

# STEPS TO A WELL BERMUDA

HEALTH SURVEY OF ADULTS IN BERMUDA 2014



GOVERNMENT OF BERMUDA  
Ministry of Health, Seniors and Environment  
**Department of Health**







GOVERNMENT OF BERMUDA

Ministry of Health, Seniors and Environment

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# STEPS TO A WELL BERMUDA

*Health Survey of Adults in Bermuda 2014*

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Ministry of Health, Seniors and Environment (2016) Steps to a Well Bermuda: Health Survey of Adults in Bermuda 2014. Government of Bermuda



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# Executive Summary

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The Office of the Chief Medical Officer, within the Ministry of Health, Seniors and Environment, and the Health Promotion Office of the Department of Health in Bermuda collaborated with representatives from the Bermuda Diabetes Association to conduct a comprehensive survey on selected non-communicable diseases and their risk factors. As the World Health Organization STEPwise approach to chronic disease risk factor surveillance (STEPS) was designed for this purpose, the STEPS protocol was used. Given the region in which Bermuda is situated, the Pan-American version (PAHO-STEPS) was used with assistance from the Caribbean Public Health Agency (CARPHA).

As Bermuda's National Health Promotion Strategy is entitled Well Bermuda, it was deemed appropriate to entitle this health survey of adults as "STEPS to a Well Bermuda". Indeed, the results of the survey indicate that Bermuda must continue to take steps towards a Well Bermuda. The results indicate the need for improvements in fruit and vegetable consumption and physical activity for health, and the need to reduce or halt any rise in overweight and obesity in the population. Effort must also be made to further reduce and/or halt the rates of hypertension, diabetes and high cholesterol. Alcohol use continues to be high and tobacco use is relatively unchanged. Bermuda has to address these key risk factors. These results should be used to drive policies and programmes, inform public health priorities, and garner greater intersectoral collaboration as necessary to combat these risks to the health and wellbeing of the residents of Bermuda.

## Highlights

Nearly 1200 adults were interviewed about their risk factors and chronic disease conditions and had physical measurements taken (STEPS 1 and 2). Also, just over 450 persons had biochemical measurements taken (STEP 3). This report presents the main findings of the survey by age, gender, race, education and income level.

### STEPS 1 and 2

- 18% consumed five or more servings of **fruit and/or vegetables** per day.
- 50% drank at least one **sugary drink** per day.
- 27% do not meet the current World Health Organization recommendations of **physical activity for health**. Women are more likely to not meet the recommendations (34%).
- 37% have low levels of physical activity, 24% have moderate levels of physical activity, and 40% have high levels of physical activity. Men are more likely to have a high level of physical activity (52%).
- 60% do not engage in work-related physical activity, 67% do not engage in any transport-related physical activity and 39% do not engage in physical activity for recreation. Persons least likely to engage in physical activity for recreation tended to be:
  - Aged 65 years and older (57%)
  - Black (45%)
  - With secondary education or lower (53%)

- 75% were **overweight or obese** (40.2% and 34.4%, respectively). Men were more likely to be overweight, not obese, than women (50% compared to 30%). Younger adults aged 18-34 years were least likely to be overweight or obese (53%).
- 33% reported having **high blood pressure** – a slight decrease from 36% in 2011. Those with high blood pressure tended to be:
  - Aged 55-64 years (51%) or 65 years and older (58%)
  - Black (41%)
- 12% reported having **diabetes** – consistent with 13% in 2011. Those with diabetes tended to be aged 65 years and older (23%).
- 34% reported having **high cholesterol** – unchanged from 2011. Those with high cholesterol tended to be aged 55-64 years (42%) or 65 years and older (46%).
- 6% reported having **cardiovascular disease** (angina, heart attack or stroke). Those with cardiovascular disease tended to be aged 55-64 years (11%) or 65 years and older (14%).
- In terms of **family history**, the common conditions among immediate family members were high blood pressure (64%), diabetes (52%), high cholesterol (48%) and cancer (47%). Fewer had immediate family members who had a stroke (23%) or early heart attack (14%). Blacks were most likely to have an immediate family member with diabetes (60%).
- 64% currently drank **alcohol** – an increase from 50% in 2011. Current drinkers were more likely to be:
  - Men (75%)
  - Aged 18-34 years (68%) or 35-54 years (73%)
  - White (82%)
- 28% reported **binge drinking** – a slight increase from 24% in 2006. Binge drinkers were more likely to be:
  - Men (37%)
  - Aged 18-34 years (48%)
- 14% were **current smokers** – consistent with 13% in 2011. Men were more likely to be current smokers (20%). Among current smokers, 45% had attempted to stop smoking – a decline from 49% in 2011.
- 8% reported **no health insurance** – an increase of 2% from 2011. Blacks were more likely to not have insurance (13%). Half of those without health insurance (4%) did not have health insurance because they could not afford it. Persons who could not afford health insurance tended to be :
  - Aged 18-34 years (11%)
  - Blacks (82%)



- 17% reported having a **non-communicable disease** (NCD) including cardiovascular disease, cancer, chronic respiratory disease, diabetes, etc. Adults aged 55-64 years (25%) and 65 years and older (34%) were more likely to have a NCD.
- In terms of **lifestyle advice**, the commonly received advice from health care providers was in regards to improving physical activity (44%), weight management (38%), and fruit and vegetable consumption (31%). Fewer received advice about fat and salt in the diet (25% and 18%, respectively).
- In terms of **NCD risk**, 42% had three or more significant risk factors for non-communicable diseases. Persons with three or more risk factors tended to be :
  - Aged 55-64 years (59%) or 65 years and older (66%)
  - With secondary or lower education (54%)
  - In households with income less than \$72,000 (52%)

### STEP 3

- 12% had a fasting **blood glucose measurement** within the diabetic range or were currently on medication for diabetes. Additionally, 8% had a fasting blood glucose measurement in the pre-diabetic range. Those with raised blood glucose tended to be:
  - Aged 65 years and older (26%)
  - With secondary or lower education (23%)
  - In households with income less than \$72,000 (17%)
- 26% had a raised **total cholesterol measurement** or were currently on medication for high cholesterol. Additionally, 21% had a total cholesterol measurement in the borderline high range. Those with raised total cholesterol tended to be in households with income less than \$72,000 (36%). Those with cholesterol levels above the normal range tended to be aged 55-64 years (65.7%) and aged 65 years and older (64.7%).

### Acknowledgements

STEPS to a Well Bermuda 2014 was completed under the guidance of the Chief Medical Officer, Dr. Cheryl Peek-Ball, with the assistance of Dr. Glennis Andall-Brereton and Ms. Sarah Quesnel-Crooks of CARPHA. It would not have been possible without the collaborative efforts of the additional core members of the STEPS Coordinating Committee: Dr. Annabel Fountain, Ms. Debbie Jones, and Dr. Virloy Lewin. The STEPS Coordinating Committee is also grateful for the assistance of the Department of Health Clinical Laboratory, namely Ms. Susan Jatto and Ms. Aisha Farooqui, Oral Health personnel led by Dr. Celia Nzabalinda, and Ms. Pauleter Stevens of the Health Promotion Office. There were also countless hours of effort expended by STEPS Supervisors and Interviewers, too numerous to mention, and personnel at, and engaged by, the Chronic Disease Management Centre and the Bermuda Diabetes Association. Last but not least, the assistance of Ms. Shakira Warner, was invaluable in the completion of STEPS to a Well Bermuda 2014.

# Introduction

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This document reports on data from STEPS to a Well Bermuda 2014, a population-based cross-sectional assessment of chronic disease risk factors in adults aged 18 and over. It was carried out from November 2013 through December 2014 using the Pan-American version of the World Health Organization’s STEPwise approach to chronic disease risk factor surveillance (STEPS) methodology. STEPS to a Well Bermuda was conducted with the assistance of the Caribbean Public Health Agency (CARPHA) and local public health partners, including the Bermuda Hospitals Board and the Bermuda Diabetes Association

## Purpose

STEPS to a Well Bermuda, using self-reported information and a range of objective physical and biochemical measures, aimed to:

- describe the prevalence and distribution of chronic disease risk factors and selected chronic diseases in the population,
- track the direction and magnitude of risk factor trends, and
- provide a sound evidence base to inform public health priorities for the prevention and control of chronic non-communicable diseases.

## Methodology

The Pan-American Health Organization STEPwise approach to chronic disease risk factor surveillance (PAHO-STEPS) was used in Bermuda. PAHO-STEPS is adapted from the WHO STEPwise approach to chronic disease risk factor surveillance (WHO-STEPS) and is PAHO’s recommended tool for surveillance of chronic disease risk factors in adults in the region.

STEPS uses a sequential process to collect chronic disease risk factor information. It starts with gathering information on key risk factors using a questionnaire (STEP 1), then moves to simple physical measurements, such as height, weight, and waist circumference (STEP 2) and then to more complex collection of clinical samples for biochemical analysis (STEP 3).

FIGURE 1. DIAGRAMMATIC REPRESENTATION OF THE STEPWISE APPROACH



The STEPS Sample Size Calculator was used to determine the appropriate sample size for adults aged 18 years and older in Bermuda, using the parameters below. STEPS protocol requires a conservative estimate of the baseline levels of the behaviors or indicators to be measured. If no previous population data is available, an estimate of 50% is recommended. If previous population data is available, the value closest to 50% is to be used. Using data

from the Health Survey of Adults and Children 2011, it was determined that the baseline value of 36% was to be used for the sample calculation.

<b>Parameters used for Sample Size Calculation</b>	
<b>Parameter</b>	<b>Value</b>
Level of Confidence Measure	1.96
Margin of Error (MOE)	0.05
Design effect (Deff)	1
Expected Response Rate	0.8
Number of Age/Sex Strata	6
<b>Sample Size</b>	<b>2656</b>

The total sample size for STEPS 1 and 2 was determined to be 2656 households. The STEPS protocol states that STEP 3 can be conducted on a smaller sample size and recommends a subsample using a minimum of 20% of the total sample size for STEP 3. As non-response for STEP 3 was likely to be high, all respondents in the total sample were eligible to participate in STEP 3.

Data collection was extended and occurred from 10 November 2013 through 20 December 2014 (excluding periods around Christmas and other large public holidays). Households were included from each parish, proportionate to size. Within each selected household, an adult was randomly selected to participate in the survey.

The table below details the distribution of responses. Out of 2656 addresses in the total sample, 751 could not be reached and 182 were vacant residential units or business addresses, considered as ineligible. Of the 1723 eligible households, 1195 completed STEPS 1 and/or 2 and 528 declined to participate. A total of 467 persons completed STEP 3.

<b>Distribution of responses</b>	<b>Overall Response Rates</b>		<b>STEPS Response Rates</b>
	<b>N</b>	<b>%</b>	<b>%</b>
Number of completed interviews (STEP 1)	1195	45.0%	69.4%
Number of completed physical measurements (STEP 2)	1147	43.2%	66.6%
Number of completed biochemical measurements (STEP 3)	467	17.6%	27.1%
Number of declines	528	19.9%	30.6%
<b>Total eligible households</b>	<b>1723</b>	<b>64.9%</b>	<b>100.0%</b>
Number of vacant households or businesses	182	6.9%	
Addresses not reached	751	28.3%	
<b>Total Sample Size</b>	<b>2656</b>	<b>100.0%</b>	

The Demographic Information section details the distribution of the respondents by selected demographic variables for STEPS 1-2 and 3. Weights were calculated for the STEPS results (except Demographic Information). This was done to ensure that the results were representative of the entire adult population as is necessary for all sample-based surveys. Individual and population weights were applied and combined to provide an overall weight.

A suite of software that allows for the collection of the required STEPS data using Personal Digital Assistants (PDAs), eSTEPS, was used for data entry. Epi Info® was used for analysis using WHO-STEPS Epi-Info programmes. Where possible the data was compared to data from the Health Survey of Adults and Children in Bermuda 2006, the 2007 Well Bermuda Study and the Health Survey of Adults 2011. As there were differences in some of the questions, these comparisons required additional analyses to be conducted using new Epi-Info programmes.

The results of STEPS to a Well Bermuda are outlined in this report with detailed analysis by the key demographic variables of gender, race, education and income level. The executive summary, including highlights, provides a high level review of the results. A full copy of the questionnaire is appended to the report.

# STEPS 1 and 2: Behavioural and Physical Measurements

## Demographic Information

### Gender

		Total		Gender			
				Men		Women	
		N	%	N	%	N	%
Total		1195	100.0%	494	41.3%	701	58.7%
Gender	Men	494	41.3%	494	100.0%	0	0.0%
	Women	701	58.7%	0	0.0%	701	100.0%
Age	18-34	205	17.2%	91	44.4%	114	55.6%
	35-54	433	36.2%	194	44.8%	239	55.2%
	55-64	247	20.7%	91	36.8%	156	63.2%
	65+	310	25.9%	118	38.1%	192	61.9%
Race	Black	664	55.6%	261	39.3%	403	60.7%
	White	390	32.6%	177	45.4%	213	54.6%
	Mixed & Other	141	11.8%	56	39.7%	85	60.3%
Education	Secondary & Lower	422	35.3%	195	46.2%	227	53.8%
	Technical & Higher	773	64.7%	299	38.7%	474	61.3%
Income	Under \$72,000	516	43.2%	184	35.7%	332	64.3%
	\$72,000 to \$107,999	187	15.6%	86	46.0%	101	54.0%
	\$108,000 and over	293	24.5%	144	49.1%	149	50.9%
	Not Stated	199	16.7%	80	40.2%	119	59.8%

### Age

		Age Group							
		18-34		35-54		54-65		65+	
		N	%	N	%	N	%	N	%
Total		205	17.2%	433	36.2%	247	20.7%	310	25.9%
Gender	Men	91	18.4%	194	39.3%	91	18.4%	118	23.9%
	Women	114	16.3%	239	34.1%	156	22.3%	192	27.4%
Age	18-34	205	100.0%	0	0.0%	0	0.0%	0	0.0%
	35-54	0	0.0%	433	100.0%	0	0.0%	0	0.0%
	55-64	0	0.0%	0	0.0%	247	100.0%	0	0.0%
	65+	0	0.0%	0	0.0%	0	0.0%	310	100.0%
Race	Black	109	16.4%	219	33.0%	148	22.3%	188	28.3%
	White	52	13.3%	154	39.5%	76	19.5%	108	27.7%
	Mixed & Other	44	31.2%	60	42.6%	23	16.3%	14	9.9%
Education	Secondary & Lower	54	12.8%	105	24.9%	84	19.9%	179	42.4%
	Technical & Higher	151	19.5%	328	42.4%	163	21.1%	131	16.9%
Income	Under \$72,000	87	16.9%	124	24.0%	112	21.7%	193	37.4%
	\$72,000 to \$107,999	38	20.3%	76	40.6%	43	23.0%	30	16.0%
	\$108,000 and over	43	14.7%	172	58.7%	58	19.8%	20	6.8%
	Not Stated	37	18.6%	61	30.7%	34	17.1%	67	33.7%

**Race**

		Race					
		Black		White		Mixed & Other	
		N	%	N	%	N	%
Total		664	55.6%	390	32.6%	141	11.8%
Gender	Men	261	52.8%	177	35.8%	56	11.3%
	Women	403	57.5%	213	30.4%	85	12.1%
Age	18-34	109	53.2%	52	25.4%	44	21.5%
	35-54	219	50.6%	154	35.6%	60	13.9%
	55-64	148	59.9%	76	30.8%	23	9.3%
	65+	188	60.6%	108	34.8%	14	4.5%
Race	Black	664	100.0%	0	0.0%	0	0.0%
	White	0	0.0%	390	100.0%	0	0.0%
	Mixed & Other	0	0.0%	0	0.0%	141	100.0%
Education	Secondary & Lower	270	64.0%	110	26.1%	42	10.0%
	Technical & Higher	394	51.0%	280	36.2%	99	12.8%
Income	Under \$72,000	322	62.4%	125	24.2%	69	13.4%
	\$72,000 to \$107,999	107	57.2%	58	31.0%	22	11.8%
	\$108,000 and over	108	36.9%	156	53.2%	29	9.9%
	Not Stated	127	63.8%	51	25.6%	21	10.6%

**Education**

		Education			
		Secondary & Lower		Technical & Higher	
		N	%	N	%
Total		422	35.3%	773	64.7%
Gender	Men	195	39.5%	299	60.5%
	Women	227	32.4%	474	67.6%
Age	18-34	54	26.3%	151	73.7%
	35-54	105	24.2%	328	75.8%
	55-64	84	34.0%	163	66.0%
	65+	179	57.7%	131	42.3%
Race	Black	270	40.7%	394	59.3%
	White	110	28.2%	280	71.8%
	Mixed & Other	42	29.8%	99	70.2%
Education	Secondary & Lower	422	100.0%	0	0.0%
	Technical & Higher	0	0.0%	773	100.0%
Income	Under \$72,000	248	48.1%	268	51.9%
	\$72,000 to \$107,999	46	24.6%	141	75.4%
	\$108,000 and over	35	11.9%	258	88.1%
	Not Stated	93	46.7%	106	53.3%

## Household Income

		Household Income							
		Under \$72,000		\$72,000 to \$107,999		\$108,000 & Over		Not Stated	
		N	%	N	%	N	%	N	%
Total		516	43.2%	187	15.6%	293	24.5%	199	16.7%
Gender	Men	184	37.2%	86	17.4%	144	29.1%	80	16.2%
	Women	332	47.4%	101	14.4%	149	21.3%	119	17.0%
Age	18-34	87	42.4%	38	18.5%	43	21.0%	37	18.0%
	35-54	124	28.6%	76	17.6%	172	39.7%	61	14.1%
	55-64	112	45.3%	43	17.4%	58	23.5%	34	13.8%
	65+	193	62.3%	30	9.7%	20	6.5%	67	21.6%
Race	Black	322	48.5%	107	16.1%	108	16.3%	127	19.1%
	White	125	32.1%	58	14.9%	156	40.0%	51	13.1%
	Mixed & Other	69	48.9%	22	15.6%	29	20.6%	21	14.9%
Education	Secondary & Lower	248	58.8%	46	10.9%	35	8.3%	93	22.0%
	Technical & Higher	268	34.7%	141	18.2%	258	33.4%	106	13.7%
Income	Under \$72,000	516	100.0%	0	0.0%	0	0.0%	0	0.0%
	\$72,000 to \$107,999	0	0.0%	187	100.0%	0	0.0%	0	0.0%
	\$108,000 and over	0	0.0%	0	0.0%	293	100.0%	0	0.0%
	Not Stated	0	0.0%	0	0.0%	0	0.0%	199	100.0%

