



Health Disparities Report 2013

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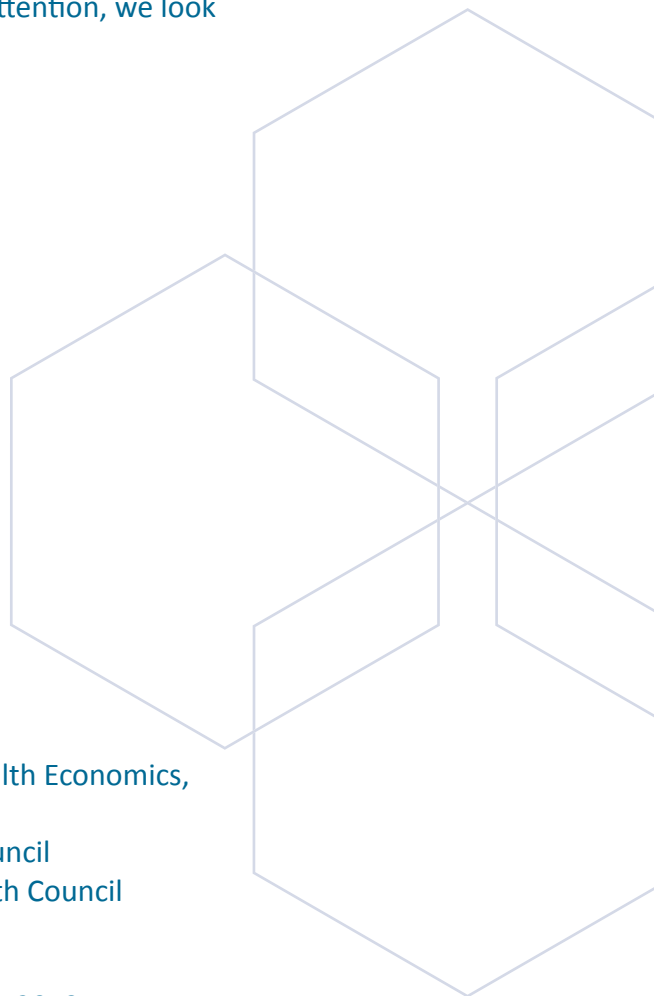
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Bermuda Health Council

Health Disparities Report

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1 INTRODUCTION

This report is an investigation of health disparities or, health inequalities, in Bermuda in the following four areas: health outcomes, access to healthcare, health-related behaviours and health expenditure. The disparities explored are across various groups divided by household income, education, age, gender, marital status, employment status and race.

The purpose of this report is to provide the healthcare community and policy makers with detailed information on the gaps in health outcomes and access due to social inequity. In the context of the current economic climate, the report is intended to provide context and data to guide policy decisions regarding healthcare delivery and health system infrastructure.

Health inequality refers to the differences in the health status and quality of healthcare across different populations. This may include differences in health outcomes (e.g. presence of diabetes), access to healthcare (e.g. visits to hospitals), health-related behaviours (e.g. smoking) and the level and burden of health expenditure (e.g. amount spent on GP visits) across various population groups (e.g. people of different socioeconomic status). Health inequalities may be affected by a wide-range of factors, including economic policies, cultural norms, community influence and lifestyle choices. These political, social, economic and cultural factors that influence health inequities are often outside of the health system. For example, these factor influence the access to health and human services, community and public safety, affordability and safety of housing, access to affordable and healthy food, access to parks and natural resource etc. And these, in turn, determine population health status.

Health inequality, especially the disparity among socioeconomic classes, has been documented in various jurisdictions¹. The main factors in determining socioeconomic status are income and education, which are highly correlated with each other. For example, the US Bureau of Labor Statistics, using the Current Population Survey, finds that higher education in general corresponds to lower unemployment rate and higher median earnings². In Bermuda there is also high correlation between income and education: the 2010 census indicates that for persons with high school or lower education, 67% were in the lowest income group³, contrasting with 22% among those with university or higher education.

Even in affluent countries, the poor are sicker and have shorter life expectancy⁴. This is because the conditions in which people live (e.g. social support, the presence of addiction, access to and quality of food) strongly influence their health and those conditions are largely outside of the health system. The social environment factors that affect one's health, the social determinants of health⁵, have gained much attention in recent years and have inspired various policy changes to reduce

¹ See e.g. Williams and Collins (1995); Williams & Collins (1995); Houweling et al (2000); Wilkins et al (2002); Mackenbach (2006).

² http://www.bls.gov/emp/ep_chart_001.htm

³ The lowest income group as defined in this report is those with less than BDA \$60,000 in annual household income.

⁴ See, for example, the 2010 Marmot Review citing UK Office for National Statistics for disparity in life expectancy and mortality rate.

⁵ According to the WHO, the social determinants of health are defined by "the conditions in which people are born, grow, live, work and age, including the health system. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries."

inequality⁶. As this report indicates, socioeconomic factors have strong association with health inequality in Bermuda, and lower socioeconomic status is associated with worse health outcomes, less access and poorer health-related behaviours. Despite poorer health as a consequence of less favourable living conditions and presumably more need for healthcare, lower-income households in Bermuda spend less out-of-pocket on healthcare than the more affluent. While government's indigent subsidy plays a role in reducing hospital costs for the poor, this cohort's lower health spending for services like private physician, lab, drugs, vision and dental care is likely because they curtail utilization to avoid expenditure.

Aside from income and education, other demographic variables may also influence various aspects of health. For example, it is generally true that younger adults on average are physically healthier than older adults; in developed countries, women can expect to live longer than men. In this report, aside from health outcomes and related healthcare service utilization, significant differences in behaviour are also found between age groups. Research in other jurisdictions has also found evidence on the link between marital status and health. Specifically, people who marry are healthier and have longer life expectancy⁷. Further, there is evidence indicating that married people use more preventive care and less hospital care, and have fewer doctor visits⁸. The effect of widowhood and divorce are shown to have long-lasting negative effects⁹. This report also notes negative effects for seniors in Bermuda who are divorced, widowed or separated.

While race is a socially constructed taxonomy and has no biological basis¹⁰, social and environmental differences experienced by people from these cultural groupings can have effects on health. For example, in the US blacks and Hispanics are more likely to live in poverty than whites and Asians. Since difference in socioeconomic status is a driver for health disparity, it can be expressed through racial disparity. In Bermuda there is also racial disparity in income. For example, the 2010 census reveals that 40% of self-identified whites are of the lowest income group, contrasting with 55% of self-identified blacks and 60% of self-identified minority races (mixed or other races)¹¹. However, in most cases few significant health disparities are found between races in Bermuda, though there is evidence that minorities ("other" race) do suffer from poorer health outcomes and less favourable social environment¹².

Employment status can also affect health. This is not only because employment is a source of income. Involuntary unemployment or job insecurity creates stress that is detrimental to both physical and mental health¹³. Still, not a lot of disparity in health outcomes based on employment status is found in this report. Some disparities in health-related behaviours are linked to differences in health insurance coverage, because employed persons in Bermuda are mandated to have health

⁶ See e.g. the Marmot Review (2010).

⁷ See e.g. Manzoli et al(2007). However, in most research only a descriptive correlation is described and this does not prove that marriage improves physical health and longevity.

⁸ See e.g. Iwashyna & Christakis (2003).

⁹ See e.g. Hughes & Waite (2009).

¹⁰ It is widely agreed that race has no genetic basis because more genetic variation exists within the same race, instead of between races. Modern humans have not been separated enough to have evolved into separate subspecies or races. Group traits are now typically studied under the term *population*. See e.g. Lopez (1994).

¹¹ The self-identified racial composition in Bermuda is 54% black, 31% white and 16% mixed or other races. "Mixed or other races" include various races and ethnicities but are grouped in this report to avoid small sample problems. For the demographic composition of minorities, see the Technical Note 4.5. According to the 2010 census, the income distribution of minorities was similar to that of blacks; the Bermudian status of minorities was similar to that of whites. More details are in the Technical Notes of this report.

¹² Some research indicates that minorities receive more exposure to ambient hazards and suffer from more psychosocial stress due to the lack of social resources, community support and possibly due to segregation. See e.g. Gee et al (2004).

¹³ See e.g. Ferrie et al. (2002).

insurance coverage. In particular, those employed and those with insurance coverage, more than those non-employed or not covered, are likely to visit GPs (GPs visits are generally covered by health insurance); they are less likely to visit government clinics.

While some health disparities are bound to continue to exist in the foreseeable future, e.g. those caused by ageing, other forms of health inequality are unfair, unproductive and detrimental both socially and economically¹⁴—particularly those health inequalities caused by inequitable distribution of resources. Given the extent of health inequality in Bermuda, moving towards more equitable access to health-related resources would have the further benefit of economic gain, in addition to improved personal health and social environment.

The data in this report came primarily from the 2011 Adult Health Survey and 2012 Household Health Expenditure Survey¹⁵. Only statistically significant results are reported. The colour scheme follows the general rule that a shift from blue to orange means from “good” to “bad”; other colours are used when such a judgement cannot be easily made. More details can be gleaned in the appendix with the technical notes on methodology.

¹⁴ The 2010 UK Marmot Review cites the figure of productivity loss at £31-33 billion per year in England.

¹⁵ For details see Technical Note 1 of this report.

2 HEALTH OUTCOMES

This section of the report focuses on inequalities in health outcomes. The indicators investigated in this section are:

- General health
- Emotional support and life satisfaction
- Presence of chronic health conditions
- Disability
- Obesity

Socioeconomic status is strongly linked to all of the above indicators. Higher socioeconomic status is associated with better physical and mental health, higher life satisfaction, more social support, fewer incidents of chronic health conditions, less disability and less obesity. The disparities exhibited are clear. For example, 22% of persons of the lowest income level reported fair to poor health, while only 6% of those of the highest income level did so. Similarly, 23% persons of the lowest education group reported fair or poor health, while only 9% of those of the highest education group did so.

The other important factor associated with health outcomes is age. Older persons reported poorer general health, more days being physically unwell, more chronic health conditions and more disability. However, seniors reported least mentally unwell days and have lower rates of obesity than the middle age group. There is no statistically significant link between age and social support or life satisfaction.

Among seniors, marital status is a strong factor for a few indicators. In particular, those divorced, widowed or separated suffered poorer general health, reported the most days physically unwell and received least social support.

The other demographic characteristics (employment status, gender and race) are linked to a few indicators. But more telling is the lack of association between each of these characteristics and health outcomes. For example, race in general is not associated with any health outcome except the number of days being mentally unwell. And in that case, as in most cases in this report, it is among the minorities (mixed and other races)¹⁶ that we see the worst outcome. Gender-based disparity is sporadic, with men more likely to report being well every day and women receiving more social support.

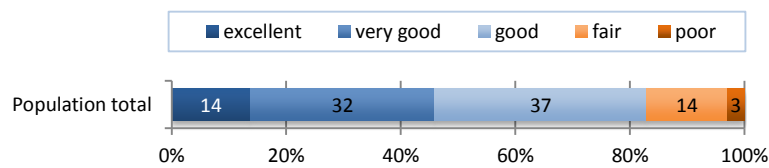
¹⁶ See Technical Note 4.5.

2.1 General Health

2.1.1 About four in five adults reported excellent to good health. Self-reported health varies by household income, highest level of formal education and age of the respondent. Among seniors, self-reported health also varies by marital status.

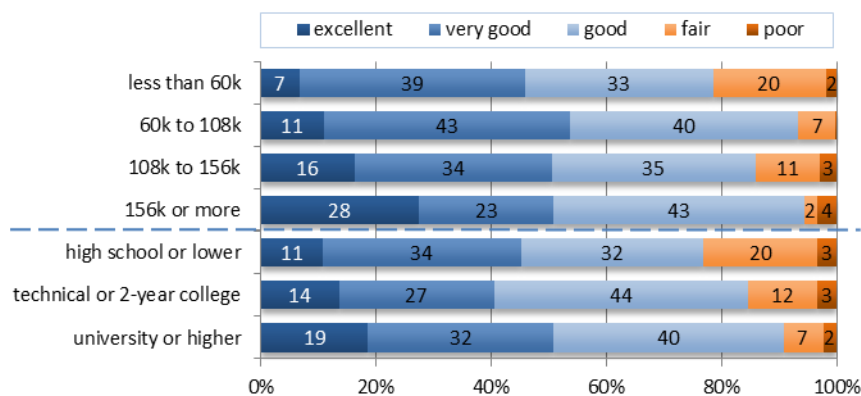
Adults in Bermuda were asked to rate their own health by five categories from “excellent” to “poor”. Overall, a total of 83% of respondents rated their health as excellent, very good or good. Some 17% of the respondents rated their health as fair to poor. Race, gender and job status (of working age¹⁷ persons) do not affect reports of general health status.

Figure 2.1.1.1. Population total of general health



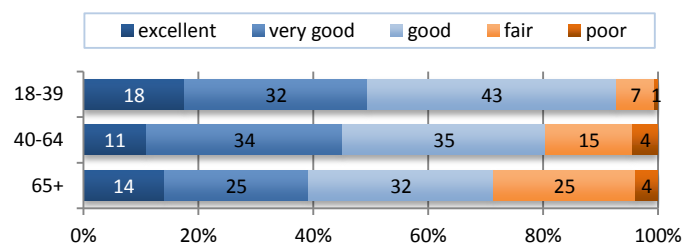
Persons of lower household income and less education tended to report poorer health.

Figure 2.1.1.2. General health by income and education



Self-reported health tended to deteriorate with age.

Figure 2.1.1.3. General health by age



¹⁷ In the context of the data available to this report, this is defined as persons aged between 18 and 64, inclusive.

Among seniors, those never married were of better health than those who were currently in a couple¹⁸; those who were divorced/widowed/separated were of poorest health.

Figure 2.1.1.4. General health by marital status (seniors)

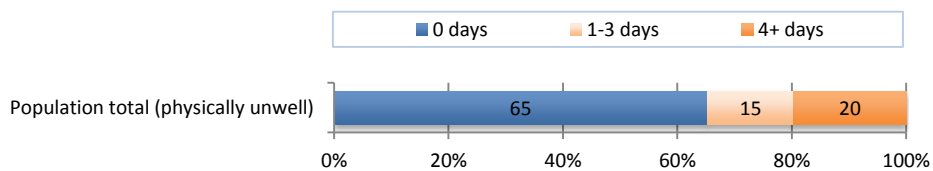


2.1.2 While the majority (65%) of adults reported no days being physically unwell in the previous 30 days, one fifth of the population reported four or more days being unwell. This varied by education, age, gender and marital status for seniors but not other demographic characteristics.

To be more specific than overall assessment of the respondent’s health, questions were also asked about the number of days the respondent was physically or mentally unwell in the previous thirty days.

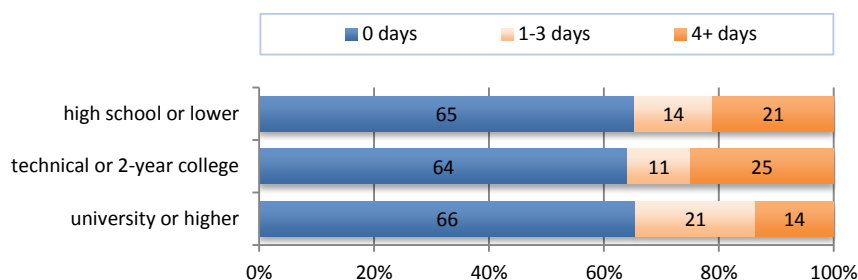
The reported number of days of being physically unwell was not affected by income, race or job status (of persons of working age).

Figure 2.1.2.1. Population total of days physically unwell



Persons of university or higher education were least likely to have four or more days of being physically unwell.

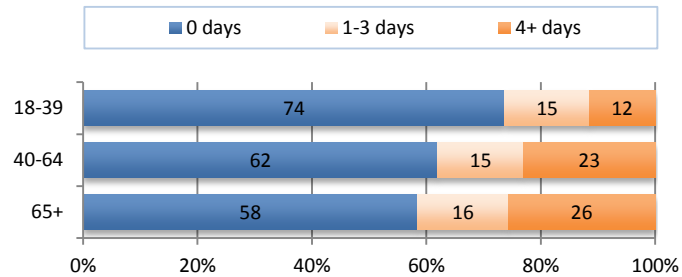
Figure 2.1.2.3. Days physically unwell by education



¹⁸Being in a couple in this report refers to both married and unmarried couples, as is reported by the respondent.

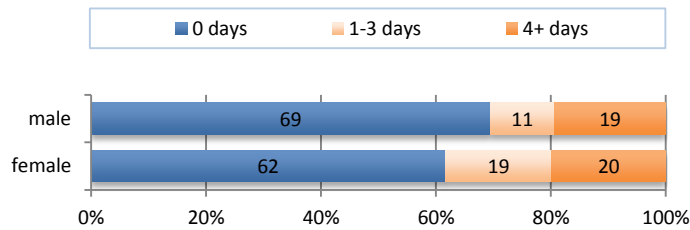
By age group, older persons reported more days being physically unwell.

Figure 2.1.2.4. Days physically unwell by age



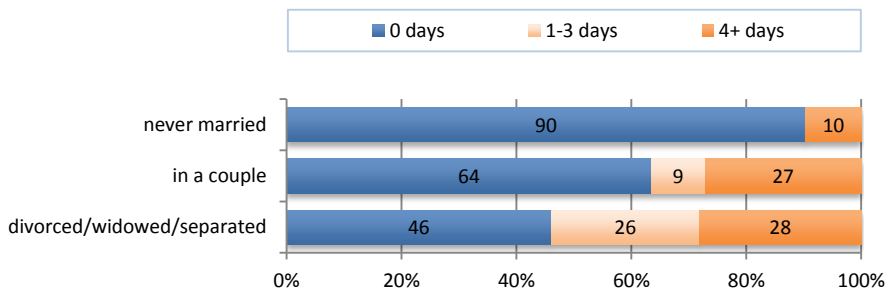
Men were more likely to report being well every day.

Figure 2.1.2.5. Days physically unwell by gender



Among seniors, those who had never married reported the least days being unwell.

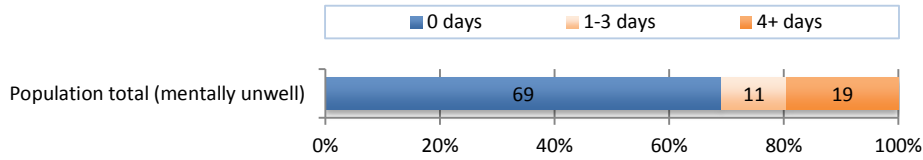
Figure 2.1.2.6. Days physically unwell by marital status (seniors)



2.1.3 A majority of adults had been mentally well all of the previous thirty days. One in five adults reported having been mentally unwell for more than three days in the past thirty days. This varied by the household income, education, age group and race but not other demographic characteristics.

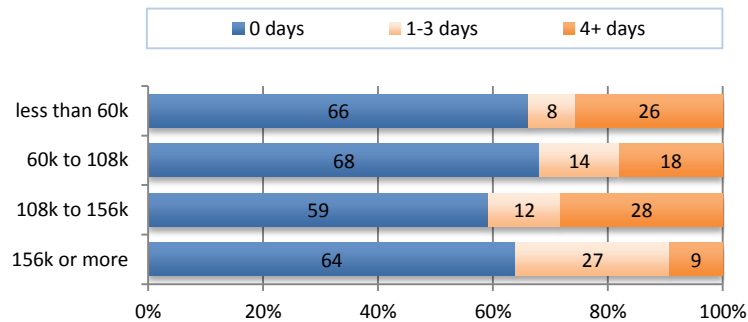
When asked about the number of days they had been mentally unwell in the previous thirty days, 69% of adults reported being well every day. Overall, 19% of adults reported being unwell for over three days.

Figure 2.1.3.1. Population total of days mentally unwell



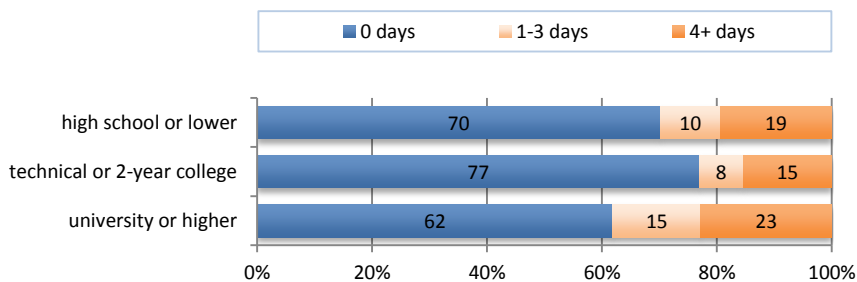
Persons of the highest household income were least likely to report over three days of being mentally unwell. This is the lowest among all income groups. However, 64% of the highest income group reported being mentally well every day, and this is slightly less than those in the lowest two income groups.

Figure 2.1.3.2. Days mentally unwell by income



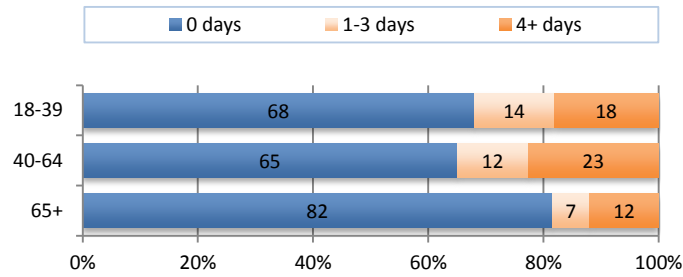
Persons with university or higher education were more likely to report at least one day of being mentally unwell. Persons with technical or 2-year college education reported better levels of mental wellness.

Figure 2.1.3.3. Days mentally unwell by education



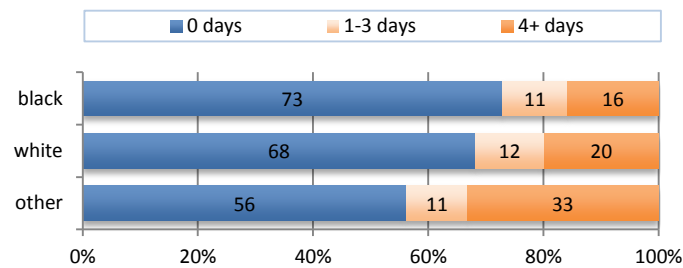
Seniors reported less days of being mentally unwell than other age groups.

Figure 2.1.3.4. Days mentally unwell by age



Those who identify themselves as minorities (“other”)¹⁹ reported more days being mentally unwell than self-identified blacks and whites.

Figure 2.1.3.5. Days mentally unwell by race

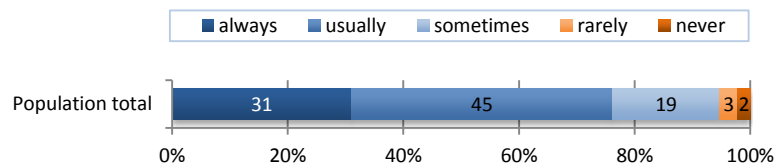


2.2 Emotional Support and Life Satisfaction

2.2.1 One in four adults did not usually receive social and emotional support when they needed it. This did not vary with the person’s age, race or employment status (of working-age persons).

