	4.7-68.2		281	18.6	3.5-33.8		428	27.7	5.3-50.0
35-44	137	21.8	2.6-41.0		252	23.9	9.4-38.4		389	22.9	6.8-38.9
45-54	162	31.3	2.8-59.8		243	27.7	8.2-47.2		405	29.6	6.6-52.5
55-64	71	23.6	3.7-43.5		99	30.5	5.4-55.6		170	27.1	5.4-48.8
25-64	517	28.9	4.9-52.9		875	23.6	7.7-39.4		1392	26.3	6.8-45.7

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
25-34	147	43.9	4.9-82.9		281	10.3	4.1-16.5		428	27.3	9.8-44.9
35-44	137	21.0	15.5-26.5		252	11.6	5.4-17.8		389	16.3	11.2-21.4
45-54	162	14.3	5.5-23.1		243	7.2	3.2-11.2		405	10.9	4.4-17.3
55-64	71	9.4	3.5-15.3		99	2.8	0.0-5.6		170	6.0	2.0-10.1
25-64	517	26.3	14.9-37.7		875	9.4	4.7-14.1		1392	17.9	13.5-22.4

<b>Domain-specific physical activity - median</b>	Description: Median minutes spent on average per day in work-, transport- and recreation-related physical activity.
	Instrument questions: <ul style="list-style-type: none"> <li>• activity at work</li> <li>• travel to and from places</li> <li>• recreational activities</li> </ul>

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)
25-34	147	21.4	0.0-222.9	281	0.0	0.0-34.3	428	0.0	0.0-145.7
35-44	137	85.7	0.0-291.4	252	0.0	0.0-21.4	389	0.0	0.0-197.1
45-54	162	5.7	0.0-214.3	243	0.0	0.0-25.7	405	0.0	0.0-162.9
55-64	71	0.0	0.0-150.0	99	0.0	0.0-19.3	170	0.0	0.0-42.9
<b>25-64</b>	<b>517</b>	<b>30.0</b>	<b>0.0-257.1</b>	<b>875</b>	<b>0.0</b>	<b>0.0-25.7</b>	<b>1392</b>	<b>0.0</b>	<b>0.0-171.4</b>

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)
25-34	147	7.1	0.0-28.6	281	4.3	0.0-20.0	428	5.7	0.0-21.4
35-44	137	0.0	0.0-14.3	252	6.4	0.0-21.4	389	0.0	0.0-21.4
45-54	162	0.0	0.0-20.0	243	7.1	0.0-21.4	405	0.0	0.0-21.4
55-64	71	7.1	0.0-21.4	99	10.7	0.0-21.4	170	8.6	0.0-21.4
<b>25-64</b>	<b>517</b>	<b>0.0</b>	<b>0.0-21.4</b>	<b>875</b>	<b>6.4</b>	<b>0.0-21.4</b>	<b>1392</b>	<b>0.0</b>	<b>0.0-21.4</b>

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)
25-34	147	8.6	0.0-42.9	281	0.0	0.0-14.3	428	0.0	0.0-25.7
35-44	137	0.0	0.0-25.7	252	0.0	0.0-8.6	389	0.0	0.0-17.1
45-54	162	0.0	0.0-17.1	243	0.0	0.0-6.4	405	0.0	0.0-12.9
55-64	71	0.0	0.0-0.0	99	0.0	0.0-0.0	170	0.0	0.0-0.0
<b>25-64</b>	<b>517</b>	<b>0.0</b>	<b>0.0-30.0</b>	<b>875</b>	<b>0.0</b>	<b>0.0-8.6</b>	<b>1392</b>	<b>0.0</b>	<b>0.0-17.1</b>

**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
25-34	147	45.6	29.7-61.4	281	68.3	53.4-83.3	428	56.8	40.8-72.8
35-44	137	33.6	20.2-46.9	252	68.7	56.4-80.9	389	51.0	37.8-64.2
45-54	162	48.1	35.7-60.6	243	70.0	56.4-83.5	405	58.7	46.6-70.9
55-64	71	57.7	46.4-69.1	99	69.7	51.5-87.9	170	63.8	51.1-76.6
<b>25-64</b>	<b>517</b>	<b>43.0</b>	<b>31.8-54.1</b>	<b>875</b>	<b>68.9</b>	<b>56.2-81.6</b>	<b>1392</b>	<b>55.8</b>	<b>43.0-68.5</b>

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
25-34	147	47.6	38.3-56.9	281	48.8	35.7-61.8	428	48.2	38.8-57.5
35-44	137	59.1	50.4-67.9	252	47.6	38.5-56.8	389	53.4	46.0-60.8
45-54	162	55.6	44.2-66.9	243	46.5	36.4-56.6	405	51.2	40.8-61.6
55-64	71	43.7	33.3-54.0	99	38.4	30.8-46.0	170	41.0	34.4-47.6
<b>25-64</b>	<b>517</b>	<b>53.0</b>	<b>46.4-59.7</b>	<b>875</b>	<b>46.9</b>	<b>37.9-55.8</b>	<b>1392</b>	<b>50.0</b>	<b>42.3-57.6</b>

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
25-34	147	45.6	37.4-53.7	281	69.4	50.7-88.0	428	57.3	43.0-71.7
35-44	137	57.7	42.4-73.0	252	73.4	58.7-88.1	389	65.5	50.1-80.9
45-54	162	66.7	48.7-84.7	243	73.3	59.1-87.4	405	69.9	54.4-85.3
55-64	71	74.6	59.3-90.0	99	86.9	75.1-98.6	170	80.8	67.5-94.2
<b>25-64</b>	<b>517</b>	<b>57.0</b>	<b>44.2-69.9</b>	<b>875</b>	<b>73.4</b>	<b>58.6-88.2</b>	<b>1392</b>	<b>65.1</b>	<b>50.7-79.5</b>

**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							
Men							
Age Group (years)	n	% Activity from work	95% CI	% Activity for transport	95% CI	% Activity during leisure time	95% CI
25-34	132	44.9	31.7-58.1	24.8	12.5-37.2	30.2	21.8-38.7
35-44	123	60.1	47.9-72.2	17.3	12.3-22.4	22.6	11.9-33.3
45-54	132	50.6	37.3-63.9	27.0	14.5-39.5	22.4	6.7-38.1
55-64	53	46.2	30.2-62.2	33.7	18.7-48.7	20.1	8.5-31.6
<b>25-64</b>	<b>440</b>	<b>51.8</b>	<b>41.7-61.8</b>	<b>23.2</b>	<b>14.3-32.0</b>	<b>25.0</b>	<b>15.4-34.7</b>

Composition of total physical activity							
Women							
Age Group (years)	n	% Activity from work	95% CI	% Activity for transport	95% CI	% Activity during leisure time	95% CI
25-34	213	35.3	17.7-52.9	41.1	25.1-57.1	23.6	10.9-36.4
35-44	183	30.9	18.6-43.1	45.4	27.2-63.5	23.8	12.2-35.3
45-54	185	32.0	17.9-46.0	46.7	30.0-63.4	21.3	9.4-33.2
55-64	75	30.9	14.1-47.8	59.0	41.6-76.4	10.1	3.0-17.1
<b>25-64</b>	<b>656</b>	<b>32.6</b>	<b>19.3-45.9</b>	<b>45.6</b>	<b>30.0-61.2</b>	<b>21.8</b>	<b>11.0-32.6</b>

Composition of total physical activity							
Both Sexes							
Age Group (years)	n	% Activity from work	95% CI	% Activity for transport	95% CI	% Activity during leisure time	95% CI
25-34	345	40.6	26.3-54.9	32.2	18.6-45.8	27.3	17.7-36.9
35-44	306	47.1	36.0-58.2	29.8	17.9-41.6	23.1	13.1-33.2
45-54	317	41.9	30.0-53.8	36.2	21.2-51.3	21.9	9.3-34.5
55-64	128	38.4	25.5-51.3	46.6	32.3-61.0	15.0	5.9-24.1
<b>25-64</b>	<b>1096</b>	<b>43.0</b>	<b>31.4-54.6</b>	<b>33.4</b>	<b>20.5-46.3</b>	<b>23.6</b>	<b>13.9-33.3</b>

