HEALTH FOR ALL ISLANDERS

Prince Edward Island
CANADA

Promote, Prevent, Protect: PEI Chief Public Health Officer's Report | 2016

Dear Minister Henderson,

I have the privilege of providing to you the third Chief Public Health Officer's Report for PEI. *Promote, Prevent, Protect – PEI CPHO Report 2016* ***Health for all Islanders*** has a focus on health equity and the social determinants of health, summarizes the most recent health trends in PEI and highlights current public health program initiatives in the Chief Public Health Office, DHW.

Dr. Heather Morrison
Chief Public Health Officer

Personal Letter to Islanders

It is with both concern and hope that I write you all on the release of this, the 3rd Chief Public Health Officer's Report.

I continue my concern about the impact of several negative health trends on Prince Edward Island, with serious levels of chronic disease (such as cardiovascular disease, cancer, diabetes and chronic obstructive pulmonary disease). This report indicates that the levels of disease are clearly associated with what are known as the social determinants of health – such as income levels, education, employment, lifestyle habits and choices.

At the same time, we live in one of the most beautiful social and physical environments imaginable, and the report indicates that the majority of us intend to do something to improve our health. I am hopeful that Islanders, with the help of public health, governments, volunteer and non-government communities can create more health equity for all. I hope that all of our children, families, couples and individuals grow up and live here on PEI being as "well" as possible. This will mean that we all have an equitable access to education, to healthy food and physical activity, and to healthy life-style choices. We should be able to look at our "wellness" together, to prevent disease and realize the opportunity to be healthy Islanders.

To all Prince Edward Islanders, it is always my privilege to work for and with you.

Heather G. Morrison, MD, DPhil.

CONTRIBUTORS

Joseph Bradley
Constance Cheverie
Katherine Gaudreau
Mary-Ann MacSwain
Dr. Carol McClure
Dr. Heather Morrison
Laura Lee Noonan
Dr. Karen Phillips
Corinne Rowswell
Dr. David Sabapathy
Dr. Carolyn Sanford
Staff of the Chief Public Health Office

ACKNOWLEDGEMENTS

This report acknowledges and thanks all those working to promote health, prevent disease and protect the health of Islanders.

Printed by Document Publishing Centre,
Charlottetown, PEI

Available on the Prince Edward Island
Department of Health and Wellness
website: *www.gov.pe.ca/health*

EXECUTIVE SUMMARY

What makes Canadians healthy or unhealthy? Over time, society's response to this question has changed. For many years, health was thought to be determined by a strong healthcare system that cared for the sick by means of hospitals, healthcare providers and medications. However, since the 1970s there has been growing consensus that the healthcare system plays only a small role in improving the health of a population.[1] The health of a population is now understood to be primarily driven by socioeconomic factors that shape the conditions in which people live, learn, work and play. Recent estimates indicate that socioeconomic factors account for 50% of all health outcomes, while health care, genetics, and physical environments account for 25%, 15%, and 10% of health outcomes.[2]

The Social Determinants of Health (SDH) is a term used to describe the societal conditions that influence people's health.[3] Since the early 1900s, the average lifespan of Canadians has increased by more than 30 years with much of this gain due to progress on the SDH. The Public Health Agency of Canada has defined evidence-based SDH in Canada to include income and social status, social support networks, education and literacy, employment and working conditions, social environments, physical environments, personal health practices and coping skills, healthy child development, biology and genetic endowment, health services, gender, and culture.[4] Taking action on the SDH has the greatest potential to improve population health outcomes by addressing the root causes of illness and injuries before they occur.[5,6]

The social determinants of health may not be equally distributed in a population. For example, one community may have higher levels of unemployment, crime or low levels of literacy than another community. Often such differences are related to longstanding social norms, policies and practices resulting in an unjust allocation of societal resources. Differences in the SDH often lead to health inequity: differences in health outcomes that are systemic, unfair and avoidable.[7,8]

Since the greatest burden of disease in Canada is due to chronic disease, health inequity is particularly evident among chronic disease conditions. Four disease clusters account for the majority of chronic disease in Canada: cardiovascular disease, cancer, chronic pulmonary disease and diabetes. These four diseases are closely linked to four behavioural risk factors: poor diet, lack of physical activity, tobacco use and excessive alcohol consumption.[9] The SDH strongly influence these health behaviours in a population and, as a result, impact chronic disease burden. For example, poor working conditions and high levels of stress may lead to smoking initiation and continuation and result in increases in chronic obstructive pulmonary disease (COPD) and lung cancer. Limited access to child care and safe walking paths may act as barriers to physical activity which contributes to unhealthy weights and higher risk of heart disease and diabetes.

The 2016 Chief Public Health Officer's Report ***Health for all Islanders*** explores the relationship between the SDH, health equity, health behaviors and population health outcomes in PEI. In particular, the socioeconomic factors: sex, age and household income were used to analyze PEI health trends. The report's findings are striking and indicate that the SDH have a significant influence on the health of Islanders.

An unequal distribution of the SDH among population groups is leading to health inequity: differences in health outcomes that are systemic, unfair and avoidable. Health inequity exists both between Islanders and Canadians as well as within our Island population. Since the greatest burden of disease in Canada is due to chronic disease, health inequity is particularly evident among chronic disease conditions. The following are the report's key findings:

Key Findings

- **The majority of PEI's disease burden is caused by four chronic diseases: cancer, cardiovascular disease, chronic pulmonary disease and diabetes.** This disease burden is predicted to increase as the Island population ages. Health inequity exerts a powerful influence on the four behavioral risk factors closely linked to these chronic conditions: poor diet, lack of physical activity, tobacco use and excessive alcohol consumption.

- **Health inequity exists between Islanders and the rest of Canada.** After adjusting for age, Island rates of treated mood and anxiety disorders, obesity, diabetes, hypertension, heart disease, prostate cancer and chronic conditions are higher in PEI than Canada. Correspondingly, Island rates are lower than Canadian average for fruit and vegetable intake and physical activity, and higher for daily smoking. Islanders have better outcomes than Canadians for sense of community, and influenza immunization.

- **Health inequity also exists within our Island population.** Islanders with the lowest household income have lower than PEI average rates of self-reported general and mental health. This result is consistent with this group's higher rates of treated mood and anxiety disorders, diabetes, hypertension, heart disease and chronic conditions. Islanders in the highest income group show the opposite trend.

The Social Determinants of Health have a significant influence on the health of Islanders.

Health inequity exists both between Islanders and Canadians as well as within our Island population.

- **Islanders with the lowest income have greater behavioural risk factors.** Islanders with the lowest household income have lower than PEI average rates of fruit and vegetable intake, physical activity, dental visits, sense of community and post-secondary education, and higher rates of daily smoking. Islanders in the highest income groups show the opposite trend.

- **Gender is associated with differences in health outcomes.** Island males have lower than PEI average rates of fruit and vegetable intake, and higher rates of daily smoking and heavy drinking while females show the opposite trend. Island males have higher than PEI average rates of diabetes and heart disease. Island females have higher than PEI average rates of treated mood and anxiety disorders and hypertension.

- **Age is associated with differences in health outcomes.** Chronic disease rates increase with age with Islanders 50 years and older impacted the most. Significantly worse than PEI average was fruit and vegetable intake and daily smoking for Islanders 35-49 years of age, physical inactivity for Islanders 50 years and older, and heavy drinking for Islanders under 35 years of age.

The summary table at the end of this executive summary provides a quick reference guide to specific indicators that were explored within the report. The summary table does not include all indicators that have been analyzed in the report.

From Evidence to Action

Despite this report's findings, Islanders are ready to improve their health. Almost 60% of Islanders intend to do something to improve their health within the next year. Unfortunately, unequal distribution of the SDH may make it difficult for individuals to make positive changes on their own.

Health inequity in PEI can be addressed through the redistribution of societal resources to improve the SDH, particularly for disadvantaged groups. Such actions enable individuals to increase control over, and to improve their health. Since many of the SDH lie outside the health sector, action on the SDH will require broad collaboration among individuals, communities, partner organizations and all levels of government. Many initiatives that address the SDH are already taking place across Prince Edward Island, yet more work is needed.

A strategic approach to addressing the SDH and health inequity should include:

- **Sustainable, root-cause, population-level interventions.** Long-term investment is needed in high-impact, upstream interventions that reach broad segments of society, enabling individuals to increase control over and improve their health.

- **Health sector leadership.** All individuals and organizations working in the field of health, including the Chief Public Health Office, have a leadership role in encouraging collaborative action on health and the SDH among individuals, communities, partner organizations and all levels of government.

- **Intersectoral engagement and governance.** A robust, intersectoral governance structure is required to action the PEI Wellness Strategy and address the risk factors for chronic disease as well as the underlying SDH.

- **Health in all policies.** Health equity should be integrated into public policy-making at all levels of government by systematically taking into account the health implications of decisions, seeking synergies, and avoiding harmful health impacts.

- **Monitoring progress.** Ongoing, systematic population health assessment and surveillance of PEI health outcomes and determinants is necessary to inform policy and build accountability.

Health equity is a value we all share. Reducing health inequity in Prince Edward Island will create an inclusive, economically effective and healthy population. Together, we can improve ***Health for all Islanders***.

Health inequity in PEI can be addressed through redistribution of societal resources to improve the SDH. Such actions enable individuals to increase control over, and to improve their health.

X

The following summary table provides a quick reference guide to specific indicators that were explored within the report.

Prince Edward Island		vs. Canada	Trend	SEX		AGE (years)					HOUSEHOLD INCOME (quintiles)				
				Male	Female	12-19 y	20-34 y	35-49 y	50-64 y	65+ y	Q1	Q2	Q3	Q4	Q5
HEALTH STATUS															
Self-Reported General Health	(p. 23)	◆	—	–	–	◆	–	◆	◆	–	◆	–	–	–	–
Self-Reported Mental Health	(p. 24)	◆	↓	–	–	–	–	–	–	–	◆	◆	–	◆	◆
Mood and Anxiety Disorders	(p. 25)	◆	—	◆	◆		◆	◆	◆	–	◆	–	–	–	◆
Self-Reported Obesity	(p. 26)	◆	↑	–	–		–	–	◆	◆	–	–	–	–	–
Chronic Conditions	(p. 27)	◆	—	–	–	–	◆	◆	◆	◆	◆	–	–	–	–
Diabetes[1]	(p. 28)	◆	↑	◆	◆		◆	◆	◆	◆	◆	–	–	–	◆
Hypertension[1]	(p. 29)	◆	—	◆	◆		◆	◆	◆	◆	◆	–	–	–	◆
Heart Disease[1]	(p. 30)	◆	↓	◆	◆		◆	◆	◆	◆	◆	–	–	–	◆
COPD[1]	(p. 31)	◆	↑	–	–			◆	◆	◆	◆	–	–	◆	◆
HEALTH DETERMINANTS															
Fruit and Vegetable	(p. 39)	◆	↓	◆	◆	–	–	◆	–	–	–	–	–	–	–
Physical Inactivity	(p. 40)	◆	↑	–	–	◆	–	–	◆	◆	◆	–	–	–	◆
Heavy Drinking	(p. 41)	◆	—	◆	◆	◆	◆	–	–	◆	–	–	–	–	–
Daily Smoking	(p. 42)	◆	—	◆	◆	◆	–	◆	–	◆	◆	–	–	–	–
Second-Hand Smoke (Home)	(p. 43)	◆	—	–	–	–	–	–	–	◆	◆	–	–	◆	–
Improve Health	(p. 44)		—	–	–	–	◆	–	–	◆	–	–	–	–	–
Community Belonging	(p. 45)	◆	—	–	–	◆	◆	–	–	◆	◆	–	–	–	◆
Visit with a Dentist	(p. 46)	◆	—	–	–	◆	–	–	–	◆	◆	–	–	◆	◆
Influenza Shot	(p. 47)	◆	↑	–	–	–	◆	◆	–	◆	–	–	–	–	–
Post-Secondary Education	(p. 48)	◆	—	–	◆		◆	◆	–	◆	◆	◆	–	◆	◆

[1] Current Canadian data not available; comparison made using historical data.

LEGEND

Results: ◆/– No difference ◆ Significantly better ◆ Significantly worse

Trends: — No change ↑ Increasing ↓ Decreasing

Other: ☐ Not calculated

TABLE OF CONTENTS

INTRODUCTION

Public Health is defined as the organized efforts of society to keep people healthy and prevent injury, illness and premature death. It is the combination of programs, services and policies that protect and promote health.[10]

In PEI, these organized efforts are varied and PEI's Chief Public Health Office has a legislated mandate and responsibility to incorporate the essential functions of public health into its work. These essential functions of public health together attempt to promote health, prevent disease and protect the health of Islanders.

The health of Islanders is being shaped, not only by our health care system, but to a great extent by the conditions in which people live, learn, work and play. The Chief Public Health Officer's Report explores the relationship between social determinants of health (SDH), health equity, health behaviours and health outcomes. What diseases cause the majority of PEI's disease burden? Does health inequity exist between Islanders and the rest of Canada? Is there health inequity or differences in health outcomes between different income groups of Islanders? What Islanders have the greatest behavioural risk factors? And is age or gender associated with differences in health outcomes in PEI? In order to best address the health status of Islanders and "promote, prevent and protect", these are important questions. What we do with the results to these questions is the challenge.

CHIEF PUBLIC HEALTH OFFICE MISSION

TO PROTECT AND PROMOTE THE HEALTH OF ISLANDERS THROUGH LEADERSHIP, PARTNERSHIP AND EXCELLENCE IN PUBLIC HEALTH.

ESSENTIAL FUNCTIONS OF PUBLIC HEALTH

Purpose of the Report

This report follows previous reports released by the Chief Public Health Officer that focus on public health and special topics of public health significance to Islanders. The purpose of the current report is to explore the impact of various social determinants on the health status and health behaviours of Islanders.

Organization of the Report

There are four sections to this report: Health Equity, Health Trends, and Chief Public Health Office Programs. In addition, there is an appendix available electronically with technical information and data tables.

Section 1: Health Equity explores the social determinants of health and defines and illustrates health equity in PEI.

Section 2: Health Trends provides an overview of the health status and health determinants of all Islanders.

Section 3: Chief Public Health Office Programs describes current initiatives under the following CPHO programs areas: Health Promotion, Population Health Assessment and Surveillance, Communicable Disease Control, and Environmental Health.

Section 4: Conclusion reviews and summarizes the main findings of the report and offers a strategic approach to addressing health equity and the Social Determinants of Health.