Adults were asked whether they received social and emotional support when they needed it. About 31% of adults reported having always received support. Another 45% reported having usually received it. About 5% of adults reported that they rarely or never received it.

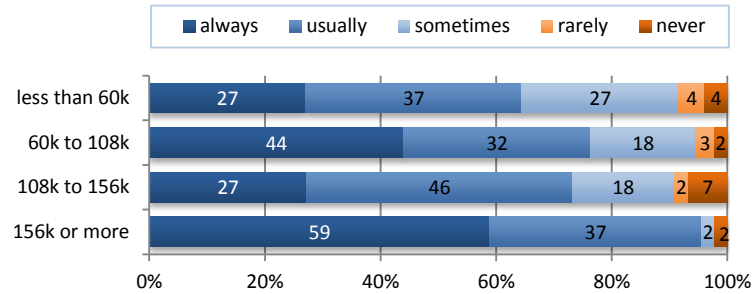
Figure 2.2.1.1. Population total for social/emotional support



¹⁹See Technical Note 4.5 of this report.

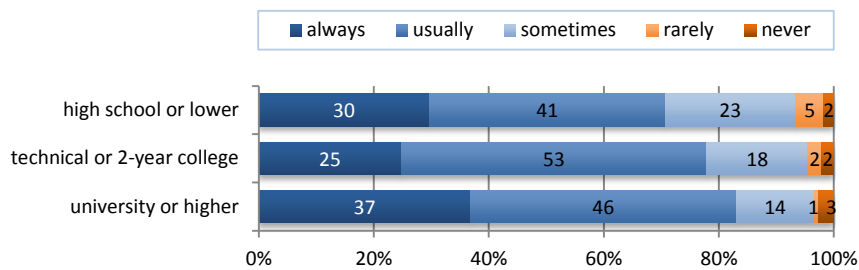
Those with the highest household income reported the most adequate social and emotional support, always or usually receiving it when in need.

Figure 2.2.1.2. Social/emotional support by income



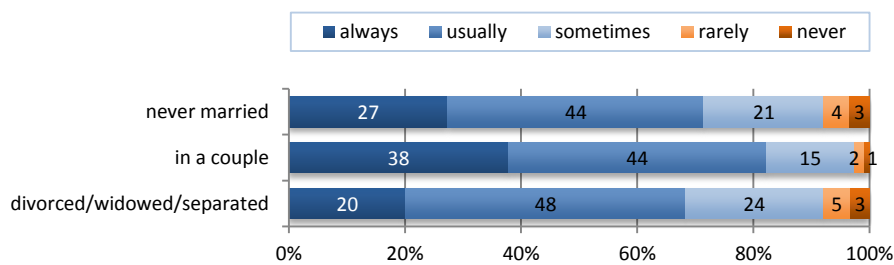
The higher the education level, the more likely the persons always or usually received social and emotional support when in need.

Figure 2.2.1.3. Social/emotional support by education



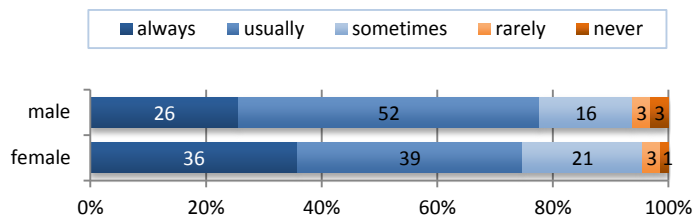
Those in a couple were most likely to report always or usually receiving social and emotional support; those divorced, widowed or separated were least likely to do so.

Figure 2.2.1.4. Social/emotional support by marital status



More women than men always received social and emotional support when in need.

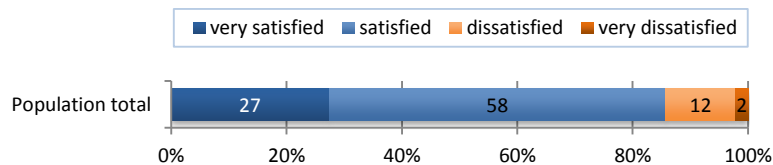
Figure 2.2.1.5. Social/emotional support by gender



2.2.2 More than four in five adults were satisfied or very satisfied with life. This did not vary with the person’s age or race.

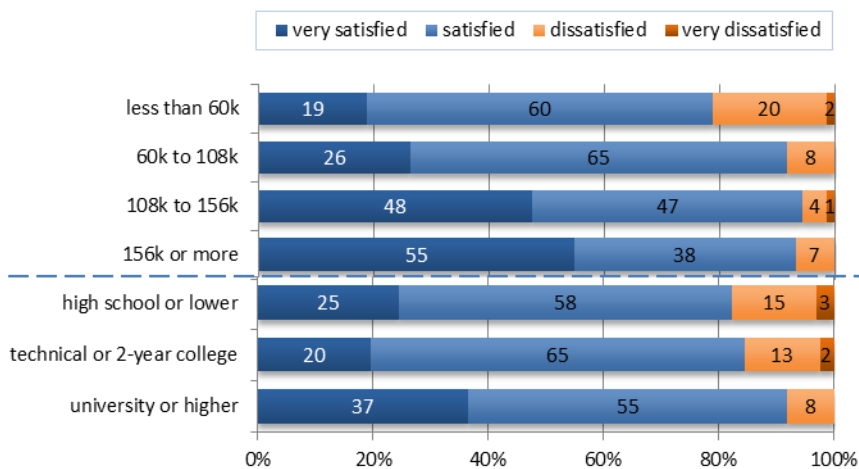
Adults were asked how satisfied they were about their lives. About 27% of adults reported being very satisfied; another 58% reported being satisfied. About 14% of adults reported being dissatisfied or very dissatisfied.

Figure 2.2.2.1. Population total for life satisfaction



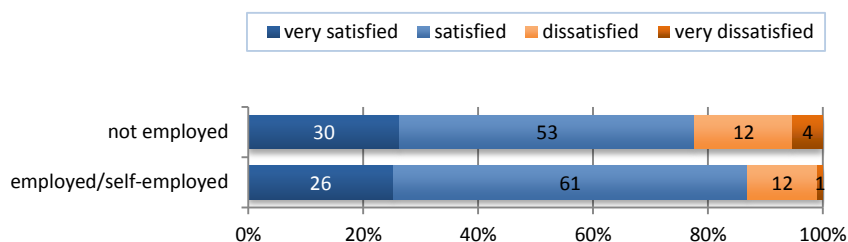
Satisfaction with life increased with household income; and education had a similar, but less pronounced association with life satisfaction.

Figure 2.2.2.2. Life satisfaction by income and education



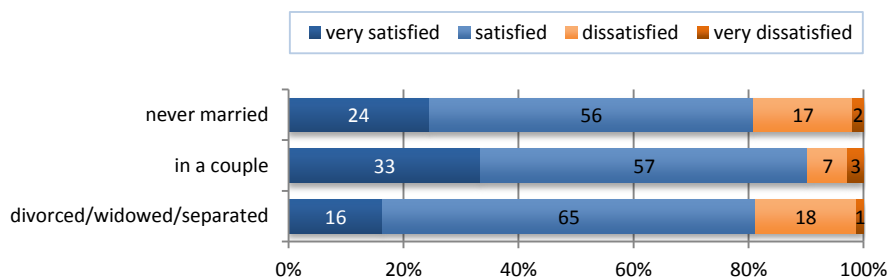
Employed persons of working age were more likely to be satisfied or very satisfied with life than their non-employed peers.

Figure 2.2.2.3. Life satisfaction by employment status (working age)



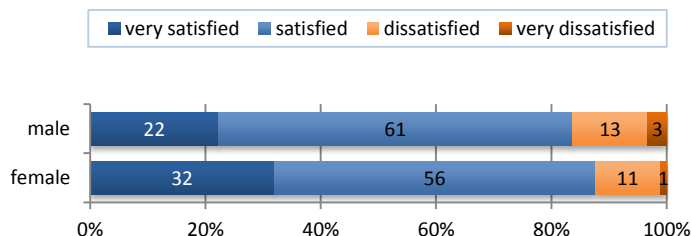
Those in a couple were most likely to be satisfied or very satisfied with life.

Figure 2.2.2.4. Life satisfaction by marital status



Women were more satisfied with life than men.

Figure 2.2.2.5. Life satisfaction by gender



2.3 Presence of Hypertension and High Cholesterol

2.3.1 One in three adults said they had been diagnosed with high blood pressure; the number is similar for high cholesterol. Income, education and age affected the incidence of both high blood pressure and high cholesterol; race also affected the incidence of high blood pressure.

Adults were asked whether they had ever received a diagnosis of high blood pressure (hypertension) and high cholesterol²⁰. Overall, one third of adults reported each of such diagnosis.

²⁰Women who only received the diagnosis of hypertension during pregnancy are excluded.

Figure 2.3.1.1. Population total for high blood pressure

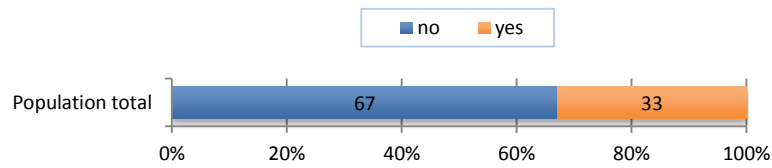
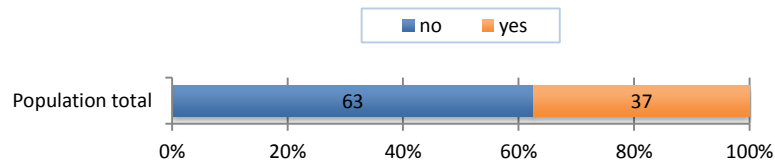
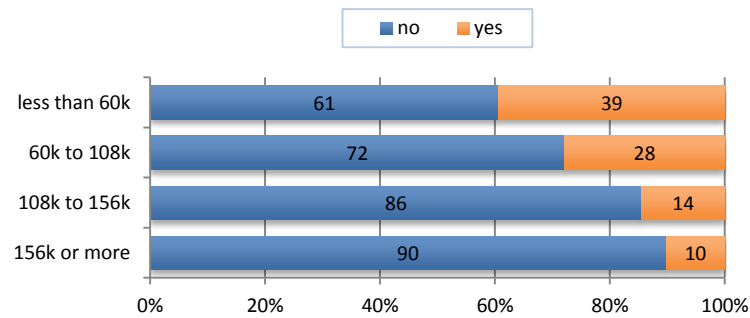


Figure 2.3.1.2. Population total for high blood cholesterol



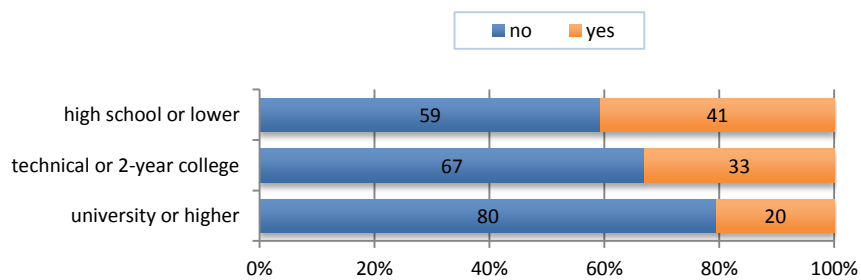
Higher income adults were less likely to have been diagnosed with high blood pressure.

Figure 2.3.1.3. High blood pressure by income



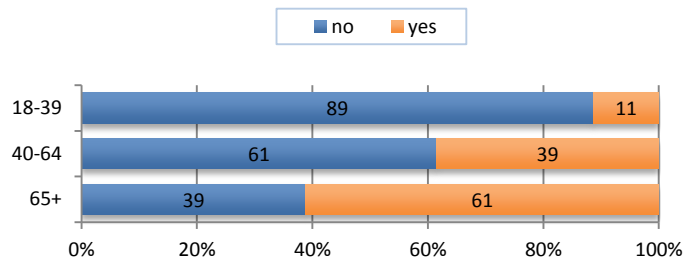
Persons with a higher level of education were less likely to have been diagnosed with high blood pressure.

Figure 2.3.1.4. High blood pressure by education



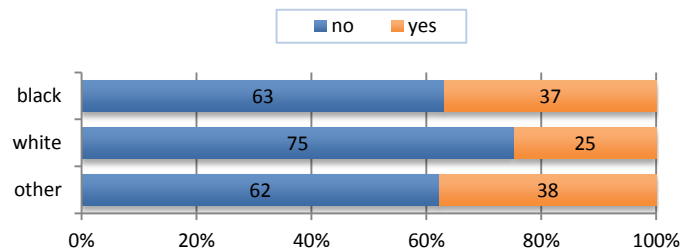
Older persons were more likely to have been diagnosed with high blood pressure.

Figure 2.3.1.5. High blood pressure by age



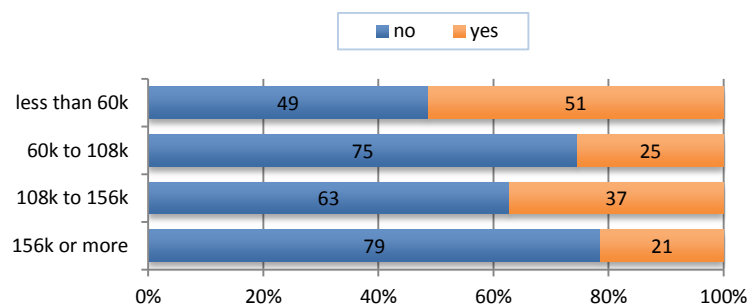
Blacks and “other” race (minorities) were more likely to report being diagnosed with high blood pressure.

Figure 2.3.1.6. High blood pressure by race



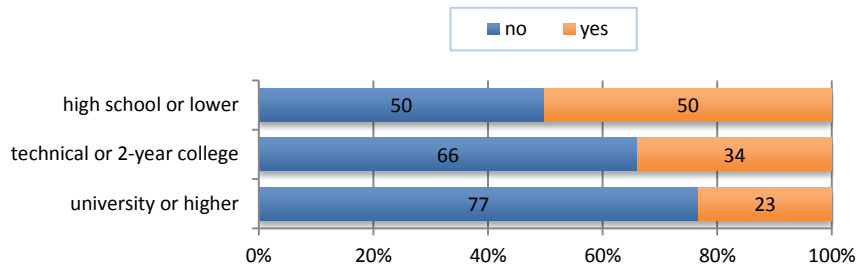
Adults with the highest incomes were least likely to have been diagnosed with high blood cholesterol; those of lowest income were most likely to have been diagnosed with high blood cholesterol.

Figure 2.3.1.7. High blood cholesterol by income



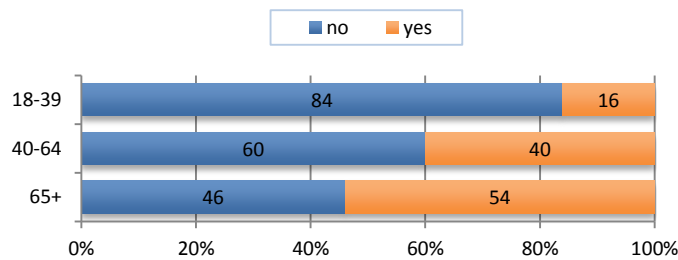
Persons with a higher level of education were less likely to have been diagnosed with high blood cholesterol.

Figure 2.3.1.8. High blood cholesterol by education



Older persons were more likely to have been diagnosed with high blood cholesterol.

Figure 2.3.1.9. High blood cholesterol by age

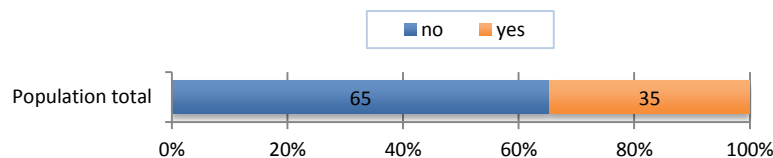


2.4 Chronic Health Conditions

2.4.1 Just over one in three adults said they had been diagnosed with a chronic health condition other than hypertension and high cholesterol. Income (among women), education and age affected the report of chronic health conditions but other demographic characteristics of the respondent did not.

Adults were asked whether they had ever received the diagnosis of a list of chronic conditions or acute events that are indicative of chronic conditions²¹. About 35% of adults reported diagnosis²² of at least one such condition.

Figure 2.4.1.1. Population total for chronic health conditions

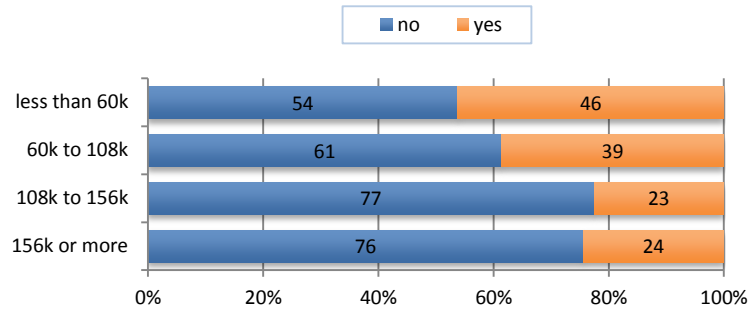


²¹Here we exclude hypertension and high cholesterol, which are reported separately in Section 2.3. The chronic conditions specifically asked about were: Myocardial infarction (heart attack), angina, coronary heart disease, asthma, depressive disorder, diabetes, stroke, kidney disease (excluding kidney stones, bladder infection or incontinence).

²² If in addition to the chronic conditions listed above we also include hypertension and high cholesterol, 50% of adults have been diagnosed with at least one chronic condition.

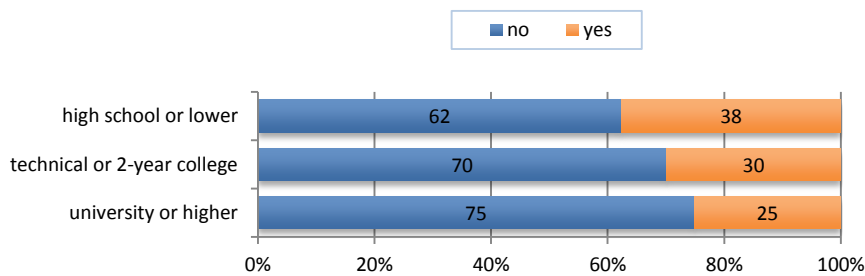
Among women, those of higher income were less likely to have been diagnosed with a chronic health condition.

Figure 2.4.1.2. Chronic health conditions by income among women



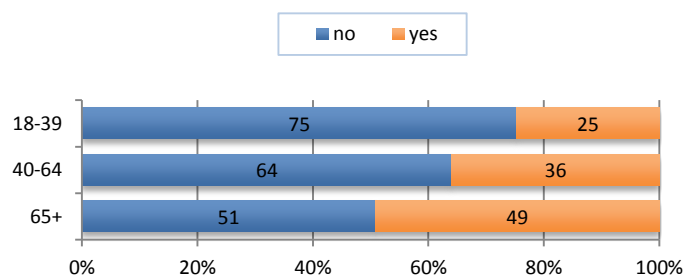
Persons with a higher level of education were less likely to have been diagnosed with a chronic health condition.

Figure 2.4.1.3. Chronic health conditions by education



Older persons were more likely to have been diagnosed with a chronic health condition.

Figure 2.4.1.4. Chronic health conditions by age

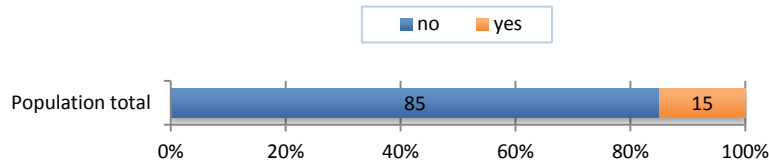


2.5 Disability

2.5.1 About 15% of adults suffered from some form of disability that limits them in certain activities. Income, education, age and employment status (among working age adults) affected disability but other demographic characteristics did not.

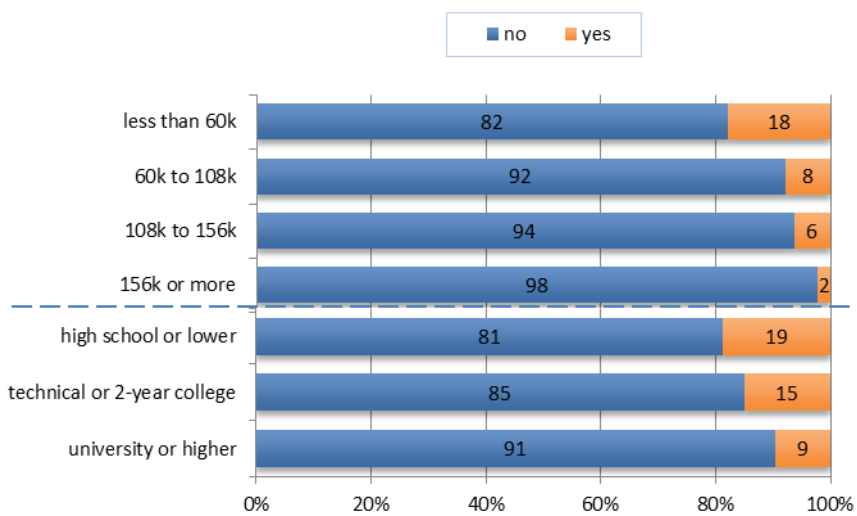
Adults were asked whether they were limited in any way in any activities because of physical, mental or emotional problems. About 15% of adults said yes.

Figure 2.5.1.1. Population total for disability



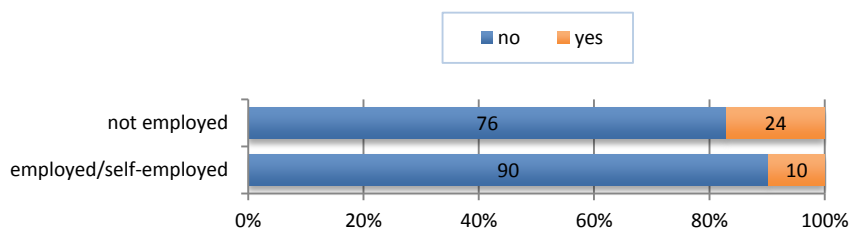
Persons of lower income and education were more likely to report a disability.

Figure 2.5.1.2. Disability by income and education



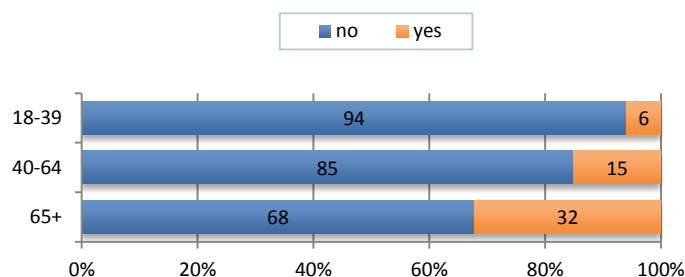
Among working-age adults, employed persons were less likely to report disability than non-employed persons.