**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
25-34	147	48.3	37.3-59.3		281	86.5	80.1-92.9		428	67.1	60.3-73.9
35-44	137	48.9	31.6-66.2		252	88.5	82.6-94.4		389	68.6	59.0-78.1
45-54	162	70.4	52.5-88.2		243	90.9	82.7-99.2		405	80.4	68.8-92.0
55-64	71	76.1	64.9-87.2		99	96.0	91.0-100.0		170	86.2	80.8-91.5
25-64	517	55.7	42.3-69.2		875	89.0	83.7-94.4		1392	72.2	64.3-80.0

**Sedentary** Description: Minutes spent in sedentary activities on a typical day.

Instrument question:

- sedentary behaviour

Minutes spent in sedentary activities on average per day					
Men					
Age Group (years)	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
25-34	150	255.7	215.9-295.4	240.0	160.0-300.0
35-44	138	245.7	194.7-296.7	240.0	120.0-300.0
45-54	171	266.7	197.8-335.6	240.0	120.0-360.0
55-64	72	286.3	181.6-391.1	240.0	150.0-420.0
<b>25-64</b>	<b>531</b>	<b>257.4</b>	<b>205.7-309.1</b>	<b>240.0</b>	<b>120.0-300.0</b>

Minutes spent in sedentary activities on average per day					
Women					
Age Group (years)	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
25-34	287	303.1	214.9-391.2	300.0	120.0-460.0
35-44	256	274.9	194.4-355.4	240.0	120.0-360.0
45-54	252	262.8	171.9-353.8	240.0	120.0-360.0
55-64	104	267.9	166.0-369.9	240.0	120.0-360.0
<b>25-64</b>	<b>899</b>	<b>281.2</b>	<b>196.8-365.6</b>	<b>240.0</b>	<b>120.0-360.0</b>

Minutes spent in sedentary activities on average per day					
Both Sexes					
Age Group (years)	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
25-34	437	279.1	219.3-338.8	240.0	150.0-360.0
35-44	394	260.2	198.2-322.3	240.0	120.0-360.0
45-54	423	264.8	186.9-342.8	240.0	120.0-360.0
55-64	176	276.8	174.4-379.2	240.0	120.0-360.0
<b>25-64</b>	<b>1430</b>	<b>269.2</b>	<b>203.1-335.2</b>	<b>240.0</b>	<b>120.0-360.0</b>

## Blood Pressure, Diabetes and Cholesterol History

### Blood pressure diagnosis and treatment

Description: raised blood pressure diagnosis and treatment results.

Instrument questions:

- Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?
- Were you told in the last 12 months?
- Are you currently receiving any of the following treatments/advice for high blood pressure prescribed by a doctor or other health worker?
- Drugs (medication) that you have taken in the last 2 weeks?

Raised blood pressure ever diagnosed by doctor or health worker											
Age Group (years)	Men				Women				Both Sexes		
	n	% diagnosed	95% CI		n	% diagnosed	95% CI		n	% diagnosed	95% CI
25-34	149	7.4	3.2-11.6		289	10.4	3.8-17.0		438	8.9	4.1-13.7
35-44	137	10.2	3.1-17.3		256	22.3	14.2-30.4		393	16.2	10.2-22.2
45-54	170	24.1	12.9-35.4		252	36.5	31.8-41.2		422	30.1	23.7-36.5
55-64	72	37.5	27.5-47.5		103	53.4	40.2-66.6		175	45.7	36.5-54.8
25-64	528	14.8	10.8-18.8		900	24.3	21.0-27.6		1428	19.5	16.2-22.8

Raised blood pressure diagnosed by doctor or health worker in last 12 months											
Age Group (years)	Men				Women				Both Sexes		
	n	% diagnosed	95% CI		n	% diagnosed	95% CI		n	% diagnosed	95% CI
25-34	11	72.7	41.7-100.0		30	50.0	28.4-71.6		41	59.5	43.0-76.1
35-44	14	50.0	17.3-82.7		56	62.5	40.3-84.7		70	58.5	34.3-82.7
45-54	40	55.0	27.4-82.6		91	62.6	48.0-77.3		131	59.5	42.4-76.6
55-64	26	50.0	15.4-84.6		52	65.4	31.8-99.0		78	59.2	26.2-92.2
25-64	91	55.6	27.5-83.7		229	61.3	44.7-77.9		320	59.1	39.0-79.3

Currently taking blood pressure drugs prescribed by doctor or health worker											
Age Group (years)	Men				Women				Both Sexes		
	n	% taking meds	95% CI		n	% taking meds	95% CI		n	% taking meds	95% CI
25-34	11	18.2	0.3-36.0		27	25.9	8.1-43.7		38	22.5	8.5-36.4
35-44	18	50.0	36.4-63.6		62	66.1	53.8-78.4		80	60.5	49.4-71.5
45-54	41	58.5	36.4-80.7		92	78.3	70.2-86.3		133	70.1	60.8-79.4
55-64	26	65.4	39.3-91.5		57	96.5	90.1-100.0		83	84.6	74.5-94.7
25-64	96	51.1	40.3-61.9		238	71.5	63.1-79.9		334	63.5	55.0-72.0



**Blood pressure lifestyle advice**

Description: Percentage of respondents who received lifestyle advice from a doctor or health worker to treat raised blood pressure.

Instrument question:

- Are you currently receiving any of the following treatments/advice for high blood pressure prescribed by a doctor or other health worker?

Advised by doctor or health worker to have special prescribed diet									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	11	45.5	10.1-80.8	26	61.5	38.8-84.3	37	54.2	35.9-72.6
35-44	17	52.9	26.2-79.7	61	57.4	45.5-69.2	78	55.9	46.7-65.0
45-54	39	56.4	40.6-72.2	91	71.4	59.5-83.3	130	65.3	55.1-75.6
55-64	26	69.2	47.5-90.9	56	78.6	58.5-98.6	82	75.0	62.2-87.8
<b>25-64</b>	<b>93</b>	<b>56.5</b>	<b>42.3-70.7</b>	<b>234</b>	<b>66.9</b>	<b>57.6-76.2</b>	<b>327</b>	<b>62.9</b>	<b>54.0-71.7</b>

Advised by doctor or health worker to lose weight									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	11	45.5	20.5-70.4	26	61.5	35.7-87.4	37	54.2	34.3-74.2
35-44	16	56.3	32.6-79.9	58	65.5	54.5-76.5	74	62.4	51.7-73.0
45-54	39	41.0	12.6-69.4	93	63.4	54.2-72.6	132	54.5	37.9-71.0
55-64	26	53.8	29.8-77.9	57	63.2	41.1-85.3	83	59.6	37.4-81.8
<b>25-64</b>	<b>92</b>	<b>48.9</b>	<b>28.5-69.2</b>	<b>234</b>	<b>63.8</b>	<b>52.0-75.7</b>	<b>326</b>	<b>58.1</b>	<b>43.1-73.0</b>

Advised by doctor or health worker to stop smoking									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	11	0.0	0.0-0.0	25	0.0	0.0-0.0	36	0.0	0.0-0.0
35-44	16	12.5	0.0-45.2	58	0.0	0.0-0.0	74	4.2	0.0-15.1
45-54	39	7.7	0.0-15.7	92	3.3	0.0-9.3	131	5.0	0.0-10.8
55-64	26	11.5	0.0-24.2	56	8.9	0.0-20.9	82	9.9	0.0-19.8
<b>25-64</b>	<b>92</b>	<b>8.6</b>	<b>0.0-18.5</b>	<b>231</b>	<b>3.1</b>	<b>0.0-8.0</b>	<b>323</b>	<b>5.2</b>	<b>0.0-10.5</b>

Advised by doctor or health worker to start or do more exercise									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	11	45.5	6.5-84.4	26	69.2	45.6-92.9	37	58.4	37.9-79.0
35-44	16	25.0	2.1-47.9	58	69.0	49.9-88.0	74	54.0	30.3-77.8
45-54	39	43.6	16.5-70.7	93	66.7	57.0-76.4	132	57.4	41.2-73.7
55-64	26	57.7	41.7-73.7	57	59.6	44.0-75.3	83	58.9	46.6-71.2
<b>25-64</b>	<b>92</b>	<b>42.0</b>	<b>19.7-64.2</b>	<b>234</b>	<b>66.1</b>	<b>54.3-78.0</b>	<b>326</b>	<b>56.8</b>	<b>39.5-74.2</b>

**Blood pressure advice by a traditional healer**

Description: Percentage of respondents who have sought advice or received treatment from traditional healers for raised blood pressure.