## Results

### Nutrition

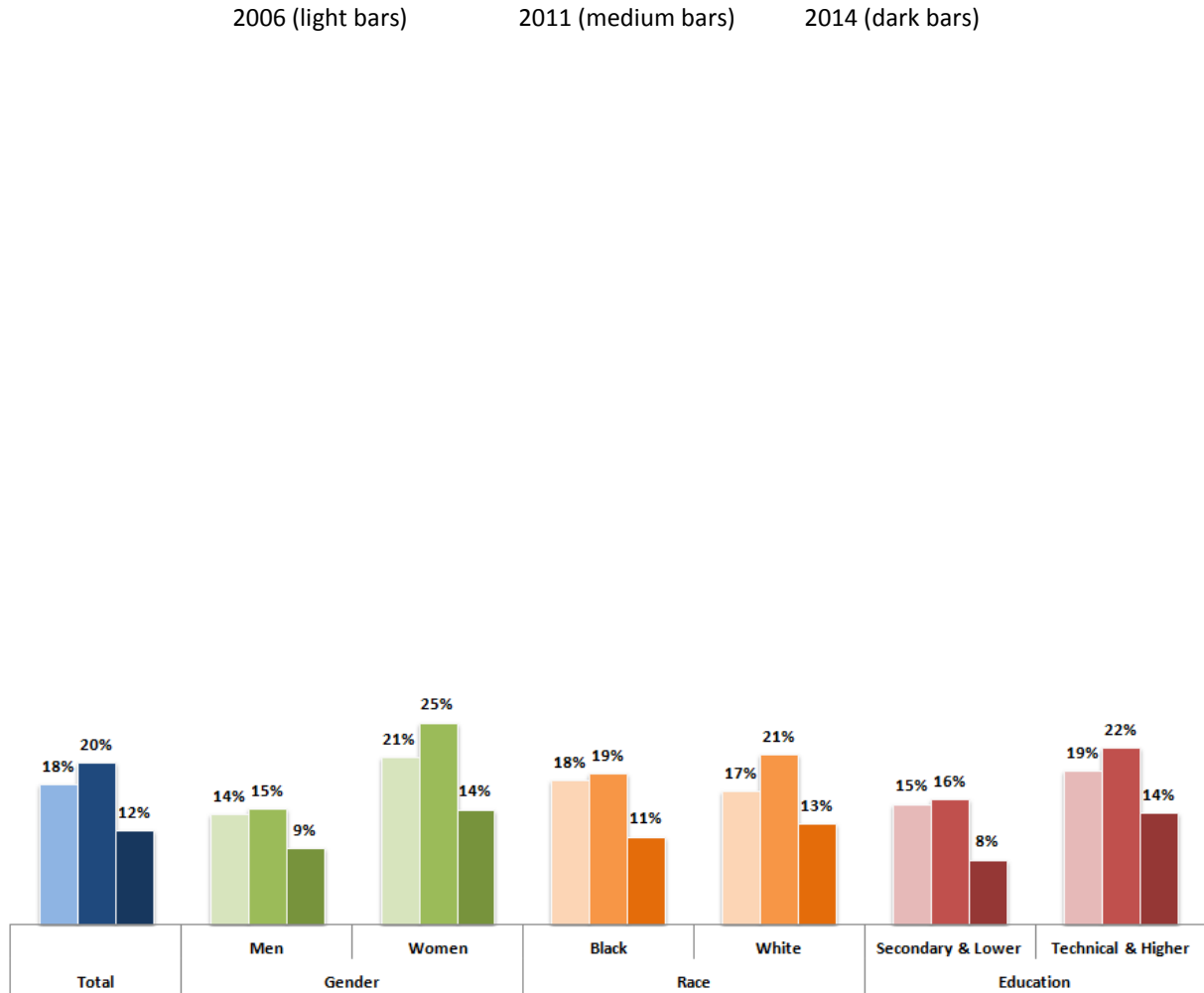
#### Fruit Consumption

Respondents were asked how many days in a typical week they eat fruit and how many servings of fruit they eat on those days. Nearly half (47.5%) reported having one to two servings of fruit per day. Slightly lower (40.7%) reported having less than one serving of fruit per day. One in ten adults (9.9%) had three to four servings of fruit per day while one in fifty adults (2.0%) reported having five or more servings of fruit per day. Although young adults aged 18 to 34 years were more likely to eat less than one serving of fruit per day (54.9%) than adults aged 35-54 years (36.0%), there were no trends by age. There were also no significant differences in fruit consumption by gender, race, education or income.

		Fruit Consumption							
		Less than one serving per day		One to two servings per day		Three to four servings per day		Five or more servings per day	
		N	%	N	%	N	%	N	%
Total		488	40.7%	544	47.5%	132	9.9%	26	2.0%
Gender	Men	230	42.0%	212	48.5%	40	7.5%	10	2.0%
	Women	258	39.2%	332	46.4%	92	12.4%	16	1.9%
Age	18-34	107	54.9%	75	35.5%	18	7.6%	4	2.0%
	35-54	180	36.0%	200	53.0%	42	9.2%	9	1.9%
	55-64	91	37.2%	113	47.9%	36	12.7%	7	2.2%
	65+	110	39.1%	156	47.4%	36	11.6%	7	2.2%
Race	Black	276	44.8%	304	44.2%	68	8.7%	13	2.3%
	White	148	32.3%	181	55.1%	52	11.4%	7	1.2%
	Mixed & Other	64	48.7%	59	38.4%	12	10.0%	6	2.8%
Education	Secondary & Lower	189	39.7%	188	52.2%	38	6.8%	5	1.3%
	Technical & Higher	299	41.3%	356	44.7%	94	11.7%	21	2.4%
Income	Under \$72,000	228	41.6%	222	48.9%	53	8.1%	11	1.4%
	\$72,000 to \$107,999	68	38.0%	99	52.2%	17	8.5%	3	1.2%
	\$108,000 and over	105	36.2%	140	46.6%	38	13.2%	10	4.0%
	Not Stated	87	48.1%	83	41.5%	24	10.0%	2	0.5%

### Fruit Consumption Comparison

Fruit consumption of three or more servings per day appears to decline in 2014. This apparent decline may be attributed to differences in methodology. STEPS show cards were used in 2014 to illustrate serving size, unlike prior surveys that relied solely on respondent perception of serving size.





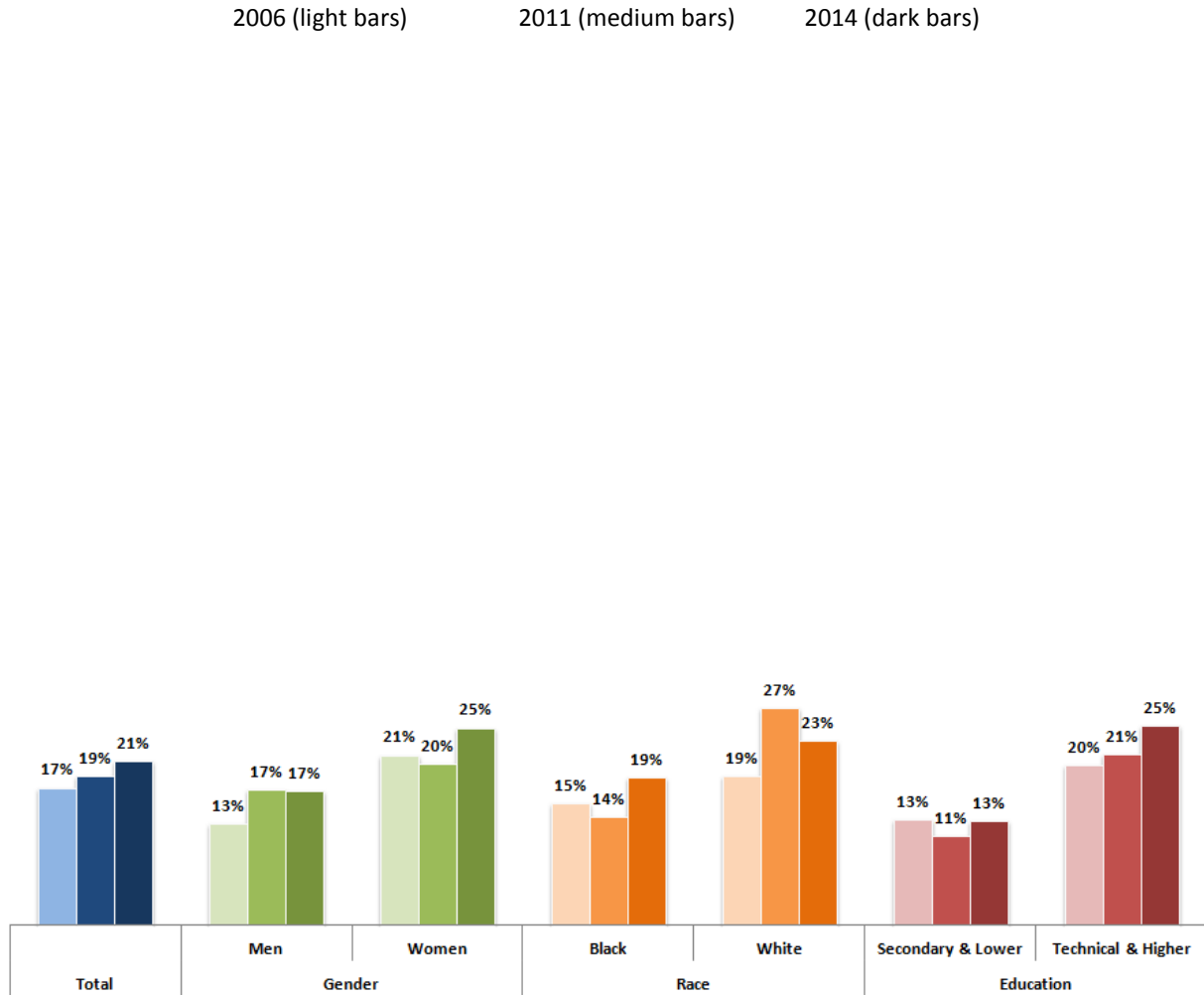
### Vegetable Consumption

Respondents were asked how many days in a typical week they eat vegetables and how many servings of vegetables they eat on those days. Just over half (52.6%) reported having one to two servings of vegetables per day. Over a quarter of adults (26.9%) reported having less than one serving of vegetables per day. The remaining ate three to four (16.9%) or five or more (4.2%) servings of vegetables per day. Young adults aged 18 to 34 years were more likely to eat less than one serving of vegetables per day (31.9%) than adults aged 55-64 years (17.4%) and 65 years and older (13.4%). Older adults aged 65 years and over (64.8%) were more likely to eat one to two servings of vegetables than young adults aged 18-34 years (50.2%). Adults with technical or higher education (5.7%) were more likely to eat five or more servings of vegetables per day than adults with secondary and lower education (1.7%). Adults with a household income of \$108,000 and over (7.5%) were more likely to eat five or more servings of vegetables than adults with household incomes of under \$72,000 (2.1%). There were no significant differences in vegetable consumption by gender or race.

		Vegetable Consumption							
		Less than one serving per day		One to two servings per day		Three to four servings per day		Five or more servings per day	
		N	%	N	%	N	%	N	%
Total		248	26.9%	671	52.6%	216	16.4%	55	4.2%
Gender	Men	108	33.3%	284	49.8%	77	13.1%	21	3.8%
	Women	140	19.8%	387	55.5%	139	20.0%	34	4.7%
Age	18-34	57	31.9%	106	50.2%	35	15.7%	6	2.2%
	35-54	92	33.5%	236	46.4%	77	14.9%	27	5.2%
	55-64	48	17.4%	140	59.5%	44	17.6%	13	5.5%
	65+	51	13.4%	189	64.8%	60	19.6%	9	2.9%
Race	Black	150	26.6%	382	54.8%	104	15.3%	24	3.3%
	White	71	29.9%	205	46.9%	85	17.0%	28	6.1%
	Mixed & Other	27	18.5%	84	60.2%	27	19.0%	3	2.3%
Education	Secondary & Lower	106	39.5%	245	47.4%	59	11.4%	8	1.7%
	Technical & Higher	142	19.3%	426	55.6%	157	19.3%	47	5.7%
Income	Under \$72,000	123	37.1%	294	46.4%	83	14.4%	15	2.1%
	\$72,000 to \$107,999	41	23.6%	108	56.3%	34	17.3%	4	2.8%
	\$108,000 and over	35	12.1%	166	58.6%	67	21.7%	25	7.5%
	Not Stated	49	29.7%	103	53.7%	32	11.6%	11	5.0%

### Vegetable Consumption Comparison

Overall, vegetable consumption (three or more servings per day) appears to increase in 2014. This apparent increase may be attributed to differences in methodology. STEPS show cards were used in 2014 to illustrate serving size, unlike prior surveys that relied solely on respondent perception of serving size.



### Fruit and Vegetable Consumption

Respondents were asked how many days in a typical week they eat fruit and vegetables and how many servings of fruit and vegetables they eat on those days. Nearly half (48.3%) reported having one to two servings of fruit and vegetables per day. Over a quarter (27.1%) reported having three to four servings per day. Less than one in five (18.1%) had five or more servings per day and 6.5% had less than one serving of fruit and/or vegetables per day. Adults with technical or higher education (22.6%) were more likely to eat five or more servings of fruit and vegetables per day than adults with secondary and lower education (10.6%). Adults with a household income of \$108,000 and over (28.3%) were more likely to eat five or more servings of fruit and vegetables than adults with household incomes of under \$72,000 (13.5%). There were no significant differences in fruit and vegetable consumption by gender, age, or race.

		Fruit and Vegetable Consumption							
		Less than one serving per day		One to two servings per day		Three to four servings per day		Five or more servings per day	
		N	%	N	%	N	%	N	%
Total		83	6.5%	497	48.3%	371	27.1%	242	18.1%
Gender	Men	43	7.3%	223	55.4%	146	22.7%	81	14.6%
	Women	40	5.7%	274	40.5%	225	31.8%	161	22.0%
Age	18-34	23	11.4%	99	52.7%	49	22.1%	33	13.8%
	35-54	28	6.1%	176	50.5%	139	25.8%	89	17.6%
	55-64	16	4.5%	93	41.1%	80	31.1%	58	23.3%
	65+	16	3.8%	129	44.6%	103	32.1%	62	19.4%
Race	Black	51	8.4%	292	48.8%	212	27.3%	108	15.5%
	White	21	3.1%	145	49.6%	118	26.0%	105	21.4%
	Mixed & Other	11	8.9%	60	42.2%	41	29.5%	29	19.5%
Education	Secondary & Lower	38	7.8%	209	61.4%	117	20.2%	57	10.6%
	Technical & Higher	45	5.8%	288	40.4%	254	31.2%	185	22.6%
Income	Under \$72,000	44	7.8%	228	54.9%	157	23.9%	86	13.5%
	\$72,000 to \$107,999	15	7.5%	74	44.0%	70	30.0%	28	15.5%
	\$108,000 and over	5	1.6%	106	38.0%	93	32.1%	89	28.3%
	Not Stated	19	10.5%	89	53.4%	51	21.2%	39	14.8%

### Sugary Drink Consumption

Respondents were asked how many sugary drinks they drink on an average day. Examples of sugary drinks included sodas, juice, sports drinks and iced teas. Half (50.4%) reported having less than one sugary drink per day. A third (33.7%) reported having one to two sugary drinks per day. Additionally, 13.5% reported having three to four sugary drinks per day and 2.4% had five or more. Young adults aged 18-34 years (35.9%) were less likely to have less than one sugary drink per day than adults aged 55-64 years and 65 years and older (60.9% and 60.0% respectively). Blacks (40.7%) were more likely to have one to two sugary drinks per day than Whites (22.0%). There were no significant differences in sugary drink consumption by gender, education, or income.

		Sugary Drink Consumption							
		Less than one drink per day		One to two drinks per day		Three to four drinks per day		Five or more drinks per day	
		N	%	N	%	N	%	N	%
Total		672	50.4%	416	33.7%	79	13.5%	24	2.4%
Gender	Men	241	41.4%	194	34.9%	38	20.1%	18	3.6%
	Women	431	60.2%	222	32.4%	41	6.4%	6	1.1%
Age	18-34	81	35.9%	91	45.4%	25	14.6%	7	4.1%
	35-54	252	49.3%	146	30.1%	24	18.4%	10	2.1%
	55-64	149	60.9%	81	31.8%	14	6.3%	2	1.0%
	65+	190	60.0%	98	30.8%	16	6.9%	5	2.3%
Race	Black	325	47.6%	270	40.7%	52	9.3%	15	2.4%
	White	268	54.1%	95	22.0%	18	21.6%	8	2.4%
	Mixed & Other	79	50.9%	51	39.6%	9	7.3%	1	2.2%
Education	Secondary & Lower	213	39.6%	154	30.3%	35	25.6%	17	4.4%
	Technical & Higher	459	56.8%	262	35.7%	44	6.4%	7	1.2%
Income	Under \$72,000	268	40.1%	199	34.5%	36	23.1%	11	2.3%
	\$72,000 to \$107,999	105	53.7%	63	35.2%	17	10.1%	2	1.0%
	\$108,000 and over	190	63.4%	86	30.5%	13	4.5%	4	1.6%
	Not Stated	109	50.2%	68	35.5%	13	9.4%	4	1.6%

## Salt

### Perceptions and Behaviours

Respondents were asked questions about dietary salt knowledge, attitudes and behavior. Nearly all (96.8%) thought it was important to lower salt in the diet but less (62.6%) thought that too much salt could cause health problems. The perception that too much salt causes health problems increased with age. Blacks (69.3%) were more likely than Whites (49.1%) to think that too much salt causes health problems. Half of respondents (49.4%) reported always or often adding salt while cooking while fewer reported always or often consuming salty processed food (12.0%) or always or often adding salt to their food before or during mealtime (11.6%). Adults aged 35-54 years (59.4%) were more likely to add salt while cooking than adults aged 55-64 years and 65 years and older (33.1% and 35.0% respectively). Young adults aged 18-34 years (15.8%) were more likely to add salt at mealtime than adults aged 65 years and older (6.8%). There were no other significant differences in dietary salt perceptions and behaviours.