Figure 2.5.1.3. Disability by employment status (working age)



Older persons were more likely to report disability.

Figure 2.5.1.4. Disability by age

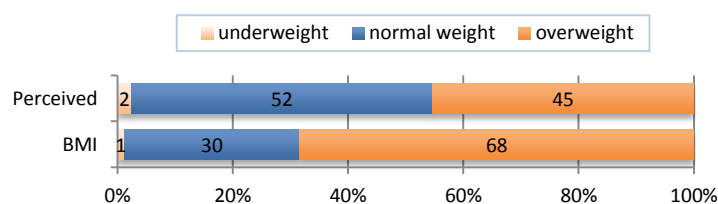


2.6 Obesity

2.6.1 Overall, 68% of adults in Bermuda were overweight or obese. Being overweight was affected by income, education, age and employment status (among working age adults) but not other demographic characteristics.

Adults in Bermuda were asked whether they perceived themselves as underweight, normal or overweight. Separately, they were also asked their height and weight, from which the Body Mass Index (BMI) was calculated. While the general BMI guideline distinguishes between “overweight” and “obese”, here for comparison with self-reported weight category, the BMI category of “overweight” includes both “overweight” and “obese” categories in the guideline²³. BMI is the most accessible and widely accepted measure of obesity for population studies, although its limitations for individual clinical assessments are well understood. About 52% of adults reported that they were of normal weight and 45% reported they were overweight. The calculated BMI indicates that 30% of the adults were of normal weight and 68% were overweight. This means some respondents perceived their weight as normal despite that they were overweight according to BMI.

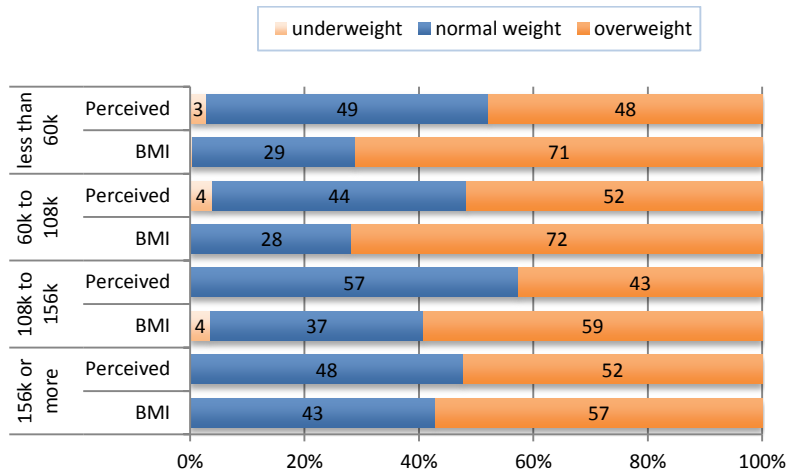
Figure 2.6.1.1. Population total for weight



Of the four income categories, the two lower-income groups were more likely to be overweight than the two higher-income groups. In each group, the number of people overweight by BMI is higher than the number perceived by people themselves, and the disparity between perception and BMI increased as income decreased.

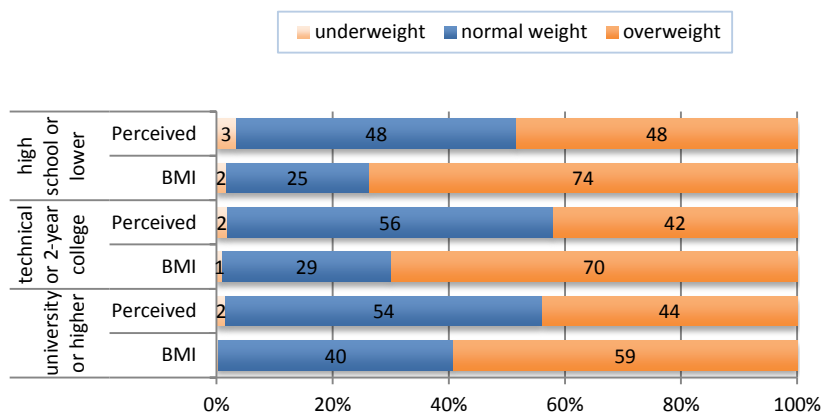
²³ Here we use the following BMI guideline: BMI less than 18.5 is underweight, BMI 18.5 to 24.9 is normal weight, BMI 25 or over is overweight.

Figure 2.6.1.2. Weight by income



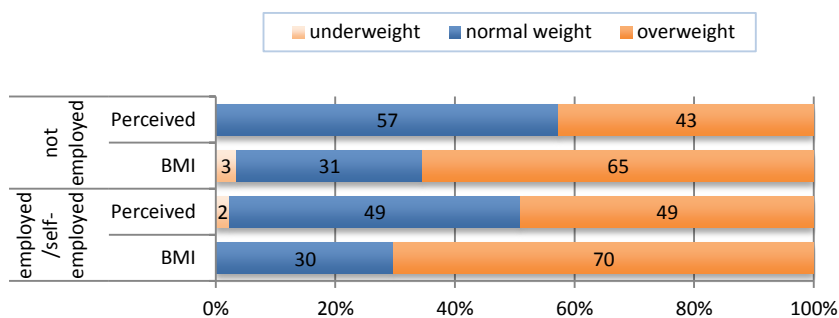
Perceived weight did not vary greatly with educational attainment, but people with university or higher education were least likely to be overweight, as measured by BMI.

Figure 2.6.1.3. Weight by education



Among working-age persons, those employed were more likely to be overweight than those non-employed²⁴.

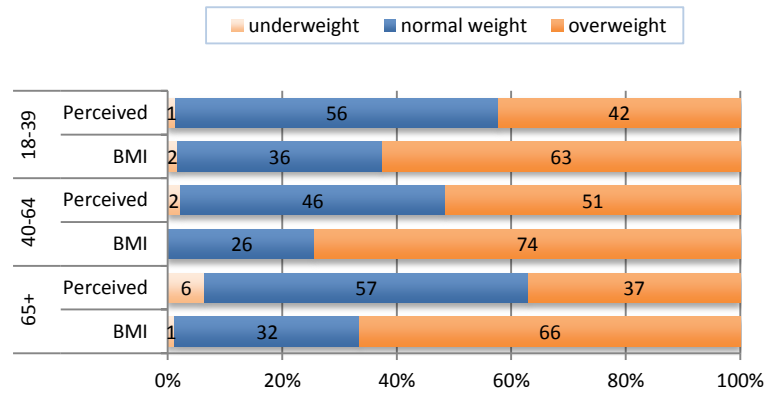
Figure 2.6.1.4. Weight by employment status (working age)



²⁴ See Technical Note 4.4 of this report for the definition of “non-employed”.

The middle age group (aged 40 to 64) was most likely to be overweight, compared with younger adults and seniors. Among seniors, 6% perceived themselves as underweight, but according to the BMI, only 1% were underweight.

Figure 2.6.1.5. Weight by age



3 ACCESS AND UTILIZATION OF HEALTHCARE

This section of the report focuses on access to and utilization of healthcare services, and analyses patterns for the different demographic groups. The indicators investigated in this section focused on access to and use of:

- Personal doctor and routine check-ups
- Consultation with general practitioner (GP), medical specialist and utilization of overseas care
- Local hospitals (emergency room, inpatient and outpatient at KEMH and MWI)
- Government clinics
- Nursing care at home
- Dental care
- Mammogram and pap test for women
- PSA test and digital rectal exam for men
- Flu shot

Age is the demographic characteristic most closely related to healthcare access and utilization. Seniors were most likely to have a personal doctor, to have received a routine check-up, visited GPs, specialists, the local King Edward Memorial Hospital (KEMH), sought overseas treatment, received nurse visits and had a seasonal flu shot. This is likely because health naturally declines with age, so older persons often need more healthcare service.

Women reported more recent routine check-ups than men; they were also more likely to have visited GPs, specialists and dentists in the previous year.

Relative to their non-employed peers, employed persons of working age²⁵ were more likely to have had a recent routine check-up, and they were less likely to have visited the emergency room and a government clinic. Since employed persons in Bermuda are legally mandated to have health insurance, it is likely that non-employed persons visit the emergency room and government clinics because they lack health insurance. In fact, persons with no health insurance coverage were more likely to visit government clinics and less likely to visit GPs, medical specialists or seek overseas care.

The data on income in the Adult Health Survey 2011 is to be treated with caution because 46% of respondents did not report their income, and the survey was based on telephone (landline and cell phone) interviews, so people without phones (e.g. the homeless) were excluded from the sample, which creates an underrepresentation of the poorest residents. Consequently, income itself was not found to be associated with most aspects of utilization, although differences were observed by education and health insurance. Income is linked to access to dentists, and poorer persons were less likely to have visited a dentist in the previous year. Lower education is linked to less use of specialists, more use of government clinics, less recent Pap tests for women and less reported digital rectal exam for men.

Race plays a limited role in inequality of healthcare access and utilization. Blacks were the most likely to have used the emergency room; minorities (mixed or other races) were the least likely to

²⁵ In the context of the data available to this report, this is defined as persons aged between 18 and 64, inclusive.

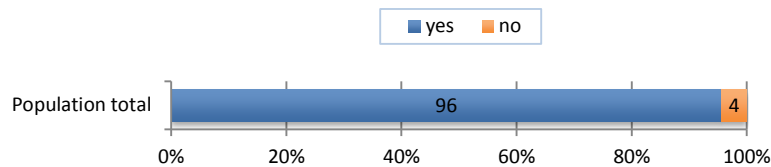
have had a seasonal flu shot, and women among them were the least likely to have had recent mammograms.

3.1 Personal Doctor and Routine Check-ups

3.1.1 Most adults in Bermuda had a personal doctor at the time of the survey. Whether a person had a personal doctor varied with age.

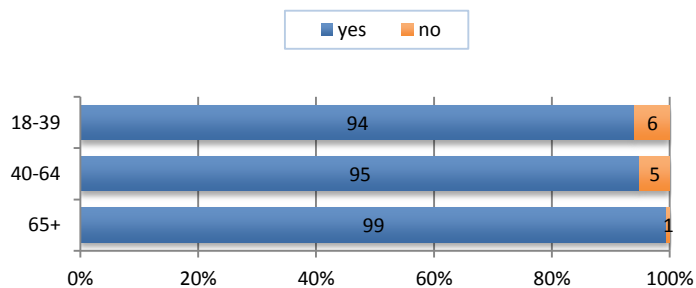
About 96% of adults in Bermuda reported having a personal doctor. With the exception of age, demographic characteristics of the person (income, education, gender, race, job status or marital status) did not affect whether a person had a personal doctor.

Figure 3.1.1.1. Population total for having personal doctor



Seniors were most likely to have a personal doctor, with only 1% of seniors saying they did not have one.

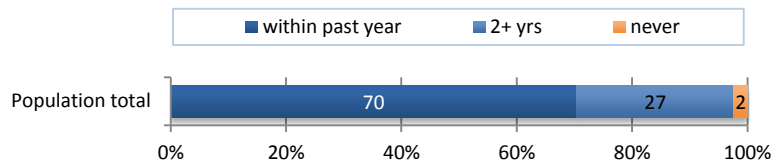
Figure 3.1.1.2. Personal doctor by age



3.1.2 The vast majority of adults had a routine check-up in the previous year or in the previous two years. The timing of the last routine check-up varied by age group, gender and job status.

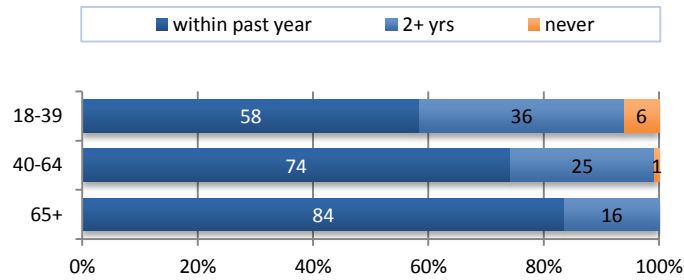
Adults in Bermuda were asked when they had their last routine check-ups (i.e. general physical exams). About 70% of adults reported having had a routine check-up in the past year; another 27% of adults reported having had a routine check-up in the past two years. With the exception of age, gender and job status, the other demographic characteristics of the person (income, education, race or marital status) did not affect the timing of a person’s last routine check-up.

Figure 3.1.2.1. Population total for routine check-up



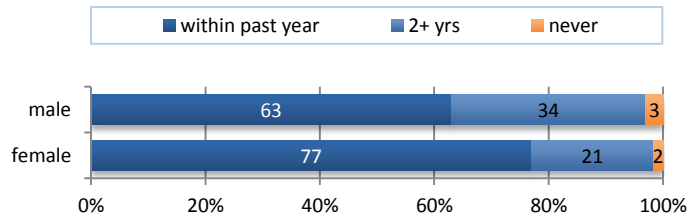
Older adults reported having routine check-ups more recently.

Figure 3.1.2.2. Last routine check-up by age



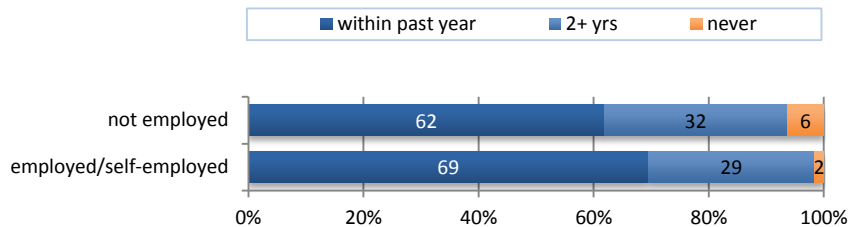
Women reported having routine check-ups more recently than men.

Figure 3.1.2.3. Last routine check-up by gender



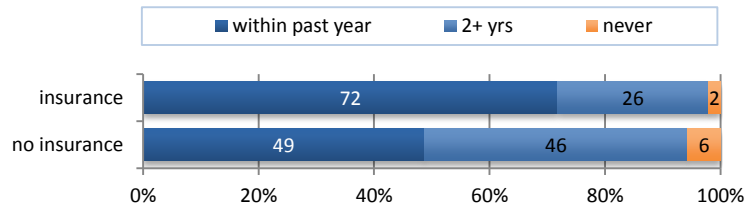
Employed persons of working age reported having routine check-ups more recently than their non-employed peers.

Figure 3.1.2.4. Last routine check-up by employment (working age)



Persons with no health insurance coverage were less likely to have received a routine check-up within the previous year.

Figure 3.1.2.5. Last routine check-up by insurance coverage

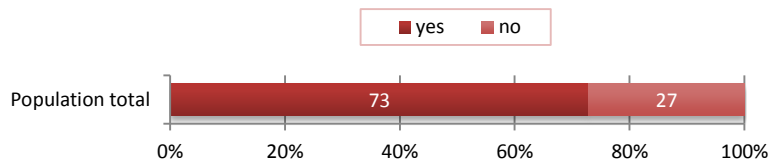


3.2 Utilization of GPs, Medical Specialists and Overseas Care

3.2.1 The majority of adults in Bermuda had consulted a GP during the year before the survey. GP consultation varied by age, gender and, for seniors, by marital status; but not by other demographic characteristics.

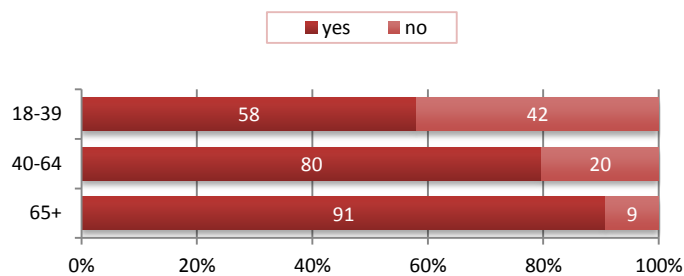
Adults were asked about their GP consultation in the previous year. About 73% of adults reported having consulted a GP in the previous year.

Figure 3.2.1.1. Population total for utilization of GP in past year



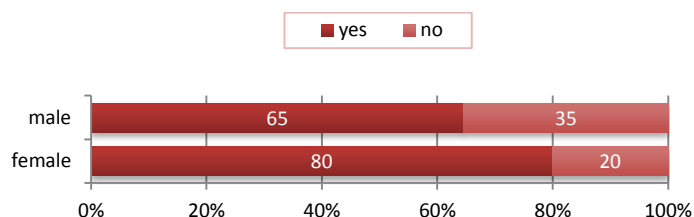
Older persons were more likely to have consulted a GP in the past year.

Figure 3.2.1.2. Utilization of GP in past year by age



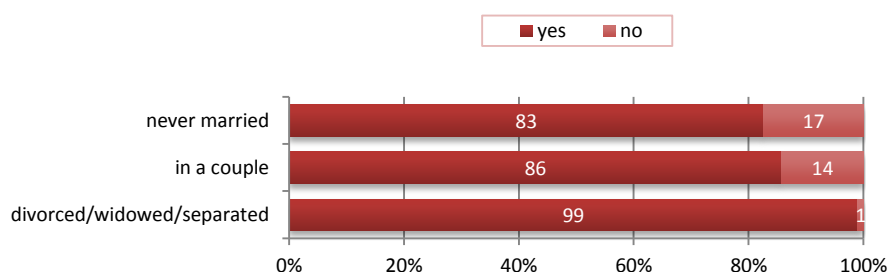
Women were more likely to have consulted a GP than men.

Figure 3.2.1.3. Utilization of GP in past year by gender



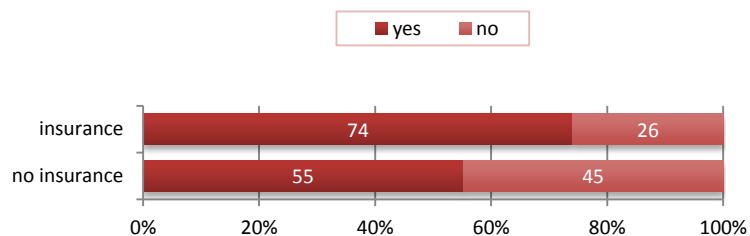
Among seniors, those who were divorced, widowed or separated were most likely to have consulted a GP, more than seniors who were coupled or had never married.

Figure 3.2.1.4. Utilization of GP in past year by marital status (seniors)



Persons with no health insurance coverage were less likely to visit GPs.

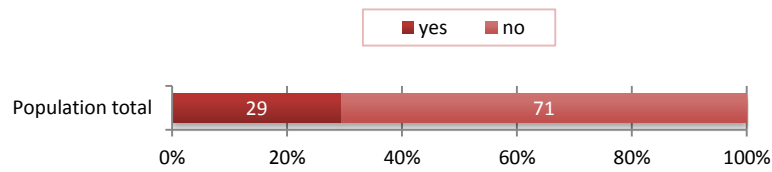
Figure 3.2.1.5. Utilization of GP in past year by insurance coverage



3.2.2 Nearly a third of adults had consulted a medical specialist during the previous year. Specialist consultation varied by age, gender and education.

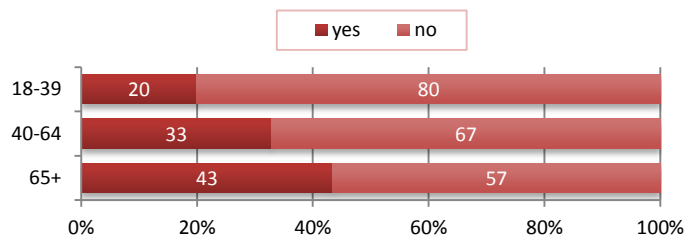
Adults were asked whether they had a consultation with medical specialists in the previous year. Overall, 29% of adults had done so. Results varied with age, gender and education, but not with the other demographic characteristics (income, job status, race or marital status among seniors).

Figure 3.2.2.1. Population total for consulting medical specialist in past year



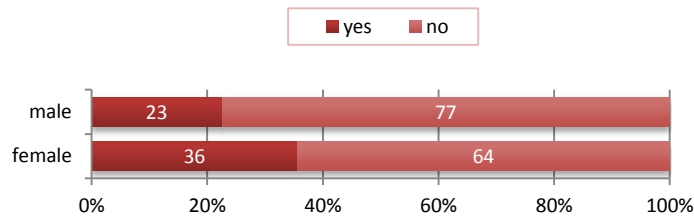
Older persons were more likely to have consulted a specialist in the past year, but 20% of adults in the youngest age group also did so.

Figure 3.2.2.2. Consulted medical specialist in past year by age



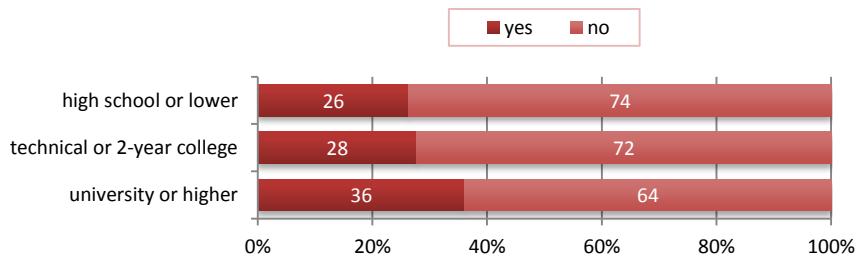
Women were more likely to have consulted a specialist (including an obstetrician or gynaecologist) in the previous year than men.

Figure 3.2.2.3. Consulted medical specialist in past year by gender



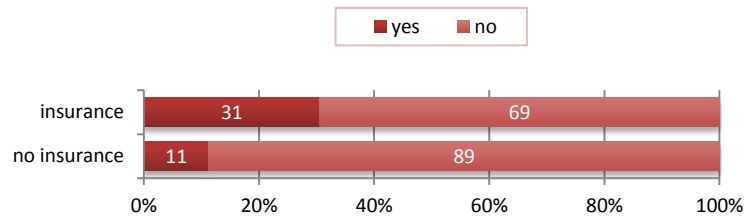
Persons with university or higher education were more likely to have consulted a medical specialist than persons with less education. This is not driven by the underlying effect of age, because seniors were slightly less likely to have obtained university or higher education. This could be related to gender, however, as those with university or higher education were more likely to be women than men (61% vs 39%).

Figure 3.2.2.4. Consulted medical specialist in past year by education



Persons with no health insurance were less likely to consult a medical specialist.

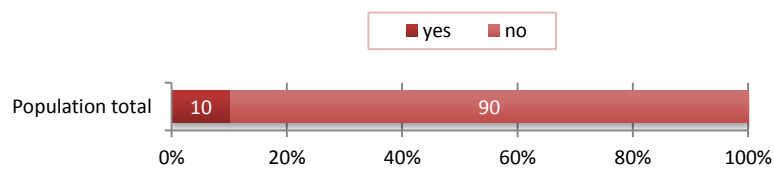
Figure 3.2.2.5. Consulted medical specialist in past year by insurance coverage



3.2.3 One in ten adults travelled overseas for medical services in the previous year. Older persons were more likely to do so.