Instrument questions:

- During the past 12 months have you 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 in the last 12 months									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	11	0.0	0.0-0.0	27	3.7	0.0-12.1	38	2.1	0.0-7.0
35-44	16	0.0	0.0-0.0	58	0.0	0.0-0.0	74	0.0	0.0-0.0
45-54	39	0.0	0.0-0.0	93	2.2	0.0-4.4	132	1.3	0.0-2.6
55-64	26	0.0	0.0-0.0	57	7.0	0.9-13.2	83	4.3	0.2-8.5
<b>25-64</b>	<b>92</b>	<b>0.0</b>	<b>0.0-0.0</b>	<b>235</b>	<b>2.7</b>	<b>0.9-4.6</b>	<b>327</b>	<b>1.7</b>	<b>0.4-3.0</b>

Currently taking herbal or traditional remedy for high blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	11	0.0	0.0-0.0	27	0.0	0.0-0.0	38	0.0	0.0-0.0
35-44	16	0.0	0.0-0.0	58	1.7	0.0-6.0	74	1.1	0.0-4.2
45-54	39	2.6	0.0-9.5	92	5.4	0.2-10.7	131	4.3	1.0-7.6
55-64	26	11.5	0.0-24.2	57	12.3	1.7-22.8	83	12.0	3.4-20.6
<b>25-64</b>	<b>92</b>	<b>3.5</b>	<b>0.0-7.1</b>	<b>234</b>	<b>5.1</b>	<b>2.7-7.4</b>	<b>326</b>	<b>4.4</b>	<b>2.9-6.0</b>

- Diabetes diagnosis and treatment**      Description: Diabetes diagnosis and treatment results among all respondents.
- Instrument questions:
- During the past 12 months, have you ever been told by a doctor or other health worker that you have diabetes?
  - Are you currently taking any of the following treatments/advice for diabetes prescribed by a doctor or other health worker?

Diabetes ever diagnosed by doctor or health worker											
Age Group (years)	Men				Women				Both Sexes		
	n	% diagnosed	95% CI		n	% diagnosed	95% CI		n	% diagnosed	95% CI
25-34	147	1.4	0.0-3.0		281	3.9	1.4-6.4		428	2.6	0.6-4.6
35-44	131	3.8	1.7-5.9		251	8.0	5.8-10.1		382	5.9	4.3-7.5
45-54	169	5.9	2.3-9.5		250	15.2	10.3-20.1		419	10.4	6.3-14.5
55-64	71	18.3	8.4-28.3		104	29.8	20.9-38.7		175	24.3	21.2-27.3
25-64	518	4.8	3.4-6.3		886	10.4	7.9-12.8		1404	7.6	5.6-9.5

Diabetes diagnosed by doctor or health worker in last 12 months											
Age Group (years)	Men*				Women				Both Sexes		
	n	% diagnosed	95% CI		n	% diagnosed	95% CI		n	% diagnosed	95% CI
25-34					9	55.6	25.6-85.5		11	69.1	46.0-92.1
35-44					20	55.0	10.5-99.5		25	43.9	11.2-76.5
45-54					37	64.9	40.2-89.6		46	62.3	41.0-83.5
55-64					30	70.0	49.9-90.1		43	64.0	41.9-86.2
25-64					96	62.6	38.3-86.9		125	58.3	37.5-79.1

Currently taking insulin prescribed for diabetes by doctor or health worker											
Age Group (years)	Men*				Women				Both Sexes		
	n	% taking insulin	95% CI		n	% taking insulin	95% CI		n	% taking insulin	95% CI
25-34					9	22.2	0.0-50.2		10	18.2	0.0-45.5
35-44					22	36.4	10.8-61.9		27	43.4	17.4-69.4
45-54					36	30.6	0.0-62.3		47	26.5	5.8-47.2
55-64					28	28.6	3.4-53.7		41	20.5	0.0-43.8
25-64					95	30.9	15.1-46.7		125	29.1	19.1-39.0

Currently taking oral drugs prescribed for diabetes by doctor or health worker											
Age Group (years)	* Men				Women				Both Sexes		
	n	% taking meds	95% CI		n	% taking meds	95% CI		n	% taking meds	95% CI
25-34					8	37.5	7.9-67.1		10	58.1	28.6-87.5
35-44					22	40.9	11.1-70.7		27	40.6	20.6-60.7
45-54					38	65.8	53.0-78.6		49	62.2	46.3-78.2
55-64					30	80.0	51.9-100.0		43	78.9	54.0-100.0
25-64					98	59.7	47.1-72.2		129	60.7	47.6-73.8

\* n less than 50 across all age groups

**Diabetes lifestyle advice**

Description: Percentage of respondents who received lifestyle advice from a doctor or health worker to diabetes.

Instrument question:

- Are you currently taking any of the following treatments/advice for diabetes prescribed by a doctor or other health worker?

Advised by doctor or health worker to have special prescribed diet									
Age Group (years)	* Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34				9	66.7	32.8-100.0	11	76.8	49.0-100.0
35-44				22	77.3	52.0-100.0	27	78.1	63.6-92.6
45-54				38	84.2	73.0-95.4	48	77.1	57.9-96.2
55-64				31	83.9	60.4-100.0	44	81.4	63.5-99.2
<b>25-64</b>				<b>100</b>	<b>80.2</b>	<b>66.3-94.1</b>	<b>130</b>	<b>78.7</b>	<b>68.2-89.2</b>

Advised by doctor or health worker to lose weight									
Age Group (years)	* Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34				9	33.3	7.7-59.0	10	45.3	10.6-79.9
35-44				22	68.2	50.4-85.9	27	59.8	41.9-77.7
45-54				38	65.8	42.6-89.0	48	58.2	26.3-90.1
55-64				31	64.5	35.9-93.1	44	57.9	37.6-78.2
<b>25-64</b>				<b>100</b>	<b>62.8</b>	<b>49.2-76.4</b>	<b>129</b>	<b>57.4</b>	<b>38.9-76.0</b>

Advised by doctor or health worker to stop smoking									
Age Group (years)	* Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34				9	0.0	0.0-0.0	11	0.0	0.0-0.0
35-44				22	0.0	0.0-0.0	27	0.0	0.0-0.0
45-54				38	2.6	0.0-8.9	48	4.8	0.0-11.5
55-64				30	10.0	0.6-19.4	43	12.0	1.5-22.5
<b>25-64</b>				<b>99</b>	<b>3.7</b>	<b>0.7-6.6</b>	<b>129</b>	<b>5.1</b>	<b>3.1-7.2</b>

Advised doctor or health worker to start or do more exercise									
Age Group (years)	* Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34				9	55.6	14.8-96.3	11	53.9	3.3-100.0
35-44				22	77.3	52.0-100.0	27	78.1	63.6-92.6
45-54				38	73.7	59.7-87.6	48	66.7	48.5-84.9
55-64				31	77.4	62.7-92.1	44	68.9	56.6-81.2
<b>25-64</b>				<b>100</b>	<b>74.0</b>	<b>62.8-85.2</b>	<b>130</b>	<b>69.4</b>	<b>57.3-81.6</b>

\* n less than 50 across all age groups

**Diabetes  
advice by  
traditional  
healer**

Description: Percentage of respondents who have sought advice or treatment from traditional healers for diabetes.

Instrument questions:

- During the past 12 months have you seen a traditional healer for diabetes?
- Are you currently taking any herbal or traditional remedy for your diabetes?

Seen a traditional healer for diabetes in the last 12 months											
Age Group (years)	Men*				Women				Both Sexes		
	n	%	95% CI		n	%	95% CI		n	%	95% CI
25-34					9	0.0	0.0-0.0		11	0.0	0.0-0.0
35-44					22	0.0	0.0-0.0		27	0.0	0.0-0.0
45-54					38	5.3	0.5-10.0		48	3.7	0.3-7.1
55-64					31	3.2	0.0-10.0		44	4.8	0.0-10.0
25-64					100	2.5	0.7-4.4		130	2.6	0.7-4.6

Currently taking herbal or traditional treatment for diabetes											
Age Group (years)	Men*				Women				Both Sexes		
	n	%	95% CI		n	%	95% CI		n	%	95% CI
25-34					9	0.0	0.0-0.0		11	0.0	0.0-0.0
35-44					22	13.6	0.0-40.2		27	9.6	0.0-27.4
45-54					37	13.5	5.7-21.3		47	15.5	5.4-25.6
55-64					31	12.9	0.0-29.4		44	13.8	2.1-25.5
25-64					99	12.0	0.0-25.7		129	11.6	1.1-22.2

\* n less than 50 across all age groups

**Cholesterol diagnosis and treatment**

Description: raised total cholesterol diagnosis and treatment results.