1

SPECIAL FOCUS ON: HEALTH EQUITY

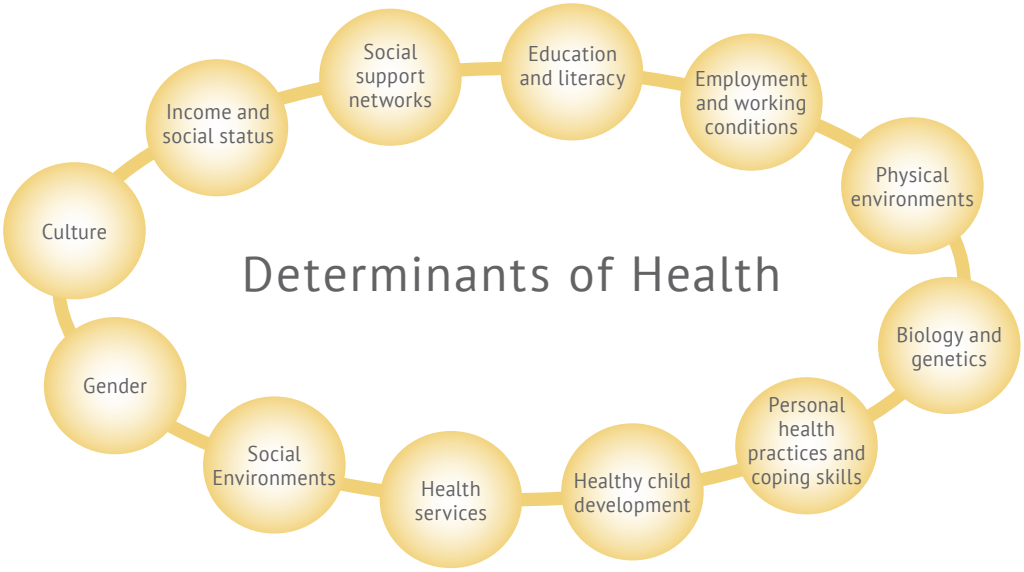
Social Determinants of Health

What makes Canadians healthy or unhealthy? Over time, society's response to this question has changed. For many years, health was thought to be determined by a strong healthcare system that cared for the sick by means of hospitals, healthcare providers and medications. However, since the 1970s there has been growing consensus that the healthcare system plays only a small role in improving the health of a population.[1]

The health of a population is now understood to be primarily driven by socioeconomic factors that shape the conditions in which people live, learn, work and play. Recent estimates indicate that socioeconomic factors account for 50% of all health outcomes, while health care, genetics, and physical environments account for 25%, 15%, and 10% of health outcomes.[2]

The Social Determinants of Health (SDH) is a term used to describe the societal conditions that influence people's health.[3] The Public Health Agency of Canada has defined the SDH in Canada to include income and social status, social support networks, education and literacy, employment and working conditions, social environments, physical environments, personal health practices and coping skills, healthy child development, biology and genetic endowment, health services, gender, and culture.[4]

These SDH are evidence-based and can influence health either positively or negatively. For example, a strong education system and social supports can have a positive impact on health whereas poor housing and unemployment can have a negative impact on health.[11] Taking action on the SDH has the greatest potential to improve population health outcomes by addressing the root causes of illness and injuries before they occur.[5,6]



Health Equity

Social determinants of health may not be equally distributed in a population. For example, one community may have higher levels of unemployment, crime or illiteracy than another community. Often such differences are related to longstanding social norms, policies and practices resulting in an unjust allocation of societal resources. Differences in the SDH often lead to health inequity: differences in health outcomes that are systemic, unfair and avoidable.[7,8]

Since the greatest burden of disease in Canada is due to chronic disease, health inequity is particularly evident among chronic disease conditions.[11] Four disease clusters account for the majority of chronic disease in Canada: cardiovascular disease, cancer, chronic pulmonary disease and diabetes. These four diseases are closely linked to four behavioural risk factors: poor diet, lack of physical activity, tobacco use and excessive alcohol consumption.[9]

The SDH strongly influence these health behaviours in a population and, as a result, impact chronic disease burden. For example, poor working conditions and high levels of stress may lead to smoking initiation and continuation and result in increases in COPD and lung cancer. Limited access to child care and safe walking paths may act as barriers to physical activity which contributes to unhealthy weights and higher risk of heart disease and diabetes. The SDH's impact on health behaviours changes over time and across the life span, impacting the health of individuals, groups and communities in different ways.[6]

Reducing health inequity requires the redistribution of societal resources to improve the SDH, particularly for disadvantaged groups. Such actions enable individuals to increase control over, and to improve, their health.[6] Since many of the SDH lie outside the health sector, action on the SDH requires broad collaboration among individuals, communities, partner organizations and all levels of government.

Encouragingly, action on the SDH is already taking place across Prince Edward Island. This section will illustrate how the SDH are reflected in PEI and provide examples of individual, community and government initiatives which can have a positive impact on the SDH and, over time, improve the health of Islanders.

EXCELLENT OR VERY GOOD HEALTH

BY HOUSEHOLD INCOME

Of Islanders with the lowest household income

46%*

report excellent or very good health

Of Islanders with the highest household income

70%*

report excellent or very good health

*Statistically significant difference

Income and Social Status

Islanders with the lowest household income are less likely to report excellent or very good health.

Income is the money received for work or through investments. The highest levels of population health are achieved in populations where the distribution of wealth is most equitable.

Higher income and social status are associated with greater health. Low income makes it hard to afford basic needs like food, clothes and shelter. Low income also makes participating in social activities more difficult and increases the chance of feeling socially excluded.[3]

Minimum wage has more than doubled over the last twenty-five years.[6,12] Minimum wage in PEI has increased at a rate greater than the Consumer Price Index.[13,14]

MINIMUM WAGE (HOURLY), PEI

Year[1]	Minimum Wage (hourly)[2]
2000	$5.60
2005	$6.80
2010	$9.00
2015	$10.50

1 end of calendar year
2 based on wage for ≥18 years of age

5

Social Support Networks

Family, friends and community support are strongly related to better health. Social support helps individuals solve problems, deal with stressful circumstances and maintain control over their lives. The risk of health problems is reduced when individuals have caring and respectful relationships with others.[15]

Social exclusion occurs when a group is not able to fully participate in society. Socially excluded Islanders are more likely to lack access to health services, social services and educational opportunities and experience poorer health as a result.[16]

The PEI Friendly Visitor Program provides friendship and companionship through meaningful one-on-one relationships between senior volunteers and Island seniors who may be at risk of becoming socially isolated.

EXCELLENT OR VERY GOOD HEALTH

BY EDUCATION

Of Islanders without a high school education

53%*

report excellent or very good health

Of Islanders with a college or university education

66%*

report excellent or very good health

*Statistically significant difference

Education and Literacy

Islanders without a high school education are less likely to report excellent or very good health.

Education is generally defined as the highest level of schooling completed. Literacy is the ability to read and understand written materials. People with more education enjoy better health than those with less education. More education is related to having a higher income, better job security and improved working conditions. People with more education can access retraining more easily if the job market suddenly changes.

Higher education is related to more community and political involvement. Education improves general literacy and our understanding of how our own behaviour changes our health.[4,16]

Wilfrid Augustine (right) joined the GED adult upgrading class at the Scotchfort Reserve, delivered by Holland College, where he completed his grade 12 equivalency certificate in May 2015. Wilfrid was then accepted into the Corrections Officer Program in the fall of 2015 at the Atlantic Police Academy from which he graduated on February 26, 2016.

Employment and Working Conditions

Islanders who do not have a job are less likely to report excellent or very good health.

Employment is the job done by a person and working conditions are the circumstances surrounding the job. Employment provides income, identity and daily structure to life.[16]

Unemployment leads to lack of income by removing pay and benefits provided by a job. It is also a stressful event that lowers self-esteem, changes routines and increases anxiety.[16]

Working conditions include factors such as employment security, physical conditions, pace and stress, working hours and chance for self-expression and development at work.[16]

EXCELLENT OR VERY GOOD HEALTH

BY EMPLOYMENT STATUS

Of Islanders who are unemployed

53%*

report excellent or very good health

Of Islanders who are employed

67%*

report excellent or very good health

*Statistically significant difference

PEI Mussels are rope-grown and farmed year round. PEI's mussel industry has grown from an annual yield of 88,000 pounds (40 tonnes) in 1980 to 50 million pounds (22,730 tonnes) today. The industry has become a vital sector of the rural economy and represents 80% of Canadian mussel production.

Temporary or part-time jobs can lead to a more irregular and intense work life (i.e. with non-standard hours), reduced job security and a larger gap between high and low income earners. Long work hours, on the other hand, can lead to physical and emotional problems like sleep deprivation, high blood pressure and heart problems. This can impact relationships, parenting practices and children's behaviour.[16]

EXCELLENT OR VERY GOOD HEALTH

BY FULL OR PART-TIME EMPLOYMENT

Of Islanders that work part-time

61%*

report excellent or very good health

Of Islanders that work full-time

68%*

report excellent or very good health

*Statistically significant difference

Social Environments

The resources shared between community members and the strength of social networks form important components of an individual's ability to cope with change and improve health. The values and normative beliefs of a community influence the health of its members. A stable supportive community that fosters safety, diversity, good working relationships and cohesiveness reduces the risk of poor health.[4] Examples of social networks and shared resources include: community spaces like rinks, parks and libraries; and clubs and organizations like the Boys and Girls Club, Rotary, and Women's Institute.

L'Association des Francophones l'âge d'or de Î.P.É. received a Wellness Grant in 2015-16. More than 200 Francophone senior members met for a full day each month to learn about different topics that affect their health (stress, diet, mental health, grief, relaxation, physical activity, etc.) and participate in physical activities to improve mobility and coordination. The grant strengthened social networks within their community and contributed to positive well-being.

Physical Environments

Islanders who do not own their home are less likely to report excellent or very good health.

Good health requires that contaminants in our air, water, food and soil be within acceptable levels. Our physical and psychological well-being is influenced by the design and quality of communities and transportation systems.[4] For example, outdoor air pollution increases the risk of hospitalization for circulatory and respiratory disease. Green spaces are also important factors in reducing the negative effects of both heat extremes and air pollution on health.[17]

As part of the physical environment, housing and good air quality is a requirement for living a healthy life. Housing that is unsafe, unaffordable or insecure can increase the risk of many health problems. Housing that is unaffordable decreases the amount of money available to a household to meet other SDH.[4,16]

Many PEI trail experiences await Islanders and visitors including 274 km of Confederation Trail, Major Woodland Trails, Parks Canada Trails, other Hiking/Biking/ Mountain Biking Trails, and narrow red clay Heritage Roads.

EXCELLENT OR VERY GOOD HEALTH

BY PHYSICAL ENVIRONMENT

Of Islanders who live in urban homes

60%

report excellent or very good health

Of Islanders who live in rural homes

61%

report excellent or very good health

EXCELLENT OR VERY GOOD HEALTH

BY HOME OWNERSHIP

Of Islanders who do not own their homes

50%*

report excellent or very good health

Of Islanders who own their homes

63%*

report excellent or very good health

*Statistically significant difference

Personal Health Practices and Coping Skills

Islanders who do not eat five fruits and vegetables a day are less likely to report excellent or very good health. Islanders who are inactive are less likely to report excellent or very good health.

Nineteen year old Jessie Shanahan is a Swim Athlete and active member of Special Olympics PEI. Her sport of choice is swimming, but she can also be found training and competing in track and field and participating in community sport. Starting as a young athlete at the age of 11, Jessie has had much personal and athletic growth. From a shy youth to a very outgoing adult, Jessie is hard working and loves to be part of the Special Olympics movement.

Personal health practices and coping skills are the behaviours used by an individual to promote good health. This includes disease prevention, disease management, self-care, coping and problem-solving skills, and self-reliance. Individual health behaviours influence health outcomes while supportive environments create opportunities to make healthy lifestyle choices.[4]

One personal health practice is the food consumed by an individual. Access to affordable, safe and nutritious food is essential for a healthy life. Accessibility and affordability is influenced by factors such as income, education, and employment which are often beyond the control of individual choice.[18] Food insecurity is defined as a diet where there is not enough food or not enough healthy food. Children in these households are more likely to have educational, behavioural and emotional difficulties than children in food secure households.[16] Similarly, an individual's ability to engage in regular physical activity is influenced by the time they have free for such activity after working, commuting, fulfilling family responsibilities and by the opportunities available for physical activity in the neighborhood where the individual lives.[18]

EXCELLENT OR VERY GOOD HEALTH

BY FRUIT AND VEGETABLE CONSUMPTION

Of Islanders who eat less than 5 fruits and vegetables a day

57%*

report excellent or very good health

Of Islanders who eat more than 5 fruits and vegetables a day

68%*

report excellent or very good health

*Statistically significant difference

EXCELLENT OR VERY GOOD HEALTH

BY PHYSICAL ACTIVITY

Of Islanders who are inactive

52%*

report excellent or very good health

Of Islanders who are active

73%*

report excellent or very good health

*Statistically significant difference

Handle with Care is a simple, culturally-relevant interactive parenting program that promotes the mental health of young children from birth to 6 years and their parents or caregivers. Handle with Care is designed to reduce inequities and build on individuals' strengths, traditions and knowledge. More than 40 group and individual programs have been delivered across the province by one or more of the 100 trained facilitators.

Healthy Child Development

Experiences in early childhood have a short and long-term effect on biological, psychological and social development. Poor early childhood experiences can create a vulnerability to ill health throughout life. Early childhood conditions that decrease a child's ability to learn can have further effects on health because of future lower education and income levels. The longer children experience problems with access to conditions that meet physical and social needs, the more likely they are to have developmental and health problems.[4,16]

The 2014 Canadian Institute for Health Information report on children vulnerable to poor early childhood development showed that 17.2% of PEI kindergarten children were vulnerable in at least one area of development (i.e. communication skills/general knowledge, emotional maturity, physical health/well-being, social competence and/or language/cognitive development). The PEI result was better than the Canadian average of 26%.[19]

Access to quality early childhood education improves child development outcomes for all children, especially those living in lower socioeconomic conditions.

Biology and Genetic Endowment

Biology and the make-up of the human body contribute to health status. The genes inherited by an individual determine their response to a wide variety of stimuli, predisposing some individuals to particular health problems.[4] For instance, risk factors such as age and genetics play a part in the development of a chronic condition. Though these factors are non-modifiable, an individual's health can still be improved by focusing on modifiable factors such as employment and income. Low income is associated with poor housing and lifestyle choices such as poor diet, inactivity, and smoking. All of the factors together increase the risk of developing a chronic condition. Examples of chronic conditions include asthma, arthritis, high blood pressure, chronic respiratory diseases, diabetes, heart disease, cancer, and mood disorders.

The Abegweit First Nation Diabetes Breakfast Program regularly offers individuals with diabetes the chance to get their blood sugar and pressure checked and receive information on various topics pertaining to diabetes. Organizations like the Heart and Stroke Foundation get involved by presenting and discussing practical ways to manage diabetes and other risk factors associated with cardiovascular disease.

Health Services

Islanders who visit the dentist annually are more likely to report excellent or very good health.

Health care services are the collection of services meant to protect the health of citizens and spread the cost of providing health care among citizens. Gaps in the Canadian universal health care system create inequities in health for those with lower incomes. This includes a lack of coverage for dental, eye and drug costs among others.[4,16]

Health PEI Public Health Nursing deliver immunization programs in communities across PEI. This includes Public Health Nursing Offices, schools, and satellite clinics offered at the Newcomer's Association and many public influenza immunization clinic sites.

EXCELLENT OR VERY GOOD HEALTH

BY VISITS TO THE DENTIST

Of Islanders who don't visit the dentist annually

51%*

report excellent or very good health

Of Islanders who visit the dentist annually

66%*

report excellent or very good health

*Statistically significant difference

Inequity in access to health services can occur through several means:

- Location of health services away from high needs areas
- Cost of health services
- Cultural and language barriers
- Different treatment outcomes due to the influence of other determinants of health[21]

Equitable access to health care services means greater access for lower socioeconomic groups because of their poorer health status and greater need for care.[21]

Gender

There is no difference between Island men and women in reporting excellent or very good health.