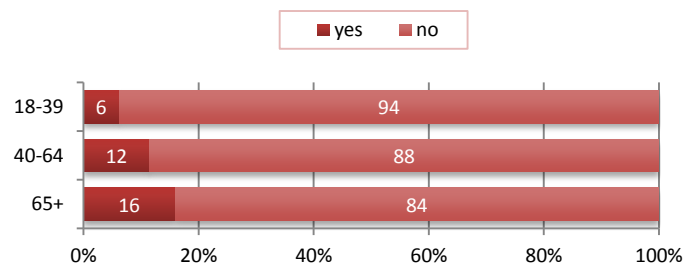
About 10% of adults surveyed reported having travelled overseas for medical treatment or services in the past year. With the exception of age and insurance coverage, other demographic characteristics (income, education, job status, marital status, gender and race) did not have an effect, indicating that the strongest determinants to accessing overseas care are health status (which decreases with age) and insurance coverage.

Figure 3.2.3.1. Population total for overseas medical care in past year



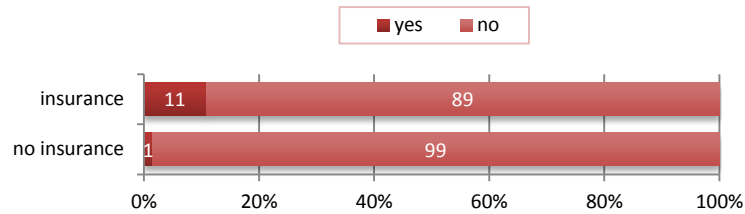
Older persons were more likely to travel overseas for medical services.

Figure 3.2.3.2. Overseas medical care in past year by age



Persons with no health insurance coverage were less likely to travel overseas for medical services.

Figure 3.2.3.3. Overseas medical care in past year by insurance coverage

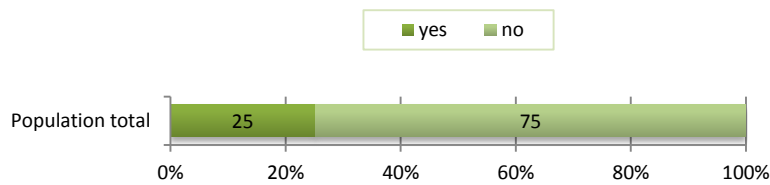


3.3 Visits to Local Hospitals

3.3.1 One in four adults visited the emergency room at King Edward Memorial Hospital (KEMH) in the previous year. This varied by employment status and race.

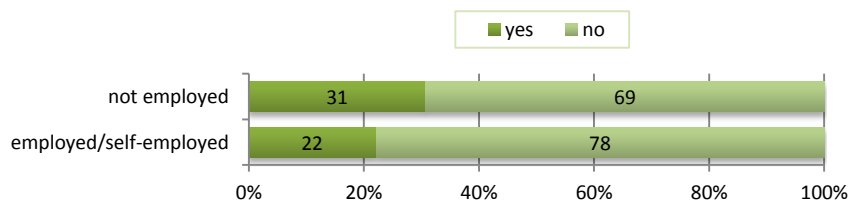
About 25% of adults in Bermuda reported visiting the emergency room at KEMH in the past year. This did not vary by income, education, marital status (among seniors), age or gender.

Figure 3.3.1.1. Population total for KEMH emergency visit in past year



For the population as a whole, non-employed persons were more likely than employed persons to have visited the emergency room at KEMH during the previous year. However, this effect was not observed specifically in the working-age population²⁶, whose access to ER did not vary by employment status.

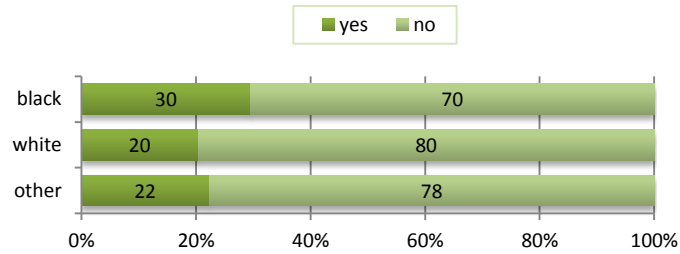
Figure 3.3.1.2. KEMH emergency visit in past year by employment status



²⁶ Those aged 18-64, inclusive.

Blacks were more likely to report having visited the emergency room than whites and minorities.

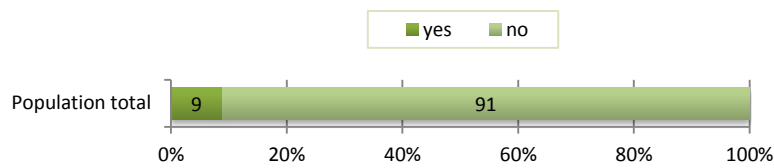
Figure 3.3.1.3. KEMH emergency visit in past year by race



3.3.2 Nearly one in ten adults had been an inpatient at KEMH during the previous year.

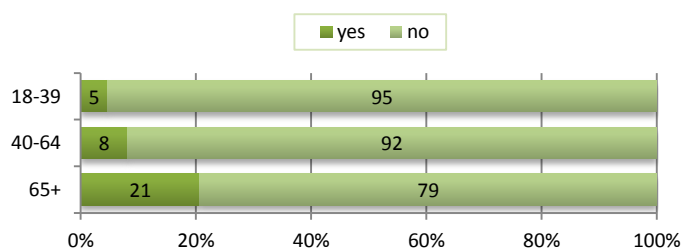
About 9% of adults reported being an inpatient²⁷ at KEMH during the previous year. Age was the only demographic characteristic associated with being an inpatient.

Figure 3.3.2.1. Population total for KEMH inpatient visit in past year



Seniors were more likely to have been inpatients at KEMH during the previous year than other age groups.

Figure 3.3.2.2. KEMH inpatient visit in past year by age

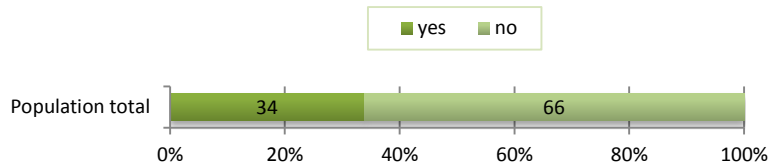


²⁷ "Inpatient" is defined as spending more than 24 hours in a bed at a KEMH ward (e.g. Goslings, Maternity, Perry, Cooper, Gordon, Curtis and ICU).

3.3.3 One in three adults had been outpatients at KEMH during the previous year.

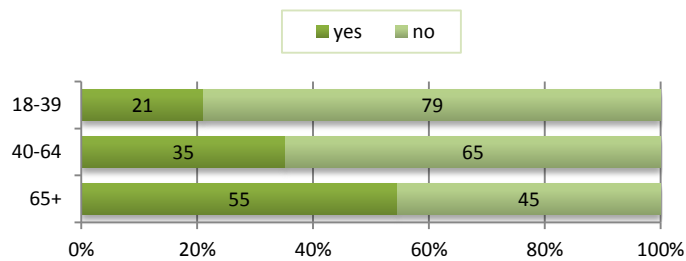
About 34% of adults reported being an outpatient²⁸ at KEMH in the previous year. Again, age was the only demographic characteristic associated with being an outpatient.

Figure 3.3.3.1. Population total for KEMH outpatient visit in past year



Seniors were more likely to have been outpatients at KEMH during the past year.

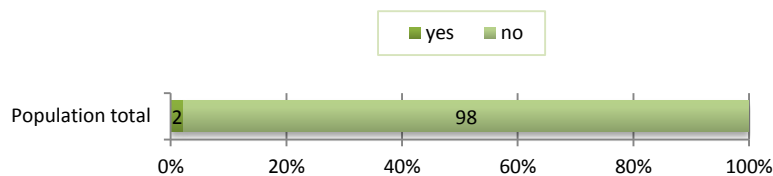
Figure 3.3.3.2. KEMH outpatient visit in past year by age



3.3.4 A small proportion (2%) of households reported having household members who had been inpatients at Mid-Atlantic Wellness Institute (MWI) during the previous year.

Having a household member receive inpatient care at the MWI was not found to vary by any demographic characteristic.

Figure 3.3.4.1. Population total for MWI inpatient visit in past year

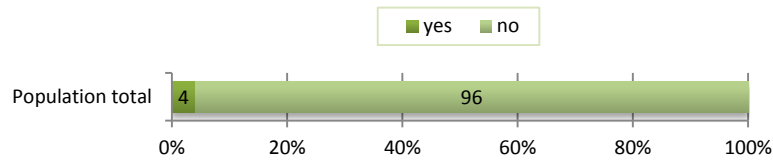


3.3.5 A small proportion (4%) of households reported having household members who had been outpatients at MWI during the previous year.

Having a household member receive outpatient care at the MWI was not found to vary by any demographic characteristic.

²⁸ Here “outpatient” means persons receiving outpatient care from one of the following: Diagnostic Imaging, Chronic Disease Education Program, Lab (Blood Work), Oncology/Chemotherapy, Allied Health Services (PT/OT), Nursing Intervention and Cardiac Diagnostic.

Figure 3.3.5.1. Population total for MWI outpatient visit in past year

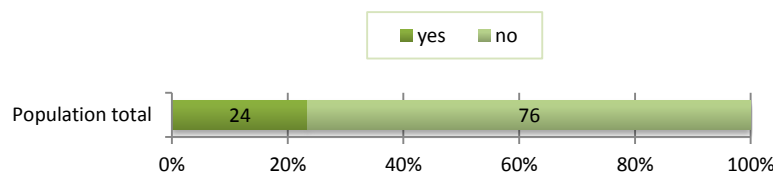


3.4 Visits to Government Clinics

3.4.1 Nearly a quarter of households had household members who had visited a government clinic in the previous year. This varied by employment status, income and education.

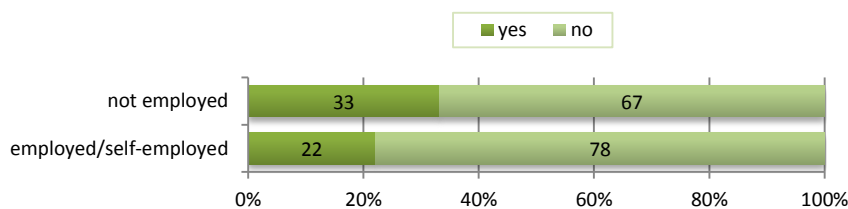
About 24% of households in Bermuda reported that a household member had visited a government clinic²⁹ during the past year. Marital status, age, sex and race were not associated with clinic use.

Figure 3.4.1.1. Population total for visit to government clinic in past year



Non-employed persons of working age were more likely (33%) to have used or have household members who had visited a government clinic during the previous year.

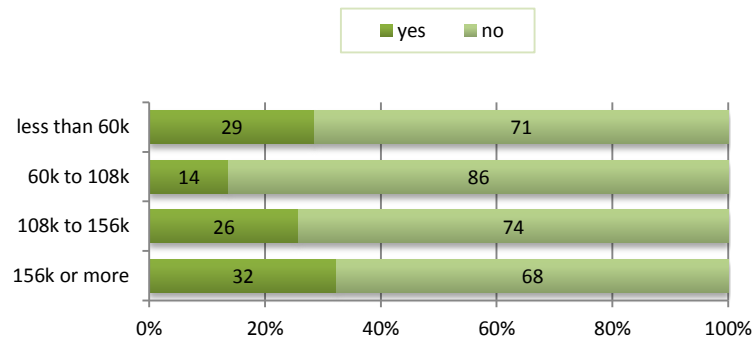
Figure 3.4.1.2. Visit to government clinic in past year by employment status (working age)



Adults with a household income of between \$60,000 to \$108,000 were less likely to have visited a government clinic than adults from households with both lower and higher incomes. This demonstrates a complex relationship between clinic use and income, likely due to the range of clinics available (e.g. communicable disease clinics may be used by a wide cross-section of the population, while the travel clinic may receive higher-income users); and by cultural biases (e.g. stigma of clinic-use for lower-middle classes).

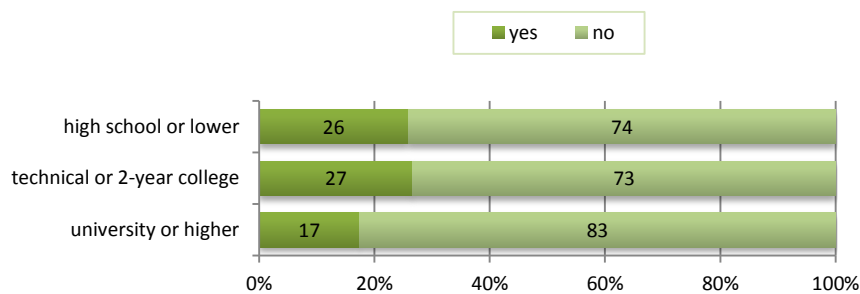
²⁹ Government clinics in Bermuda include Dental Clinic, Travel Clinic, Child Health Services, STD Clinic, Maternal Health and Family Planning Clinic etc.

Figure 3.4.1.3. Visit to government clinic in past year by income



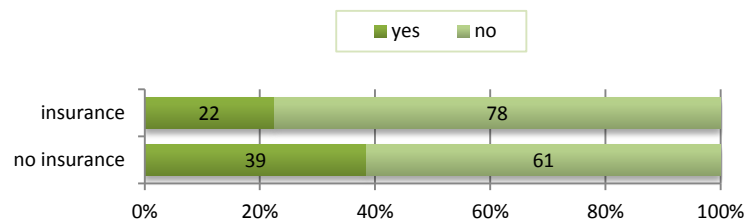
Persons of university or higher education were least likely to have used or have household members who had visited a government clinic.

Figure 3.4.1.4. Visit to government clinic in past year by education



Adults with no health insurance coverage were more likely to have used or have household members who had visited a government clinic.

Figure 3.4.1.5. Visit to government clinic in past year by insurance coverage

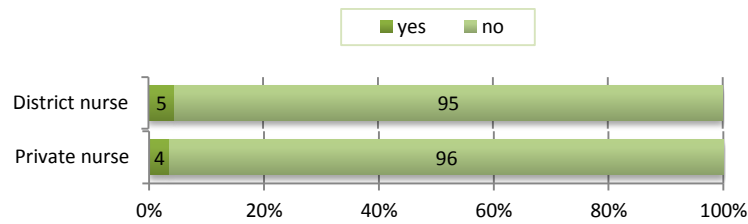


3.5 Nursing Care at Home

3.5.1 A small proportion of households reported having received home visits from district or private nurses or resource aides in the previous year.

About 5% of households in Bermuda reported having received home visits from district nurses during the past year; 4% reported having received home visits from private nurses or resource aides. Age was the only demographic characteristic with which a relationship was observed.

Figure 3.5.1.1. Population total for home visit from nurse in past year



Older respondents were more likely to have had received such visits.

Figure 3.5.1.2. Home visit from district nurse in past year by age

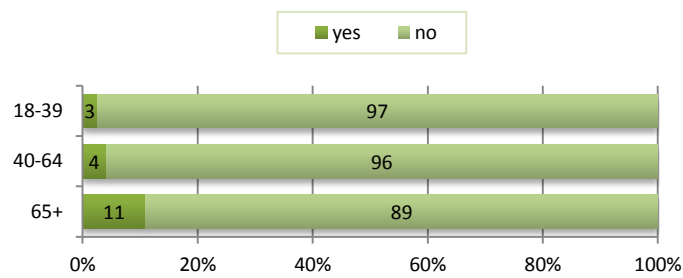
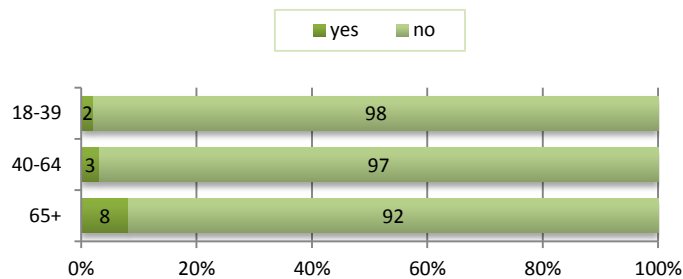


Figure 3.5.1.3. Home visit from private nurse in past year

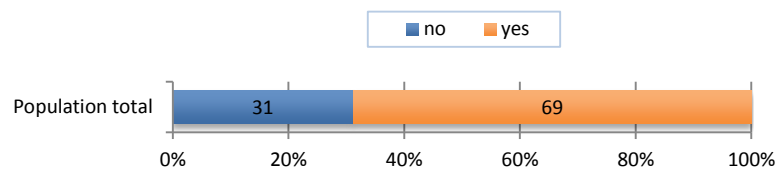


3.6 Dental Care

3.6.1 About a third of adults reported having visited a dentist in the previous year. This varied by gender and income.

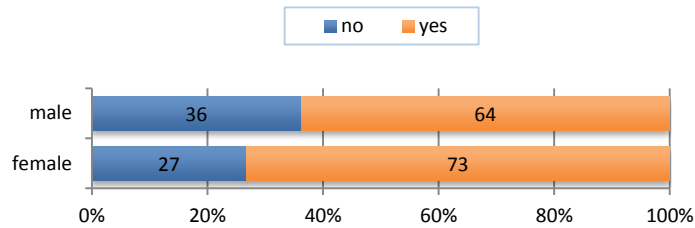
Overall, 31% of adults in Bermuda reported having visited a dentist in the past year. A relationship could be observed between dental care access and gender and income.

Figure 3.6.1.1. Population total for dentist visit in past year



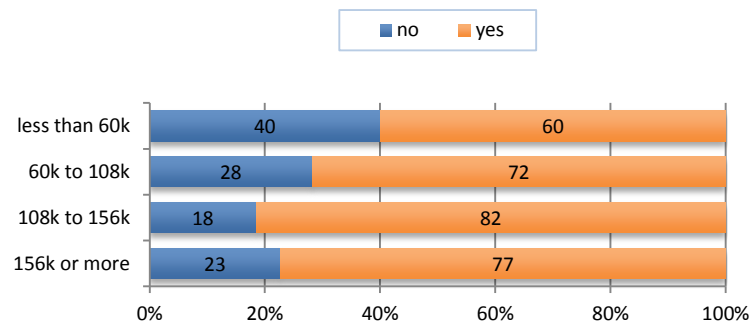
Women were more likely to have visited a dentist than men.

Figure 3.6.1.2. Dentist visit in past year by gender



Persons with the lowest household income were least likely to have visited a dentist in the previous year, reflecting anticipated variations in access with financial means.

Figure 3.6.1.3. Dentist visit in past year by income



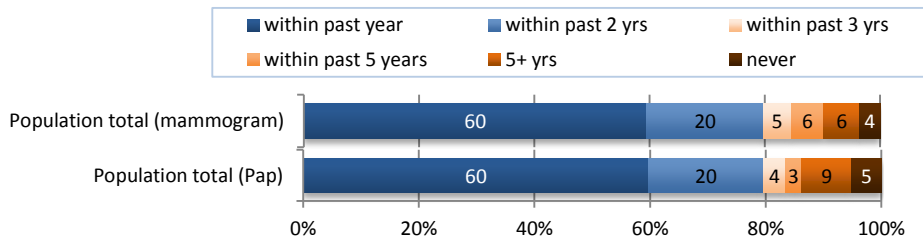
3.7 Mammogram and Pap Test for Women

3.7.1 About 60% of women of the recommended age had mammogram and Pap test in the previous year. Employment status and race affected mammogram screening; age, employment status and education affected Pap test screening.

Here for mammograms we focus on screening exams starting at age 50; for Pap tests we focus on the starting age of 21³⁰.

³⁰See Technical Note 3.3 on the choice of the age of respondents.

Figure 3.7.1.1. Population total for mammogram and Pap test



Employed women were more likely to have had a recent mammogram or Pap test.

Figure 3.7.1.2. Mammogram by employment status

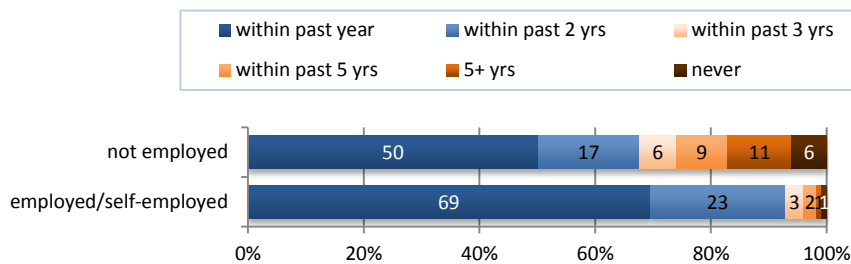
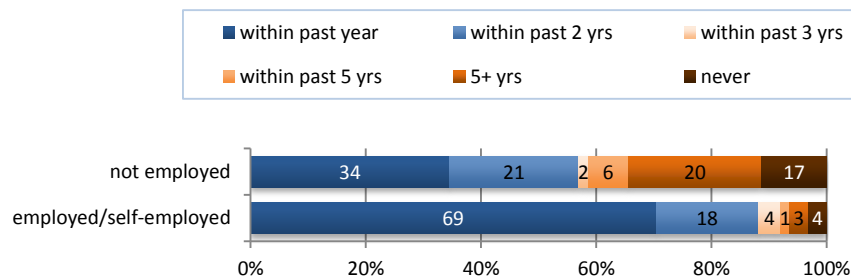
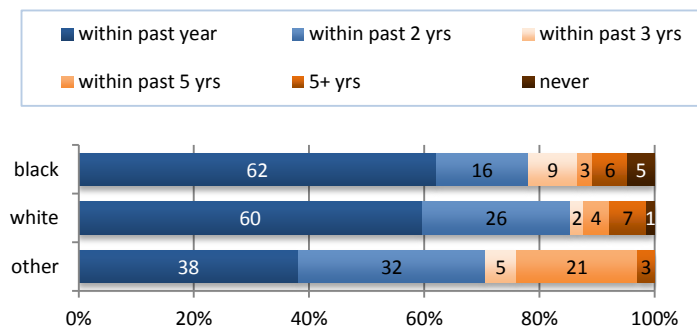


Figure 3.7.1.3. Pap test by employment status



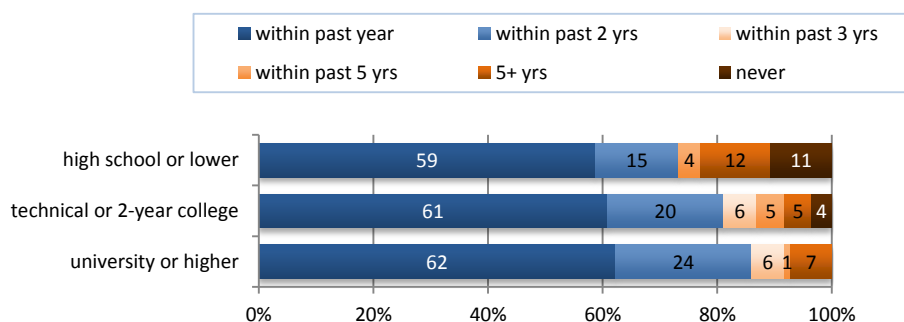
Women in the “other race” category were least likely to have had a recent mammogram. Black women were more likely to have never had a mammogram than other races.