Instrument questions:

- Have you ever been told by a doctor or other health worker that you have raised cholesterol?
- Were you told in the last 12 months?
- Are you currently receiving any of the following treatments/advice for raised cholesterol prescribed by a doctor or other health worker?
- Oral treatment (medication) taken in the last 2 weeks?

Raised cholesterol ever diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	% diagnosed	95% CI	n	% diagnosed	95% CI	n	% diagnosed	95% CI
25-34	147	1.4	0.0-4.0	280	3.9	1.0-6.9	427	2.6	1.3-4.0
35-44	131	8.4	2.7-14.1	249	8.8	5.8-11.9	380	8.6	5.2-12.1
45-54	169	7.7	4.1-11.3	247	19.0	14.0-24.0	416	13.1	10.1-16.1
55-64	72	15.3	9.8-20.8	103	26.2	17.3-35.1	175	20.9	17.3-24.5
<b>25-64</b>	<b>519</b>	<b>6.5</b>	<b>4.1-8.9</b>	<b>879</b>	<b>11.1</b>	<b>8.0-14.1</b>	<b>1398</b>	<b>8.8</b>	<b>6.8-10.7</b>

Raised cholesterol diagnosed in last 12 months									
Age Group (years)	Men*			Women			Both Sexes		
	n	% diagnosed	95% CI	n	% diagnosed	95% CI	n	% diagnosed	95% CI
25-34				11	54.5	28.5-80.6	13	53.3	23.7-83.0
35-44				21	42.9	21.0-64.7	31	32.1	15.2-49.1
45-54				45	48.9	35.8-61.9	57	41.8	27.3-56.3
55-64				26	57.7	40.9-74.5	35	53.5	34.9-72.1
<b>25-64</b>				<b>103</b>	<b>50.0</b>	<b>36.6-63.5</b>	<b>136</b>	<b>42.4</b>	<b>30.5-54.3</b>

Currently taking cholesterol medication prescribed by doctor or health worker									
Age Group (years)	Men*			Women			Both Sexes		
	n	% taking medication	95% CI	n	% taking medication	95% CI	n	% taking medication	95% CI
25-34				9	0.0	0.0-0.0	11	0.0	0.0-0.0
35-44				22	9.1	0.0-22.1	30	10.5	0.0-25.4
45-54				44	27.3	15.0-39.5	56	19.0	10.0-28.0
55-64				25	20.0	4.6-35.4	34	28.0	13.7-42.3
<b>25-64</b>				<b>100</b>	<b>17.2</b>	<b>9.7-24.7</b>	<b>131</b>	<b>16.4</b>	<b>9.2-23.6</b>

\* n less than 50 across all age groups

# Cholesterol lifestyle advice

Description: percentage of population with raised cholesterol who received lifestyle advice.

Instrument question:

- Are you currently receiving any of the following treatments/advice for raised cholesterol prescribed by a doctor or other health worker?

Advised by doctor or health worker to have special prescribed diet									
Age Group (years)	Men*			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34				9	77.8	61.2-94.3	11	69.3	39.9-98.8
35-44				23	73.9	58.2-89.6	31	59.6	42.0-77.2
45-54				44	65.9	42.7-89.1	56	61.1	43.3-78.9
55-64				26	61.5	22.5-100.0	35	56.1	21.7-90.5
<b>25-64</b>				<b>102</b>	<b>68.5</b>	<b>50.4-86.7</b>	<b>133</b>	<b>60.2</b>	<b>48.1-72.3</b>

Advised by doctor or health worker to lose weight									
Age Group (years)	Men*			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34				9	55.6	25.1-86.1	10	63.5	31.9-95.2
35-44				23	56.5	47.1-65.9	31	49.0	34.0-64.1
45-54				45	60.0	38.3-81.7	57	52.1	37.5-66.7
55-64				26	34.6	8.6-60.6	35	34.2	9.6-58.8
<b>25-64</b>				<b>103</b>	<b>52.3</b>	<b>40.5-64.2</b>	<b>133</b>	<b>47.7</b>	<b>35.3-60.1</b>

Advised by doctor or health worker to stop smoking									
Age Group (years)	Men*			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34				9	0.0	0.0-0.0	10	0.0	0.0-0.0
35-44				22	0.0	0.0-0.0	30	0.0	0.0-0.0
45-54				44	2.3	0.0-5.9	56	1.6	0.0-4.0
55-64				26	0.0	0.0-0.0	35	0.0	0.0-0.0
<b>25-64</b>				<b>101</b>	<b>0.8</b>	<b>0.0-2.1</b>	<b>131</b>	<b>0.5</b>	<b>0.0-1.3</b>

Advised doctor or health worker to start or do more exercise									
Age Group (years)	Men*			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34				9	66.7	35.3-98.0	10	72.6	41.6-100.0
35-44				23	69.6	49.2-89.9	31	61.9	41.6-82.1
45-54				45	60.0	42.2-77.8	57	47.1	29.4-64.8
55-64				26	53.8	35.1-72.6	35	50.8	32.1-69.6
<b>25-64</b>				<b>103</b>	<b>62.1</b>	<b>48.8-75.4</b>	<b>133</b>	<b>55.2</b>	<b>44.7-65.7</b>

\* n less than 50 across all age groups

**Cholesterol advice by a traditional healer**

Description: percentage of population with raised cholesterol, who are seeking advice with traditional healers.

Instrument questions:

- During the past 12 months have you 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 diabetes in the last 12 months									
Age Group (years)	Men*			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34				9	0.0	0.0-0.0	10	0.0	0.0-0.0
35-44				23	0.0	0.0-0.0	32	0.0	0.0-0.0
45-54				45	0.0	0.0-0.0	57	0.0	0.0-0.0
55-64				26	0.0	0.0-0.0	35	3.5	0.0-9.2
<b>25-64</b>				<b>103</b>	<b>0.0</b>	<b>0.0-0.0</b>	<b>134</b>	<b>0.8</b>	<b>0.0-2.1</b>

Currently taking herbal or traditional treatment for raised cholesterol									
Age Group (years)	Men*			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34				9	0.0	0.0-0.0	10	0.0	0.0-0.0
35-44				23	0.0	0.0-0.0	32	0.0	0.0-0.0
45-54				45	0.0	0.0-0.0	56	2.5	0.0-9.3
55-64				26	3.8	0.0-13.6	35	6.2	0.0-12.4
<b>25-64</b>				<b>103</b>	<b>0.9</b>	<b>0.0-3.3</b>	<b>133</b>	<b>2.3</b>	<b>0.0-4.8</b>

\* n less than 50 across all age groups



## Family history of Chronic Disease Conditions

<b>Family history of Chronic Disease Conditions</b>	<p>Description: Percentage with a family member who has been diagnosed with a chronic disease condition.</p> <p>Instrument questions:</p> <ul style="list-style-type: none"> <li>• Have some of your family members been diagnosed with the following diseases?</li> <li>• Diabetes; Raised blood pressure; Stroke; Cancer or malignant tumor; Raised cholesterol; Early myocardial infarction?</li> </ul>
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Family member who has been diagnosed with							
Age Group (years)	Men						
	n	% Diabetes or high blood sugar	95%CI	% Raised blood pressure	95%CI	% Stroke	95%CI
25-34	150	60.0	45.4-74.6	72.0	65.3-78.7	27.3	8.1-46.6
35-44	137	66.4	56.4-76.4	64.0	39.5-88.5	27.9	15.1-40.8
45-54	171	56.1	44.4-67.8	65.5	50.8-80.2	28.2	24.1-32.3
55-64	71	70.4	60.2-80.6	69.0	63.2-74.8	39.4	29.7-49.1
25-64	<b>529</b>	<b>62.4</b>	<b>51.5-73.3</b>	<b>67.5</b>	<b>54.5-80.5</b>	<b>28.9</b>	<b>18.9-38.9</b>

Family member who has been diagnosed with							
Age Group (years)	Men						
	n	% Cancer or malignant tumor	95%CI	% Raised cholesterol	95%CI	% Early myocardial infarction	95%CI
25-34	150	26.2	16.3-36.0	16.0	11.8-20.2	4.7	2.3-7.1
35-44	137	27.9	21.8-34.1	19.9	11.6-28.1	15.6	7.3-23.8
45-54	171	18.8	13.9-23.7	18.5	10.1-26.8	17.1	7.6-26.5
55-64	71	31.0	14.7-47.3	19.7	12.1-27.3	15.5	8.0-23.0
25-64	<b>529</b>	<b>25.6</b>	<b>20.9-30.4</b>	<b>18.2</b>	<b>13.6-22.8</b>	<b>12.2</b>	<b>8.3-16.0</b>