Gender can be defined as the traits, roles, attitudes, behaviours and influence that society assigns to men and women. Women tend to be responsible for more household and child care responsibilities. They are also less likely to hold full-time jobs and be eligible for Employment Insurance. The cost and availability of childcare is directly related to the ability of women to fully participate in the workforce, particularly for single mothers.[4,16]

Men experience higher rates of social exclusion, death by suicide, substance abuse and violence. Men in poverty, who are unemployed or who have low education are more likely to resort to criminal activity.[16]

Discrimination can also affect gay, bisexual, lesbian and transgendered individuals, both in educational systems and in the workplace. This discrimination can cause adverse health effects in the areas of mental health, sexual health and access to health care. There is a greater prevalence of social exclusion, violence, risk of incarceration, homelessness and unemployment among individuals with a minority gender identity.[3,22]

EXCELLENT OR VERY GOOD HEALTH

BY SEX (MALE OR FEMALE)

Of male Islanders

60%

report excellent or very good health

Of female Islanders

61%

report excellent or very good health

In 2014, 65% of PEI women participated in the labour force compared to 72% for men. The Trade HERizons career exploration course offered by Women's Network P.E.I., is a prime opportunity for women to explore non-traditional trades they can pursue in the future, such as plumbing, welding, aircraft gas engine technician, electrician, wind turbine technician and more. This program is helping to move women from poverty to a sustainable livelihood.

Culture

Socioeconomic groups defined by cultural values can be associated with poor health status through marginalization, stigmatization, devaluation of language and culture and problems accessing appropriate health services.[4]

Aboriginal Canadians have a specific societal and cultural history in Canada that leads to adverse SDH. They earn significantly less than non-Aboriginal Canadians and have more low-income households, higher unemployment rates, and lower education than non-Aboriginals. Aboriginals experience higher rates of food insecurity, higher rates of poor housing conditions and lower life expectancy. Aboriginals also experience higher rates of mental health conditions, substance abuse problems and higher rates of many chronic and communicable diseases.[16]

Canadians from visible minorities have higher rates of unemployment and underemployment. Although immigrants to Canada arrive healthier than the average Canadian, over time their health declines to below the Canadian average.[16]

PEI has experienced continuous growth in the arrival of newcomers to the Province over the past decade. In 2001-2014, 13,784 immigrants chose Prince Edward Island as their new home (permanent residents). Newcomers have a better settlement experience when they are integrated both socially and economically.

Health is created and lived by people within the settings of their everyday life; where they live, learn, work, and play. Health is created by caring for oneself and others, by being able to make decisions and have control over one's life circumstances, and by ensuring that the society one lives in creates conditions that allow the attainment of health by all its members.[23]

2

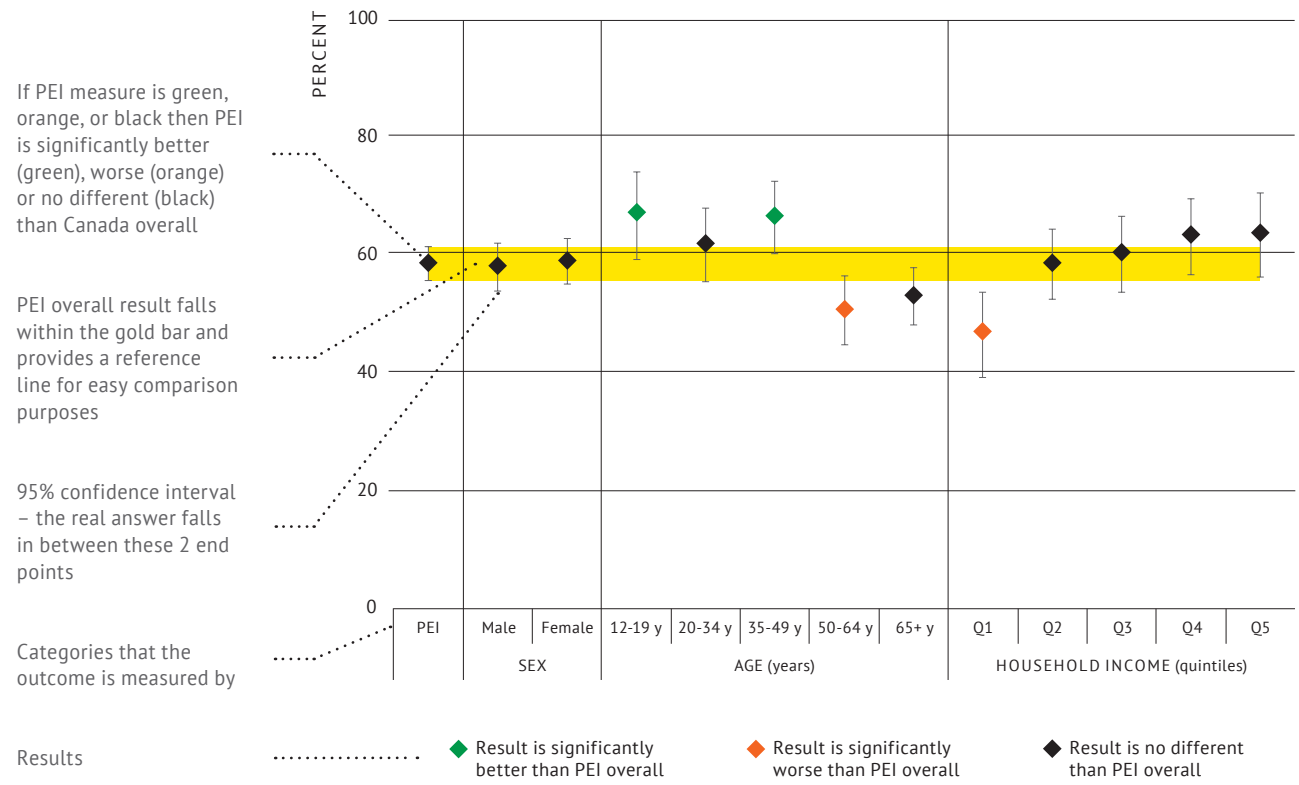
PRINCE EDWARD ISLAND HEALTH TRENDS

How to Interpret Results

The Health Trends section provides an overview of the health status and determinants of Islanders. Multiple sources of health surveillance data were used. Full data tables including time trends and Canadian results are found in the data appendix, as is the methodology section.

Indicators are presented with a brief description, time trend and national comparison (where possible) followed by a summary figure and interpretation of the data. The following graphic provides an explanation of how to interpret the figures in this section:

SELF-REPORTED EXCELLENT OR VERY GOOD HEALTH, PEI
AGED 12+, 2013-14



It is important to understand household income quintiles for a better interpretation of the following PEI health trends. Household income is reported by survey respondents and scaled to reflect the size of a household and their community. Quintiles split the PEI population into five household income groups of 20% each. The lowest quintile (lowest 20% of household incomes) is Quintile 1 (Q1) and the highest quintile (highest 20% of household incomes) is Quintile 5 (Q5).

In 2013-14, the lowest income quintiles contained a greater proportion of women (e.g., Q1 59% female), whereas the highest quintiles contained a greater proportion of men (e.g., Q5 54% male). Additionally, the distribution of income differs by age. For example, seniors over age 65 tend to be in lower income quintiles, whereas middle aged adults (aged 35-64) tend to be in higher income quintiles. The distribution of income is spread more evenly among the youth and young adults, although a significantly greater proportion of both groups are in Q1 compared to Q5.

PEI Population

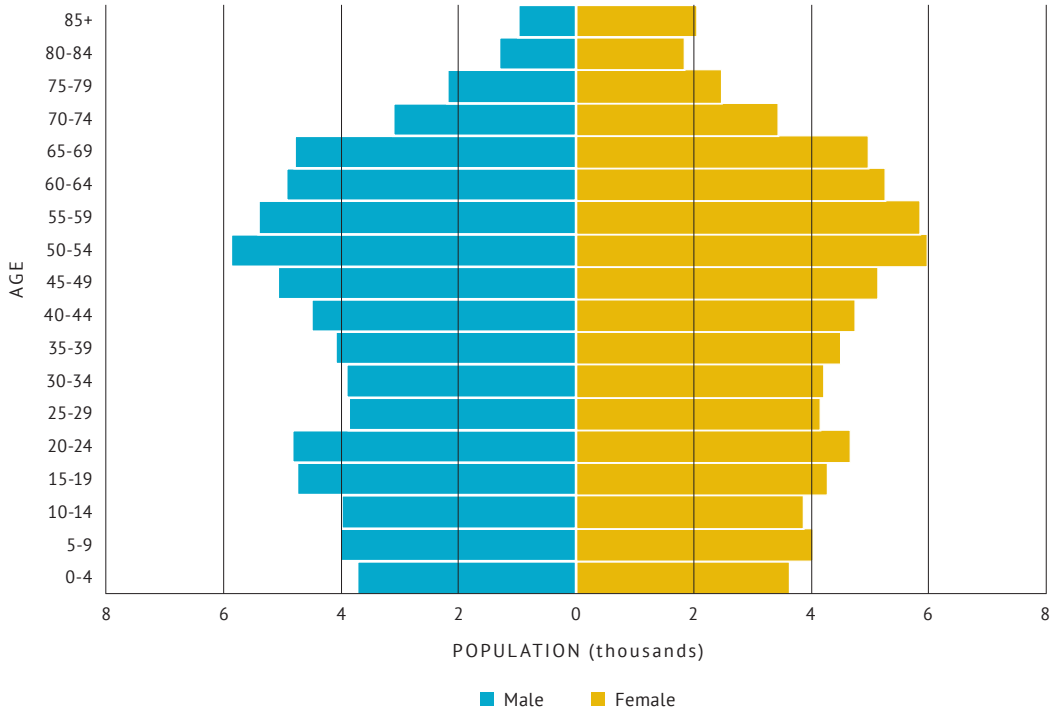
The following depicts the population pyramid for PEI. A population pyramid shows the number of Islanders by sex in 5-year age groupings.

The population pyramid for PEI demonstrates the aging population in PEI. This is shown by the widening of the bars as the age groupings increase. This population structure is an important factor to consider when interpreting health data for PEI.

PEI will experience a significant change over the next 20 years. By 2025, approximately 24% of Islanders will be 65 years of age or older. By 2035, this proportion will rise to more than 27%.

Aging populations experience challenges in terms of health and wellbeing. This important shift was discussed in detail in the *2014 Chief Public Health Officer's Report*.[24]

PEI POPULATION, 2015



Source: Statistics Canada. Estimates of Population

All-Cause Mortality - Leading Causes of Death

Ranking the leading causes of death is an important way to provide information on current mortality (death) patterns in PEI and Canada (CA).

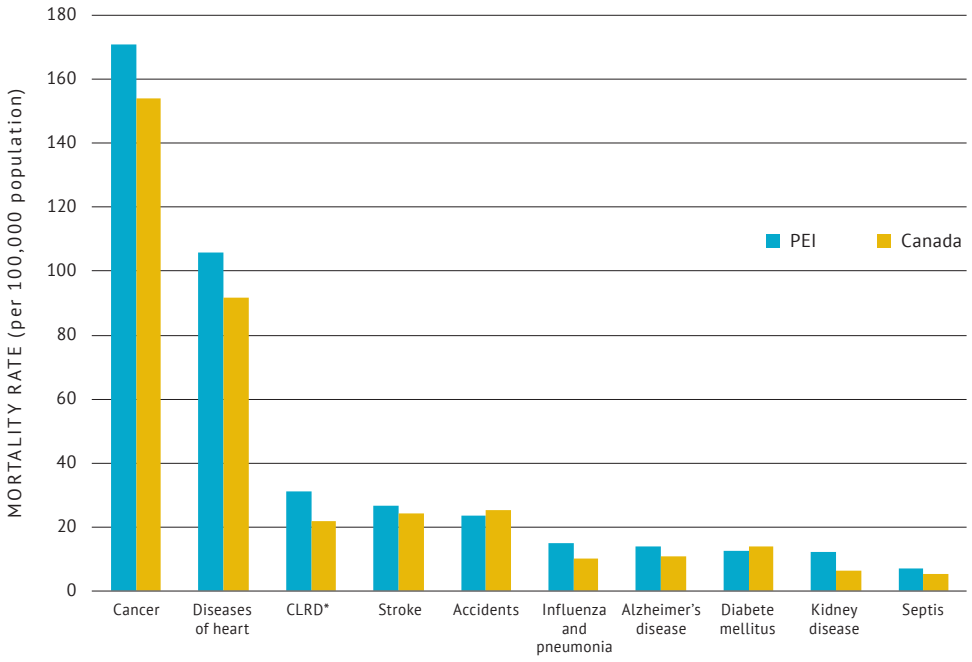
Globally many factors such as aging populations and overall advances in public health have shifted mortality from communicable diseases to non-communicable diseases.[25]

Cancer, heart disease and chronic lower respiratory disease (CLRD) (ex. COPD and emphysema) and stroke are the leading causes of death in PEI. Smoking is a major risk factor for these diseases and contributes to PEI's increased mortality rates.

Notably, the deaths associated with CLRD in PEI have been increasing whereas the deaths in Canada have been decreasing.

Smoking is a major risk factor for PEI's top 4 causes of death. Smoking rates are higher in PEI than in Canada, which contributes to PEI's increased mortality rates.

LEADING CAUSES OF DEATH, PEI AND CANADA, 2012



*CLRD: Chronic Lower Respiratory Disease

Age Standardized

Source: Statistics Canada. Canadian Vital Statistics, Death Database

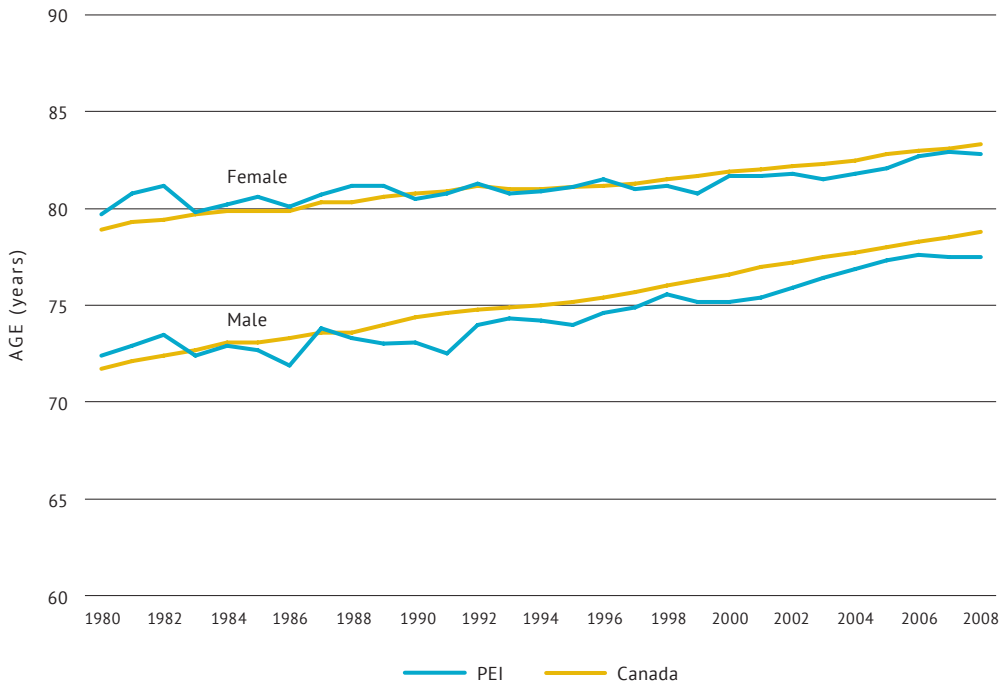
PEI and Canada have similar life expectancies at birth which are some of the highest in the world. (PEI males 78, PEI females 83)

Life Expectancy

Life expectancy is an important measure of the health of a population. Life expectancy at birth is the average number of years a person would be expected to live if current trends remain the same. Increases in life expectancies are partly dependent on fewer deaths of young children and infants. Life expectancy does not take into account quality of life.