Figure 3.7.1.4. Mammogram by race



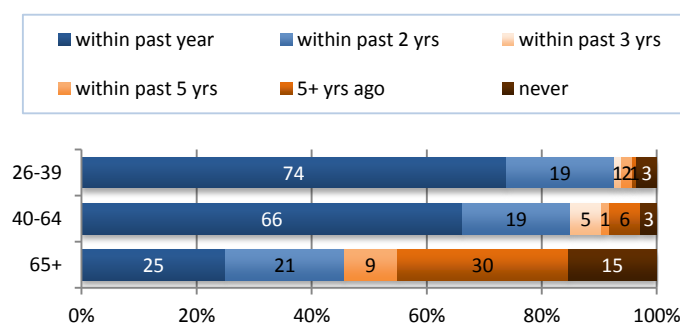
Women with high school or lower education were more likely to never have had a Pap test. The rate of having a Pap test within the past year, however, is similar among women of various education levels, at about 60%.

Figure 3.7.1.5. Pap test by education



Pap test take-up was most common among younger women. The aforementioned 2012 guideline recommends Pap test screening beyond age 65 only for women with certain risk factors.

Figure 3.7.1.6. Pap test by age



3.8 PSA test and Digital Rectal Exam for Men

3.8.1 A slight majority of men of recommended age reported having had prostate screening within the past year. No demographic characteristic affected report of PSA test. Aside from education, report about digital rectal exam was not affected by other demographic characteristics.

Here we focus on prostate screenings starting at age 50³¹. Approximately one in five men 55 years old or above had never had a prostate-specific antigen (PSA) test or digital rectal exam (DRE).

³¹For choice of respondents' age see Technical Note 3.3.

Figure 3.8.1.1. Population total for PSA test

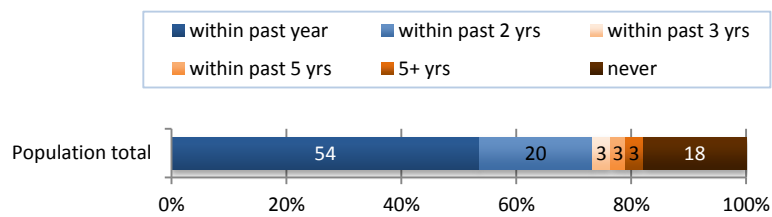
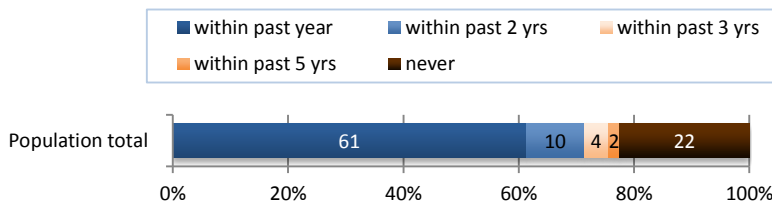
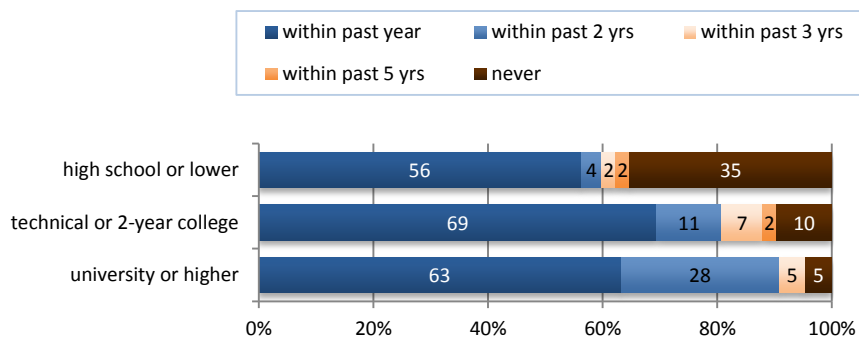


Figure 3.8.1.2. Population total for digital rectal exam



Men of high school or lower education were least likely to report having had a DRE.

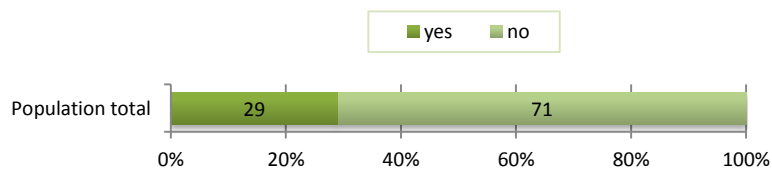
Figure 3.8.1.3. Digital rectal exam by education



3.9 Flu Shot

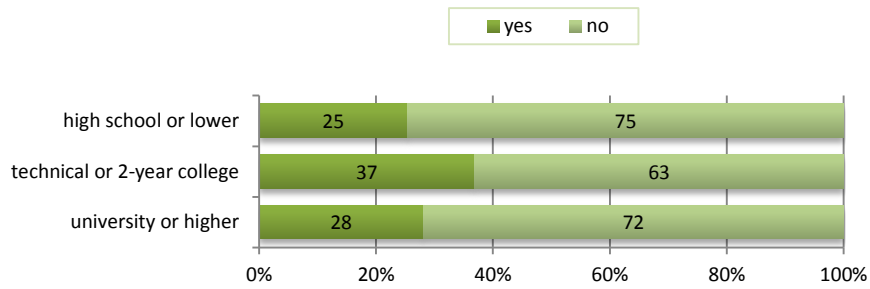
3.9.1 Nearly a third of people had a seasonal flu shot during the previous year. This differed by age group, race and education level.

Figure 3.9.1.1. Population total for flu shot within past year



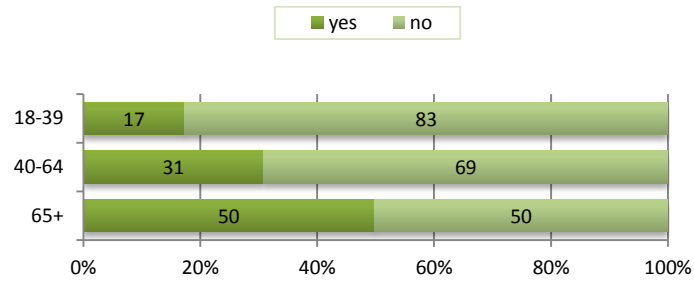
Persons with technical or 2-year college education were the more likely to have a seasonal flu shot during the previous year than adults with lower or higher education.

Figure 3.9.1.2. Flu shot within past year by education



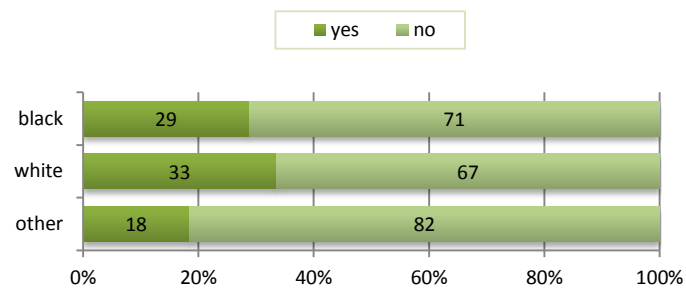
Older persons were more likely to have a seasonal flu shot during the previous year.

Figure 3.9.1.2. Flu shot within past year by age



Regarding race, those of “other” race were least likely to have a seasonal flu shot during the previous year.

Figure 3.9.1.3. Flu shot within past year by race



4 HEALTH-RELATED BEHAVIOURS

This section focuses on health-related behaviours and analyses differences³² between demographic characteristics in the following:

- Hypertension and cholesterol check-ups
- Substance use (tobacco and alcohol)
- Road traffic-related risks, including seat belt use and drunk driving
- Food consumption (vegetables, fruits, fast food and breakfast)
- Physical activity
- Sexual risks (number of sex partners, condom use, HIV risks and testing)
- Violence, including domestic violence

Socioeconomic status is closely linked to health-related behaviours. Persons of higher income were less likely to smoke, eat fast food, have multiple sex-partners or engage in behaviour that elevates the risk of contracting HIV. Persons of higher education were more active physically, ate more vegetables and fruits, were more likely to have been tested for HIV and were less likely to have multiple sex-partners, though they were more likely to binge-drink and drive drunk or be a passenger to a drunk driver.

Age is also closely linked to health-related behaviours. Older persons were more likely to have had their blood pressure and cholesterol checked, ate better³³, were less likely to binge-drink, had less sex-partners and were less likely to engage in behaviour that elevates risk of HIV infection, were more likely to use seat-belts, less likely to drive drunk or be a passenger to a drunk driver, or report having ever experienced domestic violence. Conversely, they were less likely to engage in vigorous physical activities. Seniors were least likely to smoke, but they were also least likely to use a condom if single and sexually active. Young persons were more likely to be involved in a road traffic crash, express fear for violence and experience injury from violence.

Women had their blood pressure measured more often than men, perhaps because they were more likely to receive routine annual check-ups. They also smoked less, ate more fruits and skipped breakfast less often. They were less likely to be involved in a road traffic crash and were more likely to use a seatbelt. They reported more fear of violence despite being less likely to suffer an injury from violence. They were also more likely to report having experienced domestic violence. They also reported less sex partners and less consistent condom use.

The effect of race was more pronounced in health-related behaviours than the previous two sections. Persons in the “other race” category smoked more often, were more likely to drive drunk or be a passenger to a drunk driver and were more likely to report being injured from violence. Blacks ate the least amount of vegetables and were most likely to have been tested for HIV.

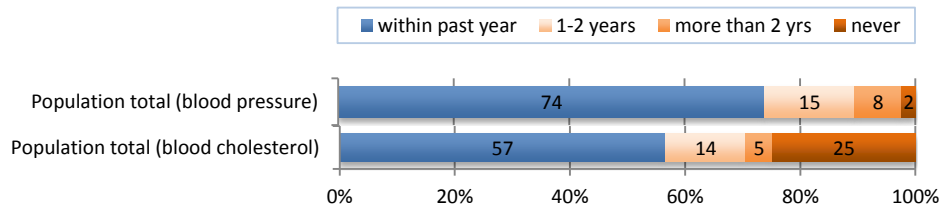
³² For this section, beware the potential of over- and under-reporting in health-related behaviours because the data comes from self-report. Survey respondents may have the incentive to report socially desirable behaviour and attempt to hide socially undesirable ones from the interviewer. Topics that carry a higher potential for social stigma, e.g. sexual behaviour, are even more likely to be misreported. As can be seen later in this section, there is some evidence of misreporting in some of the indicators we explore.

³³ This refers to eating more fruits and vegetables, less fast food and skipping less breakfasts.

4.1 Hypertension and Cholesterol Awareness

4.1.1 Three in four adults in Bermuda had their blood pressure measured within the previous year; over half of adults had their blood cholesterol measured within the previous year. This was associated with age and gender.

Figure 4.1.1.1. Population total for blood pressure and blood cholesterol measurements



Older persons had their blood pressure and blood cholesterol measured more recently.

Figure 4.1.1.2. Blood pressure measurement by age

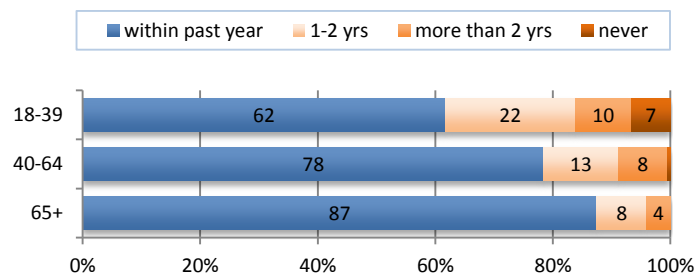
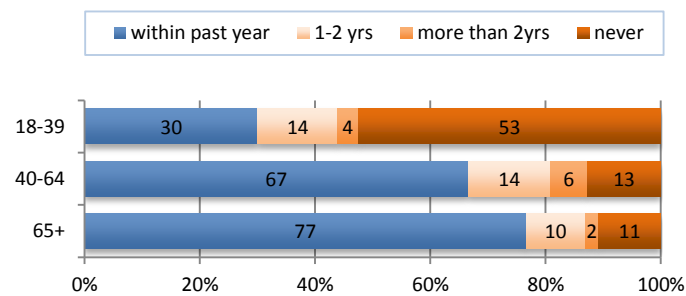
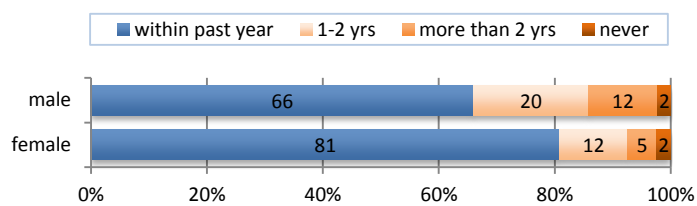


Figure 4.1.1.3. Blood cholesterol measurement by age



Women had their blood pressure checked more recently than men.

Figure 4.1.1.4. Blood pressure measurement by gender

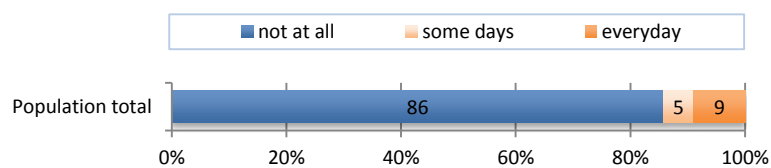


4.2 Substance Use

4.2.1 While the vast majority of adults reported to not smoke, about one in ten reported to smoke every day. Reported smoking varied with income, age, sex and race.

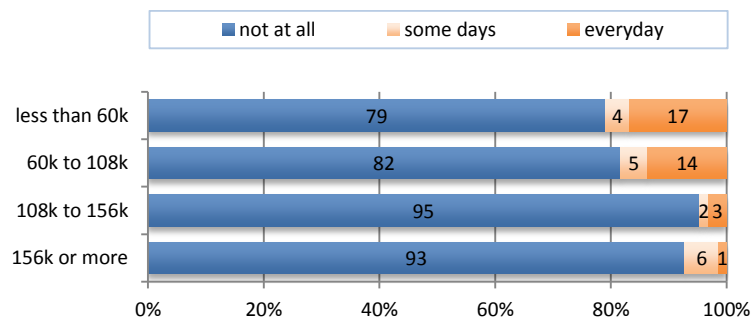
There is no “safe” smoking level, although effects depend on dose and are cumulative. Of Bermuda’s population, 14% smoke some days or every day. Smoking is most common among persons with lower income and younger adults. Additionally, a high percentage (29%) of “other” races smoke.

Figure 4.2.1.1. Population total for cigarette smoking



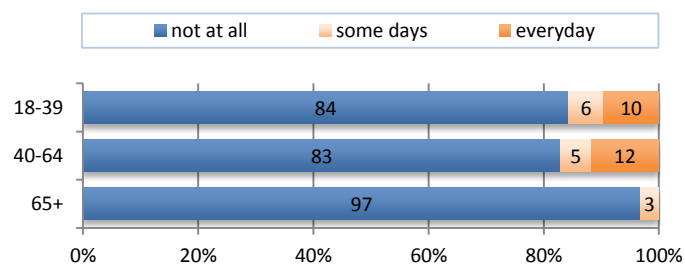
The two lower income groups reported to smoke more than the higher income groups.

Figure 4.2.1.2. Cigarette smoking by income



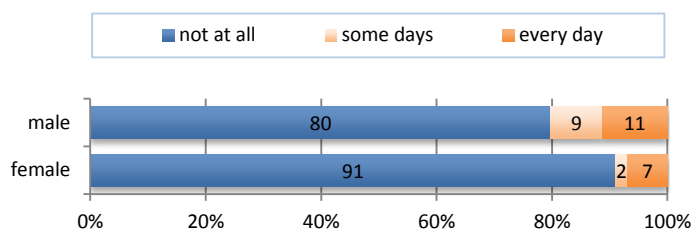
Younger adults reported to smoke more than seniors.

Figure 4.2.1.3. Cigarette smoking by age



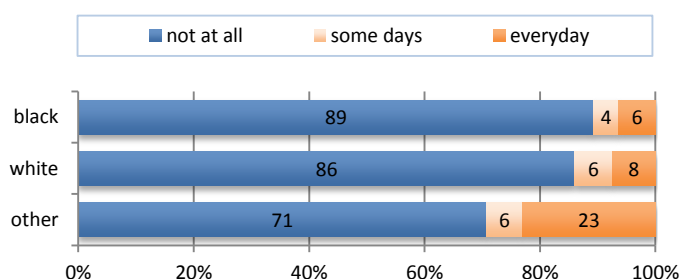
Men reported to smoke more often than women.

Figure 4.2.1.4. Cigarette smoking by gender



Minority/“other race”³⁴ adults reported to smoke more often than blacks or whites.

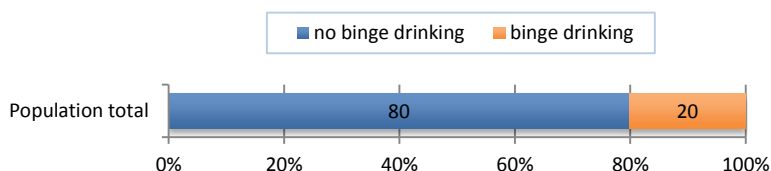
Figure 4.2.1.5. Cigarette smoking by race



4.2.2 One in five adults had engaged in binge drinking in the previous thirty days. Binge-drinking varied by income, education and age.

Adults were asked whether and how much alcohol they had consumed in the previous thirty days. About 20% reported drinking levels that qualify as binge-drinking³⁵. Binge-drinking was particularly common among adults below 40 years of age (34%), and those with higher income (39%) and higher education (26%).

Figure 4.2.2.1. Population total for binge drinking

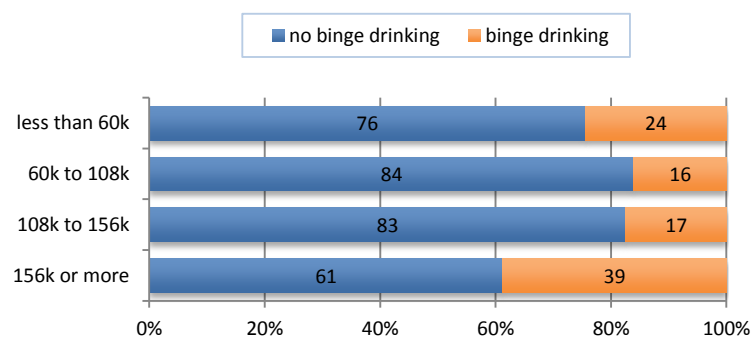


³⁴ The self-identified racial composition in Bermuda is 54% black, 32% white and 14% mixed or other races. The mixed or other races includes various races and ethnicities but are grouped in this report to avoid small sample problems.

³⁵ Binge drinking is defined here as 5 or more drinks on one occasion for men and 4 or more drinks on one occasion for women. One drink here is defined as a 12-ounce beer, a 5-ounce glass of wine or a drink with one shot of liquor. To counteract Social Desirability Bias, the question asked during the interview was about the number of drinks consumed on any occasion instead of binge-drinking directly.

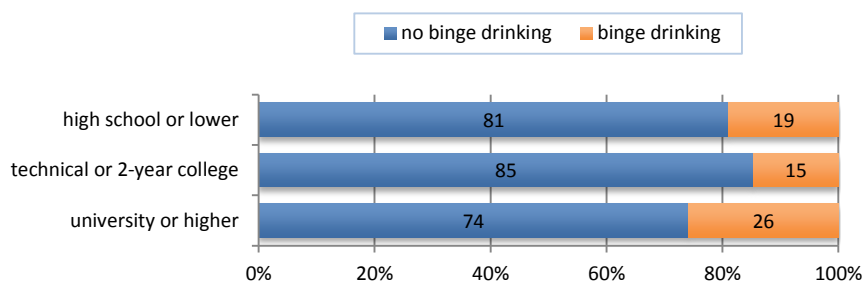
Those of highest household income were most likely to report binge-drinking, and those in the middle income brackets reported the lowest rates. Nevertheless, in the two middle-income groups over 16% reported binge-drinking.

Figure 4.2.2.1. Binge drinking by income



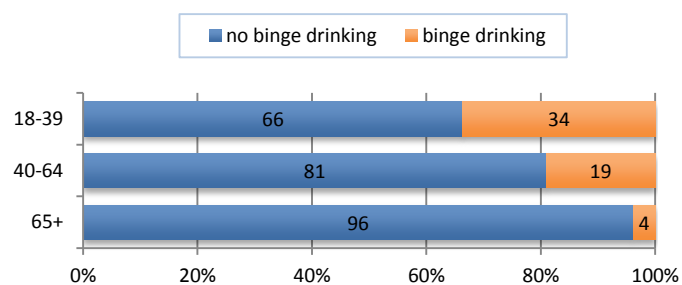
Those of highest education were the most likely to report binge-drinking.

Figure 4.2.2.2 Binge drinking by education



Younger persons were most likely to report binge-drinking.

Figure 4.2.2.3. Binge drinking by age

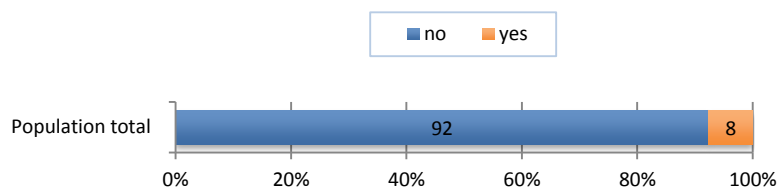


4.3 Road Traffic-Related Risks

4.3.1 Nearly one in ten adults reported being in a road traffic crash in the previous twelve months. This varied by age and gender.

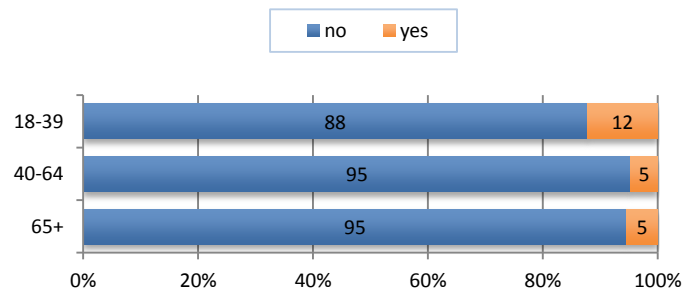
The road traffic crash rate in Bermuda is significantly higher than in OECD countries. The traffic fatality rate in 2006 was over three times higher than the OECD average³⁶. To better understand road traffic crashes in Bermuda, survey participants were asked whether they had been involved in a road traffic crash as a driver, passenger, pedestrian, motor cyclist or cyclist in the previous twelve months. Overall, 8% said yes. This varied by age and gender but not by any other demographic characteristic.