Dietary Salt: Perceptions and Behavior											
		Think too much salt can cause health problems		Think it is important to lower salt in the diet		Always or often consumes salty processed food		Always or often adds salt while cooking		Always or often adds salt before or during eating	
		N	%	N	%	N	%	N	%	N	%
Total		589	62.6%	1133	96.8%	143	12.0%	508	49.4%	142	11.6%
Gender	Men	212	59.1%	462	96.3%	58	10.1%	201	50.8%	71	12.4%
	Women	377	65.5%	671	97.3%	85	14.1%	307	47.8%	71	10.8%
Age	18-34	57	42.8%	191	95.3%	36	17.6%	108	53.4%	35	15.8%
	35-54	192	60.0%	414	97.5%	58	11.4%	220	59.4%	62	12.4%
	55-64	146	72.5%	237	97.7%	30	12.6%	75	33.1%	22	9.6%
	65+	194	76.9%	291	95.8%	19	6.4%	105	35.0%	23	6.8%
Race	Black	394	69.3%	640	97.5%	74	11.2%	286	47.4%	68	12.0%
	White	133	49.1%	362	96.6%	45	10.9%	144	49.2%	50	9.9%
	Mixed & Other	62	60.5%	129	94.3%	24	18.7%	78	58.2%	24	15.1%
Education	Secondary & Lower	230	67.1%	399	98.0%	45	9.4%	181	56.5%	41	8.4%
	Technical & Higher	359	60.1%	734	96.0%	98	13.5%	327	45.1%	101	13.5%
Income	Under \$72,000	299	68.2%	492	97.6%	50	8.7%	215	54.2%	62	11.3%
	\$72,000 to \$107,999	94	66.8%	178	97.6%	30	15.4%	83	50.0%	22	12.7%
	\$108,000 and over	94	50.0%	279	97.0%	45	15.7%	123	42.3%	35	12.0%
	Not Stated	102	62.3%	184	93.9%	18	10.5%	87	49.0%	23	10.8%

### Control of Salt Intake

Respondents were asked about methods for controlling their dietary salt intake. The most common methods were minimizing consumption of processed foods (79.9%) and purchasing of low salt alternatives (77.1%). Also common were looking at food labels for salt content (48.3%), cooking meals without adding salt (40.5%) and not adding salt to meals (39.1%). Few adults used spices other than salt when cooking (13.2%) to control their dietary salt intake. Young adults aged 18-34 years (68.6%) were least likely to minimize their consumption of processed foods. Men (37.5%) were less likely than women (60.1%) to look at the salt content on food labels. Also, young adults aged 18-34 were less likely to look at food labels for salt content than adults aged 55-64 years (63.1%) and 65 years and older (58.8%). Young adults aged 18-34 years (29.1%) were less likely to cook meals without adding salt than adults aged 65 years and older (56.8%). There were no other significant differences in methods used to control salt intake.

		Control of Salt Intake											
		Minimizes consumption of processed foods		Looks at salt labels on food		Does not add salt to meals		Buys low salt alternatives		Cooks meals without adding salt		Uses spices other than salt when cooking	
		N	%	N	%	N	%	N	%	N	%	N	%
Total		954	79.9%	660	48.3%	514	39.1%	971	77.1%	548	40.5%	168	13.2%
Gender	Men	377	78.9%	230	37.5%	191	34.7%	378	68.7%	193	33.7%	59	10.8%
	Women	577	80.9%	430	60.1%	323	44.0%	593	86.4%	355	47.8%	109	15.8%
Age	18-34	143	68.6%	86	37.0%	77	37.8%	172	84.5%	64	29.1%	25	10.8%
	35-54	344	81.8%	227	43.7%	170	35.0%	368	74.1%	179	35.8%	64	13.2%
	55-64	211	85.8%	162	63.1%	120	46.5%	201	80.8%	123	49.2%	39	16.7%
	65+	256	83.2%	185	58.8%	147	43.9%	230	72.6%	182	56.8%	40	12.5%
Race	Black	536	79.7%	379	52.7%	301	42.5%	520	79.1%	333	47.3%	105	15.8%
	White	313	82.3%	212	43.6%	153	34.4%	331	70.5%	149	28.9%	40	8.6%
	Mixed & Other	105	73.6%	69	43.9%	60	38.9%	120	88.3%	66	46.4%	23	16.0%
Education	Secondary & Lower	318	78.4%	218	39.9%	180	34.7%	303	61.8%	216	40.0%	55	12.3%
	Technical & Higher	636	80.8%	442	53.3%	334	41.7%	668	86.3%	332	40.7%	113	13.7%
Income	Under \$72,000	413	82.5%	302	48.0%	228	36.3%	400	66.3%	254	38.6%	82	14.3%
	\$72,000 to \$107,999	149	79.1%	100	50.0%	74	39.6%	154	82.2%	75	38.8%	31	17.4%
	\$108,000 and over	240	80.0%	159	51.8%	127	43.0%	262	87.9%	107	36.0%	31	9.5%
	Not Stated	152	74.6%	99	42.0%	85	39.1%	155	80.0%	112	53.1%	24	12.7%

## Oils and Fats

Respondents were asked questions about the type of oil or fat used for meal preparation in their households. Olive and Canola oil (69.2%) was most often used followed by vegetable oil (20.6%). Few households used butter (3.0%), margarine (1.2%), or lard (0.7%). Very few households did not use any oil or fat (1.4%), 0.7% of households used lard, 1.0% used no oil or fat in particular and 3.0% used another oil or fat in meal preparation.

Blacks (28.5%) were more likely to use vegetable oil than Whites (8.1%) while Whites (84.1%) were more likely to use olive or canola oil than Blacks (58.8%). Adults with a household income of \$108,000 and over (82.9%) were more likely to use olive or canola oil than adults with a household income of \$72,000 to \$107,999 (61.7%).

		Oils and Fats Used in Meal Preparation					
		Vegetable Oil		Olive or Canola Oil		Butter or Margarine	
		N	%	N	%	N	%
Total		254	20.6%	792	69.2%	52	4.2%
Gender	Men	102	18.8%	342	73.1%	20	4.2%
	Women	152	22.5%	450	64.8%	32	4.3%
Age	18-34	55	30.6%	121	55.8%	13	8.1%
	35-54	84	15.6%	308	76.9%	15	2.5%
	55-64	39	17.4%	174	70.1%	8	3.5%
	65+	76	24.4%	189	64.5%	16	5.0%
Race	Black	185	28.5%	385	58.8%	33	5.3%
	White	37	8.1%	312	84.1%	14	3.4%
	Mixed & Other	32	24.4%	95	67.9%	5	2.3%
Education	Secondary & Lower	122	24.3%	237	64.8%	22	5.1%
	Technical & Higher	132	18.4%	555	71.7%	30	3.7%
Income	Under \$72,000	135	23.9%	313	67.0%	22	3.7%
	\$72,000 to \$107,999	43	27.8%	122	61.7%	9	4.4%
	\$108,000 and over	34	10.8%	238	82.9%	6	2.1%
	Not Stated	42	22.1%	119	59.1%	15	8.8%

## Physical Activity

Respondents were asked questions about physical activity at work, during transport and for recreation. Work included paid and unpaid work, studying, training, household chores, etc. Recreation included sports, fitness, and leisure activities. Additional questions were asked about the duration and intensity of any physical activity.

### Current WHO Recommendations

The World Health Organization (WHO) currently recommends a certain amount of physical activity for health. Throughout the week, all adults should do at least:

- 150 minutes of moderate-intensity aerobic physical activity OR
- 75 minutes of vigorous-intensity aerobic physical activity OR
- an equivalent combination of moderate- and vigorous-intensity activity

Overall, 27.1% of adults do not meet the WHO recommendations for physical activity for health. Women (3.7%) were more likely to not meet the recommendations than men (20.2%). Adults aged 65 years and older (44.4%) were less likely to meet the recommendations than adults aged 18-34 years (18.6%) and 35-54 years (22.2%). There were no significant differences in meeting the recommendations by race, education or household income.

### General Physical Activity Levels

Adults can also be classified as having low, moderate or high physical activity levels. The World Health Organization historically used a somewhat complex calculation using METs (Metabolic Equivalents) to assess physical activity. Applying MET values to various activities allows calculation of 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 the consumption of 1 kcal/kg/hour. Current guidelines are such 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. The criteria for high, moderate and low are as follows:

#### High

A person reaching any of the following criteria is classified in this category:

- vigorous-intensity activity on at least 3 days per week achieving a minimum of at least 1500 MET-minutes per week OR
- any combination of walking, moderate- or vigorous intensity activities every day of the week achieving a minimum of at least 3000 MET-minutes per week

#### Moderate

A person not meeting the criteria for the "high" category, but reaching any of the following criteria is classified in this category:

- 3 or more days of vigorous-intensity activity for 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 is classified as having low physical activity.



By activity level, 37.1% of adults have low activity levels, 23.6% would be classified as having moderate activity levels and 39.3% had high activity levels. Adults aged 65 years and older (60.0%) were more likely to have low levels of physical activity than adults aged 18-34 years (25.0%) and 35-54 years (30.4%). Men (52.2%) were more likely to have high levels of physical activity than women (26.8%). Adults aged 65 years and older (16.9%) were least likely to have high levels of physical activity. There were no other significant differences in physical activity levels.

Physical Activity Levels									
		Does not meet WHO recommendations		Low level of physical activity		Moderate level of physical activity		High level of physical activity	
		N	%	N	%	N	%	N	%
Total		362	27.1%	477	37.1%	283	23.6%	418	39.3%
Gender	Men	110	20.2%	160	30.2%	92	17.5%	234	52.2%
	Women	252	33.7%	317	43.8%	191	29.4%	184	26.8%
Age	18-34	40	18.6%	55	25.0%	56	26.1%	92	48.9%
	35-54	97	22.2%	129	30.4%	100	22.9%	199	46.6%
	55-64	78	30.1%	106	43.0%	55	22.4%	80	34.6%
	65+	147	44.4%	187	60.0%	72	23.1%	47	16.9%
Race	Black	223	30.5%	292	41.7%	145	23.0%	219	35.3%
	White	102	22.3%	139	32.0%	100	23.8%	147	44.2%
	Mixed & Other	37	24.5%	46	30.1%	38	25.4%	52	44.4%
Education	Secondary & Lower	160	31.9%	191	38.8%	92	22.1%	130	39.1%
	Technical & Higher	202	24.7%	286	36.3%	191	24.3%	188	39.4%
Income	Under \$72,000	175	30.8%	225	40.8%	118	23.7%	162	35.5%
	\$72,000 to \$107,999	43	21.1%	67	33.8%	54	28.1%	65	38.1%
	\$108,000 and over	75	25.2%	103	35.9%	73	23.0%	116	41.1%
	Not Stated	69	28.3%	82	35.1%	38	20.3%	75	44.6%

### Lack of Physical Activity

Overall, 60.0% of adults do not engage in physical activity at work. Women (68.9%) are more likely to not engage in work-related physical activity than men (50.8%). Adults aged 65 years and older (73.4%) are most likely to not engage in work-related physical activity. Adults with a household income of \$108,000 and over (73.4%) are more likely to not engage in work-related physical activity than adults with household incomes of \$72,000 to \$107,999 (51.7%). Two-thirds (66.6%) of adults do not engage in any transport-related physical activity, such as walking or cycling to get from place to place. There were no significant differences in lack of transport-related activity by gender, age, race, education or household income. Recreational activity was not engaged in by 39.3% of adults. Adults aged 65 years and older (57.5%) were more likely to not engage in recreational physical activity than adults aged 18-34 years (33.2%) and 35-54 years (32.6%). Blacks (45.1%) were more likely to have no recreational physical activity than Whites (30.1%). Adults with a secondary or lower education (52.9%) were more likely to have no recreational physical activity than adults with a technical or higher education (32.6%). Adults with a household income of less than \$72,000 (47.6%) are more likely to have no recreational physical activity than adults with a household income of \$108,000 and over (28.0%). The difference in recreational physical activity by gender was not significant.

Overall, 57.6% of adults do not engage in any vigorous physical activity. Women (69.4%) were more likely to not engage in any vigorous physical activity than men (45.5%). Adults aged 65 years and older (86.9%) were most likely to not engage in vigorous physical activity. Adults with a household income of \$108,000 and over (45.6%) were least likely to not engage in any vigorous physical activity. There were no other significant differences.

		Lack of Physical Activity							
		Does not engage in physical activity at work		Does not engage in physical activity for transport		Does not engage in physical activity for recreation		Does not engage in any vigorous physical activity	
		N	%	N	%	N	%	N	%
Total		761	60.0%	778	66.6%	483	39.3%	730	57.6%
Gender	Men	269	50.8%	326	67.4%	168	34.2%	241	45.5%
	Women	492	68.9%	452	65.8%	315	44.2%	489	69.4%
Age	18-34	117	48.7%	126	60.8%	63	33.2%	91	43.5%
	35-54	253	58.4%	283	68.5%	136	32.6%	208	49.6%
	55-64	158	63.4%	153	62.7%	103	42.7%	157	62.2%
	65+	233	73.4%	216	69.4%	181	57.5%	274	86.9%
Race	Black	406	56.5%	436	67.5%	308	45.1%	439	63.7%
	White	266	64.9%	259	66.6%	123	30.1%	215	50.2%
	Mixed & Other	89	62.4%	83	62.6%	52	37.8%	76	50.2%
Education	Secondary & Lower	253	51.8%	269	64.0%	233	52.9%	306	66.3%
	Technical & Higher	508	64.0%	509	67.8%	250	32.6%	424	53.3%
Income	Under \$72,000	316	58.3%	322	62.4%	251	47.6%	358	66.1%
	\$72,000 to \$107,999	104	51.7%	127	70.1%	65	35.0%	109	55.3%
	\$108,000 and over	224	73.4%	200	69.6%	75	28.0%	129	45.6%
	Not Stated	117	49.3%	129	66.5%	92	45.2%	134	62.7%

## Overweight and Obesity

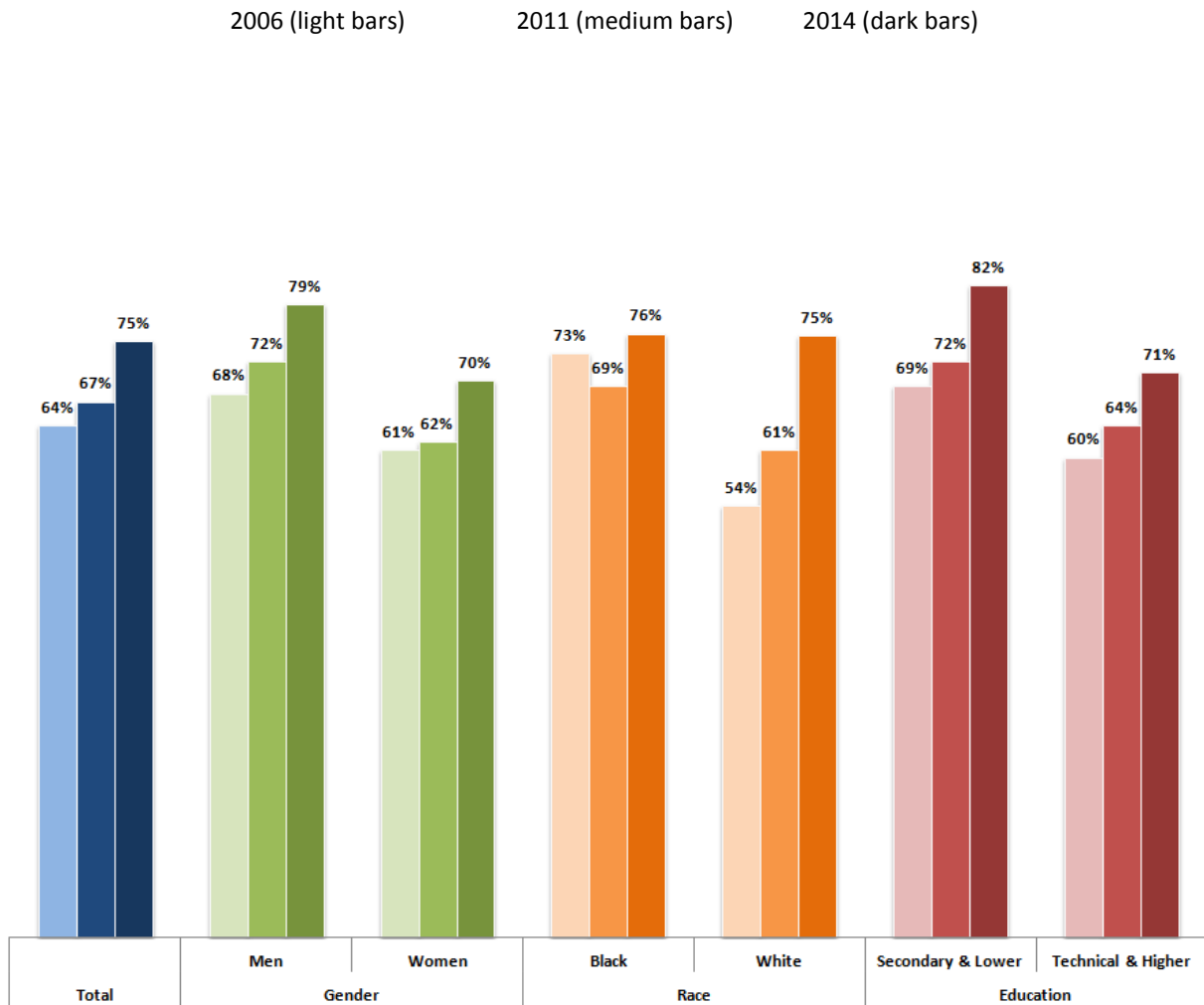
Respondents had their height and weight measured to calculate Body Mass Index (BMI). BMI is a population measure which uses the ratio of weight to height to indicate whether persons are underweight, of healthy/normal body weight, overweight or obese. The majority of adults (74.6%) were above a healthy or normal body weight, with 40.2% being overweight and a further 34.4% being obese. A quarter of adults (24.6%) were of normal or health body weight and few (0.7%) were underweight.

Men (49.6%) were more likely to be overweight, not obese, than women (29.6%). Younger adults aged 18-34 years (44.6%) were most likely to be of normal or healthy weight. They were also less likely to be overweight, not obese, (28.6%) than adults aged 65 years and older (49.0%). Adults aged 65 years and older (29.7%) were less likely to be obese than adults aged 55-64 years (47.4%). Overall, younger adults aged 18-34 years (52.9%) were least likely to be above normal or healthy body weight. There were no other significant differences.