Canada has one of the highest life expectancies in the world.[27] While the trend for increasing life expectancy is consistent for men and women in Canada, the life expectancy in PEI has not changed for the past few years. Men generally have a lower life expectancy than women; however this gap has been narrowing over time. Male life expectancy in PEI has been below the Canadian average since the late 1980s.

LIFE EXPECTANCY AT BIRTH BY YEAR OF BIRTH, PEI AND CANADA



Source: Statistics Canada. Canadian Vital Statistics, Birth and Death Databases

Self-Reported General Health

Self-reported health, or how healthy a person feels, summarizes the physical, emotional and social wellbeing of that person. It is a valuable population health indicator.

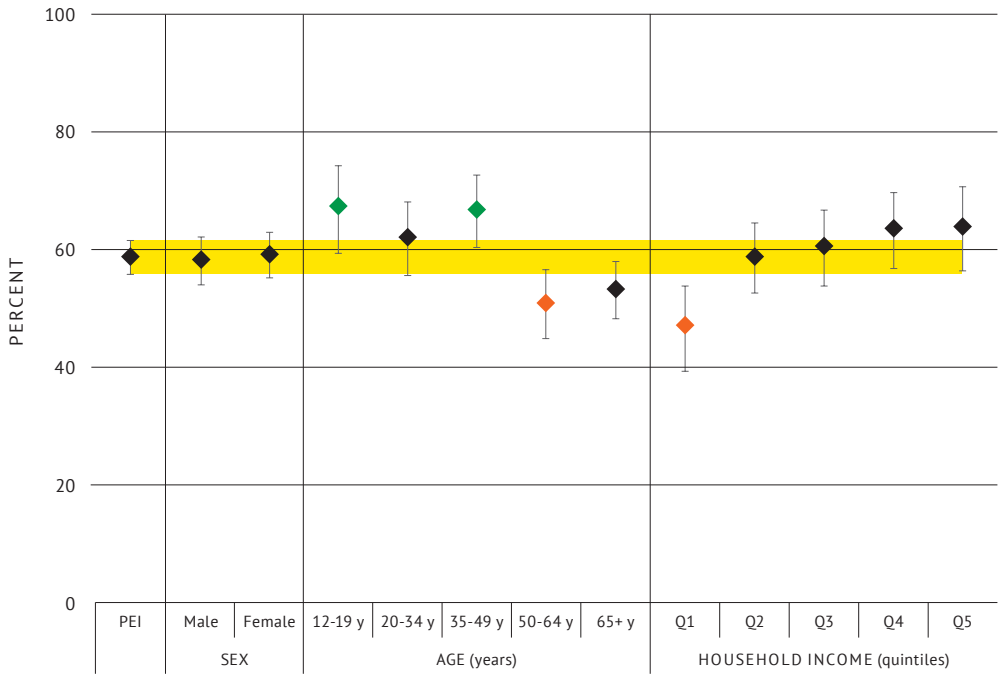
Overall, 58.6% of Islanders report their health as either excellent or very good. This is similar to the Canadian rate (both 61.4% age-standardized (AS)).

Over time our self-reported health has stayed stable.

Self-reported health is impacted by age with younger age groups reporting better health compared to older age groups. Income quintile is also related to self-reported health, with health improving with increasing incomes.

Islanders with the lowest income are less likely to report excellent or very good health compared to Islanders overall.

SELF-REPORTED EXCELLENT OR VERY GOOD HEALTH, PEI
AGED 12+, 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS, 2003, CCHS 2000/01

Self-Reported Mental Health

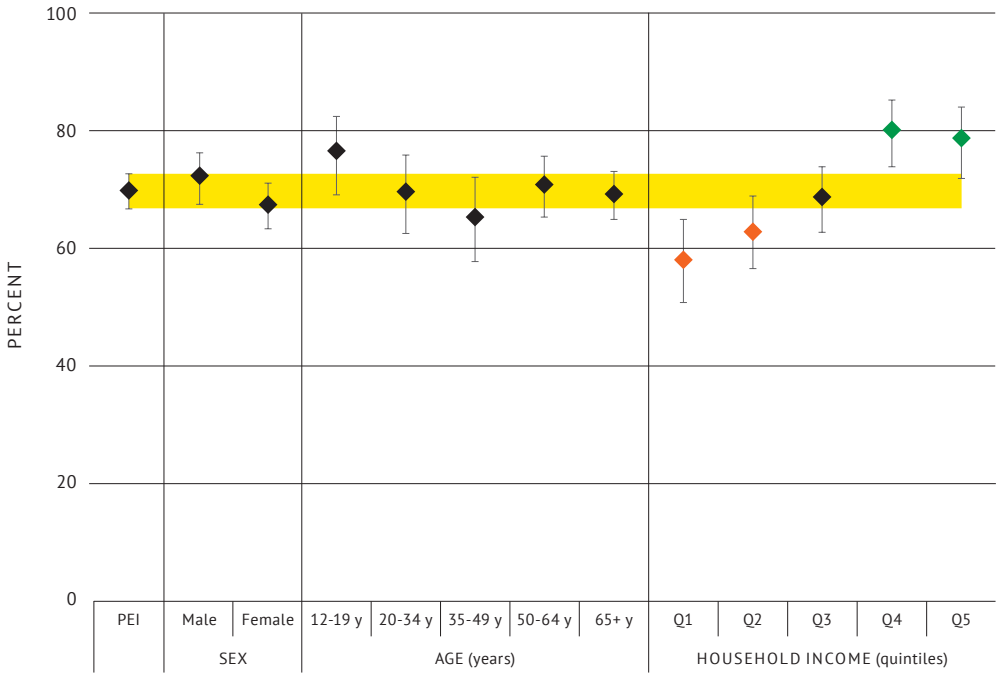
Work-life balance, stress, emotional wellness, aging, self esteem, coping skills, and social support for individuals and communities are just a few components of mental health. Without good mental health, people may be unable to fulfill their full potential or play an active part in everyday life.

Overall, 69.8% of Islanders report excellent or very good mental health which is similar to the Canadian rate (70.2%AS PE, 71.8%AS CA). Islanders reporting excellent or very good mental health is trending downwards.

Islanders with lower income have poorer mental health compared to Islanders overall.

Income quintile has a clear impact on self-reported mental health. Islanders in the lowest two income quintiles have significantly poorer mental health, while Islanders in the highest two income quintiles have significantly higher mental health when compared with the overall Island population. Islanders living in lower income situations may be living in stressful conditions which increase their risk of poor mental health.[16]

SELF-REPORTED EXCELLENT OR VERY GOOD MENTAL HEALTH, PEI AGED 12+, 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08

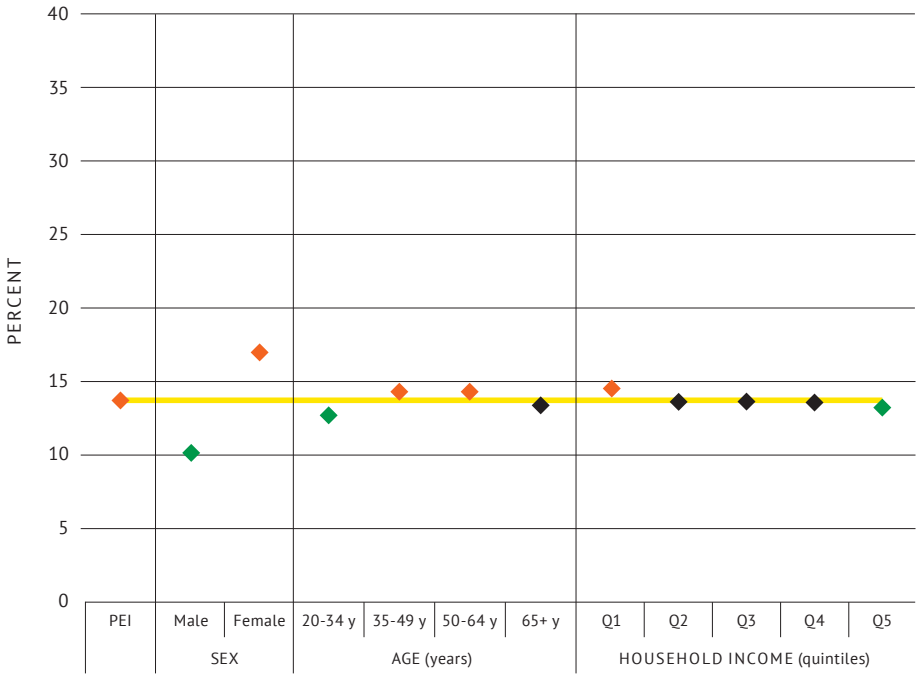
Mood and Anxiety Disorders

Mood and anxiety disorders are among the most common types of mental health disorders.[28] Three out of four Islanders who were treated for a mental health disorder sought treatment for disorders such as depression, bipolar disorder, or anxiety. Historically, PEI has had similar or slightly lower rates than Canada for the treatment of these disorders, but since 2008, PEI's rate was higher than the rest of Canada. Treatment for mood and anxiety disorders in PEI has increased by more than 20% since 2007.

Overall, 14% of Islanders were treated for mood or anxiety disorders in 2013-14. Middle aged (35-64 years) and lower income Islanders are more likely to be treated. Females are more likely to be treated, which may be influenced by women more readily seeking treatment, rather than simply a greater prevalence of these disorders among women.

Islanders are more likely to be treated for a mood disorder than Canadians. Females, Islanders with the lowest income, and those between 35 - 64 years are more likely to seek treatment for mood and anxiety disorders.

ANNUAL PREVALENCE OF TREATED MOOD DISORDERS, PEI AGED 20+, 2013-14



Source: Canadian Chronic Disease Surveillance System, PEI Department of Health and Wellness, Chief Public Health Office

Self-Reported Obesity

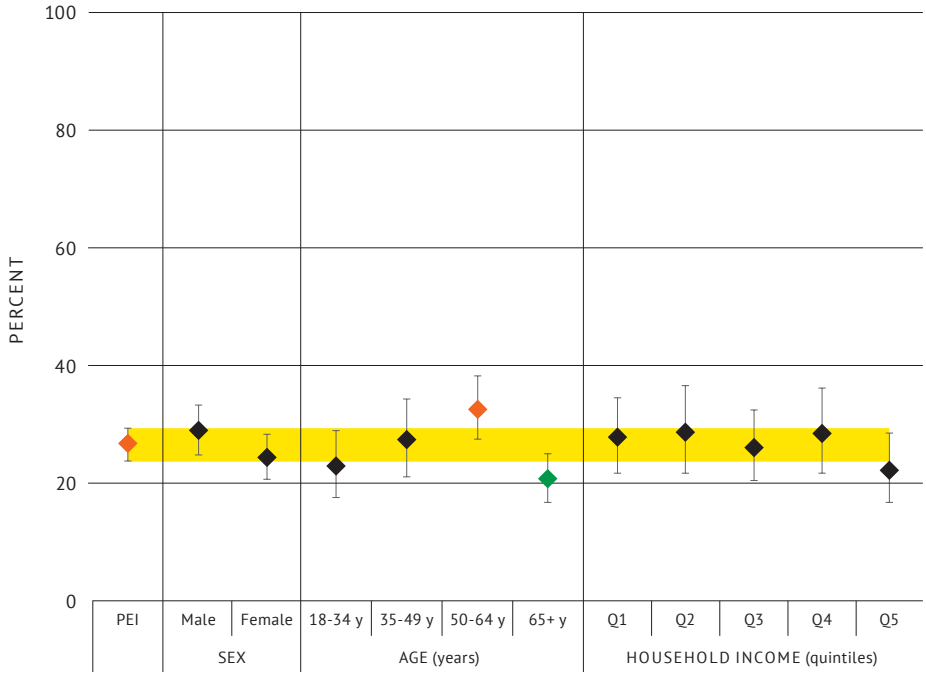
Obesity measured by a Body Mass Index (BMI) of 30 or greater is linked to an extensive number of co-morbidities including heart disease, diabetes and several cancers.[29]

Obesity rates have been increasing over time in PEI and Canada. Islanders (24.4% AS) are significantly more likely to be obese than Canadians (18.2% AS). Self-reported weights in adults have been shown to be underestimates of true body weight; therefore actual rates of obesity are likely higher.[30]

Based on current data, those aged 50-64 years are more likely to be obese compared to the overall Island population. Seniors are less likely to be obese. Seniors however are more likely to be overweight compared to Islanders overall (data not shown).

Islanders are more likely to be obese than Canadians. 63.2% of Islanders are either overweight or obese.

SELF-REPORTED OBESITY, PEI
AGED 18+, 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003

Over 1 in 3 Islanders report a chronic condition. This is higher than the Canadian average and rates are highest among Islanders with low income.

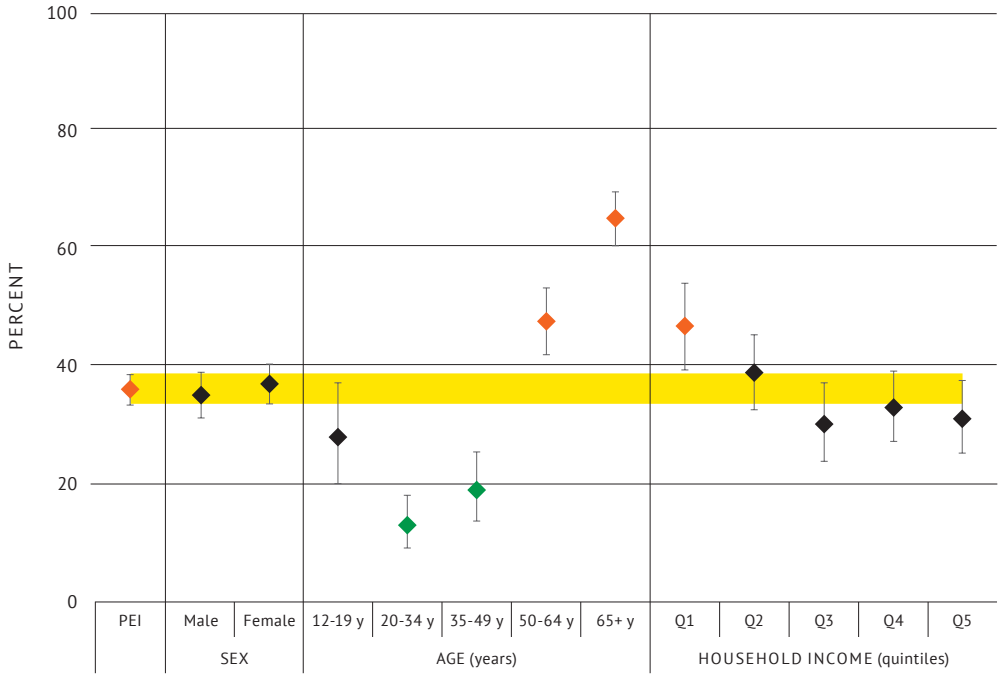
Chronic Conditions

Chronic conditions for this indicator include at least one of: arthritis, asthma, heart and stroke, diabetes or cancer. Overall, 35.7% of Islanders report having a chronic condition.