Figure 4.3.1.1. Population total for road traffic crash



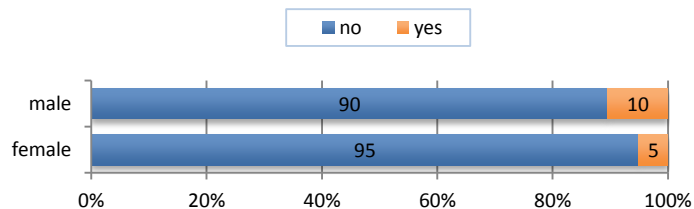
Young persons were most likely to be involved in a road traffic crash in the previous twelve months.

Figure 4.3.1.2. Road traffic crash by age



Men were more likely to be involved in a road traffic crash than women.

Figure 4.3.1.3. Road traffic crash by gender

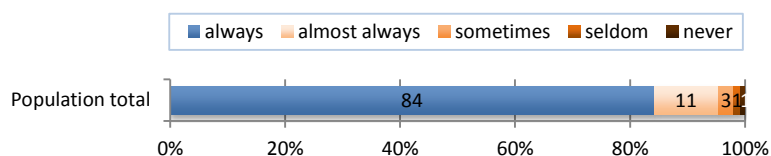


³⁶See Health in Review by Bermuda Health Council (2011).

4.3.2 Nearly one in six adults did not always use a seatbelt when driving or as a passenger in the front seat of a motor vehicle. This varied by age and gender.

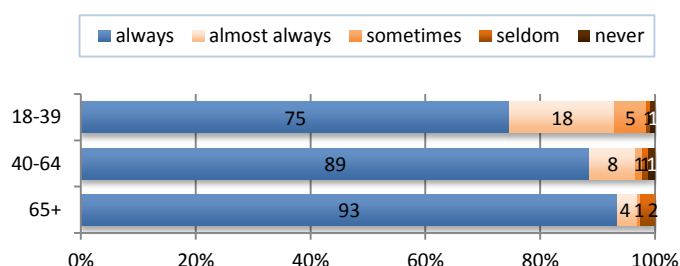
Seatbelts are proven to greatly reduce the risk of death and injury in car crashes. Observational studies and experiments³⁷ using crash test dummies and human cadavers have long provided such evidence. Adults were asked how consistently they used seat belts, and 84% said they always used a seat belt when driving or as a passenger in the front seat of a motor vehicle. Overall, 5% said they sometimes, seldom or never used seat belts in these situations and this is suboptimal.

Figure 4.3.2.1. Population total for seatbelt use



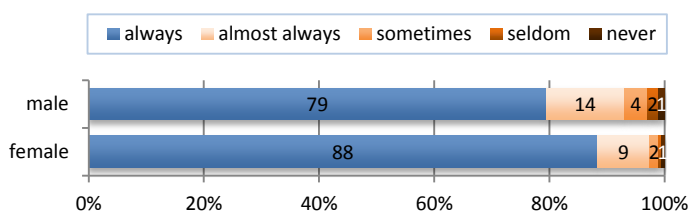
Younger persons were least likely to use a seatbelt.

Figure 4.3.2.2. Seatbelt use by age



Men were less likely to use a seatbelt than women.

Figure 4.3.2.3. Seatbelt use by gender

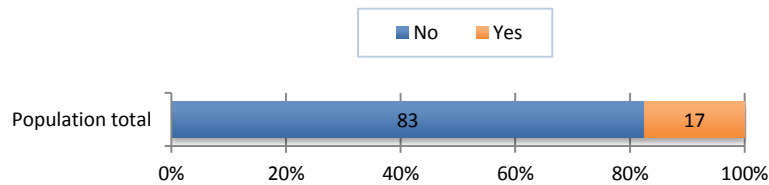


³⁷For example, see Bourbeau (1993). There are also statistical studies giving evidence of seat-belt use reducing mortality. For example, Glassbrenner (2004) found that seat belts saved over 10,000 lives every year in the US.

4.3.3 Nearly one in five adults drove drunk or had been a passenger of a drunk driver in the previous thirty days. This varied by education, age, race and marital status (among seniors).

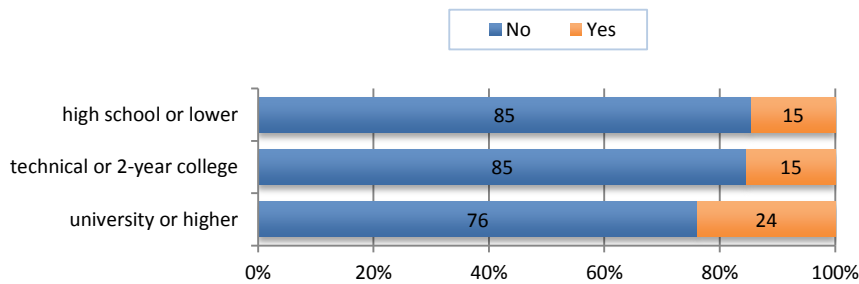
Driving while intoxicated is dangerous and drivers with high blood alcohol content or concentration (BAC) are at vastly increased risk of road traffic crashes³⁸. Adults were asked whether, during the past 30 days, they had been driving or riding a motorized vehicle when they'd had 2 or more alcoholic drinks³⁹. They were also asked whether they had been passengers to such drivers. About 17% said yes to at least one of the two questions. This is high compared with 11% of American adults who reported engaging in driver- or passenger-based drinking and driving behaviours in 2001-2002⁴⁰. The higher percentage (24%) in higher education groups corresponds with higher binge drinking (26% in Section 4.2.2) observed in the same group. Additionally, the under-40 year age group accounts for 35% of admissions to drink drive or associated passenger risk (and to 34% of binge drinking in Section 4.2.2). This evidence of high-risk behaviour is also seen in "other" race groups (29%).

Figure 4.3.3.1. Population total for drunk driving (or passenger)



Persons of university or higher education were most likely to report that they had driven drunk or been a passenger to a drunk driver.

Figure 4.3.3.2. Drunk driving (or passenger) by education



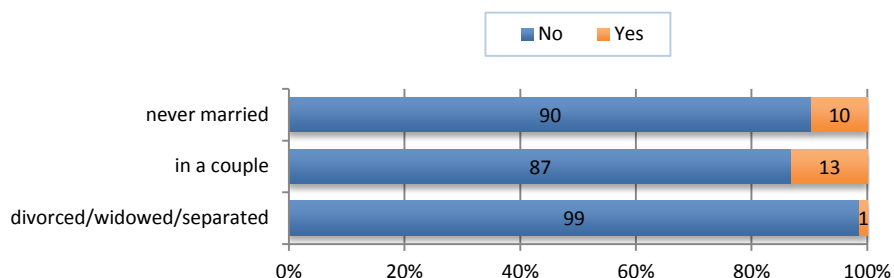
³⁸For example, see Zador et al (2000) and Peck et al. (2008).

³⁹While alcohol intoxication depends on the weight and gender of the drinker, two drinks or more can significantly impact the driving skills of both men and women of ordinary size. For an example, see University of Oklahoma Police Department BAC calculator. <http://www.ou.edu/oupd/bac.htm>

⁴⁰See Chou et. al (2006).

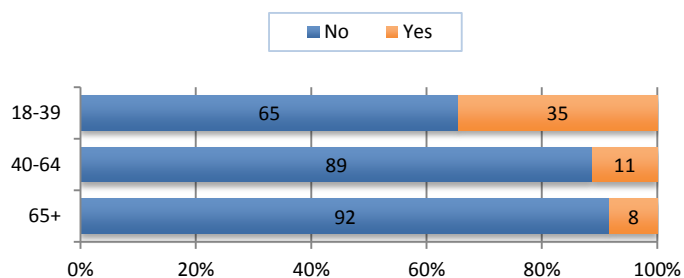
Among seniors, those who were divorced, widowed or separated were least likely to either drive drunk or be a passenger to a drunk driver.

Figure 4.3.3.3. Drunk driving (or passenger) by marital status (seniors)



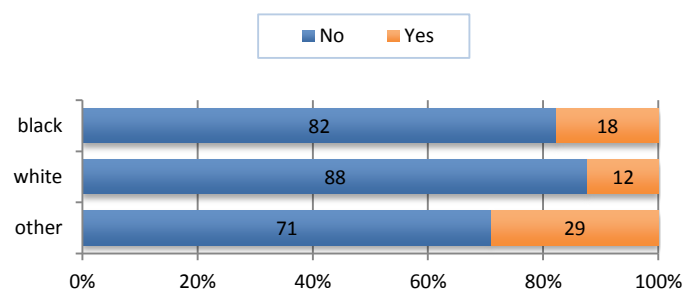
Younger adults aged 18 to 39 were most likely to either drive drunk or be a passenger to a drunk driver than other age groups.

Figure 4.3.3.4. Drunk driving (or passenger) by age



Minority/“other race” adults were more likely to report having driven drunk or been a passenger to a drunk driver than blacks or whites.

Figure 4.3.3.5. Drunk driving (or passenger) by race



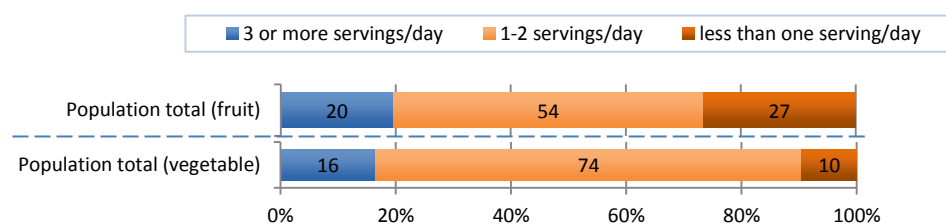
4.4 Food Consumption

4.4.1 Nearly one in three adults in Bermuda reported having less than one serving⁴¹ of fruit per day. Nearly one in ten reported having less than one serving of vegetables per day. One in five reported having fast food more than three times per week. One in ten reported having breakfast less than once a week. These habits were associated with income, education, age, gender and race.

It is widely accepted that a healthy diet should consist of plenty of fruits and vegetables. For example, according to The United States Department of Agriculture (USDA) Centre for Nutrition Policy and Promotion, adults are recommended to consume 1.5-2 cups of fruit and 2-3 cups of vegetables daily⁴². Fast food consumption has been shown to increase calorie intake, promote weight gain, and elevate the risk for diabetes⁴³. Breakfast consumption has been shown to be instrumental in maintaining a healthy weight, and may improve cognitive function related to memory, test grades, and school attendance⁴⁴.

Survey participants were asked how many servings of fruit and vegetables they consumed per day and how frequently they consumed fast food and breakfast. The amount of fruit and vegetables consumed in Bermuda is insufficient in general even though higher income, education and senior groups do better. But even with those groups, there is a high dependence on fast food (68% of the population consumes fast food one or more times per week). While the fast food option is probably a modern day phenomenon related to ready availability and busy lifestyle etc., more research could help to define the reasons for less healthy choices. The relatively high price of fresh fruit and vegetables is often given as a contributing factor for low consumption in Bermuda, but this does not explain the demand for fast food, which is generally also expensive. The low fruit and vegetable intake in the under 40 age groups is a concern as good nutrition in younger ages is important for positive health status in later years.

Figure 4.4.1.1. Population total of fruit and vegetable servings



⁴¹The United States Department of Agriculture (USDA) sets a serving size for fruit or vegetables to be equal to about one-half cup.

⁴²See <http://www.choosemyplate.gov/>

⁴³For example, see Odegaard et al. (2012).

⁴⁴See for example the meta-study by Rampersaud (2005).

Figure 4.4.1.2. Population total of fast food consumption

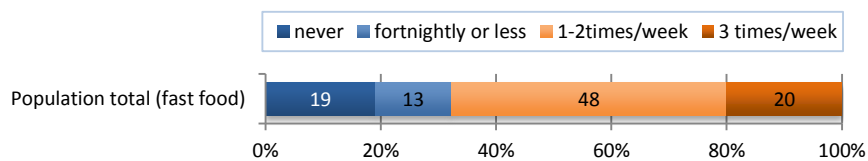
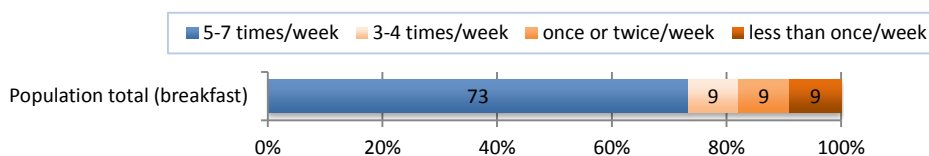
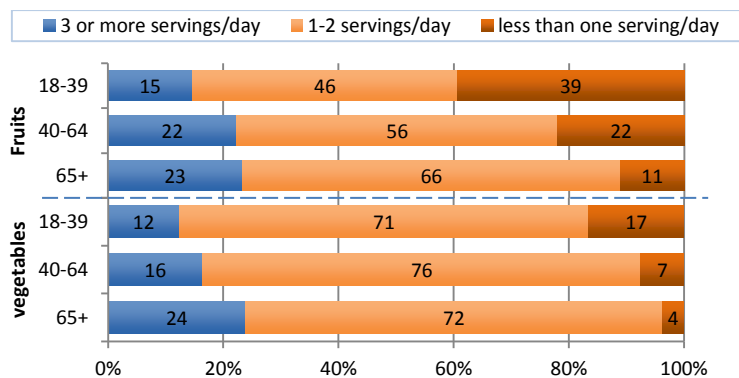


Figure 4.4.1.3. Population total for breakfast consumption



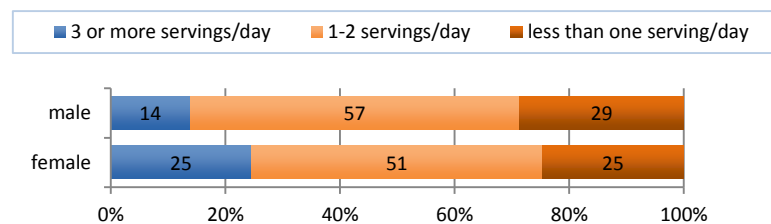
Younger persons reported eating less fruit and vegetables per day.

Figure 4.4.1.4. Fruit and vegetable servings by age



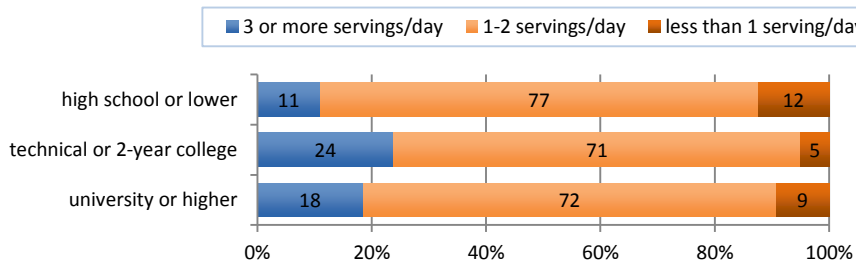
Men ate less fruit than women.

Figure 4.4.1.5. Fruit servings by gender



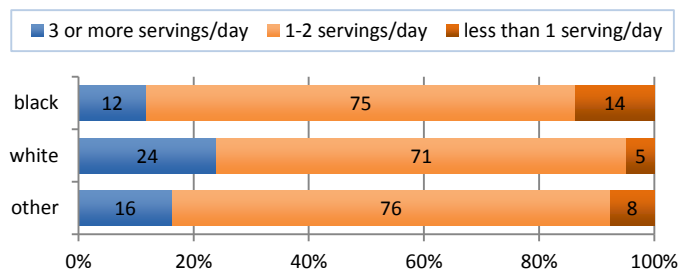
Persons of the lowest level of education reported eating the least amount of vegetables per day.

Figure 4.4.1.6. Vegetable servings by education



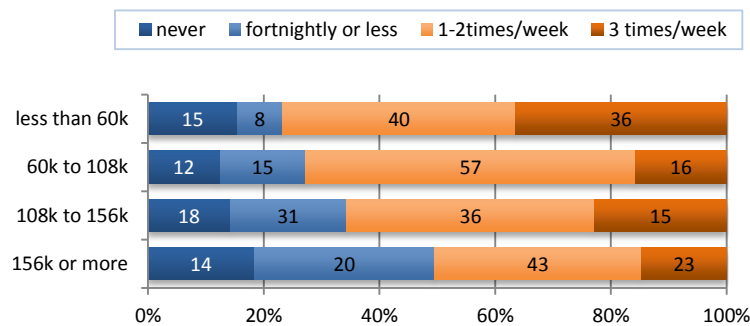
Blacks reported eating the least amount of vegetables per day.

Figure 4.4.1.7. Vegetable servings by race



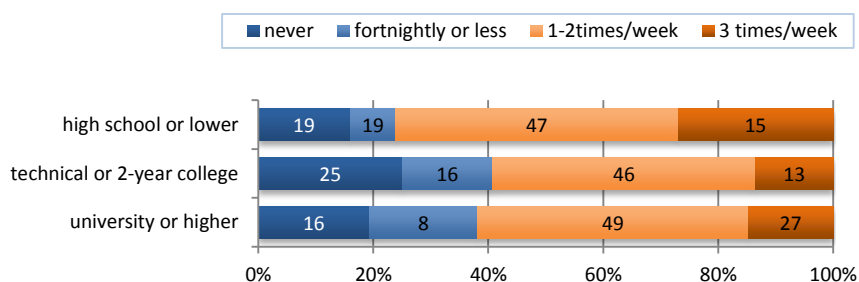
Persons of the lowest income were most likely to eat fast food frequently (3 or more times per week); persons of the highest income were least likely to eat fast food.

Figure 4.4.1.8. Fast food consumption by income



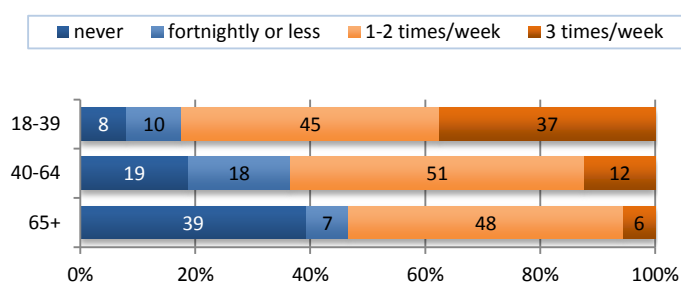
Persons of high school or less education reported eating fast food most often.

Figure 4.4.1.9. Fast food consumption by education



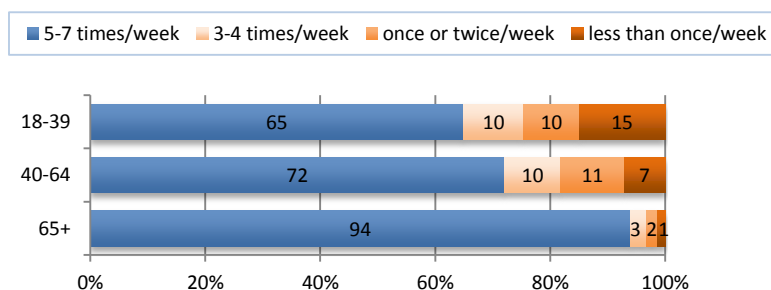
Younger persons reported eating fast food more often.

Figure 4.4.1.10. Fast food consumption by age



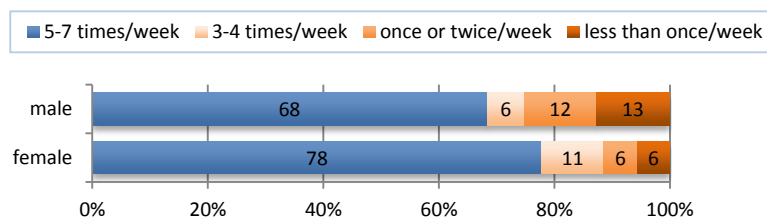
Younger persons ate breakfast less often.

Figure 4.4.1.11. Breakfast consumption by age



Men ate breakfast less often than women.

Figure 4.4.1.12. Breakfast consumption by gender

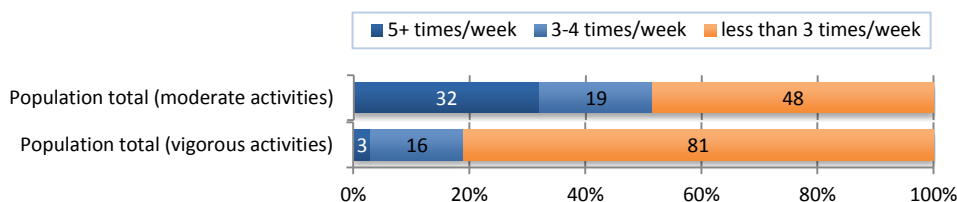


4.5 Physical Activity

4.5.1 Most adults reported low levels of physical activity. Nearly half engaged in moderate physical activity less than three times per week, and four in five did vigorous activities less than three times per week.

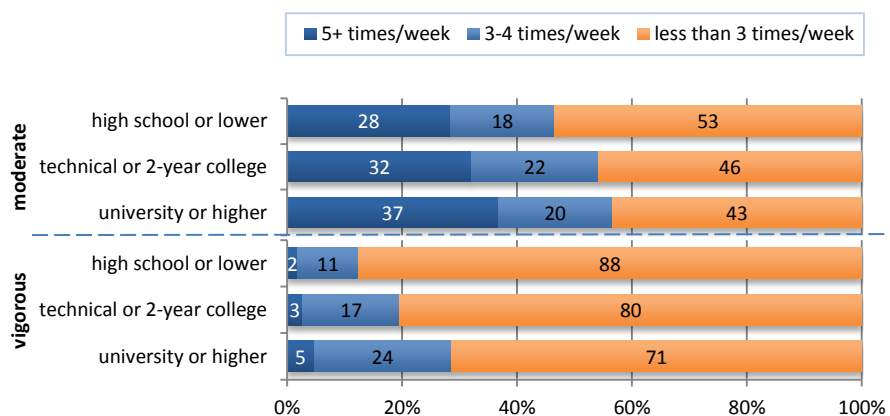
According to the WHO, lack of physical activity is the fourth leading risk factor for global mortality (6% of deaths globally) and the main cause for approximately 21–25% of breast and colon cancers, 27% of diabetes and approximately 30% of ischaemic heart disease burden⁴⁵. Adults were asked how many days per week they do moderate and vigorous physical activities⁴⁶ for at least 10 minutes at a time. Levels of physical activity are suboptimal in the all groups studied, though higher education individuals did better. As could be expected, vigorous exercisers were more common among the younger groups. However, never married seniors did better than those in relationships, and their general health status is also better (Section 2.1.1).

Figure 4.5.1.1. Population total for moderate and vigorous physical activities



Persons with higher education reported engaging in both moderate and vigorous activities more often.