		BMI Category (Measured)								Overweight or Obese	
		Underweight		Normal Weight		Overweight		Obese			
		N	%	N	%	N	%	N	%	N	%
Total		7	0.7%	296	24.6%	417	40.2%	422	34.4%	839	74.6%
Gender	Men	2	0.3%	116	20.6%	205	49.6%	155	29.4%	360	79.1%
	Women	5	1.2%	180	29.1%	212	29.6%	267	40.0%	479	69.6%
Age	18-34	4	2.5%	84	44.6%	58	28.6%	49	24.2%	107	52.9%
	35-54	2	0.3%	100	19.0%	137	44.6%	176	36.1%	313	80.7%
	55-64	1	0.5%	50	18.8%	82	33.3%	104	47.4%	186	80.7%
	65+	0	0.0%	62	21.3%	140	49.0%	93	29.7%	233	86.0%
Race	Black	6	1.2%	140	23.3%	214	32.1%	274	43.3%	488	75.5%
	White	0	0.0%	118	24.8%	143	50.2%	112	25.0%	255	75.2%
	Mixed & Other	1	0.9%	38	29.7%	60	43.7%	36	25.7%	96	69.4%
Education	Secondary & Lower	3	0.7%	82	17.9%	147	46.8%	168	34.6%	315	81.5%
	Technical & Higher	4	0.8%	214	28.7%	270	36.3%	254	34.3%	524	70.6%
Income	Under \$72,000	3	0.5%	118	20.4%	188	47.4%	189	31.8%	377	79.2%
	\$72,000 to \$107,999	0	0.0%	36	19.1%	69	40.0%	71	40.9%	140	80.9%
	\$108,000 and over	1	0.3%	81	26.8%	100	36.8%	101	36.1%	201	72.9%
	Not Stated	3	2.7%	61	36.0%	60	29.1%	61	32.2%	121	61.3%

### Overweight and Obesity Comparison

Overall, overweight and obesity appears to have increased in 2014. This apparent increase may be attributed to differences in methodology. STEPS participants had their heights and weight measured, unlike prior surveys that relied solely on self-report. Measured height and weight is the preferred method as it is an objective measurement.



## Blood Pressure

Respondents were asked if they had ever been told by a doctor or health worker if they had raised blood pressure or hypertension. Overall, 32.6% reported having hypertension. Hypertension diagnoses tended to increase with age. Adults aged 18-34 years (12.1%) were least likely to have had a diagnosis of hypertension followed by adults aged 35-54 years (25.1%). Adults aged 54-65 years (51.2%) and 65 years and older (57.6%) were more likely to have had a diagnosis of hypertension. Blacks (41.1%) were more likely than Whites (25.2%) to report a hypertension diagnosis. Adults with a household income of \$108,000 and over (23.8%) were less likely than adults with a household income of \$72,000 to \$108,000 (40.8%) to have a diagnosis of hypertension. There were no significant differences by gender or education level.

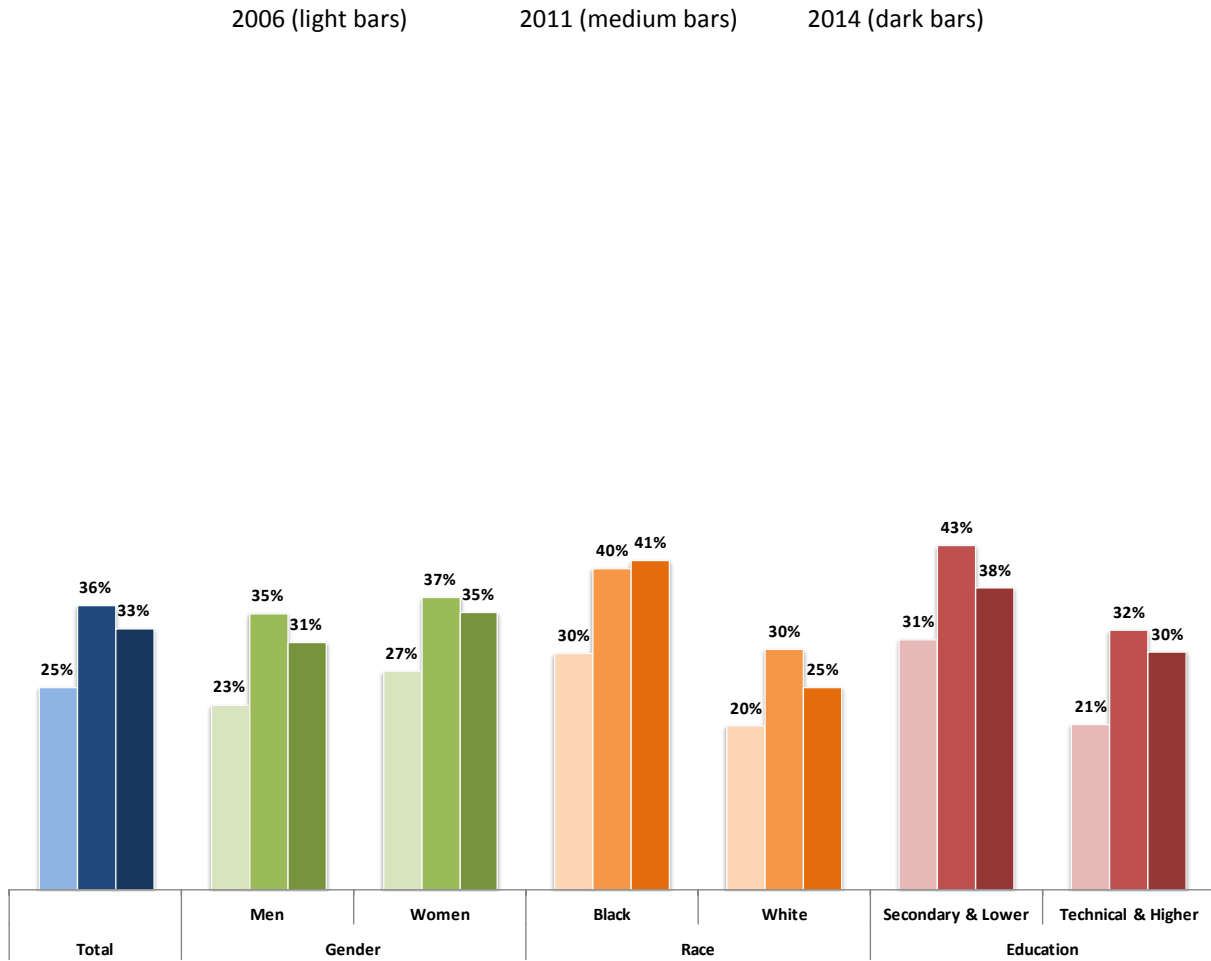
Respondents reporting a hypertension diagnosis were also asked about treatments for blood pressure control. Overall, 41.2% currently used medication to control their blood pressure. Women (69.7%) were more likely to use medication than men (47.7%). Adults aged 18-34 years (6.4%) were least likely to use medication for blood pressure control followed by adults aged 35-54 years (43.8%). Adults aged 54-65 years (69.8%) and 65 years and older (78.5%) were more likely to use medication for blood pressure control. Blacks (64.0%) were more likely than Whites (49.9%) to be on medication for blood pressure control. Adults with a household income of under \$72,000 (67.7%) were more likely to be on medication for blood pressure control than adults with a household income of \$108,000 and over (39.5%). There were no significant differences by education level.

Respondents also had their blood pressure measured. The measured results were similar to the self-reported results. Most evident in the measured results was the clear trend of increasing prevalence of hypertension with age.

Hypertension/High Blood Pressure							
		Diagnosed (self-report)		Has hypertension and is currently taking medication to control blood pressure		Measured hypertension or currently on medication to control blood	
		N	%	N	%	N	%
Total		461	32.6%	161	41.2%	464	33.4%
Gender	Men	183	30.8%	98	47.7%	191	32.3%
	Women	278	34.6%	202	69.7%	273	34.6%
Age	18-34	27	12.1%	3	6.4%	13	6.4%
	35-54	130	25.1%	61	43.8%	130	25.2%
	55-64	122	51.2%	90	69.8%	118	51.5%
	65+	182	57.6%	146	78.5%	203	68.7%
Race	Black	300	41.1%	209	64.0%	290	41.4%
	White	127	25.2%	73	49.9%	129	25.2%
	Mixed & Other	34	19.0%	18	47.2%	45	25.6%
Education	Secondary & Lower	210	37.6%	148	61.9%	217	37.9%
	Technical & Higher	251	29.6%	152	56.4%	247	30.7%
Income	Under \$72,000	239	35.6%	174	67.7%	242	35.5%
	\$72,000 to \$107,999	76	40.8%	45	55.5%	78	40.6%
	\$108,000 and over	68	23.8%	30	39.5%	69	24.3%
	Not Stated	78	32.4%	51	62.5%	75	36.8%

### Blood Pressure Comparison

Following an increase from 2006 to 2011, the prevalence of high blood pressure declined slightly in 2014. It was only among Blacks that the prevalence remained relatively unchanged from 2011 to 2014.



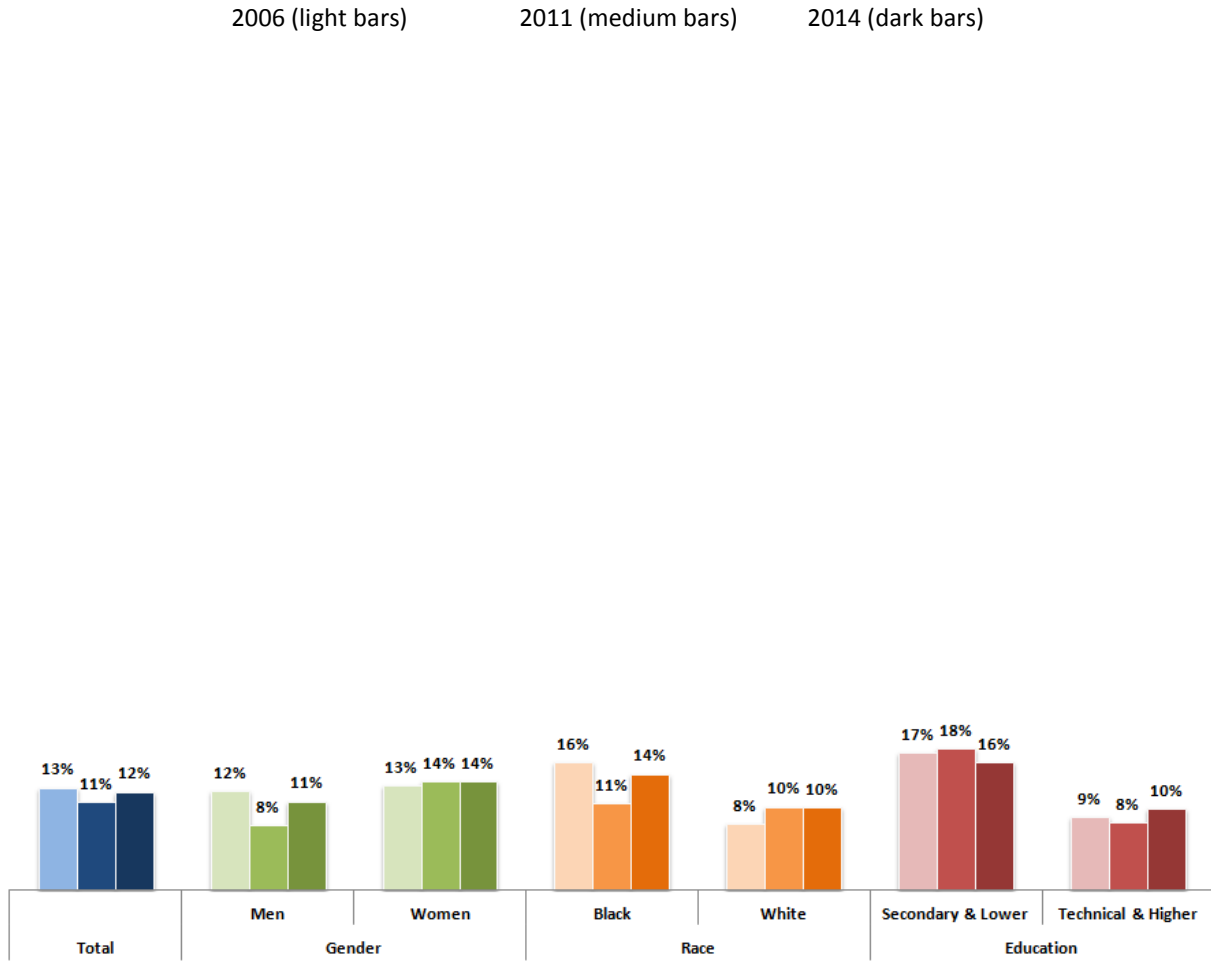
## Diabetes

Respondents were asked if they had ever been told by a doctor or health worker if they had raised blood sugar or diabetes. Overall, 12.2% reported having diabetes. Adults aged 65 years and older (23.4%) were more likely to have been diagnosed with diabetes than adults aged 18-34 years (2.7%) and 35-54 years (9.6%). There were no significant differences by gender, race, education or income. Respondents reporting a diabetes diagnosis were also asked about treatments for diabetes control. Overall 57.5% currently used medication to control their diabetes; 15.4% currently used insulin for diabetes control. There were no significant differences in diabetes treatment.

Diabetes							
		Ever been diagnosed with diabetes		Currently uses medication for diabetes control		Currently uses insulin for diabetes control	
		N	%	N	%	N	%
Total		168	12.2%	103	57.5%	26	15.4%
Gender	Men	62	11.0%	40	54.2%	10	16.7%
	Women	106	13.5%	63	60.6%	16	14.3%
Age	18-34	6	2.7%	1	25.7%	1	25.7%
	35-54	47	9.6%	23	46.7%	10	21.2%
	55-64	42	18.9%	28	60.7%	9	16.8%
	65+	73	23.4%	51	70.4%	6	7.1%
Race	Black	109	14.4%	68	61.5%	17	15.6%
	White	45	10.2%	27	51.7%	8	17.7%
	Mixed & Other	14	9.1%	8	50.5%	1	6.8%
Education	Secondary & Lower	89	15.9%	57	62.1%	15	18.0%
	Technical & Higher	79	10.0%	46	53.2%	11	13.0%
Income	Under \$72,000	99	14.2%	68	69.6%	19	17.9%
	\$72,000 to \$107,999	20	11.4%	11	49.0%	4	20.6%
	\$108,000 and over	27	11.0%	11	43.3%	3	17.1%
	Not Stated	22	10.3%	13	52.5%	0	0.0%

### Diabetes Comparison

There have been no significant changes in diabetes prevalence from 2006 through 2011. Diabetes prevalence remained relatively stable across gender, race and education.





## Cholesterol

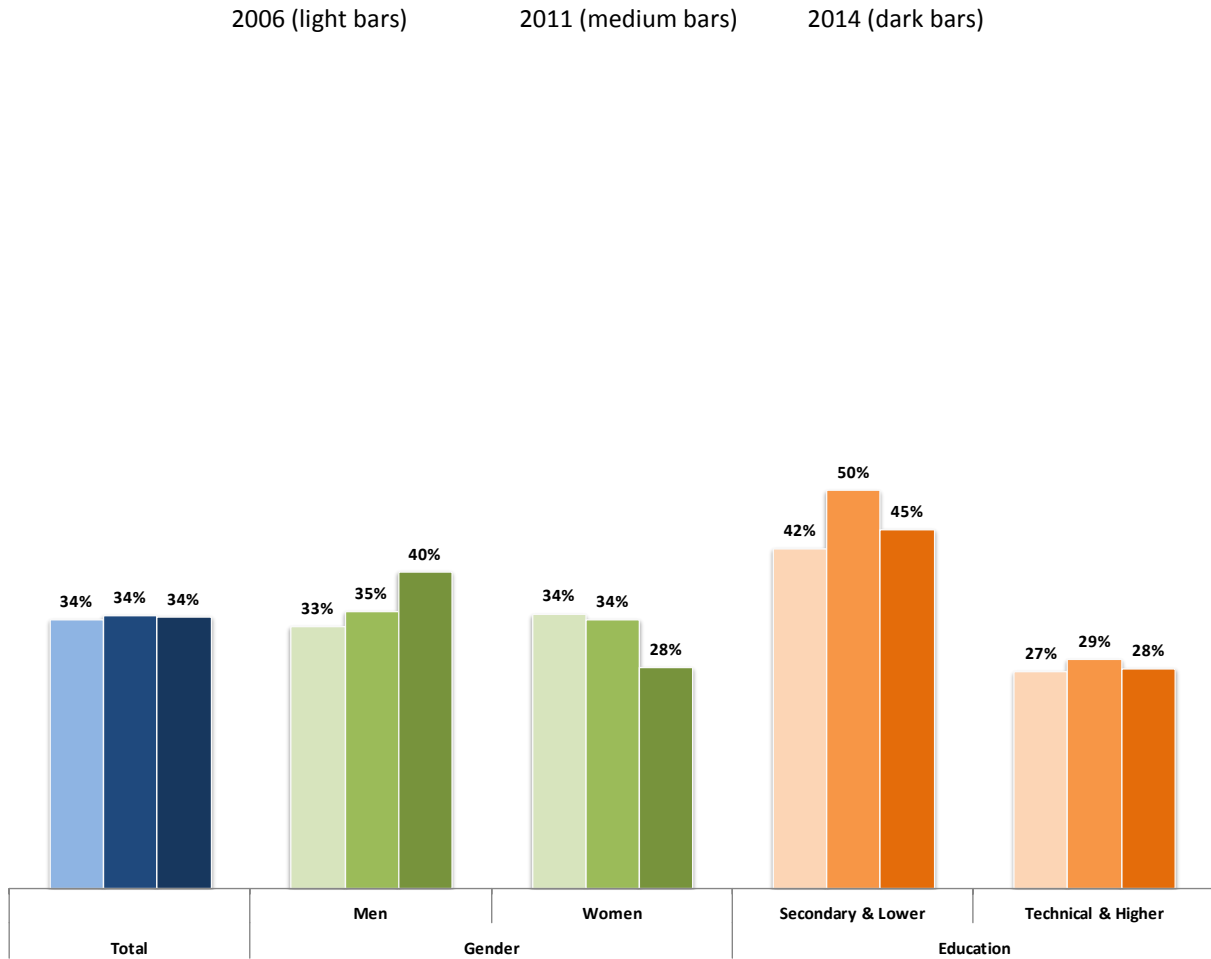
Respondents were asked if they had ever been told by a doctor or health worker if they had cholesterol. Overall, 33.9% reported having been diagnosed with high cholesterol. Adults aged 18-34 years (8.4%) were less likely to have had a diagnosis of high cholesterol than adults aged 55-64 years (41.7%) and 65 years and older (45.8%). There were no other significant differences.

Respondents reporting a diagnosis of high cholesterol were also asked about oral medication use to treat their condition. Overall, 33.3% currently used medication to manage their condition. Adults aged 65 years and older (60.9%) and 55-64 years (50.0%) were more likely to use medication than adults aged 35-54 years (16.2%) 18-34 years (2.7%). There were no other significant differences.