Age is a risk factor for the development of many chronic conditions. By 50 years of age and older, chronic conditions are much more likely compared to our younger age groups. However, after adjusting for age, PEI (29.2%AS) continues to have a higher rate of chronic disease burden than Canada (25.8% AS) and this has been consistent over time.

Income is also related to chronic disease. Islanders with the lowest income have higher rates of self-reported chronic disease than the overall Island population.

SELF-REPORTED CHRONIC CONDITIONS, PEI AGED 12+ 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003, CCHS 2000/01

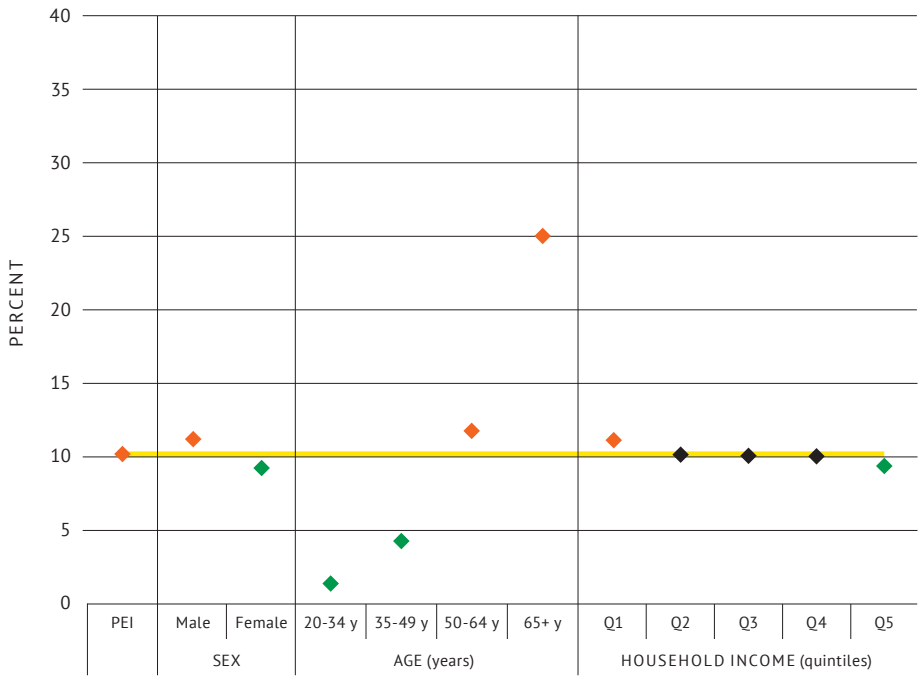
Chronic Condition - Diabetes

Diabetes is a chronic condition that occurs when the body is unable to produce or properly use insulin, a hormone that controls the level of sugars in the blood. High blood sugar levels can cause serious complications including damage to the organs, blood vessels and nerves. In many cases, diabetes can be prevented, delayed, or even reversed by making healthy lifestyle choices including a healthy diet, regular exercise, and losing excess weight.[31] Historically, PEI has had a higher prevalence of diabetes than Canada, and the prevalence of diabetes has been steadily increasing over time. This is not surprising given our aging population and rising obesity rates, which are higher than the Canadian average and which are important risk factors for developing diabetes.[31,32]

About 1 in 10 Islanders (aged 20+) have diabetes. Diabetes is more common in males and Islanders 50 years of age and older. Islanders with the lowest income are more likely to have diabetes, while those with the highest income are less likely to have diabetes.

About 1 in 10 Islanders aged 20+ have diabetes. This is higher than the Canadian average and rates are highest among Islanders with low income.

DIABETES PREVALENCE, PEI AGED 20+, 2013-14



Source: Canadian Chronic Disease Surveillance System, PEI Department of Health and Wellness, Chief Public Health Office

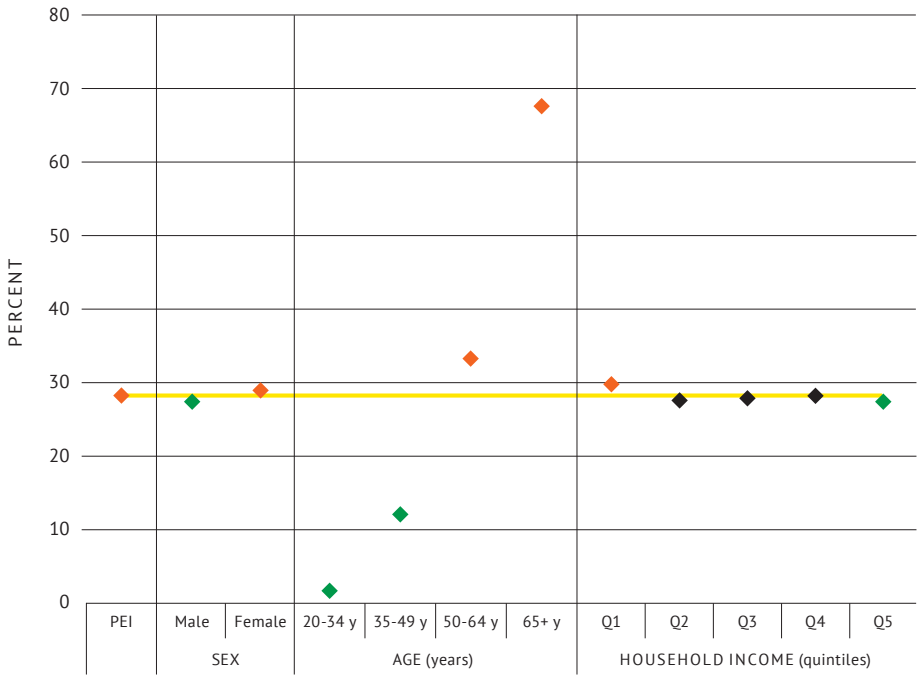
Almost 1 in 3 Islanders aged 20+ have high blood pressure. This is higher than the Canadian average and rates are highest among Islanders with low income.

Chronic Condition - Hypertension

Blood pressure is the force of your blood on the walls of blood vessels as your heart pumps blood through your body. High blood pressure, also known as hypertension, means there is too much of this pressure in the blood vessels. A large number of people may have hypertension, but may not realize it as there are often no symptoms. If left untreated, hypertension increases a person's risk of death from stroke, heart attack, heart and kidney failure, and other vascular diseases.[33] These risks can be prevented or lowered by living a healthy lifestyle. Historically, PEI has had higher rates of hypertension than the rest of Canada.[32]

About 1 in 3 Islanders (aged 20+) have been diagnosed with hypertension. Hypertension is more common among females overall, but this difference is mainly the result of hypertension being very common among older Islanders, coupled with women living longer lives than men. Islanders with the lowest income and Islanders 50 years of age and older are more likely to be hypertensive compared with other Islanders.

HYPERTENSION PREVALENCE, PEI AGED 20+, 2013-14



Source: Canadian Chronic Disease Surveillance System, PEI Department of Health and Wellness, Chief Public Health Office

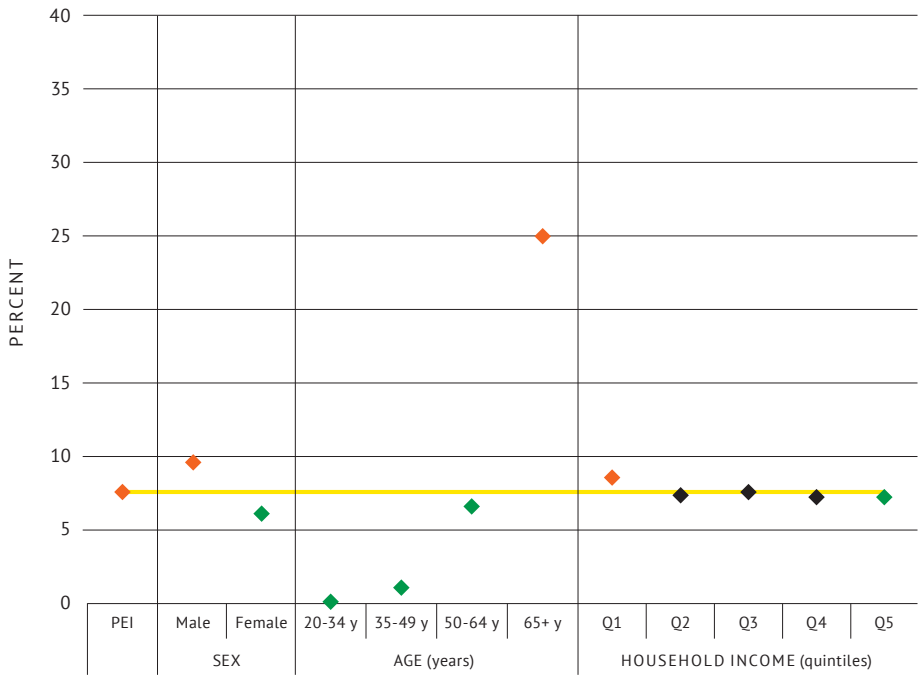
About 1 in 12 Islanders 20+ have heart disease. This is higher than the Canadian average and rates are highest among Islanders with low income.

Chronic Condition - Heart Disease

Heart disease is a condition where heart problems are caused due to narrowed or blocked arteries which restrict the amount of blood and oxygen that reaches the heart muscle. Your risk of having heart disease is increased if you also have high blood pressure, high cholesterol, and/or diabetes, or if you have a family history of heart disease. As well, lifestyle factors such as smoking, physical inactivity, being overweight or obese, and high stress levels can also contribute to the development of heart disease.[34] The proportion of Islanders living with heart disease has been decreasing over time. Historically, PEI has had higher rates of heart disease than the rest of Canada.

About 1 in 12 Islanders (aged 20 and over) have heart disease. It is more common in males. About one in four Island seniors have heart disease, which is higher than the overall rate for PEI. Islanders in the lowest income are more likely to have heart disease.

HEART DISEASE PREVALENCE, PEI AGED 20+, 2013-14



Source: Canadian Chronic Disease Surveillance System, PEI Department of Health and Wellness, Chief Public Health Office

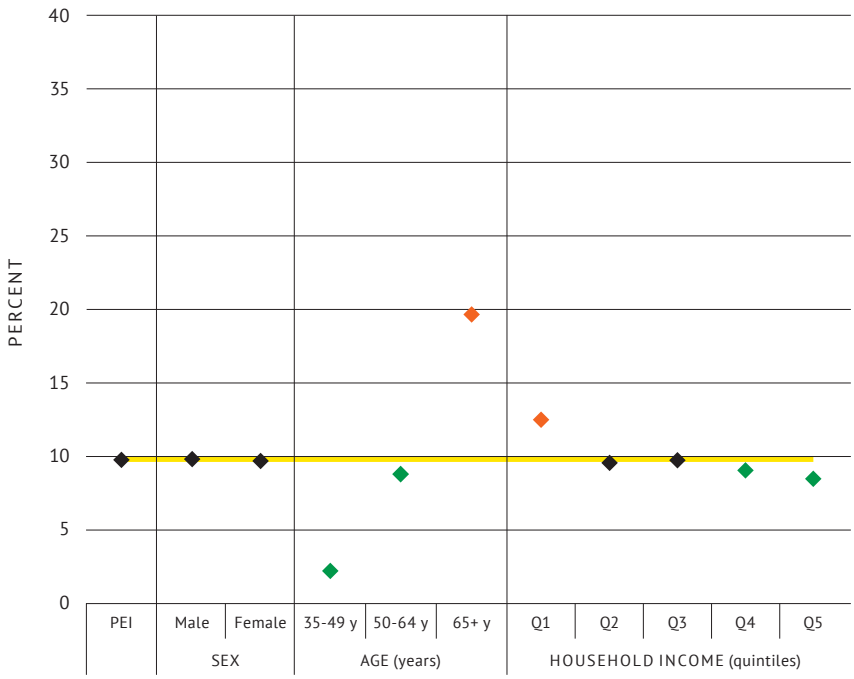
Chronic Condition - Chronic Obstructive Pulmonary Disease

Chronic Obstructive Pulmonary Disease (COPD) is a disease of the lungs that includes chronic bronchitis and emphysema. COPD develops over time and is commonly seen in older adults, and is often caused by smoking. Individuals with COPD have difficulty breathing because their lungs become obstructed or blocked.[35] COPD prevalence has been increasing on PEI, but historically has been lower than the rest of Canada.[32]

About 1 in 10 Islanders aged 35 and older have been diagnosed with COPD. COPD is more common among those aged 65 and over. Islanders with the lowest income are more likely to have COPD.

Almost 1 in 10 Islanders 35+ have COPD. This rate is highest among Islanders with low income.

COPD PREVALENCE, PEI AGED 35+, 2013-14



Source: Canadian Chronic Disease Surveillance System, PEI Department of Health and Wellness, Chief Public Health Office

The number of people diagnosed with cancer in PEI is likely to rise due to our aging population and population growth.

Cancer

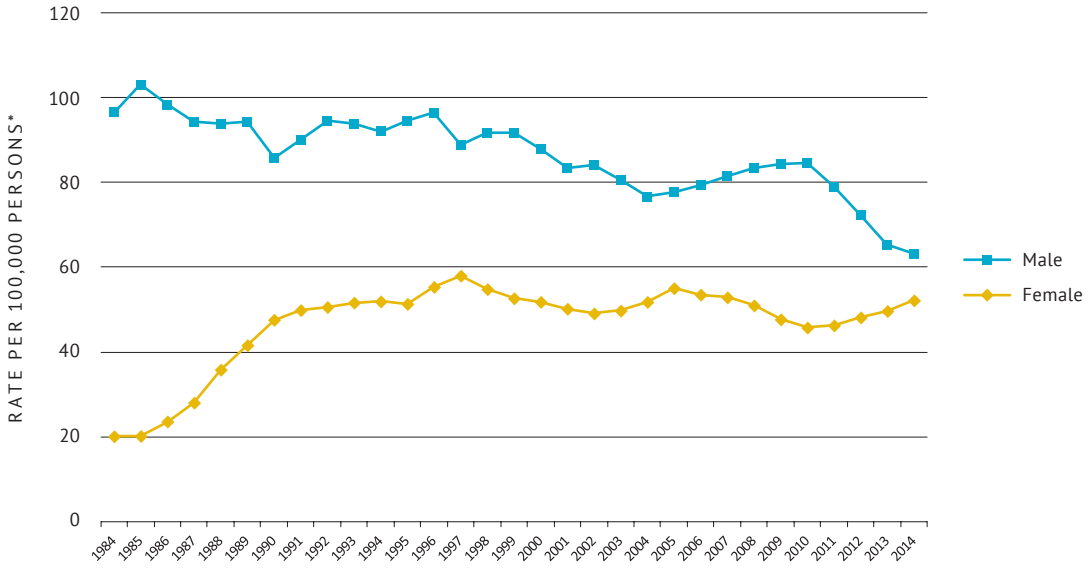
In PEI, the number of people diagnosed with cancer is likely to increase due to our aging population and the population growth in our province. The most common types of cancer in PEI women are lung, colorectal, and breast cancers while the most common types of cancer in PEI men are lung, colorectal, and prostate.