Family member who has been diagnosed with							
Age Group (years)	Women						
	n	% Diabetes or high blood sugar	95%CI	% Raised blood pressure	95%CI	% Stroke	95%CI
25-34	288	69.1	63.4-74.8	74.7	69.0-80.3	33.6	26.0-41.1
35-44	255	72.2	68.0-76.4	75.5	68.0-82.9	27.8	24.0-31.6
45-54	252	72.6	67.7-77.5	80.5	76.2-84.7	37.3	29.7-44.9
55-64	104	74.0	56.6-91.5	79.6	69.1-90.1	42.3	25.5-59.1
25-64	<b>899</b>	<b>71.4</b>	<b>66.4-76.4</b>	<b>76.6</b>	<b>71.5-81.8</b>	<b>33.2</b>	<b>27.8-38.5</b>

Family member who has been diagnosed with							
Age Group (years)	Women						
	n	% Cancer or malignant tumor	95%CI	% Raised cholesterol	95%CI	% Early myocardial infarction	95%CI
25-34	288	28.3	19.0-37.7	24.0	19.8-28.3	11.2	4.5-17.8
35-44	255	36.1	29.9-42.4	26.3	16.5-36.1	14.7	9.9-19.5
45-54	252	38.9	32.9-44.9	23.3	14.6-31.9	22.4	18.0-26.8
55-64	104	31.7	12.2-51.3	30.1	20.4-39.8	20.2	10.8-29.6
25-64	<b>899</b>	<b>33.6</b>	<b>28.8-38.4</b>	<b>25.3</b>	<b>19.2-31.4</b>	<b>15.6</b>	<b>11.7-19.6</b>

Family member who has been diagnosed with							
Age Group (years)	Both Sexes						
	n	% Diabetes or high blood sugar	95%CI	% Raised blood pressure	95%CI	% Stroke	95%CI
25-34	438	64.5	54.6-74.4	73.3	68.3-78.4	30.4	18.0-42.8
35-44	392	69.3	62.8-75.8	69.7	54.6-84.9	27.9	20.2-35.5
45-54	423	64.1	57.2-71.0	72.7	63.1-82.3	32.6	28.7-36.5
55-64	175	72.3	59.3-85.3	74.5	69.1-79.9	40.9	30.1-51.7
25-64	<b>1428</b>	<b>66.9</b>	<b>58.8-75.0</b>	<b>72.0</b>	<b>63.0-81.0</b>	<b>31.0</b>	<b>23.4-38.6</b>

Family member who has been diagnosed with							
Age Group (years)	Both Sexes						
	n	% Cancer or malignant tumor	95%CI	% Raised cholesterol	95%CI	% Early myocardial infarction	95%CI
25-34	438	27.2	22.9-31.6	20.0	16.0-23.9	7.9	4.7-11.0
35-44	392	32.0	26.8-37.2	23.1	16.0-30.1	15.1	10.3-20.0
45-54	423	28.5	24.1-32.9	20.8	12.4-29.2	19.6	13.6-25.7
55-64	175	31.4	16.1-46.7	25.1	17.5-32.6	17.9	11.1-24.8
25-64	<b>1428</b>	<b>29.6</b>	<b>26.0-33.1</b>	<b>21.7</b>	<b>16.4-27.0</b>	<b>13.9</b>	<b>10.5-17.2</b>

## Step 1 Optional Module: Women's Health

### Breast Cancer Knowledge and Breast Exam

Description: Percentage of women who have heard about breast cancer, who were shown how to examine breast, and date of last breast exam.

Instrument questions:

- Have you heard about breast cancer?
- Have you been shown how to examine your breasts?
- When was the last time you had an examination of your breasts?

Heard about breast cancer			
Age Group (years)	Women		
	n	%	95% CI
25-34	287	99.7	99.0-100.0
35-44	255	99.2	98.2-100.0
45-54	250	99.6	98.9-100.0
55-64	103	99.0	96.7-100.0
<b>25-64</b>	<b>895</b>	<b>99.4</b>	<b>98.8-100.0</b>

Shown how to examine breast			
Age Group (years)	Women		
	n	%	95% CI
25-34	286	88.8	84.5-93.2
35-44	254	86.6	79.3-93.9
45-54	249	80.7	73.6-87.8
55-64	101	75.2	63.8-86.6
<b>25-64</b>	<b>890</b>	<b>85.0</b>	<b>79.5-90.6</b>

Last Breast Exam									
Age Group (years)	Women								
	n	% 1 year ago or less	95% CI	% Between 1 and 2 years ago	95% CI	% More than 2 years ago	95% CI	% Never had a breast exam	95% CI
25-34	270	55.6	46.2-64.9	16.7	8.4-24.9	14.8	9.2-20.5	13.0	5.2-20.8
35-44	243	56.8	49.1-64.4	17.3	8.6-25.9	13.2	6.8-19.5	12.8	6.1-19.5
45-54	230	52.6	41.1-64.2	13.0	8.2-17.9	20.9	15.6-26.1	13.5	9.4-17.6
55-64	98	40.8	29.6-52.0	13.3	3.5-23.1	30.6	21.4-39.9	15.3	11.4-19.2
<b>25-64</b>	<b>841</b>	<b>53.9</b>	<b>46.4-61.5</b>	<b>15.8</b>	<b>8.9-22.7</b>	<b>17.0</b>	<b>12.6-21.4</b>	<b>13.2</b>	<b>8.6-17.8</b>

**Mammogram  
and Reason  
for Last  
Mammogram**

Description: Last mammogram and percentage of women having last mammogram done because of irregularity (out of those ever having had one done).

Instrument questions:

- A mammogram is [...]. When was your last time you had a mammogram?
- The mammograms are done [...]. Was the last mammogram carried out for that reason?

Last mammogram									
Age Group (years)	Women								
	n	% 1 year ago or less	95% CI	% Between 1 and 2 years ago	95% CI	% More than 2 years ago	95% CI	% Never had a mammo- gram	95% CI
25-34	286	5.6	2.6-8.6	1.0	0.1-2.0	3.1	2.0-4.3	90.2	87.0-93.4
35-44	252	10.7	3.5-17.9	1.6	0.0-3.4	4.4	1.8-7.0	83.3	76.3-90.4
45-54	246	14.6	9.6-19.7	4.1	1.9-6.3	11.4	8.3-14.5	69.9	63.1-76.7
55-64	101	16.8	6.5-27.1	5.9	1.4-10.4	10.9	4.7-17.1	66.3	53.6-79.1
<b>25-64</b>	<b>885</b>	<b>10.4</b>	<b>5.9-14.9</b>	<b>2.3</b>	<b>1.4-3.3</b>	<b>6.0</b>	<b>4.7-7.3</b>	<b>81.3</b>	<b>76.4-86.1</b>

Last mammogram done because of irregularity			
Age Group (years)	Women		
	n	%	95% CI
25-34	27	37.0	17.7-56.4
35-44	42	40.5	17.8-63.1
45-54	74	32.4	16.8-48.1
55-64	32	15.6	0.5-30.8
<b>25-64</b>	<b>175</b>	<b>32.9</b>	<b>21.4-44.5</b>

**Cervical  
Cancer  
Knowledge  
and Test**

Description: Percentage of women who have heard about cervical cancer, and date of last pap smear exam.

Instrument questions:

- Have you heard about cervical cancer?
- Pap test or a cytological test is an exam to detect cervical cancer. When was the last time you had a Pap test?