Cholesterol					
		Ever been diagnosed with high cholesterol		Currently uses medication for high cholesterol	
		N	%	N	%
<b>Total</b>		355	33.9%	155	33.3%
Gender	Men	151	39.5%	73	29.7%
	Women	204	27.6%	82	39.0%
Age	18-34	20	8.4%	1	2.7%
	35-54	109	37.1%	30	16.2%
	55-64	97	41.7%	45	50.0%
	65+	128	45.8%	79	60.9%
Race	Black	186	27.2%	75	39.2%
	White	136	45.9%	70	29.3%
	Mixed & Other	33	24.4%	10	29.1%
Education	Secondary & Lower	143	44.8%	82	34.0%
	Technical & Higher	212	27.5%	73	32.6%
Income	Under \$72,000	177	44.2%	82	27.8%
	\$72,000 to \$107,999	56	30.5%	26	40.6%
	\$108,000 and over	73	26.9%	21	30.6%
	Not Stated	49	23.8%	26	54.0%

### Cholesterol Comparison

The overall prevalence of high cholesterol has remained unchanged from 2006 through 2014. However, there were differences by gender, with an increase seen in men and a decrease seen in women.



## Cardiovascular Disease

Respondents were asked if they ever had a heart attack, chest pain from heart disease (angina) or a stroke (cerebrovascular accident or incident). Overall, 6.0% of respondents had a history of cardiovascular disease. Adults aged 18-34 years (1.7%) and 35-44 years (3.0%) were less likely to have history of cardiovascular disease than adults aged 55-64 years (10.9%) and 65 years and older (14.1%). There were no other significant differences.

Respondents were also asked about the use of aspirin or statins to treat or prevent heart disease. Overall, 11.8% regularly used aspirin and 6.6% used statins. Adults aged 18-34 years (0.4%) were least likely to regularly use aspirin for this purpose followed by adults aged 35-54 years (4.6%). Adults aged 54-65 years (24.7%) and 65 years and older (30.6%) were more likely to use aspirin for this purpose. Older adults aged 65 years and older (17.0%) and aged 55-64 years (11.8%) were more likely to use statins than younger adults aged 35-54 years (3.0%) and 18-34 years (1.0%). There were no other significant differences.

Cardiovascular Disease							
		Ever had angina, a heart attack or stroke		Currently takes aspirin to prevent or treat heart disease		Currently takes statins to prevent or treat heart disease	
		N	%	N	%	N	%
<b>Total</b>		83	6.0%	176	11.8%	99	6.6%
<b>Gender</b>	Men	39	6.2%	77	12.1%	49	7.9%
	Women	44	5.8%	99	11.4%	50	5.2%
<b>Age</b>	18-34	4	1.7%	1	0.4%	3	1.0%
	35-54	15	3.0%	24	4.6%	16	3.0%
	55-64	21	10.9%	60	24.7%	26	11.8%
	65+	43	14.1%	91	30.6%	54	17.0%
<b>Race</b>	Black	54	8.2%	103	13.0%	46	5.8%
	White	24	3.7%	58	10.8%	45	8.1%
	Mixed & Other	5	3.8%	15	9.5%	8	5.5%
<b>Education</b>	Secondary & Lower	44	8.2%	80	14.0%	48	8.0%
	Technical & Higher	39	4.7%	96	10.4%	51	5.7%
<b>Income</b>	Under \$72,000	47	7.5%	93	13.5%	51	6.8%
	\$72,000 to \$107,999	11	6.1%	27	12.6%	17	6.5%
	\$108,000 and over	8	3.0%	23	7.9%	15	6.5%
	Not Stated	17	7.5%	33	13.2%	16	6.4%

## Family History

Respondents were asked if an immediate family member had ever had or been diagnosed with a chronic disease condition. These included diabetes, high blood pressure, stroke, cancer, high cholesterol and early heart attack. An early heart attack was defined as a heart attack occurring before age 55 for men and age 65 for women.

The most common conditions among immediate family members were high blood pressure (64.3%), diabetes (52.2%), high cholesterol (48.1%) and cancer (46.7%). Fewer respondents had immediate family members who had had a stroke (22.8%) or early heart attack (13.9%). Blacks (59.9%) were more likely to have an immediate family member with diabetes than Whites (42.0%). There were no other significant differences by race, education level or household income.

Family History of Chronic Disease Conditions													
		Hypertension (High Blood Pressure)		Diabetes		High Cholesterol		Cancer (Malignant Tumour)		Stroke		Early Heart Attack	
		N	%	N	%	N	%	N	%	N	%	N	%
Total		699	64.3%	606	52.2%	435	48.1%	576	46.7%	293	22.8%	184	13.9%
Gender	Men	245	56.8%	240	51.2%	164	48.8%	207	39.1%	88	15.3%	54	9.3%
	Women	454	71.1%	366	53.1%	271	47.3%	369	55.0%	205	31.0%	130	18.8%
Age	18-34	116	64.4%	104	54.6%	88	49.1%	98	50.0%	45	22.6%	25	11.7%
	35-54	262	63.2%	222	50.8%	177	54.0%	208	42.0%	102	20.5%	59	11.8%
	55-64	159	70.0%	131	56.4%	94	46.8%	127	55.3%	62	25.6%	50	20.3%
	65+	162	60.6%	149	48.5%	76	31.0%	143	46.5%	84	26.1%	50	15.5%
Race	Black	410	70.1%	377	59.9%	229	42.4%	313	50.1%	178	25.7%	95	14.5%
	White	201	54.5%	163	42.0%	159	57.1%	209	44.8%	81	17.5%	69	14.3%
	Mixed & Other	88	65.4%	66	46.2%	47	43.0%	54	38.5%	34	26.6%	20	10.0%
Education	Secondary & Lower	220	61.7%	230	58.7%	134	53.3%	178	39.0%	88	15.8%	77	14.4%
	Technical & Higher	479	65.5%	376	49.1%	301	45.0%	398	51.3%	205	26.9%	107	13.6%
Income	Under \$72,000	322	68.9%	506	56.5%	182	52.0%	242	39.6%	135	20.5%	87	14.8%
	\$72,000 to \$107,999	110	64.7%	92	52.2%	72	47.0%	100	54.6%	43	22.3%	31	16.2%
	\$108,000 and over	166	58.9%	124	43.0%	122	46.5%	146	50.9%	71	26.4%	34	10.7%
	Not Stated	101	64.1%	100	59.4%	59	42.3%	88	49.1%	44	22.7%	32	15.0%

## Alcohol Consumption

Respondents were asked about their alcohol consumption. Current drinking was defined as any consumption of alcohol in the prior 30 days. They were also asked about heavy episodic drinking or binge drinking, which was defined as having six or more alcoholic drinks in a single occasion. Show cards were used to illustrate standard alcoholic drinks.

Overall, over half (64.0%) of respondents were current drinkers. Men (75.5%) were more likely to be current drinkers than women (51.4%). Adults aged 65 years and older (42.1%) were less likely to be current drinkers than those aged 18-34 years and 35-54 years (68.5% and 72.8% respectively). Whites (82.2%) were most likely to be current drinkers. There were no significant differences in current drinking by education, or income.

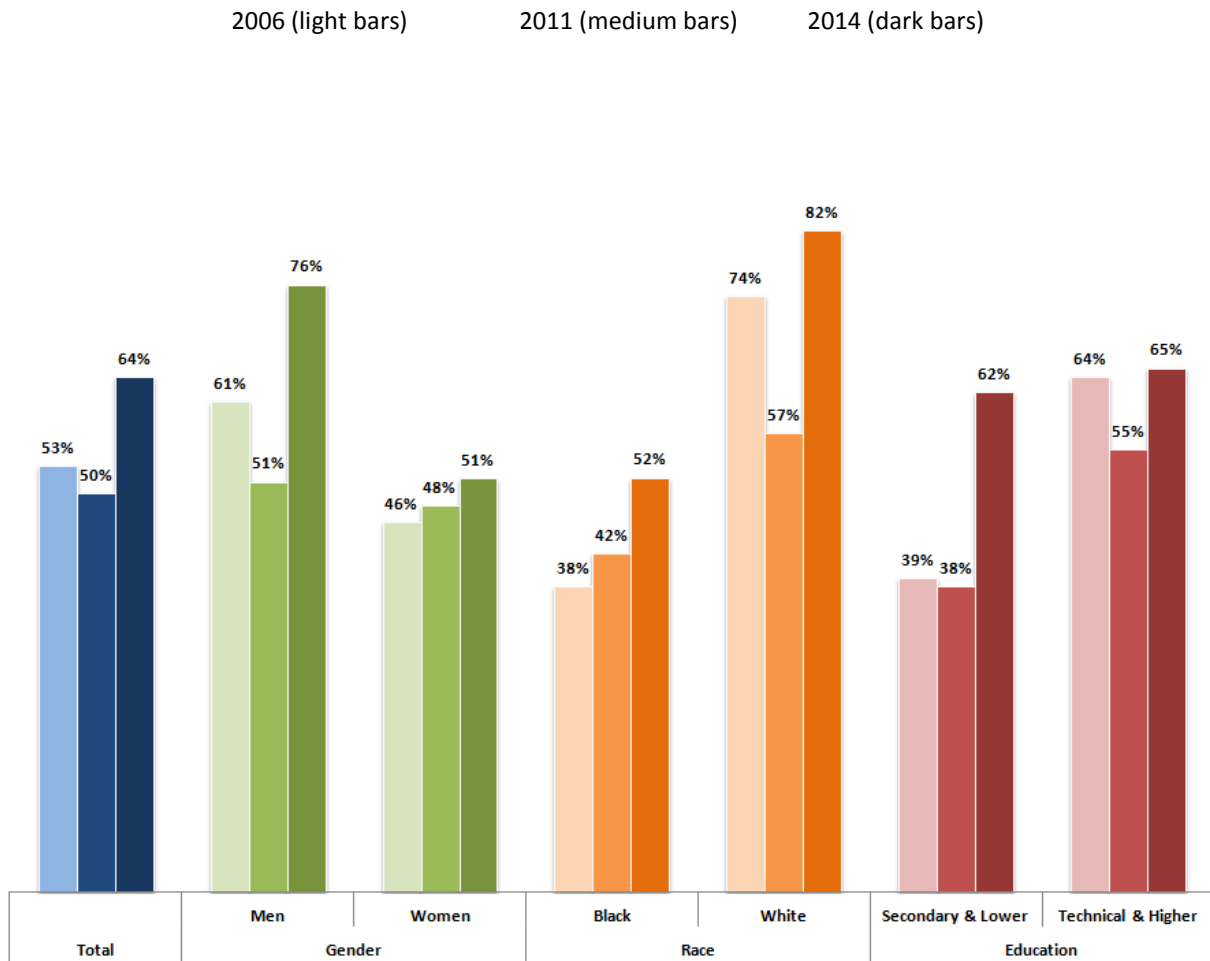
Few respondents (7.6%) were lifetime abstainers. Women (12.7%) were more likely to be lifetime abstainers than men (2.9%). Adults aged 65 years and older (17.4%) were most likely to be lifetime abstainers. There were no significant differences in lifetime abstinence from alcohol by race, education, or income.

Of the current drinkers, 28.2% of respondents reported drinking five or more alcoholic beverages during a single occasion (binge drinking). Men (36.6%) were more likely to engage in binge drinking than women (14.8%). Young adults aged 18-34 years (48.2%) were most likely to engage in binge drinking. There were no significant differences in binge drinking behavior by race, education, or income.

Alcohol Use							
		Current drinker (past 30 days)		Lifetime abstainer		Binge drinking (5 or more drinks in a single occasion)	
		N	%	N	%	N	%
Total		693	64.0%	113	7.6%	191	28.2%
Gender	Men	342	75.5%	20	2.9%	139	36.6%
	Women	351	51.4%	93	12.7%	52	14.8%
Age	18-34	144	68.5%	7	4.5%	63	48.2%
	35-54	286	72.8%	24	4.6%	92	26.5%
	55-64	145	58.6%	22	8.7%	26	18.7%
	65+	118	42.1%	60	17.4%	10	11.3%
Race	Black	319	51.5%	74	9.2%	88	31.0%
	White	290	82.2%	23	4.6%	80	24.5%
	Mixed & Other	84	62.6%	16	9.5%	23	33.5%
Education	Secondary & Lower	204	62.2%	51	7.5%	58	20.0%
	Technical & Higher	489	65.1%	62	7.6%	133	30.0%
Income	Under \$72,000	247	58.2%	66	9.6%	64	22.0%
	\$72,000 to \$107,999	125	64.0%	9	5.0%	24	21.1%
	\$108,000 and over	212	73.6%	15	5.4%	65	31.4%
	Not Stated	109	62.0%	23	8.4%	30	35.4%

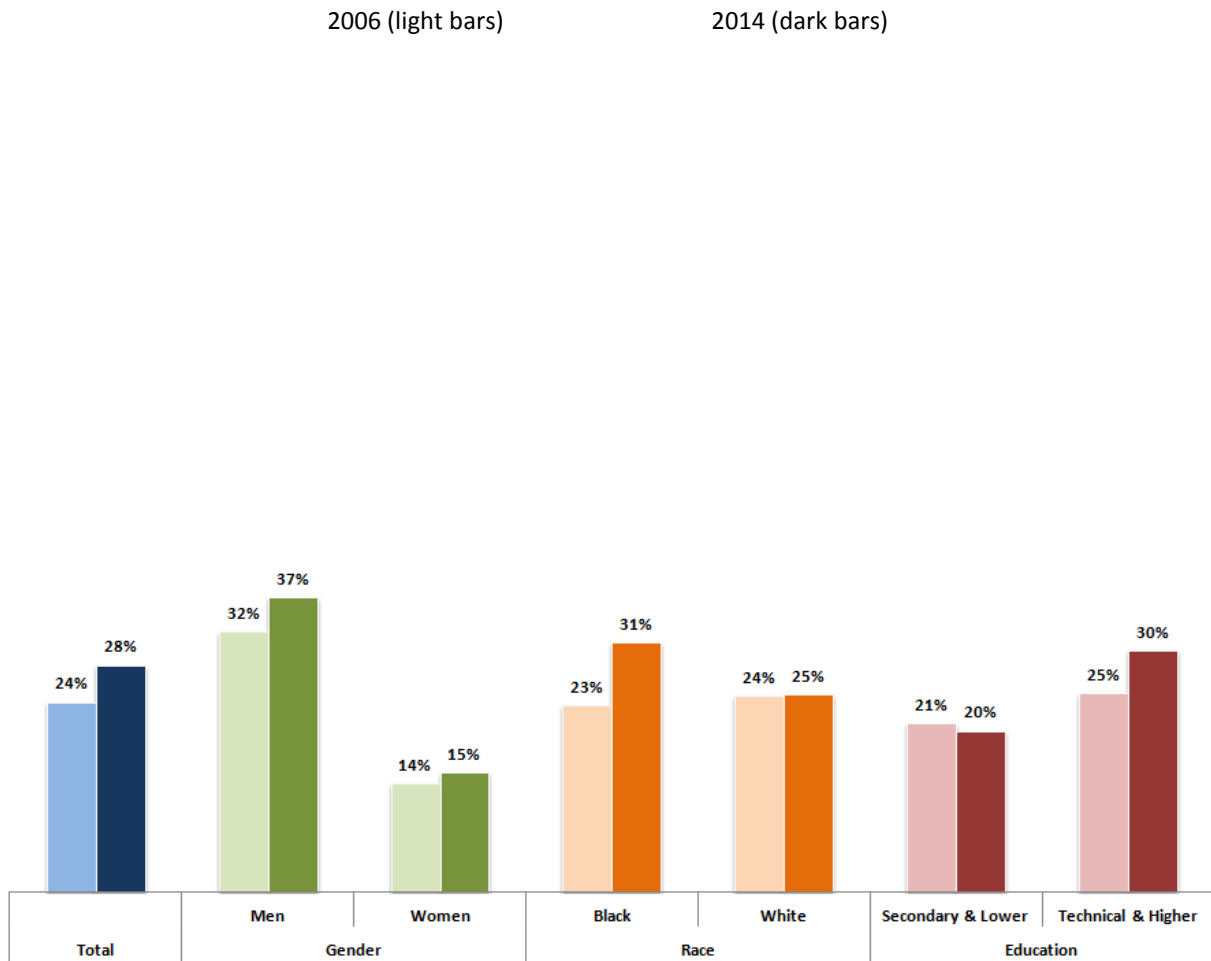
### Alcohol Use Comparison

Overall, current alcohol consumption appears to have increased in 2014. This increase could be partially attributable to the differing durations of the surveys. The 2006 and 2011 surveys were conducted within a one to two month period, while the 2014 survey was conducted over one year. Although data collection was suspended during times when risk factor behaviours, including alcohol use, may have changed due to seasonal and festive activities, the duration of the survey may have influenced these results. Additionally, show cards were used to illustrate standard drink sizes.



### Binge Drinking Comparison

Overall, there have been slight increases in binge drinking from 2006 to 2014. This apparent increase could be partially attributable to the different duration of the surveys. The 2006 survey was conducted within a one to two month period, while the 2014 survey was conducted over one year. Although data collection was suspended during times when risk factor behaviours, including alcohol use, may have changed due to seasonal and festive activities, the duration of the survey may have influenced these results. Show cards were also used to illustrate standard drink sizes.