Between 2005 and 2012, PEI men had higher rates of overall total cancers compared with Canadian men and this is explained largely by a higher rate of prostate cancer.[36]

As age is such a significant risk factor for the development of most cancers, age-standardization, or comparing rates while holding ages stable, is vital to properly interpreting cancer trends.

In the past decade, lung cancer incidence in men has decreased substantially while it continues to increase in women. The Canadian Cancer Society reports one main reason Canadian women have not had significant reductions in lung cancer compared to men, is that the rate of smoking in men began to decrease in the mid 1960s while the rate of smoking in women began to decrease much later in the mid 1980s.[37]

LUNG CANCER INCIDENCE, BY SEX, PEI 1984-2014, AGE-STANDARDIZED



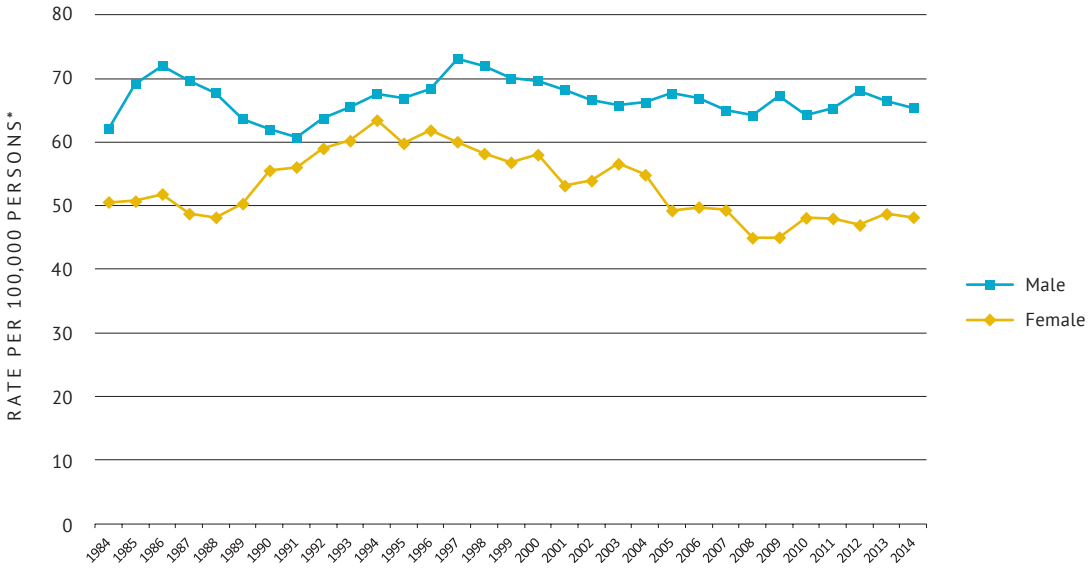
*5 year rolling average

Source: PEI Cancer Registry

Over the past decade the incidence of colorectal cancer for men and women in PEI has stabilized. Men consistently have higher rates of colorectal cancer than women.

In the past decade the incidence of colorectal cancer has stabilized with rates remaining higher in males than females.

COLORECTAL CANCER INCIDENCE, BY SEX, PEI 1984-2014, AGE-STANDARDIZED



*5 year rolling average

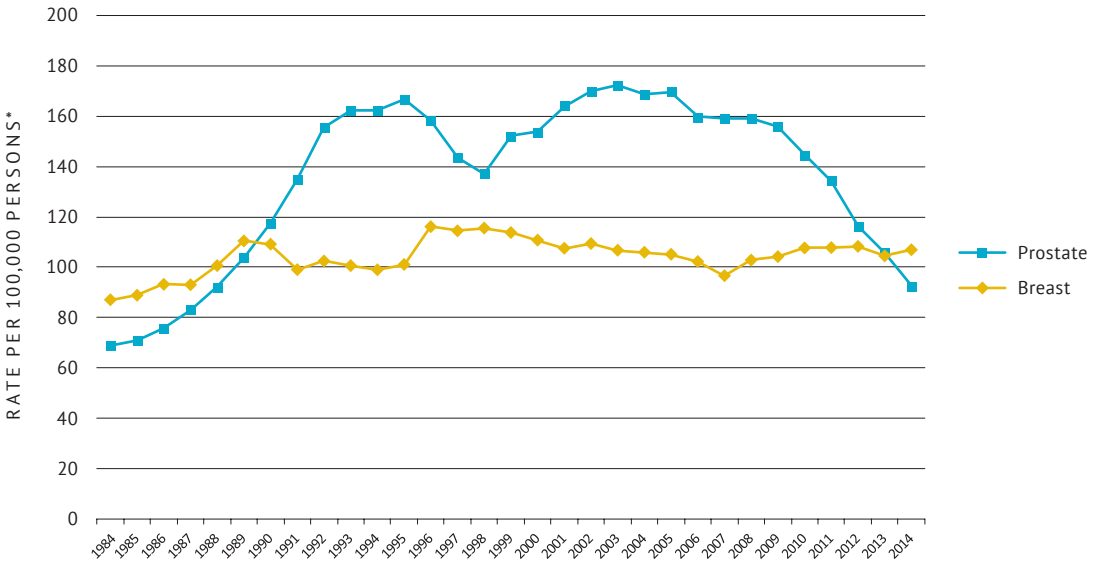
Source: PEI Cancer Registry

The rate of prostate cancer is actively decreasing in PEI men. However, in the past, PEI men have had the highest rate of prostate cancer in Canada. It is possible that PEI had a high rate of prostate cancer because of the use of PSA screening. In the past decade, the use of PSA testing for prostate cancer screening has been under debate if the benefits of screening (diagnosing prostate cancers early) were outweighed by the drawbacks (increased stress and potential treatment side effects).[38]

The rate of breast cancer in PEI women has stabilized in the past ten years.

Incidence of prostate cancer in men has been decreasing and incidence of breast cancer in women has stabilized.

FEMALE BREAST CANCER INCIDENCE AND MALE PROSTATE CANCER INCIDENCE, PE 1984-2014, AGE-STANDARDIZED



*5 year rolling average

Source: PEI Cancer Registry

Communicable Disease - Pertussis

Pertussis (whooping cough) is a respiratory infection in the lungs and throat caused by the *Bordetella pertussis* bacteria.[39]

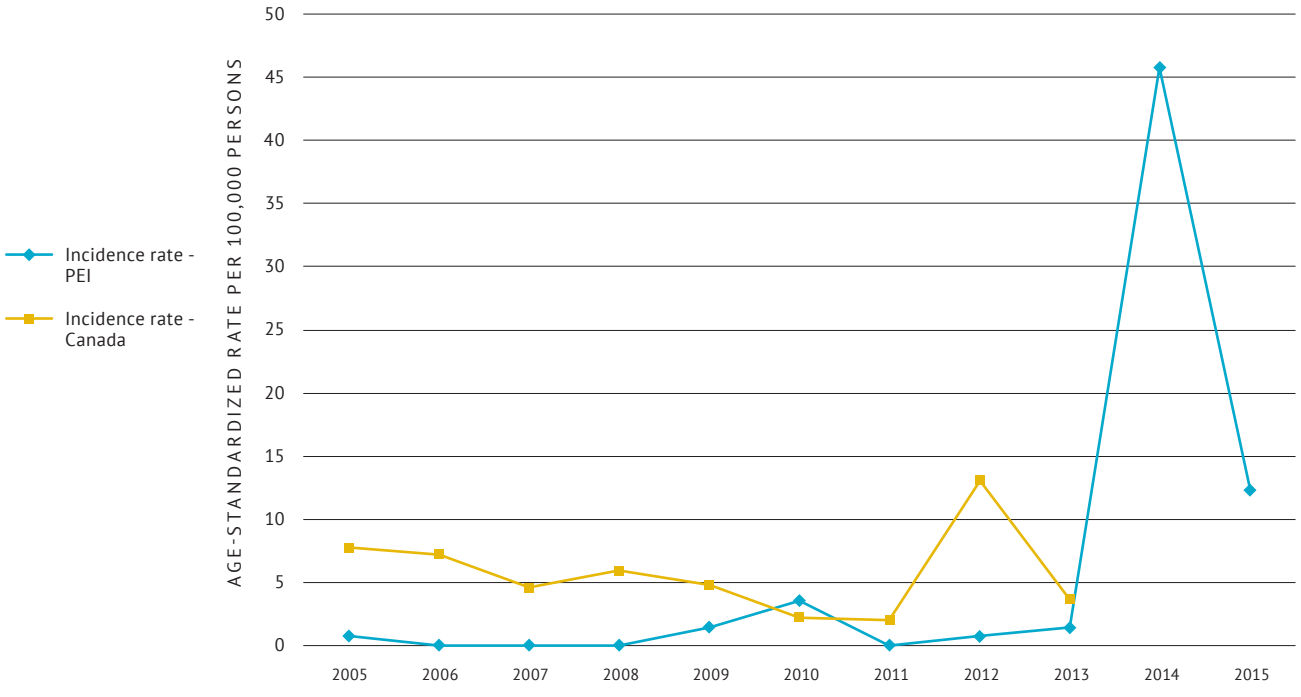
Pertussis occurs worldwide and in Canada there may be individual cases or outbreaks of pertussis diagnosed every year.[40] The incidence of pertussis cases in Prince Edward Island was below Canada until February 2014 when the Chief Public Health Officer declared a pertussis outbreak. In total, 67 outbreak-related cases were identified across PEI.

A pertussis outbreak in 2014 highlights the importance of pertussis immunization in PEI.

In 2015, additional cases of pertussis were identified which is expected following a significant outbreak.

Pertussis is a vaccine preventable disease and in PEI pertussis-containing vaccine is recommended for infants at two, four, and six months of age with booster doses at 18 months, four to six years, and in Grade 9. One adult lifetime dose is also recommended.

PERTUSSIS INCIDENCE RATES BY YEAR, PEI AND CANADA , 2005-2015



Source: PEI Communicable Disease Program Database

Communicable Disease - Syphilis

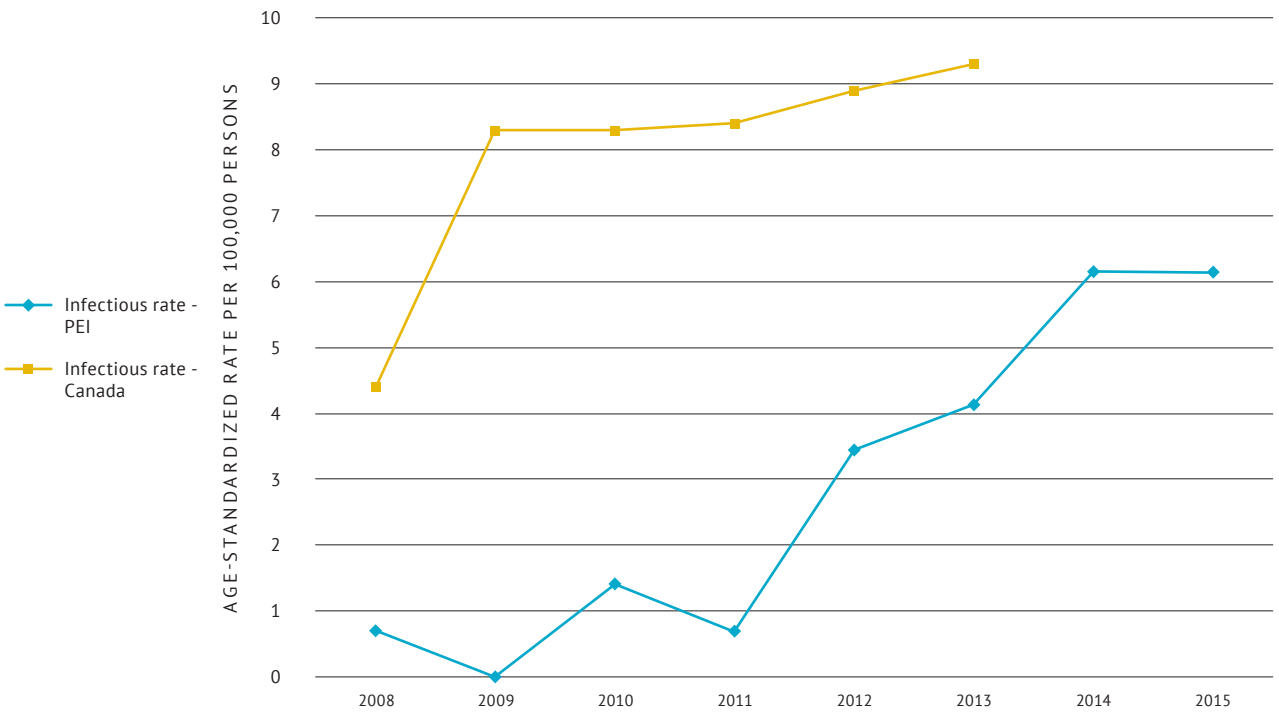
Syphilis is a sexually transmitted infection (STI) caused by the bacteria *Treponema pallidum*.[39] It is transmitted by unprotected oral, anal, and vaginal sex. Early symptoms of infection may include a painless ulcer or chancre, rash, fever, swollen or enlarged lymph nodes, hair loss, and headache. If left untreated, syphilis can cause serious health complications including heart problems, brain damage, blindness, and even death.[41]

The incidence of infectious syphilis has been increasing across Canada including PEI.

Infectious syphilis has been increasing across Canada over the past seven years and in PEI since 2011. Prior to 2014, most cases in PEI acquired the infection in other provinces or countries but since 2014 local transmission is common. The majority of infectious syphilis cases are diagnosed in men, but some women are also contracting syphilis.

Barrier precautions such as condoms for all sexual activities including oral sex, as well as testing for STIs before engaging with a new partner, are essential to the prevention of sexually transmitted infections.

INFECTIOUS SYPHILIS INCIDENCE RATES BY YEAR, PEI AND CANADA 2008-2015



Source: PEI Communicable Disease Program Database

Every year more than 4 million Canadians suffer from food poisoning. Enteric illness can be prevented by proper food handling as well as frequent hand washing.