Figure 4.5.1.2. Moderate and vigorous physical activities by education

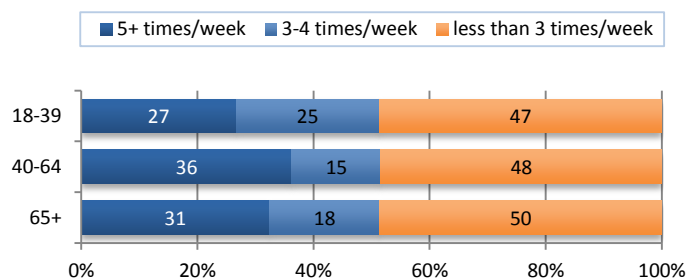


⁴⁵According to the WHO, Adults aged 18–64 should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week or do at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity activity. Older adults should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week or do at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity activity. Aerobic activity should be performed in bouts of at least 10 minutes duration.

⁴⁶Moderate activities were defined as those that cause small increases in breathing or heat rate, such as brisk walking, bicycling, vacuuming or gardening. Vigorous activities were defined as those that cause large increases in breathing or heat rate, such as running, aerobics or heavy yard work.

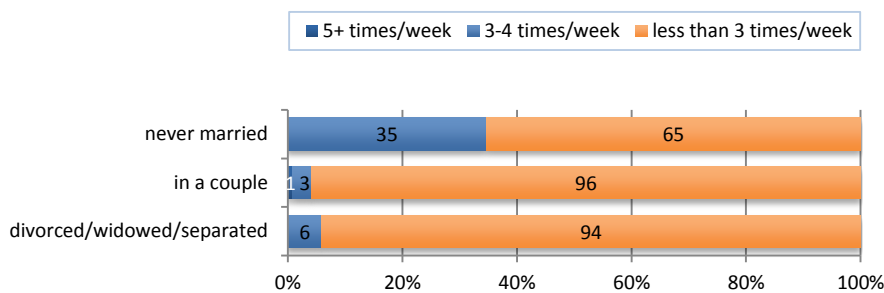
Adults aged 40 to 64 reported engaging in moderate physical activities the most often.

Figure 4.5.1.3. Moderate activities by age



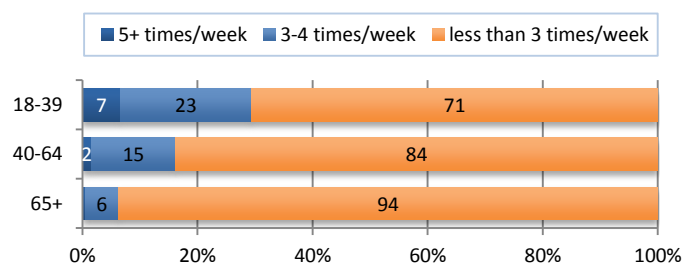
Among seniors, those who had never been married were most likely to report engaging in vigorous physical activity.

Figure 4.5.1.4. Vigorous activities by marital status (seniors)



Younger adults were most likely to engage in vigorous physical activities.

Figure 4.5.1.5. Vigorous activities by age

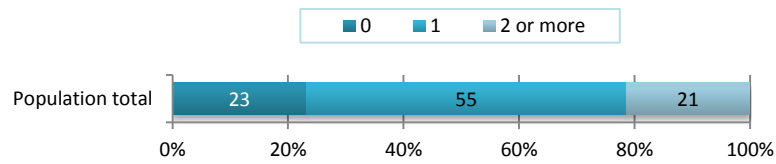


4.6 Sexual Risks

4.6.1 Most adults reported having had one or less sexual partners during the previous twelve months. One in five had more than one. This varied by income, education, age, gender and marital status.

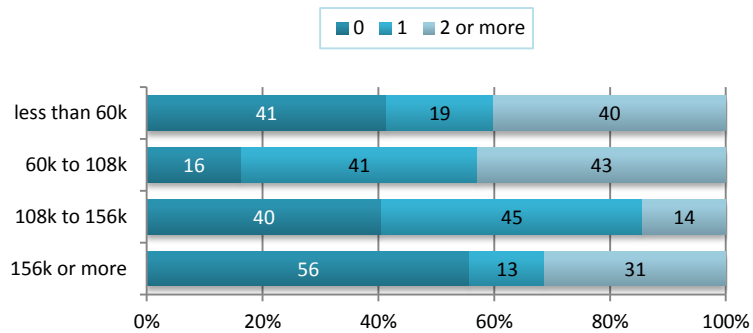
Adults under 40 years (39%) and lower income groups (40-43%) were more likely to report having 2 or more sexual partners in the previous year. Seniors (5%) and adults in couple relationships were less likely (5%) to report having more than one sex partner.

Figure 4.6.1.1. Population total for number of sex partners within past year



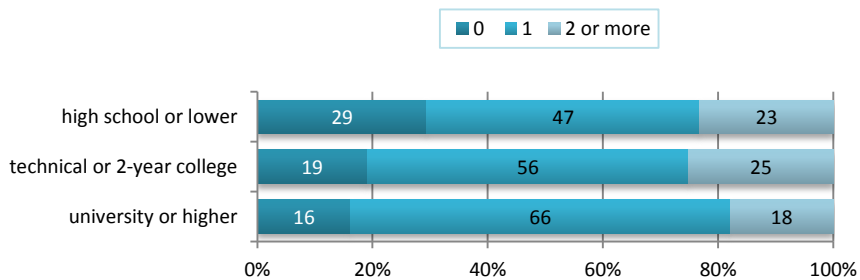
Among single persons (those who had never been married or were divorced, widowed or separated), those from households with income under \$108,000 per year were more likely to report having more than one sexual partner during the previous year.

Figure 4.6.1.2. Number of sex partners within past year by income



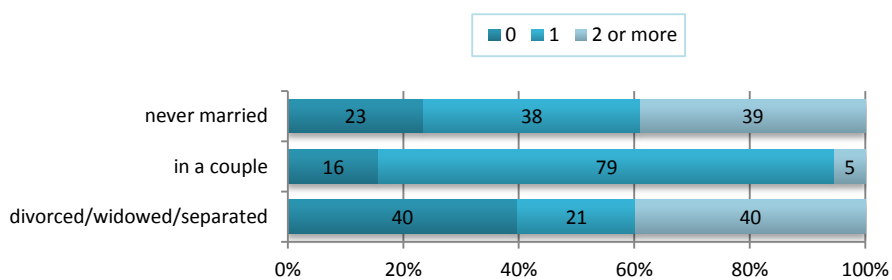
Persons with university or higher education were most likely to have had one sex partner during the previous twelve months.

Figure 4.6.1.3. Number of sex partners within past year by education



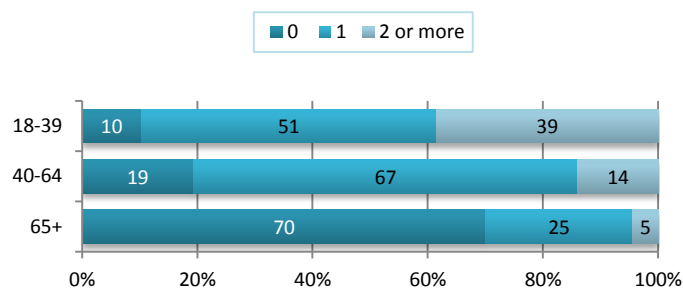
Those in a couple were most likely to report having one sexual partner during the previous twelve months.

Figure 4.6.1.4. Number of sex partners within past year by marital status



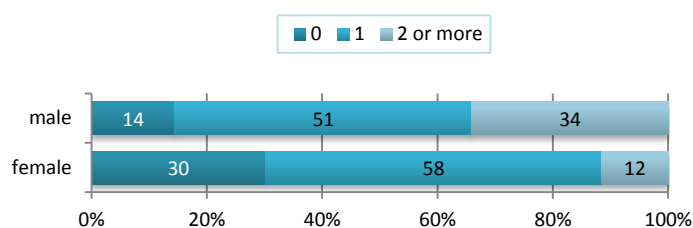
Younger people reported more sexual partners during the previous twelve months.

Figure 4.6.1.5. Number of sex partners within past year by age



Men reported more sexual partners during the previous twelve months than women.

Figure 4.6.1.6. Number of sex partners within past year by gender



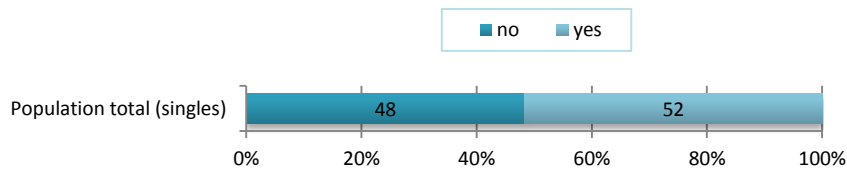
4.6.2 Half of single adults in Bermuda said they had used a condom the last time they had sexual intercourse.

Consistent and correct use of the male latex condom reduces the risk of sexually transmitted disease (STD) and human immunodeficiency virus (HIV) transmission. Adults were asked whether they had used condom during their most recent sexual intercourse. The results presented focus on respondents who reported that they had never been married.

None-use of condoms by almost half the population surveyed is a strong indicator of sexual risk taking. Younger individuals were more likely to have more sexual partners (Section 4.6.1) but singles among them were also more likely to have used condoms for their last sexual encounter (58%) than older ones. Although older individuals had lower numbers of sexual partners (Section 4.6.1), only 19% of 40-64 year old singles and 11% of over 65 year old singles used condoms at their last sexual encounter. This suggests that many sexually active older individuals take significant health risks. Note that worldwide, numbers of STIs in older adults has risen in recent years⁴⁷.

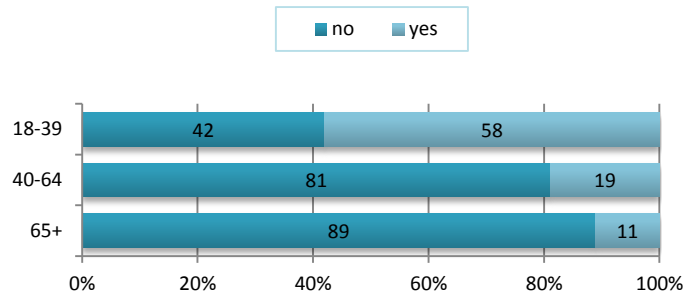
⁴⁷ See e.g. von Simson and Kulasegaram (2012).

Figure 4.6.2.1. Population total for condom use among singles (last sexual intercourse)



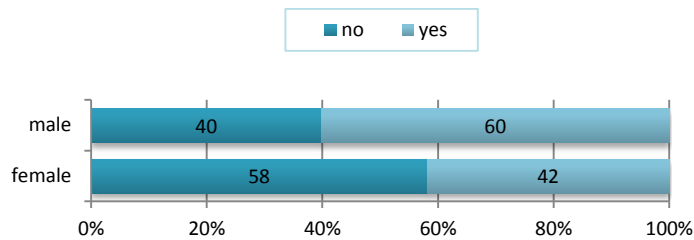
Younger persons reported condom use more often.

Figure 4.6.2.2. Condom use among singles (last sexual intercourse) by age



Men reported condom use more often than women.

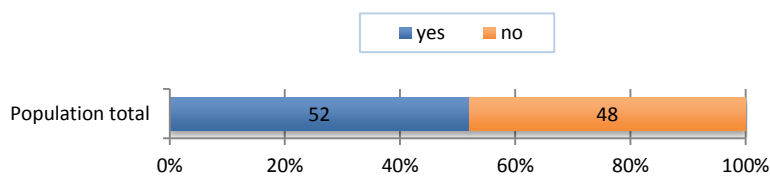
Figure 4.6.2.3. Condom use among singles (last sexual intercourse) by gender



4.6.3 About half of adults in Bermuda reported having been tested for HIV. This varied by education, age and race.

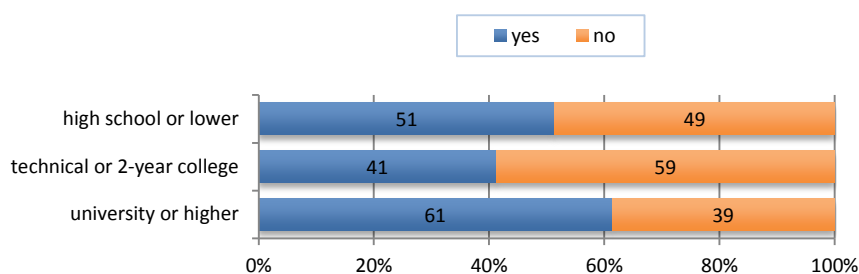
Adults were asked whether they had ever been tested for HIV. Overall, 52% said yes. Younger adults and higher education groups were more likely to have been tested for HIV. As indicated in the following section, 7% of the population report behaviours related to HIV risk in the previous year; risk rates were higher for lower income and lower education groups, men and younger adults. Since first observed in 1981 in the United States, HIV infection has entered public awareness through various education campaigns, and younger people are highly likely to have received preventive education at school etc., irrespective of their income or education status. However, large public awareness campaigns with high visibility decreased after the 1990s, which may partially explain the high level of potential HIV exposure among adults aged below 40.

Figure 4.6.3.1. Population total for HIV testing



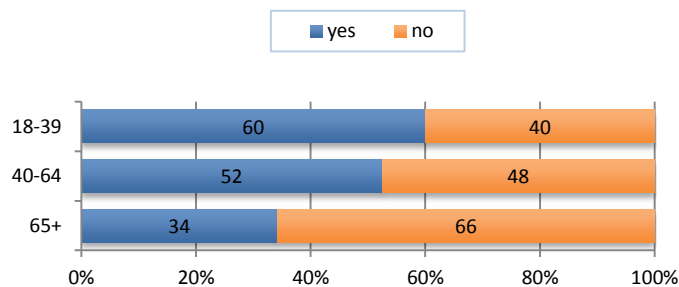
Persons of university or higher education were most likely to report having been tested for HIV. Those with technical education were least likely to have been tested.

Figure 4.6.3.2. HIV testing by education



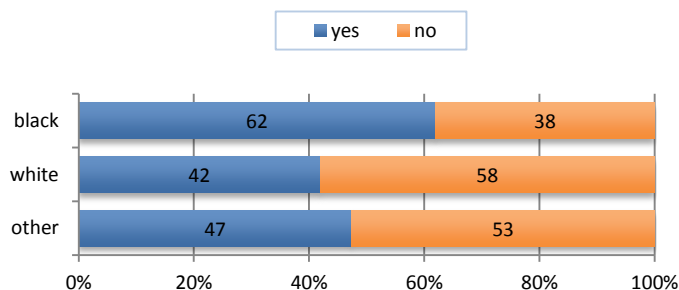
Younger persons were more likely to report having been tested for HIV.

Figure 4.6.3.3. HIV testing by age



Blacks were most likely to report having been tested for HIV.

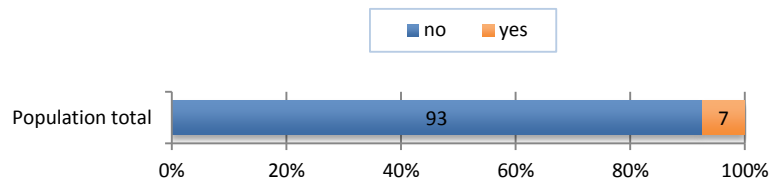
Figure 4.6.3.4. HIV testing by race



4.6.4 About one in fourteen adults in Bermuda engaged in high-risk behaviours for HIV transmission in the previous year.

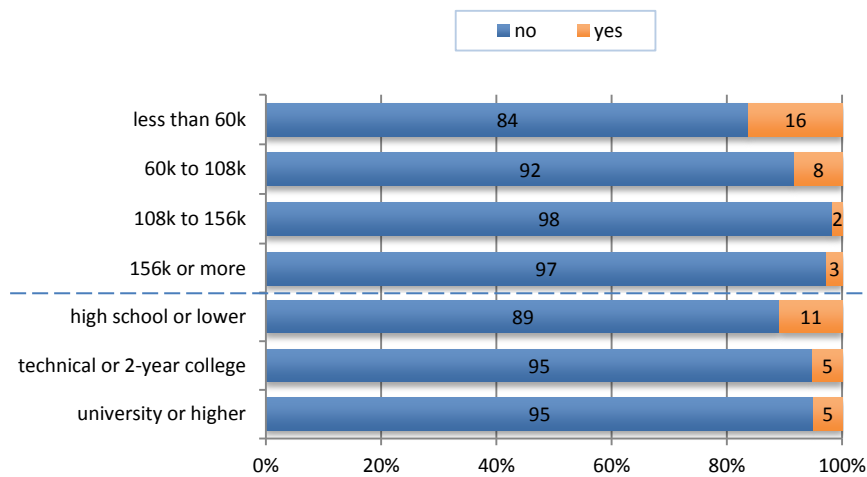
A list of HIV transmission risk factors⁴⁸ was read to respondents and they were asked whether any risk factor on the list applied to them in the previous twelve months. Overall, 7% reported engaging in at least one of the four HIV-related risk factors.

Figure 4.6.4.1. Population total for HIV transmission risk factors



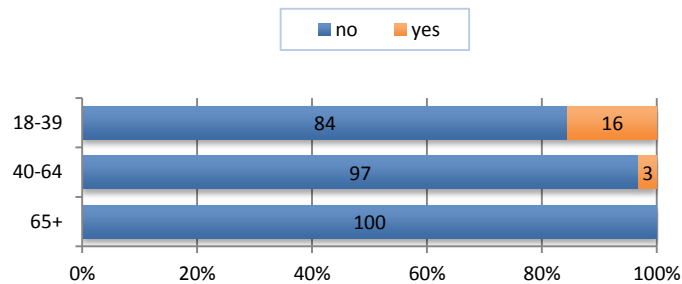
Persons with the lowest income or education were most likely to report a risk factor.

Figure 4.6.4.2. HIV transmission risk factors by income and education



Younger persons were more likely to report a risk factor.

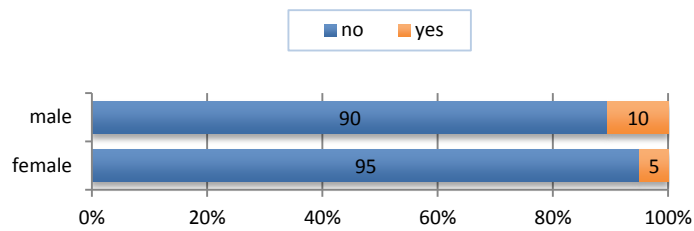
Figure 4.6.4.3. HIV transmission risk factors by age



⁴⁸ The list is as follows: using intravenous drugs; being treated for sexually transmitted or venereal disease; giving or receiving money or drugs in exchange for sex; anal sex without a condom.

Men were more likely than women to report a risk factor.

Figure 4.6.4.4. HIV transmission risk factors by gender

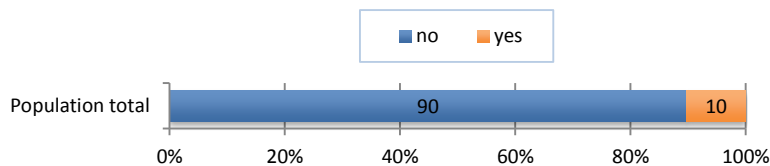


4.7 Violence

4.7.1 One in ten adults reported having been frightened for their safety or their families’ in the previous year.

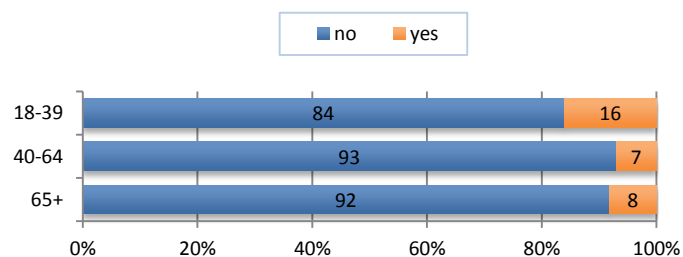
Adults were asked whether they had been frightened for their personal safety or the safety of their family in the previous twelve months because of the anger or threats from another person. Overall, 10% said yes. Reporting fear of violence is affected by age, gender and marital status among seniors. Threats were more prevalent against individuals aged 18-39 and against women. Threats to widowed, divorced or separated seniors were high in particular, reported by 17% of this group.

Figure 4.7.1.1. Population total for threats of violence



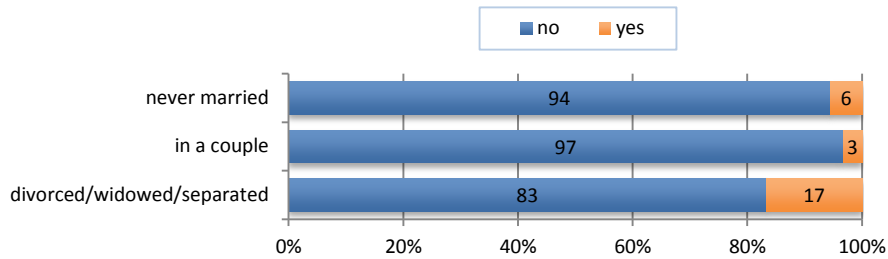
The youngest age group was most likely to report fear of violence.

Figure 4.7.1.2. Threats of violence by age



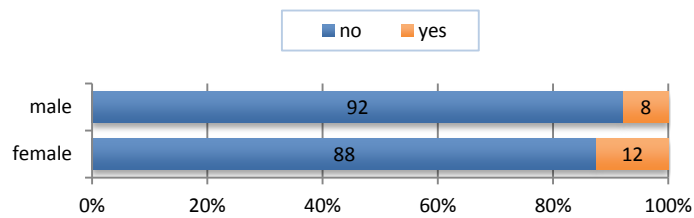
Among seniors, those who were divorced, widowed or separated were most likely to report fear of violence.

Figure 4.7.1.3. Threats of violence by marital status (seniors)



Women were more likely than men to report fear of violence.

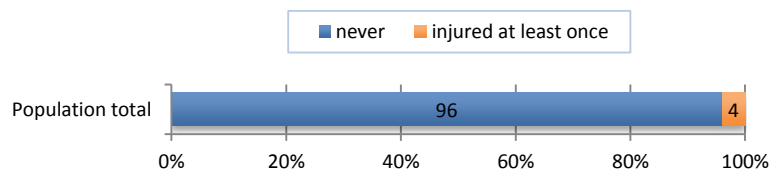
Figure 4.7.1.4. Threats of violence by gender



4.7.2 One in twenty adults reported injury from violence in the previous year. This varied by age, gender and race.

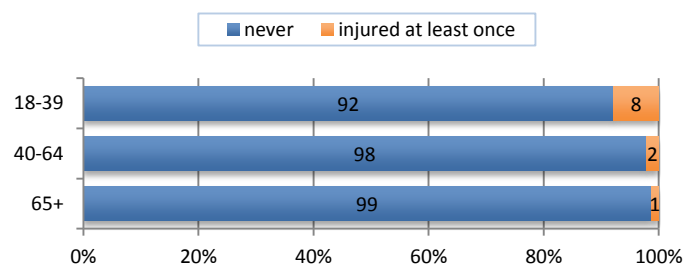
Adults were asked whether they had experienced a violent incident that resulted in injury requiring medical attention in the previous twelve months, and 4% said yes. In particular, men, adults aged under 40 and "other" races were more likely to suffer injury.