## Tobacco Use

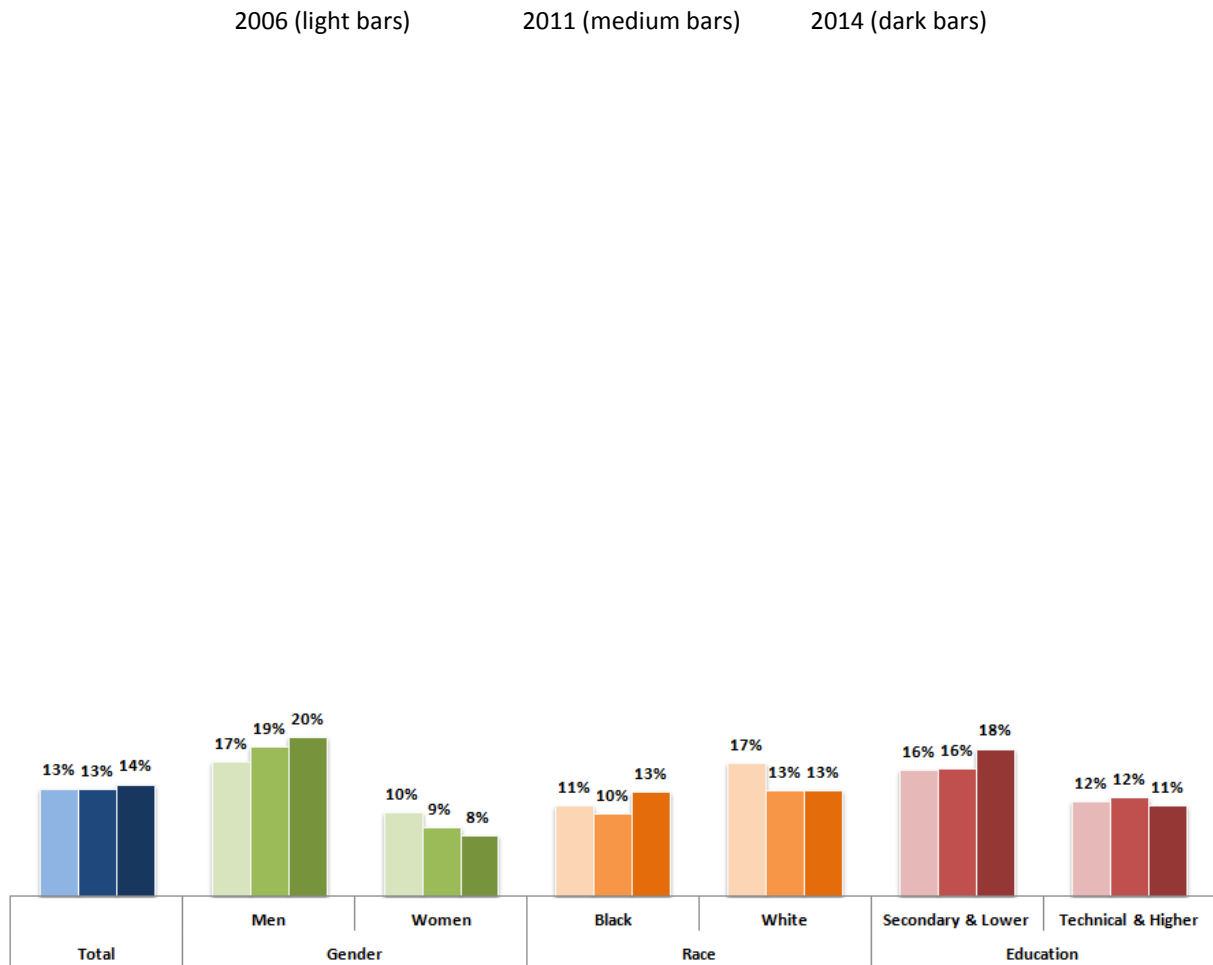
Respondents were asked about cigarette smoking history and habits. Current smoking was defined as smoking tobacco some days or everyday during the past 30 days. Overall, 13.9% were current smokers, 27.6% were former smokers and 58.5% had never smoked. Of those that were current smokers, 10.3% smoked daily and 3.6% smoked some days. Men were more likely to be current smokers (19.8%), daily (14.8%) or some days (5.0%) than women (7.4%, 5.4% and 2.0% respectively). Those aged 18-34 years (7.2%) were more likely to smoke some days than those aged 65 years and older (1.6%). Those aged 65 years and older (47.1%) were less likely to have never smoked than those aged 18-34 years (61.3%). There were no significant differences in tobacco use by race, education, or income.

		Tobacco Use							
		Current smoker (daily)		Current smoker (some days)		Former smoker		Never smoked	
		N	%	N	%	N	%	N	%
Total		119	10.3%	44	3.6%	370	27.6%	660	58.5%
Gender	Men	79	14.8%	27	5.0%	177	29.1%	210	51.2%
	Women	40	5.4%	17	2.0%	193	25.9%	450	66.6%
Age	18-34	25	11.7%	14	7.2%	45	19.8%	120	61.3%
	35-54	47	10.5%	18	3.2%	107	21.1%	261	65.2%
	55-64	25	9.9%	7	2.2%	91	38.2%	124	49.7%
	65+	22	8.7%	5	1.6%	127	42.6%	155	47.1%
Race	Black	62	9.8%	21	3.2%	183	25.4%	397	61.5%
	White	39	9.6%	15	3.5%	157	33.2%	178	53.7%
	Mixed & Other	18	14.8%	8	5.5%	30	19.4%	85	60.3%
Education	Secondary & Lower	65	15.7%	13	2.7%	140	26.7%	202	55.0%
	Technical & Higher	54	7.2%	31	4.1%	230	28.1%	458	60.6%
Income	Under \$72,000	61	11.5%	21	4.1%	151	22.3%	281	62.1%
	\$72,000 to \$107,999	12	6.0%	4	2.0%	59	29.8%	112	62.2%
	\$108,000 and over	19	7.7%	12	3.5%	92	30.5%	170	58.3%
	Not Stated	27	15.6%	7	4.0%	68	32.7%	97	47.6%



### Tobacco Use Comparison

There were no significant changes in tobacco use overall from 2006 through 2014. Tobacco use appears to be increasing among men and decreasing among women. There is also an apparent increase among Blacks and persons with secondary and lower education. Tobacco use declined and stabilized among Whites and remained stable among those with technical and higher education.



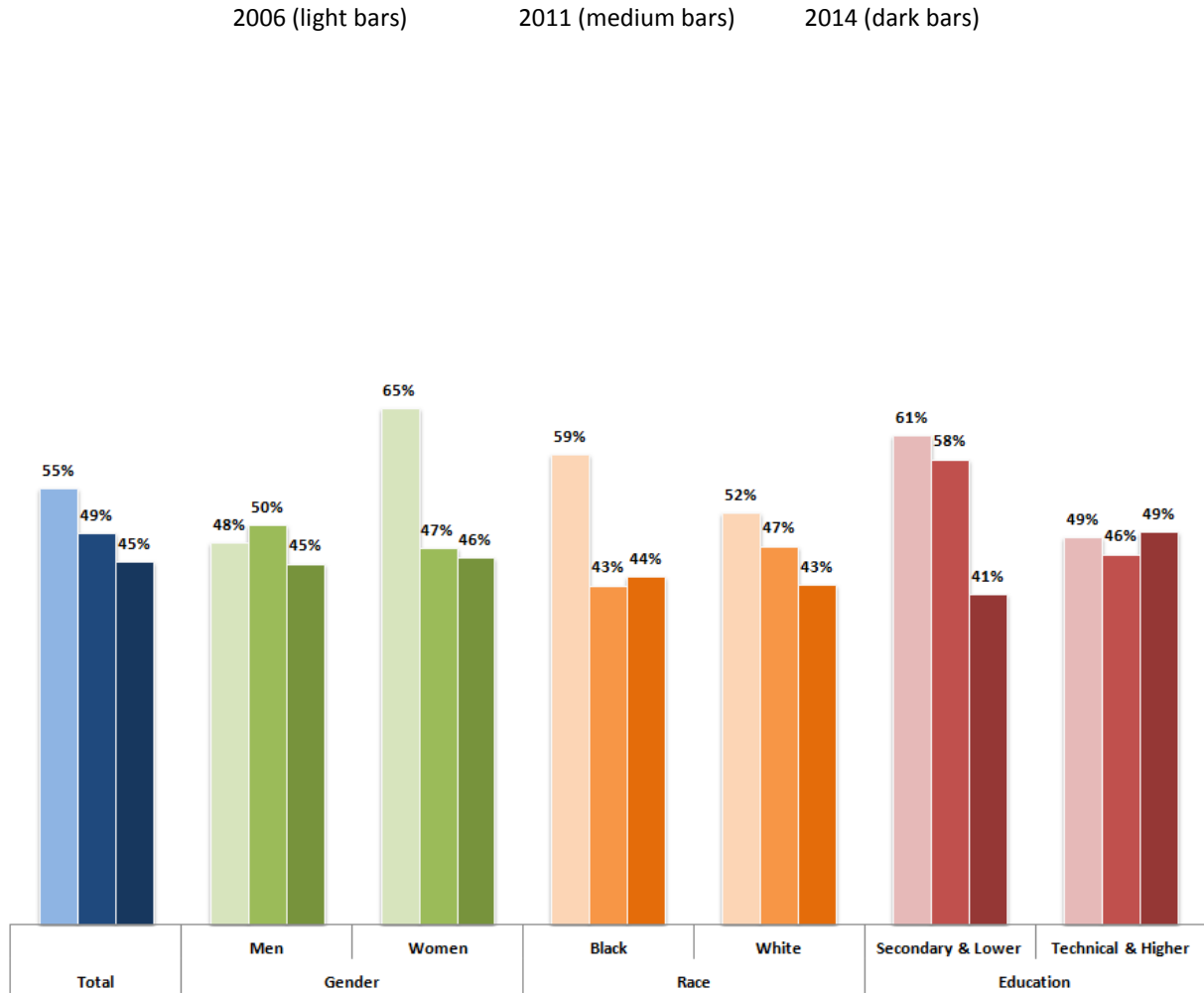
### Lifestyle Advice and Smoking Cessation

All respondents were asked if a doctor or health worker had advised them to stop smoking or to not use tobacco in the prior three years. Overall, 11.9% of adults had received this advice. Current smokers were also asked if a doctor or health worker had advised them to quit smoking within the past years. Under half (44.9%) of current smokers had received this advice. Similarly, 45.4% of current smokers had attempted to quit smoking within the past year. There were no significant differences by gender, age, race, education or household income regarding advice to not start or quit using tobacco and tobacco cessation.

Lifestyle Advice and Smoking Cessation							
		Advised by a doctor or health worker not to smoke or to quit smoking		Current smokers advised to stop smoking by a doctor or health worker		Current smokers who attempted to stop smoking in past 12 months	
		N	%	N	%	N	%
Total		143	11.9%	74	44.9%	73	45.4%
Gender	Men	84	14.7%	41	38.5%	47	45.2%
	Women	59	8.8%	33	61.9%	26	46.0%
Age	18-34	35	16.1%	18	41.6%	18	39.1%
	35-54	53	10.6%	24	35.2%	28	47.4%
	55-64	32	12.9%	19	63.3%	15	46.7%
	65+	23	9.0%	13	59.3%	12	50.5%
Race	Black	68	10.7%	36	44.2%	35	43.6%
	White	50	10.9%	24	42.0%	23	42.6%
	Mixed & Other	24	19.5%	14	52.8%	15	55.6%
Education	Secondary & Lower	61	13.7%	31	39.9%	32	41.4%
	Technical & Higher	82	10.7%	43	50.1%	41	49.2%
Income	Under \$72,000	68	12.0%	39	50.2%	37	45.6%
	\$72,000 to \$107,999	16	7.3%	8	44.8%	7	42.8%
	\$108,000 and over	29	11.1%	15	43.6%	15	48.1%
	Not Stated	30	16.8%	12	35.0%	14	43.6%

### Tobacco Cessation Comparison

Overall, there has been a steady decline in adults attempting to quit smoking. Most declines were in women, Blacks, and adults with secondary and lower education. Attempts to quit smoking remained relatively stable among men and adults with technical and higher education.



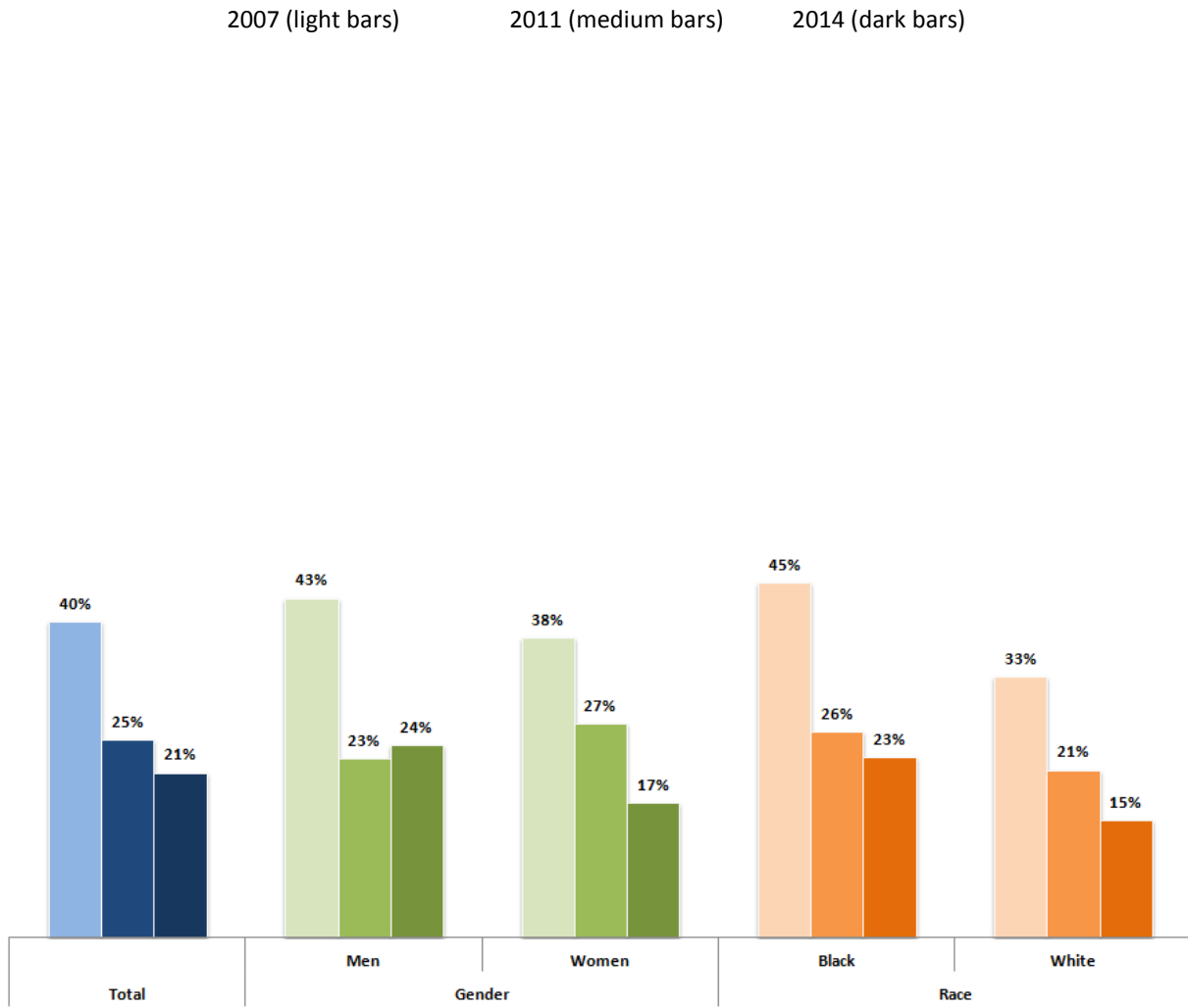
### Exposure to Second Hand Smoke

Respondents were asked about persons smoking in their homes or workplaces. Overall, 20.9% of adults reported exposure to second hand smoke in the home and/or workplace. Adults aged 18-34 years were most likely to be exposed to second hand smoke overall (20.1%) and in the home (22.5%). Adults with a household income of less than \$72,000 (15.7%) were more likely to have someone smoke in their home than adults with a household income of \$108,000 or more (6.7%). There were no other significant differences in exposure to second-hand smoke.

		Exposure to second hand smoke					
		Exposure to second hand smoke at home		Exposure to second hand smoke in the workplace		Exposure to second hand smoke at home or in the workplace	
		N	%	N	%	N	%
Total		127	11.2%	126	12.0%	232	20.9%
Gender	Men	55	10.7%	76	15.6%	122	24.4%
	Women	72	11.9%	50	7.8%	110	17.0%
Age	18-34	40	20.1%	37	22.5%	71	38.3%
	35-54	41	8.3%	50	9.7%	85	17.1%
	55-64	24	9.3%	23	11.0%	42	17.1%
	65+	22	10.2%	16	5.6%	34	13.6%
Race	Black	74	12.5%	75	13.3%	136	22.8%
	White	36	8.8%	28	7.7%	58	14.8%
	Mixed & Other	17	13.2%	23	18.9%	38	30.9%
Education	Secondary & Lower	61	13.8%	58	16.4%	108	26.1%
	Technical & Higher	66	9.7%	68	9.4%	124	17.8%
Income	Under \$72,000	62	12.3%	74	15.7%	122	24.1%
	\$72,000 to \$107,999	19	12.0%	13	7.0%	31	18.6%
	\$108,000 and over	19	5.1%	18	6.7%	35	11.2%
	Not Stated	27	17.9%	21	16.7%	44	30.8%

**Exposure to Second Hand Smoke Comparison**

Exposure to second hand smoke appears to decline in 2014, however the STEPS question only addressed smoking in the home or workplace. The prior surveys did not make a distinction about where exposure to second-hand tobacco smoke occurred.



## Health Care

### Insurance Coverage

Respondents were asked if they had health insurance and what type of health insurance they had. Those that did not have health insurance were asked for the main reason for lack of insurance.

Overall, 92.1% of adults had health insurance. Blacks (86.9%) were less likely to have health insurance than Whites (99.3%). Adults with a household income of under \$72,000 (89.6%) were less likely to have health insurance than adults with a household income of \$108,000 and over (98.5%). Among the insured, most adults (78.5%) had major health coverage. Additionally, 11.0% had private basic health coverage and 10.5% had public basic health coverage (Health Insurance Plan or Future Care). Adults with a household income of under \$72,000 (62.1%) were less likely to have major health coverage than adults with a household income of \$108,000 and over (94.2%). Conversely, adults with a household income of under \$72,000 (16.0%) were more likely to have public basic health coverage than adults with a household income of \$108,000 and over (3.0%). Adults aged 65 years and older (31.4%) were most likely to have public basic health coverage and Blacks (14.7%) were more likely to have public basic health coverage than Whites (99.3%). There were no other significant differences in health insurance coverage.

Overall, 4.1% of respondents could not afford health insurance. Young adults aged 18-34 years (10.7%) were more likely to be unable to afford health insurance than adults aged 35-54 years (2.0%). Blacks (7.0%) were more likely to be unable to afford health insurance than Whites (0.1%). Adults with a household income of under \$72,000 (6.1%) were more likely to be unable to afford health insurance than adults with a household income of \$108,000 and over, none of whom reported being unable to afford health insurance.

		Insurance Coverage									
		Has Health Insurance		Has Major Health Coverage (Public/Private)		Has Basic Health Coverage (Private)		Has Basic Health Coverage (Public)		Unable to afford Health Insurance	
		N	%	N	%	N	%	N	%	N	%
Total		1108	92.1%	889	78.5%	44	11.0%	154	10.5%	48	4.1%
Gender	Men	452	91.6%	371	73.9%	24	18.0%	49	8.0%	21	3.6%
	Women	656	92.5%	518	83.5%	20	3.3%	105	13.2%	27	4.7%
Age	18-34	180	81.5%	150	87.6%	11	6.9%	11	5.5%	13	10.7%
	35-54	404	93.4%	363	77.2%	18	18.6%	20	4.3%	17	2.0%
	55-64	226	92.4%	193	87.2%	5	2.5%	27	10.3%	11	3.3%
	65+	298	95.4%	183	65.2%	10	3.5%	96	31.4%	7	2.6%
Race	Black	594	86.9%	456	81.2%	20	4.2%	111	14.7%	42	7.0%
	White	385	99.3%	341	75.8%	14	20.0%	22	4.2%	1	0.1%
	Mixed & Other	129	91.7%	92	76.6%	10	8.6%	21	14.8%	5	3.9%
Education	Secondary & Lower	383	90.6%	259	61.6%	15	22.1%	98	16.3%	27	5.9%
	Technical & Higher	725	92.9%	630	88.1%	29	4.7%	56	7.2%	21	3.0%
Income	Under \$72,000	462	89.6%	329	62.1%	20	21.9%	105	16.0%	30	6.1%
	\$72,000 to \$107,999	178	93.0%	163	90.5%	5	4.3%	10	5.2%	5	5.2%
	\$108,000 and over	289	98.5%	270	94.2%	8	2.8%	8	3.0%	0	0.0%
	Not Stated	179	86.6%	127	76.6%	11	6.6%	31	16.8%	13	5.2%

### Health Care Utilization and Productivity

Respondents were asked whether they ever had or currently have a non-communicable disease (NCD) such as cardiovascular disease, including heart disease and stroke, cancer, chronic respiratory disease, or diabetes.