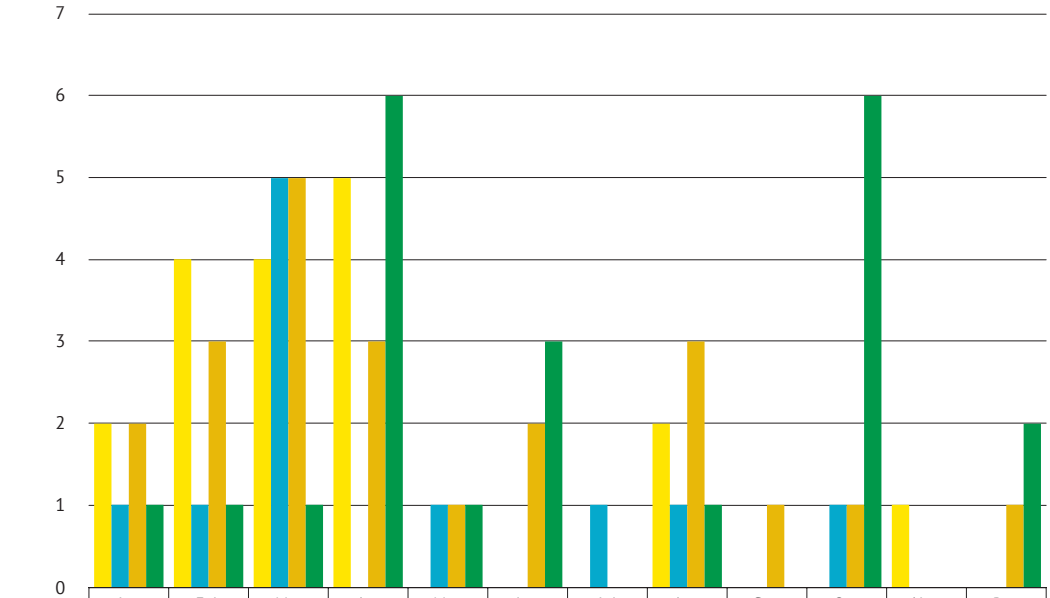
Communicable Disease - Enteric Illness Outbreaks

The majority of Enteric gastro-intestinal (GI) outbreaks in Prince Edward Island are reported from long term care and community care facilities. Noroviruses are the most common causes of these GI outbreaks and are transmitted through indirect or direct contact with infected persons.

Enteric illnesses are typically characterized by diarrhea, nausea, vomiting, abdominal cramps, and fever.[39] Enteric illness can be transmitted through exposure to contaminated food or water, direct or indirect contact with infected persons, or contaminated objects.

Most cases of enteric illness are mild and require only a day or two of reduced activities. However, these cases pose a significant burden due to lost productivity and other related costs. Other cases can be severe and result in hospitalization, serious conditions or death, particularly for children, elderly and those with poor health.[42]

ENTERIC OUTBREAKS, PEI 2012-2015



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2012	2	4	4	5	0	0	0	2	0	0	1	0
2013	1	1	5	0	1	0	1	1	0	1	0	0
2014	2	3	5	3	1	2	0	3	1	1	0	1
2015	1	1	1	6	1	3	0	1	0	6	0	2

Source: PEI Communicable Disease Program Database

Breast Milk Feeding at Discharge

Breast milk provides many health benefits for infants and mothers including proper digestion, brain development and growth and protection against certain types of cancers.[43] Increased rates of breast milk feeding initiation and duration result in less acute childhood diseases and chronic adult diseases regardless of economic status (including asthma, diabetes, heart disease and obesity).[44]

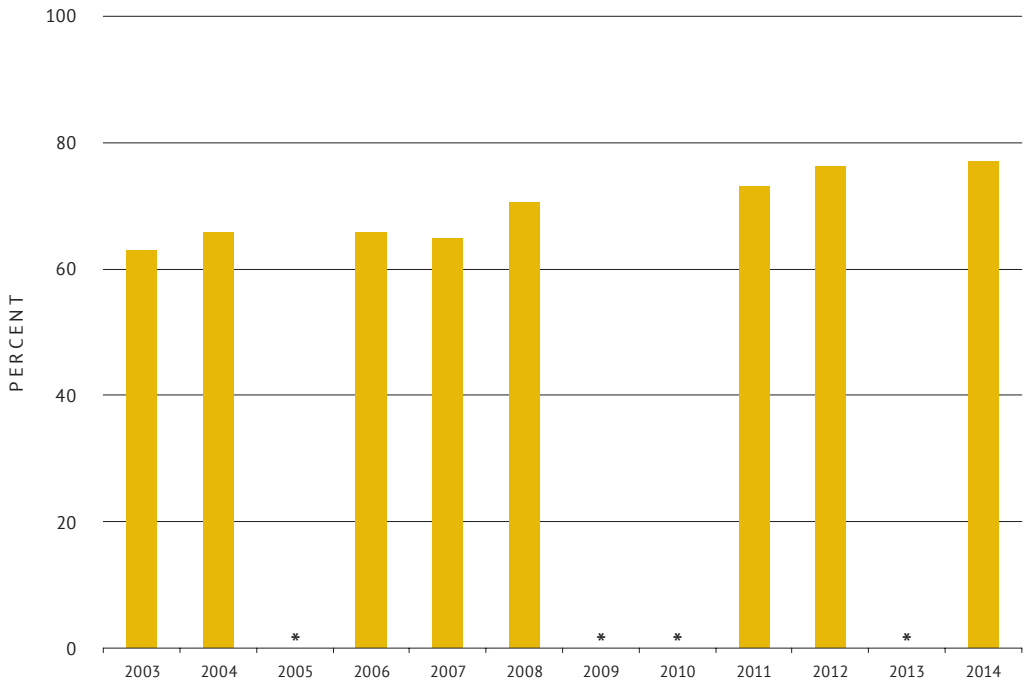
In 2014, 77% of newborns were fed breast milk exclusively or in combination with formula at the time of hospital discharge. This rate has been increasing over time.

In 2013, the Department of Health and Wellness and Health PEI endorsed a Breastfeeding Policy. The goals of the policy include:

- Making breastfeeding a public health priority
- Re-establishing breastfeeding as our cultural norm
- Striving for Baby Friendly Initiative status in PEI facilities
- Working together to develop educational and communication materials

Breast milk feeding at discharge has been increasing over time in PEI.

NEWBORNS BREASTFED AT DISCHARGE FROM HOSPITAL, PEI 2003-2014



* Data unavailable

Source: PEI Reproductive Care Program (2003/2004, 2008, 2011, 2012) ISM Health PEI Public Health Nursing database and Vital Statistics Birth Registrations (2006-2008)

Islanders consume less fruits and vegetables than the average Canadian. Men and middle aged Islanders are less likely to eat at least 5 or more fruits and vegetables per day.

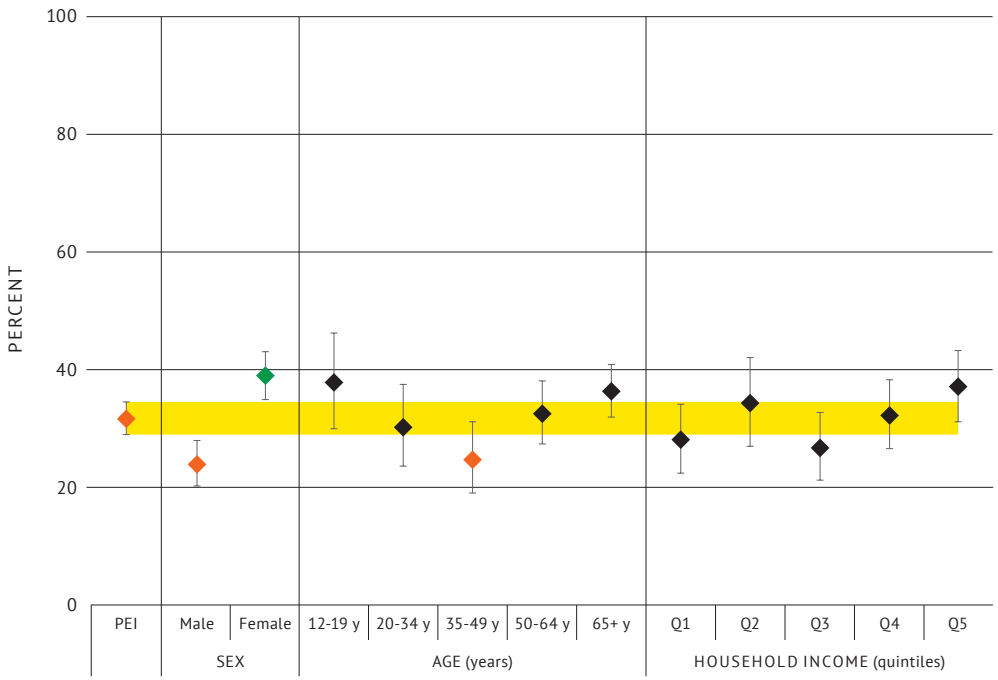
Fruit and Vegetable Consumption

Fruits and vegetables are a low-fat, high-fibre source of nutrition that provides essential vitamin and minerals to help keep us healthy.

Less than one third of Islanders 12 years of age and older consume five or more fruits and vegetables a day (31.1% AS) and this is lower than Canadians (40.8% AS). Islanders are following a downward trend since 2009/10. Health Canada's recommendation of consuming five or more fruits or vegetables has since been increased to seven or more for women and eight or more for men.[45]

Men are significantly less likely to eat their fruits and vegetables as well as middle-aged adults.

SELF-REPORTED CONSUMPTION OF 5+ FRUITS AND VEGETABLES PER DAY, PEI AGED 12+ 2013/14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003, CCHS 2000/01

Physical Inactivity

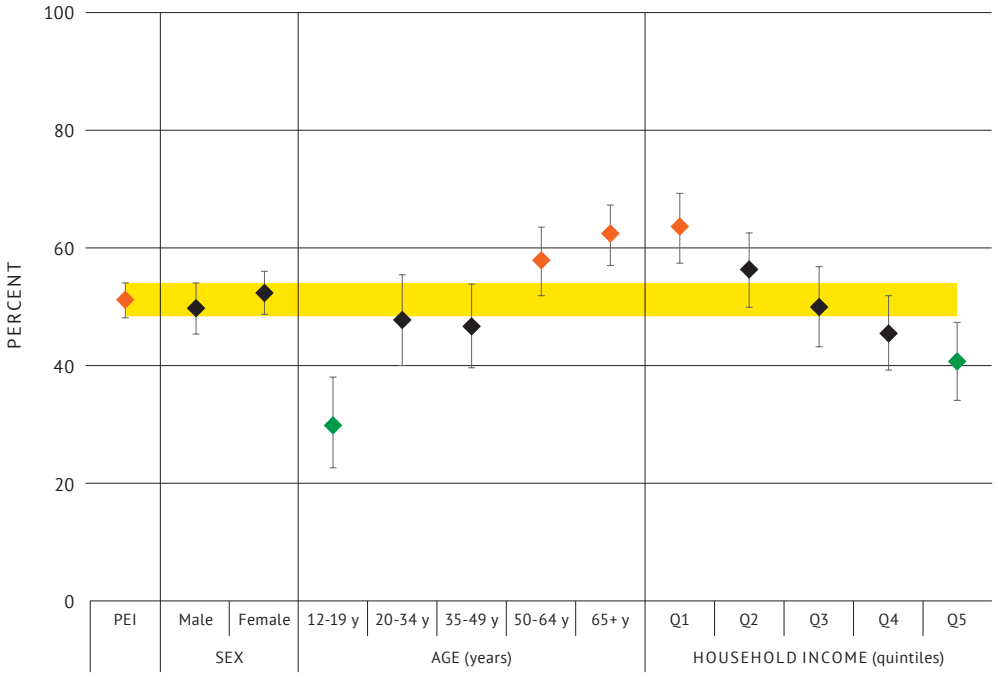
Being physically inactive is a risk factor for the development of many health conditions including heart disease, stroke, obesity, and type 2 diabetes.[46] Physical activity is also known to improve overall mental health.

Over half of Islanders are physically inactive. Even when ages are standardized for national comparisons, PEI is more inactive than Canada (48.3% vs 43.9% AS). Our rates of inactivity have been increasing since 2009.

The inactivity data is very similar to the chronic disease data which both increase as age increases (in particular those 50 years of age and older) and decreases by income. Those with lower incomes are more likely to report being inactive.

Islanders are more inactive than the average Canadian and rates of inactivity have been increasing. Islanders with lower income are more likely to be inactive.

SELF-REPORTED PHYSICALLY INACTIVE, PEI AGED 12+ 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003, CCHS 2000/01

Of Islanders who consume alcohol, 26% would be considered heavy drinkers. Males and younger Islanders are more likely to be heavy drinkers.

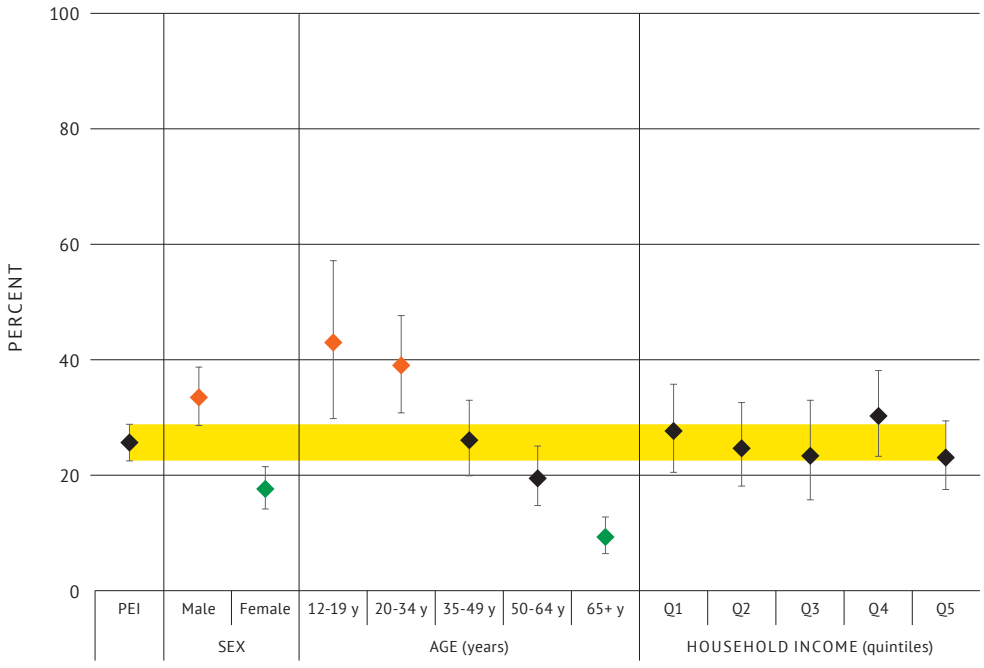
Alcohol Use - Heavy Drinking

Alcohol consumption is prevalent in Prince Edward Island. Seventy four percent of Islanders surveyed reported drinking in the last 12 months which is the same as the Canadian rate.

Alcohol serves a variety of functions in PEI including relaxation, socialization and celebration. However, excessive use of alcohol can also impair motor skills and judgment, alter mood and consciousness, increase the risk of injury and disease and can lead to long-term physical and psychological dependence. Canada's Low-Risk Drinking Guidelines (LRDG) provide evidence-based drinking limits to reduce immediate and long-term alcohol-related harm.[47]

Heavy drinking is defined as the percentage of alcohol consumed by those who report drinking five or more drinks per occasion, at least 12 times in the past 12 months. Approximately 26% of Islanders, who drink alcohol, consume it in this manner which is similar to Canadians (24.4% AS). Males are more likely to be heavy drinkers and younger Islanders (adolescents and young adults) are also more likely to drink in this risky manner. Seniors are less likely to report heavy drinking. Canada's LRDG recommend no more than 3 drinks for women or 4 drinks for men on any single occasion.