Figure 4.7.2.1. Population total for serious injury from violent incident within past 12 months



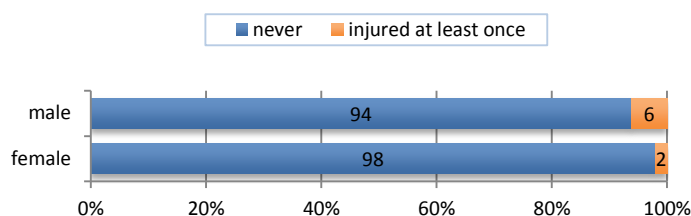
Younger adults aged 18 to 39 were most likely to report injury from violence.

Figure 4.7.2.2. Serious injury from violent incident within past 12 months by age



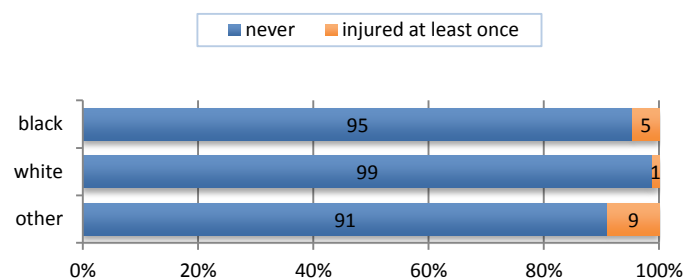
Men were more likely than women to report injury from violence.

Figure 4.7.2.3. Serious injury from violent incident within past 12 months by gender



Minority/“other race” adults were more likely to report injury from violence than other racial groups.

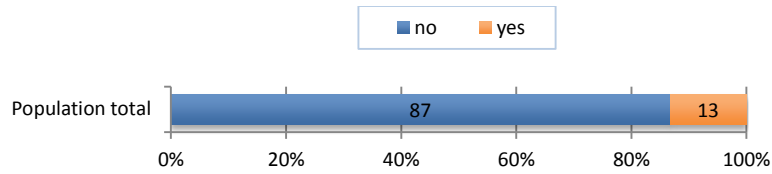
Figure 4.7.2.4. Serious injury from violent incident within past 12 months by race



4.7.3 About one in eight adults said they had experienced domestic violence.

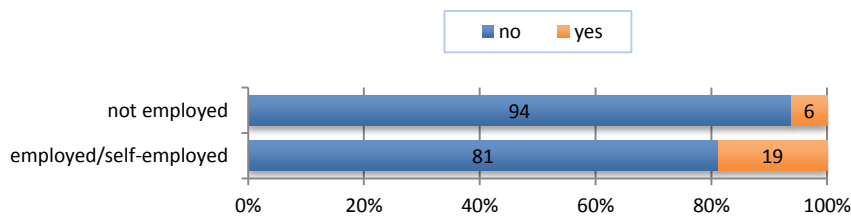
Adults were asked whether an intimate partner had ever hit, slapped, pushed, kicked or physically hurt them in any way; 13% said yes. This is a high level of partner violence, especially in the younger age group and against women.

Figure 4.7.3.1. Population total for domestic violence from intimate partner



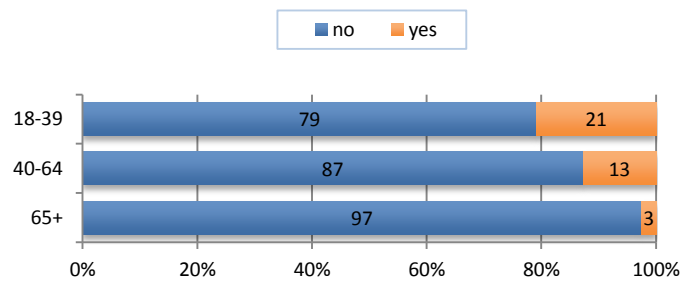
Employed persons of working age were three times more likely to report having experienced domestic violence than non-employed adults.

Figure 4.7.3.2. Domestic violence from intimate partner by employment status (working age)



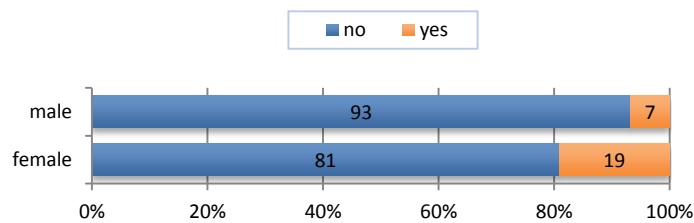
Younger persons were most likely to have experienced domestic violence.

Figure 4.7.3.3. Domestic violence from intimate partner by age



Women were nearly three times as likely as men to report experiencing domestic violence.

Figure 4.7.3.4. Domestic violence from intimate partner by gender



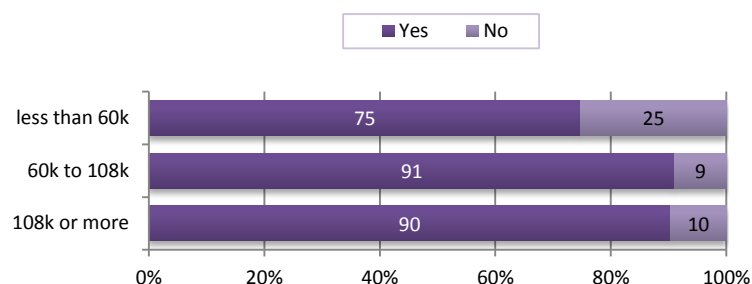
5 HEALTH EXPENDITURE

This section is based on a specially-commissioned Household Health Expenditure Survey⁴⁹ in 2012. This survey looked in detail at income and health expenditure but did not collect data on other demographic variables⁵⁰. The survey found that households with a lower income spent less on healthcare overall, but spent a higher proportion of their total income on healthcare compared to higher income groups.

5.1.1 One in four low-income households did not have health insurance coverage for all their household members; this contrasts with one in ten middle and high-income households.

Households were asked the household size and the number of household members covered by health insurance. In 25% of low-income households not everyone had health insurance⁵¹, compared to just over 9% of middle and high-income households.

Figure 5.1.1.1. Health insurance coverage by income



5.1.2 One in five lower-income households spent over \$800 per month on health insurance; for households with the highest income, two in five did so.

Households were asked how much they spent⁵² on health insurance premiums per month⁵³. The premium amounts are divided into three categories⁵⁴ by the amounts \$400 and \$800. To put these numbers in perspective, the 2012 HIP⁵⁵ full premium rate (including both employers' and employees' contributions) was \$390 per person per month, and FutureCare full premium rate was \$385 or \$635 per senior per month depending on the time of enrolment.

⁴⁹ For details see Technical Note 2.4.

⁵⁰ Household income is divided into three categories for this section. Here "low-income" households refer to those in the lowest of the three income categories; "high-income" households refer to those in the highest of the three income categories. See Technical Note 4.6 for details.

⁵¹ If the number of persons covered in a household is less than the household size, it is recorded that not everyone in the household is covered by health insurance.

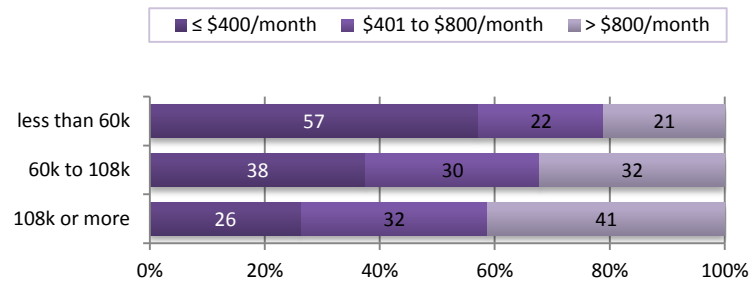
⁵² This included the total amounts paid by household members, either directly or as a deduction from their pay cheque. In Bermuda, employers are mandated to provide health insurance to employees and non-employed spouses of employees and pay at least 50% of the Standard Hospital Benefit premium.

⁵³ Reports of premiums paid at a frequency differently from monthly (e.g. weekly) were converted into monthly amounts.

⁵⁴ Categories are divided to have similar sample sizes for each category. For further details on the rationale of dividing categories as such see Technical Note 3.2.

⁵⁵ HIP is the low-cost health insurance plan provided by the government of Bermuda. FutureCare is the health insurance plan for seniors provided by the government of Bermuda.

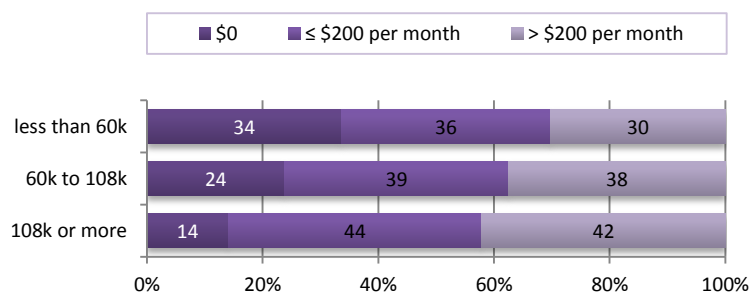
Figure 5.1.2.1. Household spending on health insurance by income



5.1.3 Despite poorer health, one in three low-income households spent nothing on medical services out-of-pocket for the month prior to the survey. Only one in seven households with the highest income did so.

Households were asked how much they had spent out-of-pocket⁵⁶ on medical services or supplies in the previous thirty days (for short-term services) and twelve months (for long-term services)⁵⁷. The Health Outcomes section found that persons of lower income households had poorer health outcomes than those from better-off households. But despite poorer health and less insurance coverage, households with lower income spent less out-of-pocket for medical services. In particular, more households in the lowest income category spent nothing out-of-pocket on medical services at all. Visiting government clinics, the emergency room at KEMH, taking fully subsidized hospital visits or not seeking care at all may incur no financial cost for patients at the time of service, but all medical care costs the health system, and lower-income patients’ utilization patterns may cost the health system more in the long term, because inadequate utilization of primary care can worsen conditions which then become more costly to treat.

Figure 5.1.3.1. Medical services out-of-pocket by income



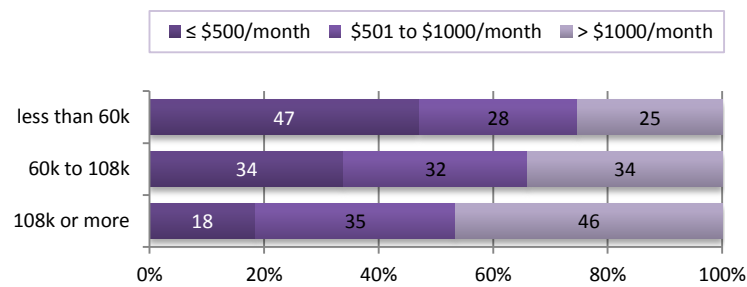
⁵⁶ Out-of-pocket refers to direct spending and excludes payments from health insurance, government subsidy, charity, gifts etc.

⁵⁷ Long-term service costs in the previous twelve-months were converted into monthly average cost and added to the short-term costs.

5.1.4 Households with a higher income spent more on healthcare (including both health insurance and medical goods and services).

Combining the costs of both health insurance premiums and medical services/supplies, the following graph depicts all healthcare spending by households in the three income categories. Half of the lowest-income households spent less than \$500 a month on all healthcare costs, while nearly half of the highest-income households spent over \$1,000 a month.

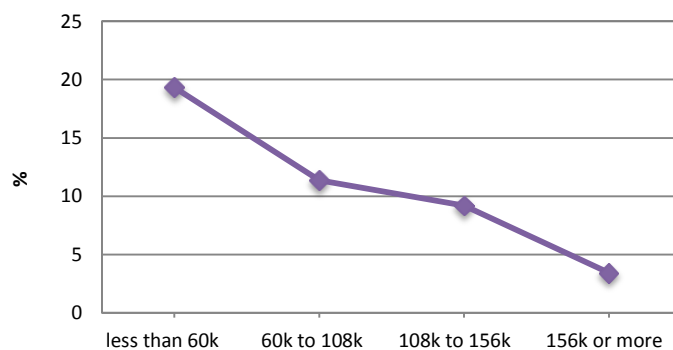
Figure 4.1.4.1. Healthcare expenses by income



5.1.5 Households with lower income spent a higher share of their income on healthcare.

In the following graph, income is divided into four categories, and the median share of healthcare spending to income⁵⁸ (50th percentile) is plotted for each income category. Here, healthcare spending includes the cost of both health insurance premiums and health services/supplies. Health spending as a share of household income was found to be a large burden for low-income households, amounting to nearly 20% for those with the lowest income⁵⁹, compared to just over 3% for those with highest income⁶⁰.

Figure 5.1.5.1. Share of healthcare expenses to household income



⁵⁸ To encourage response, the survey asked for after-tax income brackets instead of exact income figures. The share of health expenditure to income is calculated using the middle income for the income bracket. Subsequently the ratios of health expenditure to income are calculated for all households in each of the four income categories and the median ratio for each category is represented in the graph.

⁵⁹ This and the other percentages are median ratios found in each category.

⁶⁰ The 2004 Household Expenditure Survey uses before-tax income and a different methodology utilizing household income and expenditure diaries. It found the median shares of health expenditure to income to be 7.4%, 5.0%, 4.1%, 2.8% for these income categories from low to high income.

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APPENDIX

Technical Notes

1. Overview of surveys

- 1.1 The data used in this report came primarily from the 2011 Adult Health Survey and was supplemented with data from a BHeC specially-commissioned Household Health Expenditure Survey in 2012. Mindmaps, a local, independent research company, was contracted to conduct both surveys. The 2011 sample was selected through random digit dialling and the survey was taken over the telephone using Computer Assisted Telephone Interviewing⁶¹. The 2012 sample was selected through random digit dialling followed with email and online survey forms.
- 1.2 The Adult Health Survey 2011 covered various questions concerning health outcomes, use of healthcare services and health-related behaviours, in addition to a number of demographic variables such as age, gender, education, etc. This makes the data set a good source for a comprehensive investigation of health disparities. However, the Adult Health Survey 2011 did not pose questions on health expenditure, so the 2012 Household Health Expenditure Survey was conducted to provide up-to-date information on the financial burden of healthcare for households with varying levels of financial resources, specifically for this report.
- 1.3 Tabulations on the 2011 Adult Health Survey were included in the original survey report. In order to understand the presence and extent of health disparities, the current report presents findings where the differences between demographic groups are statistically significant. Statistical significance is largely based on Pearson's chi-square (and Fisher's Exact test in cases with small cells) for categorical data and a significance level of 5% is applied; the non-parametric Kruskal–Wallis method was applied in cases of continuous variables, though the few continuous variables were converted into categories for reporting.

2. Sample selection, sample size and weighting

- 2.1 As survey samples are rarely fully representative of the population, analysis of this data set applied weights to correct sample biases. For example, it is typical that population surveys have more female than male respondents. This is in fact the case in the 2011 Adult Health Survey. According to the 2010 Department of Statistics census, the proportion of males in the population is 47%; in the sample the proportion of males is 36%, implying a non-negligible under-representation of males in the sample. There is also slight misrepresentation of education and age in the sample. According to the 2010 census, those with high school or lower education is 47% of the population; those with

⁶¹For details of sampling and survey refer to Health Survey of Adults in Bermuda 2011.

technical or two-year college education is 23% of the population, and those with university or higher education is 29% of the population. The sample proportions are 29%, 40% and 30% respectively. Also according to the 2010 census, those aged 20-39 represents 34% of the population; those aged 40-64 represents 49% of the population and those aged 65 and over represents 17% of the population. In the sample, the proportions are 40%, 36% and 24% respectively.

- 2.2 Consequently, the sample weighting technique was applied in this report. Design weights combining correction for gender, education and age were calculated, and a value is assigned to each case in the data file to make statistics derived from the data more representative of the population.
- 2.3 The sample size of 2011 Adult Health Survey is 801. However, not all survey questions have full responses. In particular, the question about household income has a low response rate (54%).
- 2.4 The sample size of 2012 Household Health Expenditure Survey is 401 and all answer fields are fully populated. The survey was conducted by email using an online survey form, supplemented by in-person interviews. Soft quotas were set by the surveyor to ensure that sample collected is representative of Bermuda's population according to the 2010 census figures. Since this survey is on households and the sampling has been representative, no weighting was applied.

3. Health Indicators

- 3.1 Indicators of interest (e.g. self-reported general health, fruit and vegetable consumption) are grouped into four categories, Outcomes, Access, Expenditure and health-related Behaviours. The aim is to investigate the differences among demographic groups from these aspects.
- 3.2 Most of the survey indicators recorded discrete (categorical) responses, but a few recorded continuous (real number) responses, e.g. amount of expenditure on health insurance. In the cases where the responses are continuous, they are grouped into categories under the general principles (1) that the categories should ideally represent a difference in the nature of the response; (2) if there is no such distinction in the nature of the response, the categories should have similar number of cases to avoid problems associated with small sample size. One example would be health expenditure. These responses generally follow highly skewed distributions. Consequently the comparison of averages could be misleading and excessive representation of outliers could skew the results. This problem has been avoided by grouping these indicators into appropriate categories, so that ranges of the levels can be compared.
- 3.3 For survey questions on women's and men's screening exams (women's mammogram and Pap test; men's PSA test and digital rectal exam) the analysis focuses on adults at least five years older than the recommended starting age, because they were asked to recall the occurrence of these exams five years previously. The guidelines on when women should start regular mammogram screening vary. The 2009 U.S. Preventive

Services Task Force (USPSTF) guideline recommends that screening mammograms be done every two years beginning at age 50 for women at average risk of breast cancer. This is later than American Cancer Society guideline, which recommends the starting age be 40. For Pap test, the 2012 guidelines⁶² recommend every three years starting at age 21. For men, the recommended age⁶³ to start prostate-specific antigen (PSA) test and digital rectal exam for men of average risk is 50.

4. Demographic variables

- 4.1 Seven demographic variables of interest are used to form the groups that the comparison of the health indicators is based on. These variables are household income, education, age, gender, race, employment status and marital status. In the section on access to healthcare, an eighth variable of insurance coverage status is also used.
- 4.2 Household income and highest educational attainment are standard factors in socioeconomic status. In our sample, income has a lower response rate (54%) than other demographic variables. Given that education has 98% of response rate, it is a better proxy for SES for our analysis than income. However, income and education are not fully interchangeable, as some indicators are clearly more affected by one indicator than the other. For example some health-related behaviour indicators (e.g. exercise and vegetable consumption) are more affected by education than household income.
- 4.3 Age is divided into three groups: 18-39, 40-64 and 65+. Marital status is divided into three groups: never married, in a couple (married or non-married) and D/W/S (divorced, widowed or separated). Often when we investigate the relation between indicators and marital status, we focus on seniors. The reasons are as follows: (1) the effect of having a partner may be slow and cumulative, which may not be evident in younger persons; (2) younger persons may simply have had less time to pair up, so if we mix all ages in our investigation, what may seem to be the effect of marital status may simply be the effect of age. And since age is a strong predictor for many of these indicators, we would like to remove the effect of age when investigating the effect of other indicators. For that reason, focusing on seniors would partially remove the problem of age confounding the effect of marital status.
- 4.4 Similarly, because most seniors are non-employed (91% vs 21% in younger adults), when investigating the effect of employment status, we focus only on working-age adults to remove the effect of age of seniors. Here employment status is divided into two categories: employed and non-employed. Employed persons include those employed for wages and self-employed. Non-employed ones include students, retirees, homemakers and those out of work. The employment statuses are coalesced into just two categories, because finer division would cause small cell sizes in tabulations and introduce instability of results.

⁶²This is a joint guideline issued by US Preventive Services Task Force and the American Cancer Society, the American Society for Colposcopy and Cervical Pathology and the American Society for Clinical Pathology.

⁶³Age 50 is the recommended starting age of annual PSA screening for men of average risk of prostate cancer by many doctors and professional organizations until recently. However, recently a number of organizations have begun to caution against routine population screening due to the harms of such screening activities.

- 4.5 Self-reported race⁶⁴ is divided into three categories: black, white and “other”; the latter is also described in the report as “minorities” and groups persons who self-report their race as Asian, mixed race etc. From the 2010 census, the proportions of black, white and other races⁶⁵ were 54%, 31% and 16% respectively. Further dividing the other races in our analysis would cause small cells and instability of results. Also according to the census, the minorities (“other” race) had an income distribution similar to blacks and poorer than whites⁶⁶. Of the minorities, about 44% were non-Bermudian; this is similar to whites (38%) but contrasts with blacks (8%).
- 4.6 Household income collected in the Household Health Expenditure Survey 2012 is in the format of after-tax income brackets. This is performed so that the actual amount of income after all deductions is recorded, so that health expenditure as a proportion of actual income can be calculated. This is different from census data, where household income was collected before any deduction, including tax. In the context of census, before-tax income is appropriate because most interest is the relative income group instead of detailed expenditure pattern. In the section of our report on health expenditure, after-tax income is divided into three groups to reduce the problem with small cells.

5. Interpretation of Results

- 5.1 This report is based on survey data, which brings risk of over- and under-reporting by respondents. The questionnaires are designed to counter misreporting as much as possible, nevertheless, residual problems continue to exist when survey respondents have selective or vague memory, or act upon social desirability bias⁶⁷ (where instead of replying truthfully, respondents produce replies that they feel would be perceived favourably by others) or misrepresent themselves⁶⁸. Questions related to issues such as sexual behaviour, drug abuse and criminal behaviour often induce under- or over-reporting.
- 5.2 The results in this report are descriptive and should not be read as causal. This means that only statistically significant correlation is present, but the direction of causation or if any causation actually exists is unknown. A good example would be the relationship between employment and disability. Is it because a person is disabled that he is less likely to be employed, or because he is not employed his health deteriorates and he develops disability? Or is there a third factor that caused both disability and non-employment? Causation is usually much more difficult to establish than correlation. We do not attempt to establish causation because absent candidate theories, correlations derived from survey data alone generally would not be able to establish causation.

⁶⁴ Self-reported race indicates which race the respondent identifies with culturally.

⁶⁵ According to the 2010 census, among the minorities (races other than black and white), there were about 30% Asians, 20% black & white, 15% black & other, 10% white & other and the rest 25% were other races.

⁶⁶ For example, 60% of the minorities, 55% of blacks and 40% of whites were in the lowest income group; 5% of the minorities, 5% of the blacks and 16% of the whites were in the highest income group.

⁶⁷ See e.g. Paulhus (1991).

⁶⁸ For example, arithmetic would reveal that the average number of sex partners men and women have should be roughly the same (disregarding large-scale homosexuality or sex tourism). Similarly, incidence of condom use should also be roughly the same.