Heard about cervical cancer			
Age Group (years)	Women		
	n	%	95% CI
25-34	287	95.8	93.2-98.4
35-44	254	96.1	93.2-98.9
45-54	249	95.6	90.2-100.0
55-64	102	98.0	95.9-100.0
<b>25-64</b>	<b>892</b>	<b>96.1</b>	<b>93.7-98.4</b>

Last pap test of cytological test									
Age Group (years)	Women								
	n	% 1 year ago or less	95% CI	% Between n 1 and 2 years ago	95% CI	% More than 2 years ago	95% CI	% Never had a pap test or cytological test	95% CI
25-34	283	50.9	37.2-64.5	24.0	17.0-31.1	14.1	8.0-20.2	11.0	3.7-18.2
35-44	252	56.0	48.4-63.5	16.3	10.1-22.5	18.3	12.1-24.4	9.5	5.6-13.5
45-54	242	45.0	33.2-56.9	17.4	9.2-25.5	26.4	20.9-32.0	11.2	4.6-17.7
55-64	100	32.0	19.9-44.1	13.0	6.7-19.3	39.0	31.4-46.6	16.0	4.5-27.5
<b>25-64</b>	<b>877</b>	<b>49.7</b>	<b>40.0-59.3</b>	<b>18.8</b>	<b>12.8-24.8</b>	<b>20.6</b>	<b>15.9-25.2</b>	<b>11.0</b>	<b>6.3-15.7</b>

## Step 1 Optional Module: Cancer Screening

### Prostate and Rectal Exams

Description: Participants who had prostate exam, who had feces checked for hidden blood, and those who have had colonoscopy.

Instrument questions:

- A medical exam of the rectum is an exam [...]. Have you ever had this kind of examination?
- An examination of hidden blood in feces [...]. Have you ever had this kind of examination?
- A colonoscopy is a medical examination [...]. Have you ever had this kind of examination?

Had prostate exam			
Age Group (years)	Men		
	n	%	95% CI
25-34	139	2.9	0.0-6.3
35-44	129	14.7	5.4-24.0
45-54	166	27.1	17.6-36.6
55-64	72	37.5	17.3-57.7
<b>25-64</b>	<b>506</b>	<b>15.8</b>	<b>7.6-24.0</b>

Had feces checked for hidden blood									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	147	10.9	3.7-18.1	287	12.9	4.7-21.1	434	11.9	5.0-18.8
35-44	138	21.0	12.8-29.2	256	13.7	7.2-20.1	394	17.4	12.5-22.2
45-54	170	20.0	6.8-33.2	249	23.7	13.5-33.9	419	21.8	11.3-32.2
55-64	72	30.6	14.5-46.6	102	25.5	13.2-37.7	174	28.0	17.0-38.9
<b>25-64</b>	<b>527</b>	<b>18.3</b>	<b>10.5-26.1</b>	<b>894</b>	<b>16.6</b>	<b>9.1-24.2</b>	<b>1421</b>	<b>17.5</b>	<b>11.3-23.6</b>

Has had colonoscopy									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	147	1.4	0.0-3.9	286	1.4	0.0-3.0	433	1.4	0.0-3.3
35-44	138	5.8	0.0-16.7	255	2.0	0.7-3.3	393	3.9	0.0-9.5
45-54	170	5.3	1.9-8.7	248	4.8	1.4-8.3	418	5.1	2.7-7.5
55-64	72	11.1	3.1-19.1	100	8.0	5.3-10.7	172	9.5	5.6-13.4
<b>25-64</b>	<b>527</b>	<b>4.7</b>	<b>0.0-10.7</b>	<b>889</b>	<b>3.0</b>	<b>1.9-4.0</b>	<b>1416</b>	<b>3.8</b>	<b>0.9-6.8</b>

## Physical Measurements

### Height, weight and BMI

Description: Mean height, weight, and body mass index among all respondent (excluding pregnant women for weight and BMI).

Instrument questions:

- Height
- Weight

Mean height (cm)						
Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
25-34	145	170.5	168.2-172.9	285	160.5	157.8-163.2
35-44	135	169.8	167.3-172.4	253	162.2	160.3-164.0
45-54	164	170.9	168.6-173.3	248	162.4	161.3-163.5
55-64	70	169.4	166.9-172.0	103	161.2	159.3-163.2
<b>25-64</b>	<b>514</b>	<b>170.3</b>	<b>168.2-172.3</b>	<b>889</b>	<b>161.6</b>	<b>160.0-163.2</b>

Mean weight (kg)						
Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
25-34	147	81.0	79.0-83.0	270	79.2	77.1-81.4
35-44	136	86.1	82.4-89.9	251	83.1	79.4-86.9
45-54	166	85.6	82.8-88.3	246	87.0	83.9-90.0
55-64	70	88.1	78.6-97.5	100	86.2	82.9-89.5
<b>25-64</b>	<b>519</b>	<b>84.5</b>	<b>81.6-87.3</b>	<b>867</b>	<b>83.0</b>	<b>81.3-84.6</b>

Mean BMI (kg/m <sup>2</sup> )									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
25-34	144	28.0	27.0-29.0	260	30.1	29.0-31.2	404	29.0	28.1-29.9
35-44	134	30.1	28.5-31.6	242	30.9	29.4-32.5	376	30.5	29.5-31.5
45-54	162	29.2	28.6-29.8	240	32.7	31.8-33.6	402	30.9	30.4-31.4
55-64	67	30.7	27.1-34.3	96	32.7	30.9-34.4	163	31.7	29.4-34.1
<b>25-64</b>	<b>507</b>	<b>29.2</b>	<b>28.0-30.4</b>	<b>838</b>	<b>31.2</b>	<b>30.6-31.8</b>	<b>1345</b>	<b>30.2</b>	<b>29.6-30.8</b>

**BMI categories** Description: Percentage of respondents (excluding pregnant women) in each BMI category.

Instrument questions:

- Height
- Weight

BMI classifications									
Age Group (years)	Men								
	n	% Under-weight <18.5	95% CI	% Normal weight 18.5-24.9	95% CI	% Over-weight 25.0-29.9	95% CI	% Obese ≥30.0	95% CI
25-34	144	2.8	0.0-6.1	28.5	19.3-37.6	38.2	34.6-41.8	30.6	23.7-37.4
35-44	134	0.0	0.0-0.0	21.6	11.8-31.5	35.8	27.7-44.0	42.5	31.8-53.3
45-54	162	0.0	0.0-0.0	27.2	22.5-31.8	32.1	25.4-38.8	40.7	33.0-48.5
55-64	67	0.0	0.0-0.0	19.4	9.8-29.0	40.3	28.9-51.7	40.3	29.5-51.1
<b>25-64</b>	<b>507</b>	<b>0.9</b>	<b>0.0-2.1</b>	<b>24.9</b>	<b>18.9-30.9</b>	<b>36.2</b>	<b>32.2-40.3</b>	<b>37.9</b>	<b>30.9-44.9</b>

BMI classifications									
Age Group (years)	Women								
	n	% Under-weight <18.5	95% CI	% Normal weight 18.5-24.9	95% CI	% Over-weight 25.0-29.9	95% CI	% Obese ≥30.0	95% CI
25-34	260	1.5	0.0-3.1	22.3	14.0-30.6	32.7	28.7-36.7	43.5	38.6-48.3
35-44	242	1.2	0.0-2.5	14.1	10.1-18.0	33.5	23.0-43.9	51.2	38.9-63.6
45-54	240	0.0	0.0-0.0	11.3	7.1-15.4	25.4	17.5-33.4	63.3	54.5-72.2
55-64	96	0.0	0.0-0.0	12.5	5.7-19.3	24.0	11.5-36.5	63.5	47.4-79.7
<b>25-64</b>	<b>838</b>	<b>1.0</b>	<b>0.1-1.8</b>	<b>16.0</b>	<b>12.8-19.2</b>	<b>30.6</b>	<b>25.7-35.5</b>	<b>52.5</b>	<b>47.9-57.0</b>

BMI classifications									
Age Group (years)	Both Sexes								
	n	% Under-weight <18.5	95% CI	% Normal weight 18.5-24.9	95% CI	% Over-weight 25.0-29.9	95% CI	% Obese ≥30.0	95% CI
25-34	404	2.2	0.4-4.0	25.5	17.1-33.9	35.6	32.0-39.1	36.7	31.5-42.0
35-44	376	0.6	0.0-1.2	17.9	12.4-23.4	34.7	29.2-40.1	46.8	40.4-53.3
45-54	402	0.0	0.0-0.0	19.5	15.4-23.6	28.9	23.0-34.7	51.6	44.4-58.9
55-64	163	0.0	0.0-0.0	15.9	9.5-22.2	31.9	21.3-42.5	52.3	40.0-64.5
<b>25-64</b>	<b>1345</b>	<b>0.9</b>	<b>0.3-1.6</b>	<b>20.6</b>	<b>16.5-24.7</b>	<b>33.5</b>	<b>29.7-37.2</b>	<b>45.0</b>	<b>40.6-49.4</b>



**BMI ≥25** Description: Percentage of respondents being classified as overweight (BMI≥25)

Instrument questions:

- Height
- Weight

<b>BMI≥25</b>									
Age Group (years)	<b>Men</b>			<b>Women</b>			<b>Both Sexes</b>		
	n	% BMI≥25	95% CI	n	% BMI≥25	95% CI	n	% BMI≥25	95% CI
25-34	144	68.8	59.8-77.7	260	76.2	68.0-84.4	404	72.3	64.3-80.2
35-44	134	78.4	68.5-88.2	242	84.7	80.7-88.7	376	81.5	76.2-86.7
45-54	162	72.8	68.2-77.5	240	88.8	84.6-92.9	402	80.5	76.4-84.6
55-64	67	80.6	71.0-90.2	96	87.5	80.7-94.3	163	84.1	77.8-90.5
<b>25-64</b>	<b>507</b>	<b>74.1</b>	<b>67.7-80.5</b>	<b>838</b>	<b>83.0</b>	<b>79.9-86.1</b>	<b>1345</b>	<b>78.5</b>	<b>74.5-82.4</b>

**Waist circumference** Description: Mean waist circumference among all respondents (excluding pregnant women).

Instrument question:

- Waist circumference measurement

Waist circumference (cm)						
Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
25-34	147	91.5	87.6-95.4	276	91.2	88.9-93.5
35-44	137	95.1	92.7-97.5	253	95.2	92.3-98.0
45-54	167	94.2	92.0-96.4	249	99.0	97.4-100.6
55-64	72	97.9	92.4-103.4	102	99.9	97.5-102.3
<b>25-64</b>	<b>523</b>	<b>94.0</b>	<b>91.3-96.6</b>	<b>880</b>	<b>95.1</b>	<b>93.6-96.7</b>

**Hip circumference** Description: Mean hip circumference among all respondents (excluding pregnant women).

Instrument question:

- Hip circumference measurement

Hip circumference (cm)						
Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
25-34	147	107.1	102.1-112.0	275	109.9	106.9-112.9
35-44	137	108.3	103.8-112.7	251	111.4	106.2-116.6
45-54	166	107.8	105.1-110.4	248	113.8	110.5-117.0
55-64	70	106.5	99.9-113.1	101	113.4	109.8-117.0
<b>25-64</b>	<b>520</b>	<b>107.6</b>	<b>103.5-111.7</b>	<b>875</b>	<b>111.6</b>	<b>108.2-115.0</b>

**Waist / hip ratio** Description: Mean waist-to-hip ratio among all respondents (excluding pregnant women).

Instrument question:

- Waist and hip circumference measurement

Mean waist / hip ratio						
Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
25-34	147	0.9	0.9-0.9	275	0.8	0.8-0.8
35-44	137	0.9	0.8-0.9	251	0.9	0.8-0.9
45-54	166	0.9	0.9-0.9	247	0.9	0.9-0.9
55-64	70	0.9	0.9-0.9	101	0.9	0.9-0.9
<b>25-64</b>	<b>520</b>	<b>0.9</b>	<b>0.9-0.9</b>	<b>874</b>	<b>0.9</b>	<b>0.8-0.9</b>

# **Blood pressure**

Description: Mean blood pressure among all respondents, excluding those currently on medication for raised blood pressure.

Instrument question:

- 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

Mean systolic blood pressure (mmHg)											
Age Group (years)	Men				Women				Both Sexes		
	n	Mean	95% CI		n	Mean	95% CI		n	Mean	95% CI
25-34	124	127.5	125.7-129.2		254	119.1	113.9-124.4		378	123.2	120.3-126.1
35-44	111	130.4	128.2-132.7		200	122.2	118.8-125.7		311	126.4	123.8-129.0
45-54	130	141.3	133.6-149.1		169	132.3	129.6-135.0		299	137.3	132.9-141.6
55-64	46	140.7	136.4-144.9		47	134.0	128.2-139.7		93	137.8	133.7-141.9
25-64	411	132.4	130.0-134.9		670	123.5	120.7-126.4		1081	128.1	125.8-130.4

Mean diastolic blood pressure (mmHg)											
Age Group (years)	Men				Women				Both Sexes		
	n	Mean	95% CI		n	Mean	95% CI		n	Mean	95% CI
25-34	124	74.6	72.3-77.0		254	72.7	71.0-74.4		378	73.7	71.7-75.6
35-44	111	78.7	77.1-80.2		200	77.9	75.2-80.6		311	78.3	76.6-80.0
45-54	130	85.1	81.0-89.3		169	82.1	80.0-84.1		299	83.8	81.0-86.5
55-64	46	82.2	80.1-84.4		47	79.6	77.0-82.1		93	81.1	79.1-83.1
25-64	411	78.9	76.8-80.9		670	76.7	74.9-78.6		1081	77.8	75.9-79.7

# **Raised blood pressure**

Description: Percentage of respondents with raised blood pressure and percentage on medication for raised blood pressure.

Instrument question:

- 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

<b>SBP ≥140 and/or DBP ≥ 90 mmHg, excluding those currently on meds</b>									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	124	25.0	12.6-37.4	254	9.1	2.2-15.9	378	16.9	7.6-26.1
35-44	111	26.1	19.9-32.3	200	21.5	13.0-30.0	311	23.9	18.4-29.3
45-54	130	53.1	33.5-72.6	169	34.9	28.4-41.5	299	44.9	35.2-54.6
55-64	46	50.0	41.6-58.4	47	29.8	17.5-42.0	93	41.3	33.3-49.3
<b>25-64</b>	<b>411</b>	<b>33.2</b>	<b>23.4-42.9</b>	<b>670</b>	<b>19.6</b>	<b>16.5-22.6</b>	<b>1081</b>	<b>26.5</b>	<b>20.3-32.7</b>

<b>SBP ≥140 and/or DBP ≥ 90 mmHg or currently on medication for raised blood pressure</b>									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	126	26.2	12.4-39.9	259	10.8	3.9-17.7	385	18.3	8.6-28.1
35-44	117	29.9	22.1-37.8	232	32.3	24.5-40.1	349	31.2	25.0-37.3
45-54	150	59.3	41.5-77.2	224	50.9	45.5-56.3	374	55.2	46.4-64.1
55-64	61	62.3	56.5-68.1	90	63.3	45.2-81.5	151	62.8	51.2-74.5
<b>25-64</b>	<b>454</b>	<b>38.2</b>	<b>27.6-48.9</b>	<b>805</b>	<b>31.9</b>	<b>27.5-36.2</b>	<b>1259</b>	<b>35.0</b>	<b>27.7-42.3</b>

<b>Currently on medication for raised blood pressure</b>									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	126	1.6	0.0-4.1	259	1.9	0.3-3.6	385	1.8	0.5-3.0
35-44	117	5.1	0.9-9.4	232	13.8	9.4-18.2	349	9.6	6.0-13.2
45-54	150	13.3	8.5-18.2	224	24.6	18.7-30.4	374	18.8	13.9-23.7
55-64	61	24.6	15.0-34.2	90	47.8	27.4-68.1	151	36.7	21.9-51.5
<b>25-64</b>	<b>454</b>	<b>7.6</b>	<b>4.5-10.6</b>	<b>805</b>	<b>15.3</b>	<b>10.3-20.3</b>	<b>1259</b>	<b>11.5</b>	<b>7.8-15.2</b>

# **Raised blood pressure**

Description: Percentage of respondents with raised blood pressure and percentage on medication for raised blood pressure.

Instrument question:

- 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

SBP ≥160 and/or DBP ≥ 100 mmHg, excluding those currently on meds											
Age Group (years)	Men				Women				Both Sexes		
	n	%	95% CI		n	%	95% CI		n	%	95% CI
25-34	124	3.2	0.0-7.1		254	4.7	0.0-10.3		378	4.0	0.0-8.6
35-44	111	5.4	0.9-9.9		200	4.5	0.0-9.2		311	5.0	1.4-8.5
45-54	130	21.5	6.2-36.9		169	13.6	8.3-18.9		299	18.0	8.5-27.5
55-64	46	13.0	2.5-23.6		47	17.0	5.6-28.5		93	14.8	6.9-22.6
25-64	411	8.6	2.7-14.5		670	7.0	4.1-9.9		1081	7.8	4.1-11.5

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
25-34	126	4.8	0.0-9.8		259	6.6	0.6-12.5		385	5.7	0.8-10.6
35-44	117	10.3	2.5-18.0		232	17.7	10.7-24.7		349	14.1	7.8-20.3
45-54	150	32.0	16.5-47.5		224	34.8	26.5-43.1		374	33.4	23.0-43.8
55-64	61	34.4	20.0-48.8		90	56.7	38.1-75.2		151	46.0	29.9-62.2
25-64	454	15.5	7.6-23.4		805	21.2	15.8-26.6		1259	18.4	12.4-24.4

**Raised blood pressure and family history of raised blood pressure or stroke**

Description: Percentage of those with raised blood pressure who also have a family member with history of raised blood pressure or stroke among those with raised blood pressure (**SBP $\geq$ 140 and/or DBP $\geq$ 90**) or currently on medication for raised blood pressure.