Overall, 17.3% of respondents reported having a non-communicable disease. Both adults aged 65 years and older (34.2%) and 55-64 years (25.0%) were more likely to report having a non-communicable disease than adults aged 35-44 years (12.2%) and 18-34 years (7.1%). There were no other significant differences by gender, race, education level or income.

Respondents reporting a non-communicable disease were also asked about health care utilization and lost productivity (time unable to do usual activities). Overall, 18.7% had at least one visit to a healthcare facility (clinic, doctor's office, etc.) within a month and 9.4% had been hospitalized at least once within a year. Also, 3.8% required a family member or friend to provide care at home during the past 30 days and 8.2% missed time from their usual activities of work or study during the past 30 days due to their non-communicable disease. There were no significant differences by gender, race, education or income and no trends by age.

Health Care Utilization due to NCDS											
		Has NCD (self-report)		Visited facility for NCD in past 30 days		Hospitalized for NCD in past 12 months		Received home care for NCD in past 30 days		Missed usual activity due to NCD in past 30 days	
		N	%	N	%	N	%	N	%	N	%
Total		243	17.3%	34	18.7%	21	9.4%	12	3.8%	16	8.2%
Gender	Men	99	15.6%	18	22.5%	11	11.6%	5	4.1%	7	7.5%
	Women	144	19.1%	16	15.1%	10	7.5%	7	3.6%	9	8.8%
Age	18-34	13	7.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	35-54	59	12.2%	6	16.7%	5	9.0%	1	1.6%	6	12.3%
	55-64	63	25.0%	15	30.7%	3	7.2%	4	5.9%	4	8.9%
	65+	108	34.2%	13	16.7%	13	13.7%	7	5.2%	6	6.1%
Race	Black	153	21.0%	23	19.0%	14	10.2%	7	4.0%	10	8.9%
	White	74	14.1%	10	18.8%	7	10.3%	3	1.7%	5	7.1%
	Mixed & Other	16	10.9%	1	14.9%	0	0.0%	2	10.6%	1	6.9%
Education	Secondary & Lower	125	22.0%	16	16.9%	12	10.2%	7	4.4%	9	8.8%
	Technical & Higher	118	14.4%	18	20.1%	9	8.8%	5	3.2%	7	7.6%
Income	Under \$72,000	143	20.8%	19	20.3%	14	11.5%	10	7.1%	10	9.9%
	\$72,000 to \$107,999	36	19.5%	7	17.5%	3	10.1%	0	0.0%	3	9.2%
	\$108,000 and over	29	11.2%	4	18.9%	1	4.4%	0	0.0%	2	5.4%
	Not Stated	35	16.9%	4	13.2%	3	8.2%	2	2.6%	1	5.4%

## Lifestyle Advice

Respondents were asked if during the past three years, a doctor or health worker had advised them about certain lifestyle risk factors. These included eating more fruits and vegetables, reducing salt and fat in the diet, increasing physical activity, and obtaining and maintaining a healthy weight.

Overall, 31.0% reported receiving advice about eating more fruits and vegetables, 25.5% reported receiving advice about reducing fat in the diet, and 18.1% reported receiving advice about reducing salt in the diet. Adults aged 55-64 years (37.3%) reported receiving advice about reducing fat in the diet more than adults aged 18-34 years (17.7%). Young adults aged 18-34 years (7.6%) were least likely to report receiving advice about reducing salt in the diet, and Blacks (24.7%) were more likely to receive this advice than Whites (8.3%). There were no significant differences in the receipt of advice regarding increasing consumption of fruits and vegetables.

Nearly half (44.4%) of respondents reported receiving advice about physical activity and over a third (38.1%) reported receiving advice about achieving or maintaining a healthy body weight. Adults aged 55-64 years (51.8%) reported receiving advice about increasing physical activity more than adults aged 18-34 years (29.9%). Also, adults aged 55-64 years (52.3%) were most likely to report receiving advice regarding healthy body weight. There were no other significant differences.

		Lifestyle advice									
		Advised to eat more fruit and vegetables		Advised to reduce fat in the diet		Advised to reduce salt in the diet		Advised to do more physical activity		Advised to maintain a healthy weight or lose weight	
		N	%	N	%	N	%	N	%	N	%
Total		312	31.0%	328	25.5%	251	18.1%	492	44.4%	483	38.1%
Gender	Men	122	32.4%	129	22.5%	99	15.6%	177	42.4%	183	33.0%
	Women	190	29.5%	199	28.8%	152	20.8%	315	46.7%	300	43.6%
Age	18-34	40	22.2%	37	17.7%	15	7.6%	62	29.9%	69	33.1%
	35-54	110	36.3%	115	23.6%	78	16.1%	188	50.8%	184	36.3%
	55-64	80	31.1%	93	37.3%	77	28.8%	128	51.8%	127	52.3%
	65+	82	27.8%	83	27.8%	81	24.9%	114	38.3%	103	34.7%
Race	Black	188	29.0%	196	29.5%	175	24.7%	313	46.7%	299	44.9%
	White	79	33.8%	91	18.6%	45	8.3%	128	45.0%	127	29.4%
	Mixed & Other	45	30.8%	41	29.1%	31	19.5%	51	32.9%	56	35.6%
Education	Secondary & Lower	129	43.0%	134	26.4%	120	22.1%	181	51.7%	178	36.6%
	Technical & Higher	183	23.8%	194	24.9%	131	15.7%	311	40.1%	305	39.0%
Income	Under \$72,000	147	41.9%	150	25.7%	133	21.5%	227	54.8%	219	36.7%
	\$72,000 to \$107,999	51	26.0%	51	27.3%	39	22.3%	83	44.8%	76	41.4%
	\$108,000 and over	65	23.5%	78	26.3%	36	11.6%	110	37.1%	117	40.1%
	Not Stated	49	22.7%	49	22.1%	43	16.8%	72	32.3%	71	35.0%



## Non-Communicable Disease Risk (Combined Risk Factors)

The risk of non-communicable disease is influenced by the number of risk factors one has. The World Health Organization has selected five risk factors/conditions that contribute the greatest risk for the development of non-communicable diseases. These include current daily smoking, eating less than five servings of fruit and/or vegetables, not meeting the WHO recommendations for physical activity for health, being overweight or obese, and having a raised blood pressure (greater than or equal to 140/90mmHg or currently on medication for raised blood pressure).

Over half of all respondents (54.8%) had one to two of these risk factors, just under half (42.0%) had three or more of these risk factors and 3.2% had none of these risk factors. Women (5.1%) were more likely than men (1.3%) to have none of the selected risk factors. Blacks (1.5%) were less likely than Whites (6.1%) to have no risk factors. Adults with secondary or lower education (0.8%) were less likely than those with technical or higher education (4.4%) to have no risk factors. There was a clear trend with age among adults having one to two risk factors. The younger a person was, the more likely they were to have one to two risk factors. The trend was not as clear in adults with three or more risk factors. Younger adults aged 18-34 years (18.1%) were least likely to have three or more risk factors, followed by adults aged 35-54 years (38.5%). Both adults aged 55-64 years (58.8%) and adults aged 65 years or older (65.7%) were more likely to have three or more risk factors. Adults with secondary or lower education (54.4%) were more likely than those with technical or higher education (35.9%) to have three or more risk factors. Adults with a household income of under \$72,000 (52.0%) were more likely to have three or more risk factors than adults with a household income of \$108,000 and over (31.5%).

		NCD Risk					
		No selected risk factors		1-2 selected risk factors		3 or more selected risk factors	
		N	%	N	%	N	%
<b>Total</b>		37	3.2%	572	54.8%	502	42.0%
Gender	Men	7	1.3%	248	55.0%	210	43.7%
	Women	30	5.1%	324	54.6%	292	40.4%
Age	18-34	9	3.7%	145	78.2%	37	18.1%
	35-54	17	3.6%	232	57.9%	154	38.5%
	55-64	8	3.1%	99	43.0%	121	58.8%
	65+	3	1.9%	96	32.5%	190	65.7%
Race	Black	10	1.5%	292	51.8%	312	46.7%
	White	22	6.1%	205	56.5%	140	37.4%
	Mixed & Other	5	2.9%	75	62.9%	50	34.2%
Education	Secondary & Lower	4	0.8%	148	44.8%	235	54.4%
	Technical & Higher	33	4.4%	424	59.7%	267	35.9%
Income	Under \$72,000	12	2.3%	209	45.7%	263	52.0%
	\$72,000 to \$107,999	3	1.9%	96	56.9%	74	41.2%
	\$108,000 and over	18	5.9%	178	62.6%	84	31.5%
	Not Stated	4	1.7%	89	58.0%	81	40.3%

## STEP 3: Biochemical Measurements

### Demographic Information

#### Gender

		Total		Gender			
				Men		Women	
		N	%	N	%	N	%
<b>Total</b>		467	100.0%	178	38.1%	289	61.9%
<b>Gender</b>	Men	178	38.1%	178	100.0%	0	0.0%
	Women	289	61.9%	0	0.0%	289	100.0%
<b>Age</b>	18-34	65	13.9%	29	44.6%	36	55.4%
	35-54	141	30.2%	59	41.8%	82	58.2%
	55-64	119	25.5%	36	30.3%	83	69.7%
	65+	142	30.4%	54	38.0%	88	62.0%
<b>Race</b>	Black	266	57.0%	96	36.1%	170	58.8%
	White	149	31.9%	67	45.0%	82	55.0%
	Mixed & Other	52	11.1%	15	28.8%	37	71.2%
<b>Education</b>	Secondary & Lower	164	35.1%	61	37.2%	103	62.8%
	Technical & Higher	303	64.9%	117	38.6%	186	61.4%
<b>Income</b>	Under \$72,000	215	46.0%	62	28.8%	153	71.2%
	\$72,000 to \$107,999	93	19.9%	39	41.9%	54	58.1%
	\$108,000 and over	102	21.8%	55	53.9%	47	46.1%
	Not Stated	57	12.2%	22	38.6%	35	61.4%

#### Age

		Age Group							
		18-34		35-54		54-65		65+	
		N	%	N	%	N	%	N	%
<b>Total</b>		65	13.9%	141	30.2%	119	25.5%	142	30.4%
<b>Gender</b>	Men	29	16.3%	59	33.1%	36	20.2%	54	30.3%
	Women	36	12.5%	82	28.4%	83	28.7%	88	30.4%
<b>Age</b>	18-34	65	100.0%	0	0.0%	0	0.0%	0	0.0%
	35-54	0	0.0%	141	100.0%	0	0.0%	0	0.0%
	55-64	0	0.0%	0	0.0%	119	100.0%	0	0.0%
	65+	0	0.0%	0	0.0%	0	0.0%	142	100.0%
<b>Race</b>	Black	30	11.3%	70	26.3%	75	28.2%	91	34.2%
	White	21	14.1%	50	33.6%	33	22.1%	45	30.2%
	Mixed & Other	14	26.9%	21	40.4%	11	21.2%	6	11.5%
<b>Education</b>	Secondary & Lower	14	8.5%	29	17.7%	36	22.0%	85	51.8%
	Technical & Higher	51	16.8%	112	37.0%	83	27.4%	57	18.8%
<b>Income</b>	Under \$72,000	22	10.2%	43	20.0%	56	26.0%	94	43.7%
	\$72,000 to \$107,999	14	15.1%	33	35.5%	26	28.0%	20	21.5%
	\$108,000 and over	21	20.6%	50	49.0%	25	24.5%	6	5.9%
	Not Stated	8	14.0%	15	26.3%	12	21.1%	22	38.6%

**Race**

		Race					
		Black		White		Mixed & Other	
		N	%	N	%	N	%
Total		266	57.0%	149	31.9%	52	11.1%
Gender	Men	96	53.9%	67	37.6%	15	8.4%
	Women	170	58.8%	82	28.4%	37	12.8%
Age	18-34	30	46.2%	21	32.3%	14	21.5%
	35-54	70	49.6%	50	35.5%	21	14.9%
	55-64	75	63.0%	33	27.7%	11	9.2%
	65+	91	64.1%	45	30.2%	6	11.5%
Race	Black	266	100.0%	0	0.0%	0	0.0%
	White	0	0.0%	149	100.0%	0	0.0%
	Mixed & Other	0	0.0%	0	0.0%	52	100.0%
Education	Secondary & Lower	111	67.7%	40	24.4%	13	7.9%
	Technical & Higher	155	51.2%	109	36.0%	39	12.9%
Income	Under \$72,000	136	63.3%	48	22.3%	31	14.4%
	\$72,000 to \$107,999	51	54.8%	33	35.5%	9	9.7%
	\$108,000 and over	42	41.2%	54	52.9%	6	5.9%
	Not Stated	37	64.9%	14	24.6%	6	10.5%

**Education**

		Education			
		Secondary & Lower		Technical & Higher	
		N	%	N	%
Total		164	35.1%	303	64.9%
Gender	Men	61	34.3%	117	65.7%
	Women	103	35.6%	186	64.4%
Age	18-34	14	21.5%	51	78.5%
	35-54	29	20.6%	112	79.4%
	55-64	36	30.3%	83	69.7%
	65+	85	59.9%	57	40.1%
Race	Black	111	41.7%	155	58.3%
	White	40	26.8%	109	73.2%
	Mixed & Other	13	25.0%	39	75.0%
Education	Secondary & Lower	164	100.0%	0	0.0%
	Technical & Higher	0	0.0%	303	100.0%
Income	Under \$72,000	101	47.0%	114	53.0%
	\$72,000 to \$107,999	27	29.0%	66	71.0%
	\$108,000 and over	14	13.7%	88	86.3%
	Not Stated	22	38.6%	35	61.4%

**Household Income**

		Household Income							
		Under \$72,000		\$72,000 to \$107,999		\$108,000 & Over		Not Stated	
		N	%	N	%	N	%	N	%
Total		215	46.0%	93	19.9%	102	21.8%	57	12.2%
Gender	Men	62	34.8%	39	21.9%	55	30.9%	22	12.4%
	Women	153	52.9%	54	18.7%	47	16.3%	35	12.1%
Age	18-34	22	33.8%	14	21.5%	21	32.3%	8	12.3%
	35-54	43	30.5%	33	23.4%	50	35.5%	15	10.6%
	55-64	56	47.1%	26	21.8%	25	21.0%	12	10.1%
	65+	94	66.2%	20	14.1%	6	4.2%	22	15.5%
Race	Black	136	51.1%	51	19.2%	42	15.8%	37	13.9%
	White	48	32.2%	33	22.1%	54	36.2%	14	9.4%
	Mixed & Other	31	59.6%	9	9.7%	6	5.9%	6	10.5%
Education	Secondary & Lower	101	61.6%	27	29.0%	14	8.5%	22	13.4%
	Technical & Higher	114	37.6%	66	21.8%	88	29.0%	35	11.6%
Income	Under \$72,000	215	100.0%	0	0.0%	0	0.0%	0	0.0%
	\$72,000 to \$107,999	0	0.0%	93	100.0%	0	0.0%	0	0.0%
	\$108,000 and over	0	0.0%	0	0.0%	102	100.0%	0	0.0%
	Not Stated	0	0.0%	0	0.0%	0	0.0%	57	0.0%

## Results

### Fasting Blood Glucose

Participants had their fasting blood glucose measured. Capillary whole blood was measured using a finger-stick method (CardioChek®). Normal fasting blood glucose was defined as less than 100 mg/dL. A measurement of between 100mg/dL and 109mg/dL was considered as being in the prediabetic range (impaired fasting glycaemia). Measurements of 110mg/dL or above were considered to be in the diabetic range and to have raised blood glucose. Participants were also asked if they were currently on medication for raised blood glucose or diabetes which would indicate a prior diagnosis of diabetes.

Of the participants, 8.1% were classified as being at increased risk for diabetes (having a measurement in the prediabetic range) and 11.8% were classified as having raised blood glucose (either through a measurement in the diabetic range or being currently on medication for diabetes). While there were no significant differences by gender, age, race, education level or household income among those at increased risk for diabetes, there were some significant differences in those with raised blood glucose. Participants aged 65 years and older (26.5%) and aged 55-64 years (13.5%) were more likely to have raised blood glucose than participants aged 18-34 years (0.4%); participants aged 65 years and older were also more likely to have raised blood glucose than those aged 34-54 years (6.8%). Participants with secondary or lower education (23.3%) were more likely than those with technical or higher education (6.5%) to have raised blood glucose. Similarly, participants with a household income of under \$72,000 (17.1%) were more likely to have raised blood glucose than those with a household income of \$108,000 and over (5.2%).

Blood Glucose							
		At increased risk of diabetes (measurement in prediabetic range)		Raised blood glucose (measurement in diabetic range) or currently on medication for diabetes		Has diabetes or is at increased risk for diabetes	
		N	%	N	%	N	%
Total		37	8.1%	66	11.8%	103	19.9%
Gender	Men	13	8.5%	26	12.5%	39	21.0%
	Women	24	7.7%	40	11.1%	64	18.8%
Age	18-34	2	3.2%	1	0.5%	3	3.7%
	35-54	9	8.6%	10	6.8%	19	15.5%
	55-64	13	11.1%	15	13.5%	28	24.6%
	65+	13	8.3%	40	26.5%	53	34.8%
Race	Black	23	9.1%	43	13.2%	66	22.3%
	White	10	6.2%	19	10.9%	29	17.1%
	Mixed & Other	4	7.8%	4	7.5%	8	15.3%
Education	Secondary & Lower	18	11.3%	43	23.3%	61	34.5%
	Technical & Higher	19	6.6%	23	6.5%	42	13.1%
Income	Under \$72,000	20	9.5%	41	17.1%	61	26.6%
	\$72,000 to \$107,999	3	4.3%	13	12.9%	16	17.3%
	\$108,000 and over	8	7.5%	5	5.2%	13	12.7%
	Not Stated	6	11.5%	7	8.1%	13	19.7%

## Total Cholesterol

Participants had their total cholesterol measured. Capillary whole blood was measured using a finger-stick method (CardioChek®). Normal cholesterol was defined as less than 200 mg/dL. A measurement of between 200mg/dL and 239mg/dL was considered as being in the borderline high range (elevated cholesterol). Measurements of 240mg/dL or above were considered to have high cholesterol. Participants were also asked if they were currently on medication for raised or high cholesterol which would indicate a prior diagnosis of high cholesterol.

Of the participants, 21.0% were classified as being at increased risk for high cholesterol (having a measurement in the borderline high cholesterol range) and 26.4% were classified as having raised cholesterol (either through a measurement in the high cholesterol range or being currently on medication for high cholesterol). There were no significant differences by gender, age, race, education level or household income among those with borderline high cholesterol. Among those with raised cholesterol, participants with a household income of under \$72,000 (36.0%) were more likely to have raised cholesterol than those with a household income of \$108,000 and over (17.6%). Participants aged 18-34 years (16.9%) were least likely to have cholesterol levels above normal, followed by adults aged 35-54 years (40.7%). Both participants aged 55-64 years (65.7%) and those aged 65 years and older (64.7%) were more likely to have higher than normal cholesterol levels.

		Blood Cholesterol					
		At increased risk of high cholesterol (measurement in borderline high cholesterol range)		High cholesterol (measurement in high cholesterol range) or currently on medication for high cholesterol		Has high cholesterol or is at increased risk for high cholesterol	
		N	%	N	%	N	%
Total		112	21.0%	130	26.4%	242	47.4%
Gender	Men	39	21.5%	38	21.1%	77	42.6%
	Women	73	20.7%	92	31.2%	165	51.8%
Age	18-34	9	11.0%	3	5.8%	12	16.9%
	35-54	34	22.0%	24	18.6%	58	40.7%
	55-64	38	29.7%	42	35.9%	80	65.7%
	65+	31	19.5%	61	45.2%	92	64.7%
Race	Black	62	19.7%	75	27.9%	137	47.6%
	White	38	25.7%	45	23.9%	83	49.6%
	Mixed & Other	12	15.8%	10	25.2%	22	41.0%
Education	Secondary & Lower	33	18.8%	60	34.0%	93	52.8%
	Technical & Higher	79	22.1%	70	22.8%	149	44.9%
Income	Under \$72,000	54	20.8%	77	36.0%	131	56.7%
	\$72,000 to \$107,999	19	21.4%	23	22.4%	42	43.8%
	\$108,000 and over	28	24.3%	17	17.6%	45	42.0%
	Not Stated	11	14.5%	13	23.3%	24	37.7%

## Discussion

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STEPS to a Well Bermuda is the first population study of its type conducted in Bermuda. Unlike prior studies, it included both subjective self-reported information and objective measurements of height, weight, blood pressure, blood glucose and total cholesterol. In addition, it offered greater opportunity for clarification through the use of show cards. While these features presented some challenges, they added a new dimension to health surveying in Bermuda.

Of the findings, most notable was the documented prevalence of overweight and obesity. The objective measurement indicated the three in four persons are overweight or obese. As overweight and obesity is a health condition in and of itself and a risk factor for other non-communicable diseases, this further emphasizes that it is a public health priority. Given the high prevalence of other risk factors that contribute to overweight and obesity, and other chronic non-communicable diseases, these risk factors must be addressed. For example, less than one in five adults consume the recommended number of servings of fruits and vegetables and over a quarter of adults do not meet the World Health Organization recommendation for physical activity.

Also of note are the socioeconomic disparities and age distribution differences seen in some of the key risk factors. Adults with higher education and/or higher income were more likely to eat the recommended number of servings of fruits and vegetables and to engage in recreational physical activity. They were also more likely to have major health coverage and less likely to have three or more non-communicable disease risk factors. Risk factors and non-communicable diseases that have historically been more commonly seen in seniors (aged 65 years and older) are now being seen at similar rates in older working-aged adults (aged 55-64 years). These include similar rates of high blood pressure, high cholesterol, and cardiovascular disease and nearing similar rates of diabetes. On the other end of the spectrum, younger adults are more likely to drink alcohol, binge drink and use tobacco. These age shifts and differences have implications for the future productivity of the workforce.

Overall, the results of STEPS to a Well Bermuda indicate that the principles of health promotion as set out in the Ottawa Charter for Health Promotion must continue to be used:

- Build healthy public policy
- Create supportive environments
- Strengthen community actions
- Develop personal skills
- Reorient health services
- Build alliances

Through effective and collaborative health promotion, the prevalence of these risk factors and associated chronic non-communicable diseases can be halted and reduced and the inequalities can be narrowed allowing for achievement of a Well Bermuda for all.

## Conclusion

STEPS to a Well Bermuda: Health Survey of Adults in Bermuda 2014 clearly shows that the common non-communicable disease risk factors of poor dietary habits, physical inactivity and overweight and obesity are indeed all too common in our population. This is concerning as ***the risk factors of today are the diseases of tomorrow***. As with all public health problems, these risk factors and their associated chronic non-communicable diseases, such as heart disease, diabetes, and cancer, threaten the wellbeing of Bermuda's community and economy. As stated in Well Bermuda: A National Health Promotion Strategy (2008), "health has a value in itself as it is essential to ensure quality of life for children, adults and seniors but, additionally, a healthy population is fundamental to ensure a capable workforce and future capacity". It is therefore essential that through Well Bermuda partnerships these risk factors are addressed in alignment with the vision of the Department of Health: "Healthy people in healthy communities". Additionally, all residents have a responsibility to join with the efforts of public health by taking charge of their individual health. We all must work together to make steps to a Well Bermuda.



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# Appendix: STEPS to a Well Bermuda Survey Instrument

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Note: The questions provided here were selected from the complete STEPS Survey Instrument for the production of this report – STEPS to a Well Bermuda: Health Survey of Adults in Bermuda 2014. The complete STEPS Survey Instrument is available upon request.

## Demographic Information

1. Sex (as observed)
  - Male
  - Female
  
2. What is your date of birth?
  - Date of birth: dd/mm/yyyy
  - Don't know/not sure
  - Decline to answer
  
3. How old are you?
  - \_\_\_ years
  - Don't know/not sure
  - Decline to answer
  
4. In total, how many years have you spent at school and in full-time study (excluding pre-school)?
  - \_\_\_ years
  - Don't know/not sure
  - Decline to answer
  
5. What is the highest level of schooling that you have received up to the present time?
  - None
  - Primary school (years 1-6)
  - Middle school (years 7-9)
  - Senior school (years 10-13)
  - Technical/Vocational College
  - College (2 year)
  - University/College (4 year)
  - Post-graduate
  - Not stated
  
6. To which racial group do you belong?
  - Black
  - White

- Asian
  - Black and White
  - Black and Other
  - White and Other
  - Other races
  - Not stated
7. What is your marital status?
- Never married
  - Married first time
  - Re-married
  - Widowed
  - Divorced
  - Legally separated
  - Not stated
8. Considering the past year, can you give an estimate of your annual household income if I read some options to you?
- <\$36000
  - >=\$36000 and < \$72000
  - >=\$72000 and <\$108000
  - >=\$108000 and <\$144000
  - >= \$144000
  - Don't know/not sure
  - Decline to answer

## Nutrition

*The next questions ask about your usual eating habits. As you answer these questions, please think of a typical week in the last year.*

1. In a typical week, on how many days do you eat fruit?
- \_\_ days
  - Don't know/not sure
  - Decline to answer
2. How many servings of fruit do you eat on one of those days?
- \_\_ servings
  - Don't know/not sure
  - Decline to answer
3. In a typical week, on how many days do you eat vegetables?
- \_\_ days

- Don't know/not sure
  - Decline to answer
4. How many servings of vegetables do you eat on one of those days?
- \_\_ servings
  - Don't know/not sure
  - Decline to answer
5. What type of oil or fat is most often used for meal preparation in your household?
- Vegetable oil
  - Olive oil or Canola oil
  - Lard
  - Butter
  - Margarine
  - Other
  - None in particular
  - None used
  - Don't know
6. In the last 30 days, how many sugary drinks (non-diet soda, juices, iced tea drinks) did you drink on an average day?
- Less than 1 drink
  - 1 - 2 drinks
  - 3 - 5 drinks
  - More than 5 drinks
  - Don't know
7. How often do you add salt or a salty sauce such as soya sauce to your food right before you eat it or as you are eating it?
- Always
  - Often
  - Sometimes
  - Rarely
  - Never
  - Don't know
8. How often is salt, salty seasoning or a salty sauce added in cooking or preparing foods in your household?
- Always
  - Often
  - Sometimes
  - Rarely
  - Never

- Don't know
9. How often do you eat processed food high in salt? By processed food high in salt, I mean foods that have been altered from their natural state, such as packaged salty snacks, canned salty food, salty foods prepared in quick service, etc.
- Always
  - Often
  - Sometimes
  - Rarely
  - Never
  - Don't know
10. How important is lowering the salt in your diet?
- Very important
  - Somewhat important
  - Not at all important
  - Don't know
11. Do you think that too much salt or salty sauce in your diet could cause a serious health problem?
- Yes
  - No
  - Don't know
12. Do you do any of the following on a regular basis to control your salt intake?
- Limit consumption of processed foods?
    - Yes
    - No
  - Look at the salt or sodium content on food labels?
    - Yes
    - No
  - Buy low salt/sodium alternatives?
    - Yes
    - No
  - Use spices other than salt when cooking?
    - Yes
    - No
  - Does not add salt to meals?
    - Yes
    - No
  - Cooks meals without adding salt?
    - Yes
    - No

## 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, seeking employment, etc.*

1. Does your work involve vigorous-intensity activity that causes large increases in breathing or heart rate like [carrying or lifting heavy loads, digging or construction work] for at least 10 minutes continuously?
  - Yes
  - No
  
2. In a typical week, on how many days do you do vigorous-intensity activities as part of your work?
  - \_\_\_ days
  - Don't know/not sure
  
3. How much time do you spend doing vigorous-intensity activities at work on a typical day?
  - hh:mm
  - Don't know/not sure
  
4. Does your work involve moderate-intensity activity that causes small increases in breathing or heart rate such as brisk walking [or carrying light loads] for at least 10 minutes continuously?
  - Yes
  - No
  
5. In a typical week, on how many days do you do moderate-intensity activities as part of your work?
  - \_\_\_ days
  - Don't know/not sure
  
6. How much time do you spend doing moderate-intensity activities at work on a typical day?
  - hh:mm
  - Don't know/not sure

*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, etc.*

7. Do you walk or use a pedal cycle for at least 10 minutes continuously to get to and from places?
  - Yes
  - No
  
8. 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?

- \_\_\_ days
- Don't know/not sure

9. How much time do you spend walking or bicycling for travel on a typical day?

- hh:mm
- Don't know/not sure

*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).*

10. Do you do any vigorous-intensity sports, fitness or recreational (leisure) activities that cause large increases in breathing or heart rate like [running or football] for at least 10 minutes continuously?

- Yes
- No

11. In a typical week, on how many days do you do vigorous-intensity sports, fitness, or recreational (leisure) activities?

- \_\_\_ days
- Don't know/not sure

12. How much time do you spend doing vigorous-intensity sports, fitness, or recreational (leisure) activities?

- hh:mm
- Don't know/not sure

13. Do you do any moderate-intensity sports, fitness or recreational (leisure) activities that cause a small increase in breathing or heart rate such as brisk walking, [cycling, swimming, volleyball] for at least 10 minutes continuously?

- Yes
- No

14. In a typical week, on how many days do you do moderate-intensity sports, fitness, or recreational (leisure) activities?

- \_\_\_ days
- Don't know/not sure

15. How much time do you spend doing moderate-intensity sports, fitness, or recreational (leisure) activities?

- hh:mm
- Don't know/not sure

### Non-Communicable Disease History

1. Have you ever had your blood pressure measured by a doctor or other health care provider?

- Yes

- No
2. Have you ever been told by a doctor or other health care provider that you have raised blood pressure or hypertension?
    - Yes
    - No
  3. In the past two weeks, have you taken any medication for raised blood pressure prescribed by a doctor or other health care provider?
    - Yes
    - No
  4. Have you ever had your blood sugar measured by a doctor or other health care provider?
    - Yes
    - No
  5. Have you ever been told by a doctor or other health care provider that you have raised blood sugar or diabetes?
    - Yes
    - No
  6. In the past two weeks, have you taken any medication diabetes prescribed by a doctor or other health care provider?
    - Yes
    - No
  7. Are you currently taking insulin for diabetes prescribed by a doctor or other health worker?
    - Yes
    - No
  8. When was the last time your eyes were examined as part of your diabetes control?
    - Within the past 2 years
    - More than 2 years ago
    - Never
    - Don't know
  9. When was the last time your feet were examined as part of your diabetes control?
    - Within the past year
    - More than 1 year ago
    - Never
    - Don't know

10. Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health care provider?
  - Yes
  - No
  
11. Have you ever been told by a doctor or other health care provider that you have raised cholesterol?
  - Yes
  - No
  
12. In the past two weeks, have you taken any medication for raised total cholesterol prescribed by a doctor or other health care provider?
  - Yes
  - No
  
13. Have you ever had a heart attack or chest pain from heart disease (angina) or a stroke (cerebrovascular accident or incident)?
  - Yes
  - No
  
14. Are you currently taking aspirin regularly to prevent or treat heart disease?
  - Yes
  - No
  
15. Are you currently taking statins (Lovastatin/Simvastatin/Atorvastatin or any other statin) regularly to prevent or treat heart disease?
  - Yes
  - No
  
16. During the past three years, has a doctor or other health care provider advised you to do any of the following?
  - Quit using tobacco or don't start?
    - Yes
    - No
  - Reduce salt in your diet?
    - Yes
    - No
  - Eat at least five servings of fruit and/or vegetables each day?
    - Yes
    - No
  - Reduce fat in your diet?
    - Yes
    - No
  - Start or do more physical activity?



- Yes
- No
- Maintain a healthy body weight or lose weight?
  - Yes
  - No

17. Have any of your immediate family members been diagnosed with the following diseases?

- Diabetes or raised blood sugar?
  - Yes
  - No
- Raised blood pressure?
  - Yes
  - No
- Stroke?
  - Yes
  - No
- Cancer or malignant tumour?
  - Yes
  - No
- Raised cholesterol?
  - Yes
  - No
- Early heart attack (below age 55 for men and below age 65 for women)?
  - Yes
  - No

### Alcohol Consumption

1. Have you ever consumed an alcoholic drink such as beer, wine, spirits, coolers, etc.? *USE SHOWCARD. If necessary, ask the participant to think of any drinks that contain alcohol, with the exception of alcohol-based medication that is taken due to health reasons.*

- Yes
- No

2. Have you consumed any alcohol within the past 30 days?

- Yes
- No

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

- \_\_\_ days
- Don't know/not sure

4. During the past 30 days, when you drank alcohol, how many standard drinks on average did you have during one drinking occasion?
  - \_\_\_ drinks
  - Don't know/not sure
  
5. During the past 30 days, what was the largest number of standard drinks you had on a single occasion, counting all types of alcoholic drinks together?
  - \_\_\_ drinks
  - Don't know/not sure

### Tobacco Use

1. Do you currently smoke any tobacco products, such as cigarettes, cigars or pipes?
  - Yes
  - No
  
2. Do you currently smoke tobacco products daily?
  - Yes
  - No
  
3. During the past 12 months, have you tried to stop smoking?
  - Yes
  - No
  
4. During any visit to a doctor or other health care provider in the past 12 months, were advised to quit smoking tobacco?
  - Yes
  - No
  
5. In the past, did you ever smoke any tobacco products?
  - Yes
  - No
  
6. During the past 7 days, did someone smoke in your home?
  - Yes
  - No
  
7. During the past 7 days, did someone smoke in closed areas in your workplace (in the building, in a work area or a specific office)?
  - Yes
  - No

## Health Care

*Next, I am going to ask you about your health insurance coverage and your use of health services in relation to any non-communicable disease (NCD) you may have. NCDs include cardiovascular diseases (such as heart diseases, cerebrovascular disease and stroke, peripheral arterial disease, and deep vein thrombosis and pulmonary embolism), cancers, chronic respiratory diseases (such as asthma, chronic obstructive pulmonary disease, occupational lung diseases or pulmonary hypertension) and diabetes. Please provide information about your current health insurance coverage. Health insurance coverage means being enrolled with an organization that pays for health care costs if you get sick or injured.*

1. Do you currently have health insurance?
  - Yes
  - No (Go to Q3)
  
2. Which response best describes your health insurance coverage by a Government or private plan?
  - Major Health Coverage (Private or GEHI)
  - Only Private Basic Health Coverage
  - Only Government's HIP
  - Only FutureCare
  - Has insurance but doesn't know what type
  - Not stated
  
3. What is the main reason that you do not have health insurance?
  - Unable to afford it
  - Don't need it
  - Employer does not provide it
  - Other
  
4. Have you ever had or do you currently have a non-communicable disease (NCD) such as cardiovascular disease including heart disease and stroke, cancer, chronic respiratory disease, or diabetes?
  - Yes
  - No
  
5. During the past 30 days, have you visited any health care facility due to an NCD you have? Please exclude any hospitalization.
  - Yes
  - No
  
6. During the past 12 months, have you been hospitalized due to an NCD?
  - Yes
  - No
  
7. During the past 30 days, has a family member or friend provided care for you at home due to your NCD?

- Yes
- No

8. During the past 30 days, have you missed any time of your usual activity (work, work at home, study) due to an NCD?

- Yes
- No

### Physical Measurements

*[Record first measurement after the participant has rested for 15 minutes. Ask the participant to rest for 3 minutes before taking second measurement. Ask the participant to rest for another 3 minutes before taking the third measurement.]*

1. Blood pressure reading 1:

- \_\_\_ systolic
- \_\_\_ diastolic

2. Blood pressure reading 2:

- \_\_\_ systolic
- \_\_\_ diastolic

3. Blood pressure reading 3:

- \_\_\_ systolic
- \_\_\_ diastolic

4. *For women of reproductive age:* Are you pregnant?

- Yes
- No

5. Height:

- \_\_\_ inches

6. Weight:

- \_\_\_ pounds

*[Provide Participant Feedback Form with results.]*

### Biochemical Measurements

1. During the past 12 hours, have you had anything to eat or drink, other than water?

- Yes *(If yes, reschedule and explain fasting procedure.)*
- No

2. Fasting blood glucose
  - \_\_\_ mg/dL
3. Total cholesterol
  - \_\_\_ mg/dL

*[Provide Participant Feedback Form with results.]*

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