Instrument questions:

- Are you currently receiving any of the following treatments for raised blood pressure prescribed by a doctor or other health worker? Drugs (medication) that you have taken in the last 2 weeks?
- Reading 1-3 systolic and diastolic blood pressure
- Have some of your family members been diagnosed with the following diseases: Raised blood pressure? Stroke?

Family member had stroke									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	33	63.6	57.7-69.6	28	92.9	79.2-100.0	61	72.4	61.3-83.6
35-44	35	74.3	53.5-95.0	74	93.2	85.6-100.0	109	84.4	73.9-94.8
45-54	88	67.0	49.2-84.9	113	85.0	80.7-89.2	201	75.1	63.0-87.1
55-64	37	78.4	67.9-88.8	56	76.8	64.0-89.6	93	77.5	69.6-85.5
<b>25-64</b>	<b>193</b>	<b>69.9</b>	<b>57.9-82.0</b>	<b>271</b>	<b>87.3</b>	<b>83.1-91.6</b>	<b>464</b>	<b>78.0</b>	<b>68.4-87.6</b>

Family member had high blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	33	24.2	0.1-48.4	28	35.7	0.0-75.6	61	27.7	0.0-55.8
35-44	35	22.9	14.2-31.5	74	33.8	23.1-44.4	109	28.7	21.2-36.1
45-54	88	23.9	16.4-31.4	113	39.8	34.1-45.6	201	31.0	27.5-34.5
55-64	37	37.8	20.7-54.9	56	42.9	31.0-54.8	93	40.5	28.4-52.5
<b>25-64</b>	<b>193</b>	<b>25.7</b>	<b>19.9-31.6</b>	<b>271</b>	<b>37.7</b>	<b>29.2-46.3</b>	<b>464</b>	<b>31.3</b>	<b>24.4-38.2</b>

**Raised blood pressure and family history of raised blood pressure or stroke**

Description: Percentage of those with raised blood pressure who also have a family member with history of raised blood pressure or stroke among those with raised blood pressure (**SBP $\geq$ 160 and/or DBP $\geq$ 100**) or currently on medication for raised blood pressure.

Instrument questions:

- Are you currently receiving any of the following treatments for raised blood pressure prescribed by a doctor or other health worker? Drugs (medication) that you have taken in the last 2 weeks?
- Reading 1-3 systolic and diastolic blood pressure
- Have some of your family members been diagnosed with the following diseases: Raised blood pressure? Stroke?

Family member had stroke									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	6	83.3	63.5-100.0	17	100.0	100.0-100.0	23	93.2	81.0-100.0
35-44	12	66.7	44.5-88.9	41	95.1	87.3-100.0	53	85.1	75.1-95.1
45-54	48	56.3	36.6-75.9	77	89.6	85.0-94.3	125	73.0	59.1-86.9
55-64	20	85.0	70.3-99.7	50	78.0	66.9-89.1	70	80.5	74.2-86.7
<b>25-64</b>	<b>86</b>	<b>67.2</b>	<b>50.8-83.5</b>	<b>185</b>	<b>89.4</b>	<b>85.3-93.4</b>	<b>271</b>	<b>80.2</b>	<b>70.3-90.1</b>

Family member had high blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	6	33.3	13.5-53.2	17	47.1	10.0-84.1	23	41.4	10.4-72.5
35-44	12	25.0	5.3-44.7	41	36.6	15.3-57.8	53	32.5	19.5-45.5
45-54	48	25.0	14.6-35.4	77	37.7	34.6-40.7	125	31.4	27.9-34.8
55-64	20	55.0	32.6-77.4	50	44.0	28.1-59.9	70	47.9	37.8-58.0
<b>25-64</b>	<b>86</b>	<b>31.8</b>	<b>27.9-35.7</b>	<b>185</b>	<b>40.0</b>	<b>29.3-50.7</b>	<b>271</b>	<b>36.6</b>	<b>29.0-44.2</b>

**Heart rate**

Description: Mean heart rate among all respondents and percentage with a raised heart rate.

Instrument question:

- Heart Rate measurement

Mean beats per minute											
Age Group (years)	Men				Women				Both Sexes		
	n	Mean	95% CI		n	Mean	95% CI		n	Mean	95% CI
25-34	125	73.4	71.4-75.4		259	78.2	75.9-80.6		384	75.9	74.0-77.7
35-44	116	75.3	72.9-77.8		232	78.4	76.6-80.2		348	76.9	75.1-78.7
45-54	149	77.0	75.2-78.9		223	78.1	76.3-79.8		372	77.5	76.0-79.0
55-64	61	75.1	72.2-78.1		90	73.9	72.3-75.5		151	74.5	72.7-76.3
25-64	451	75.0	73.8-76.3		804	77.8	76.5-79.1		1255	76.5	75.3-77.6

Percentage with beats per minute over 100											
Age Group (years)	Men				Women				Both Sexes		
	n	%	95% CI		n	%	95% CI		n	%	95% CI
25-34	125	0.8	0.0-2.8		259	0.8	0.0-2.0		384	0.8	0.0-2.0
35-44	116	2.6	0.3-4.8		232	2.2	0.0-4.4		348	2.4	0.8-4.0
45-54	149	5.4	2.2-8.5		223	2.7	1.1-4.3		372	4.1	1.9-6.3
55-64	61	0.0	0.0-0.0		90	0.0	0.0-0.0		151	0.0	0.0-0.0
25-64	451	2.4	0.9-3.8		804	1.6	0.8-2.3		1255	2.0	1.1-2.9



## Raised Risk

- Raised risk** Description: Percentage of respondents with 0, 1-2, or 3-5 of the following risk factors:
- current daily smoker
  - less than 5 servings of fruits & vegetables per day
  - low level of activity (<600 MET -minutes)
  - overweight or obese ( $\text{BMI} \geq 25 \text{ kg/m}^2$ )
  - raised BP ( $\text{SBP} \geq 140$  and/or  $\text{DBP} \geq 90$  mmHg or currently on medication for raised BP).

Instrument question: combined from Step 1 and Step 2

Raised Risk							
Men							
Age Group (years)	n	% with 0 risk factors	95% CI	% with 1-2 risk factors	95% CI	% with 3-5 risk factors	95% CI
<b>25-44</b>	226	0.0	0.0-0.0	63.0	55.9-70.1	37.0	29.9-44.1
<b>45-64</b>	187	0.0	0.0-0.0	34.8	24.4-45.2	65.2	54.8-75.6
<b>25-64</b>	<b>413</b>	<b>0.0</b>	<b>0.0-0.0</b>	<b>54.4</b>	<b>46.9-61.9</b>	<b>45.6</b>	<b>38.1-53.1</b>

Raised Risk							
Women							
Age Group (years)	n	% with 0 risk factors	95% CI	% with 1-2 risk factors	95% CI	% with 3-5 risk factors	95% CI
<b>25-44</b>	441	0.4	0.0-1.1	49.9	47.1-52.6	49.7	46.8-52.7
<b>45-64</b>	282	0.0	0.0-0.0	30.4	26.8-34.1	69.6	65.9-73.2
<b>25-64</b>	<b>723</b>	<b>0.3</b>	<b>0.0-0.8</b>	<b>44.0</b>	<b>41.9-46.2</b>	<b>55.7</b>	<b>53.6-57.7</b>

Raised Risk							
Both Sexes							
Age Group (years)	n	% with 0 risk factors	95% CI	% with 1-2 risk factors	95% CI	% with 3-5 risk factors	95% CI
<b>25-44</b>	667	0.2	0.0-0.6	56.4	52.5-60.3	43.4	39.4-47.5
<b>45-64</b>	469	0.0	0.0-0.0	32.6	28.8-36.4	67.4	63.6-71.2
<b>25-64</b>	<b>1136</b>	<b>0.1</b>	<b>0.0-0.4</b>	<b>49.2</b>	<b>45.6-52.8</b>	<b>50.7</b>	<b>47.0-54.3</b>