SELF-REPORTED HEAVY DRINKING, PEI AGED 12+ DRINKERS, 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003, CCHS 2000/01

Smoking

Smoking is the leading preventable cause of premature death and illness in PEI.[33]

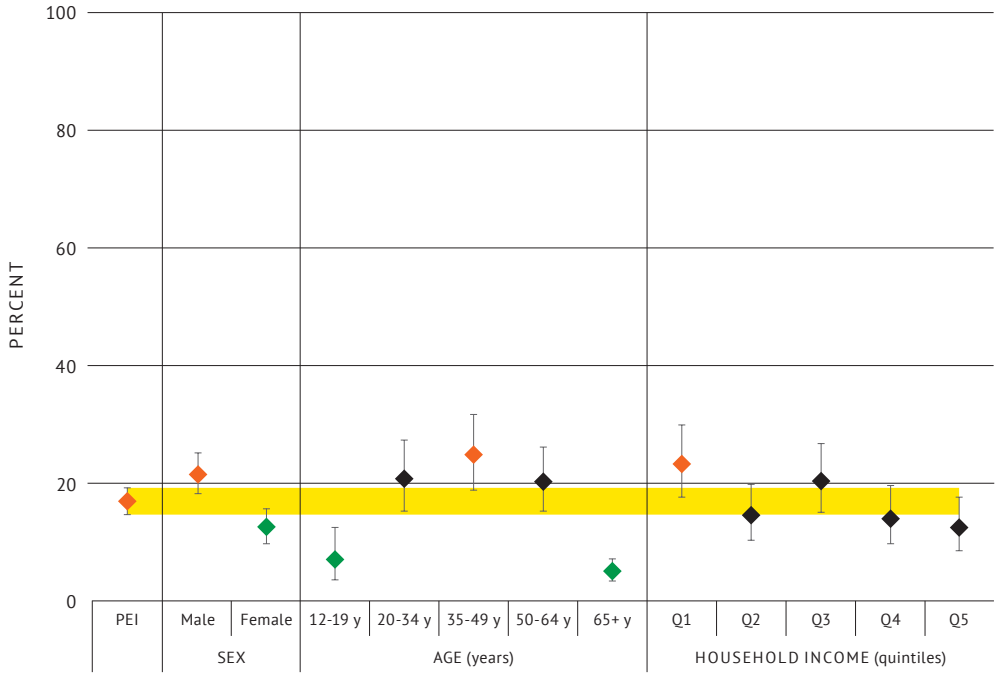
Tobacco use is a significant modifiable risk factor for five of the leading causes of morbidity and mortality in PEI: heart disease, stroke, respiratory disease, diabetes and cancer.[48] Of the estimated 21,000 current smokers aged 15 years and older in PEI, up to half will become ill or die from continued tobacco use.[49]

Daily smoking rates in PEI have been stable since 2005, remaining at 17% and above for our population 12 years of age and older. PEI has a higher daily smoking rate than Canada (17.2% vs 13.3% AS) and this has been consistent over time.

Daily smoking rates are higher for males, the middle-aged and Islanders with the lowest income. Younger and older Islanders are less likely to report daily smoking.

Smoking rates in PEI are higher than in Canada. Rates are highest among males, the middle-aged and those with the lowest income.

SELF-REPORTED DAILY SMOKING, PEI AGED 12+ 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003, CCHS 2000/01, NPHS 1998/99, NPHS 1996/97, NPHS 1994/95

Changes Made to Improve Health

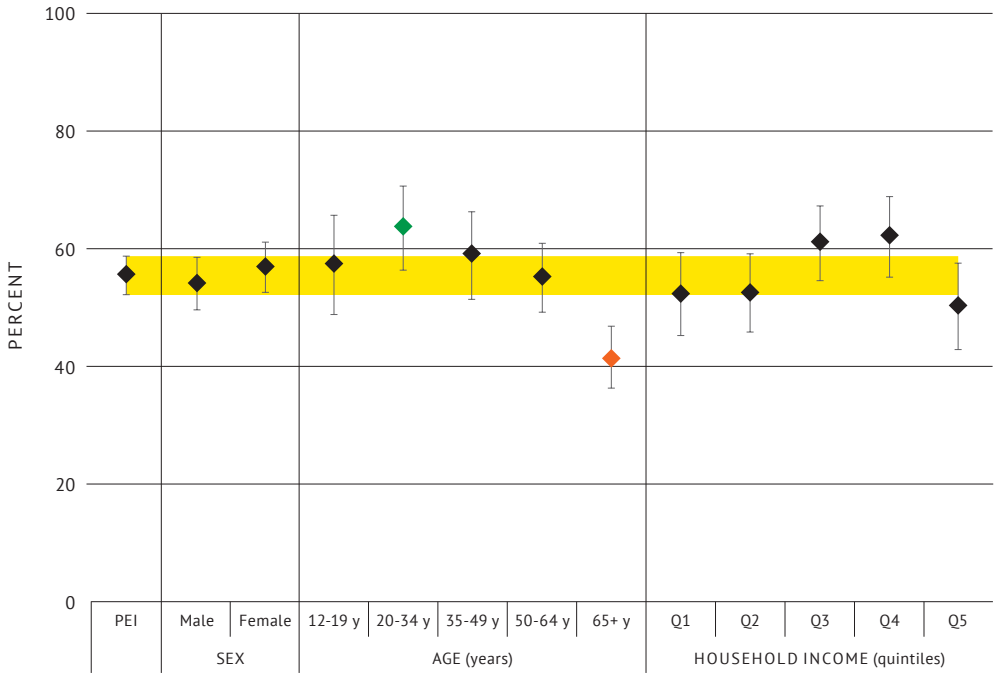
The SDH are important influencers of health behaviours within a population. Behaviors such as physical activity, healthy eating, following Canada's Low-risk Drinking Guidelines and not smoking are important to achieve and maintain optimal health. Action on the social determinants makes healthy behavioural choices easier.

Young adults are more likely to want to improve their health over the coming year.

Approximately 56% of Islanders intend to do something to improve their health within the next year. This rate has been fairly consistent over time.

Islanders 20-34 years of age are more likely to intend to do something to improve their health in the coming year, whereas seniors are less likely.

SELF-REPORTED INTENT TO ENGAGE IN ACTIVITIES TO IMPROVE HEALTH WITHIN THE NEXT YEAR, PEI AGED 15+ 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2003, CCHS 2000/01

Exposure to Second-Hand Smoke

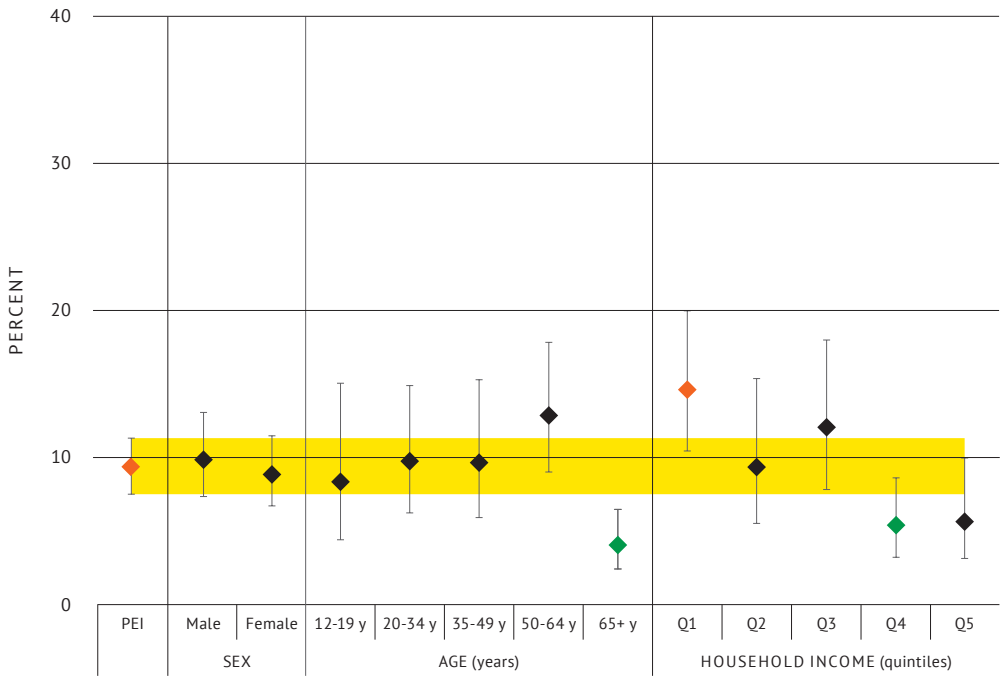
Young children are particularly susceptible to second-hand smoke.[50] Exposure may cause respiratory problems, heart disease and lung cancer. One of the most effective ways to limit exposure to second-hand smoke is with restrictions on smoking in public places and limiting smoking in homes and cars.

Consistent with daily smoking rates, Islanders with lower income are more likely to be exposed to second-hand smoke in their homes.

Approximately 9.5% of Islanders (9.1% AS) are exposed to tobacco smoke in the home and this is similar to the Canadian rate (7.5% AS).

Seniors are less likely to be exposed to tobacco smoke in their homes. Islanders with lower incomes are significantly more likely than all Islanders to be exposed to second-hand tobacco smoke in their homes.

SELF-REPORTED EXPOSURE TO ETS AT HOME, PEI AGED 12+, 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003

Islanders have a strong sense of community belonging which increases with income. Island young adults experience less sense of community.

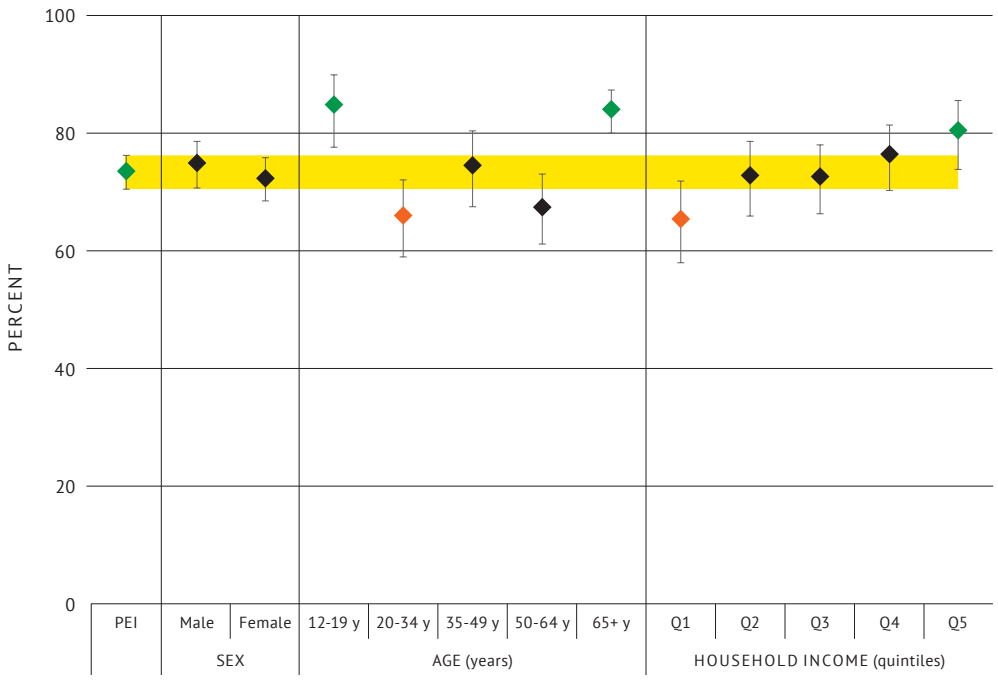
Sense of Community Belonging

Social environments and social support networks are two SDH which are known to have significant impacts on population health.[4]

Islanders are well known for their strong sense of community as demonstrated in this report. Consistently Islanders report a stronger sense of community belonging compared with Canada (73.7% vs. 66.2% AS). This difference has been stable over time.

Age and income impact Islanders' sense of belonging. Adolescents and seniors both report high sense of belonging with young adults reporting lower levels. Islanders with lower incomes have less sense of community belonging.

SELF-REPORTED VERY OR SOMEWHAT STRONG SENSE OF BELONGING TO A LOCAL COMMUNITY, PEI AGED 12+, 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08

Visit with Dentist

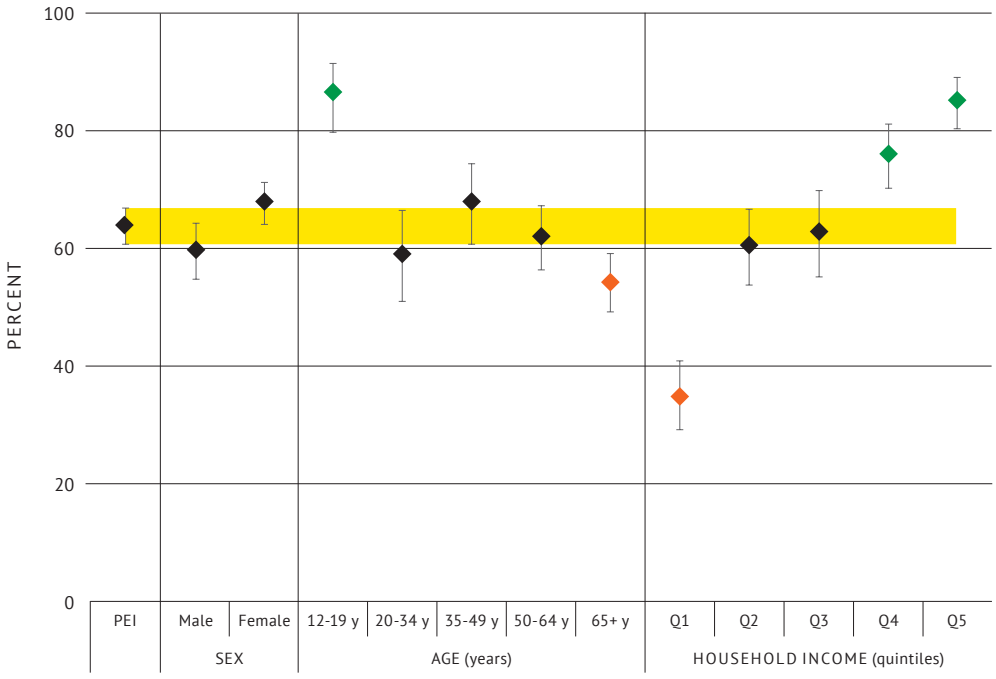
Dental health is a key component of public health which aids in the prevention of dental cavities, periodontal disease and oral cancers.[51]

Approximately 66% (AS) of Islanders have visited the dentist in the past year and this is the same as Canada.

Adolescents are more likely to have visited the dentist in the past year and seniors are less likely. Those with higher income are more likely to have been seen by a dentist.

Islanders with lower incomes are less likely to visit the dentist.

SELF-REPORTED CONSULTATION WITH DENTIST/HYGIENIST/ORTHODONTIST IN PAST YEAR, PEI AGED 12+, 2013-14



Source: Statistics Canada. CCHS 2013/14

Influenza (Flu) Shot

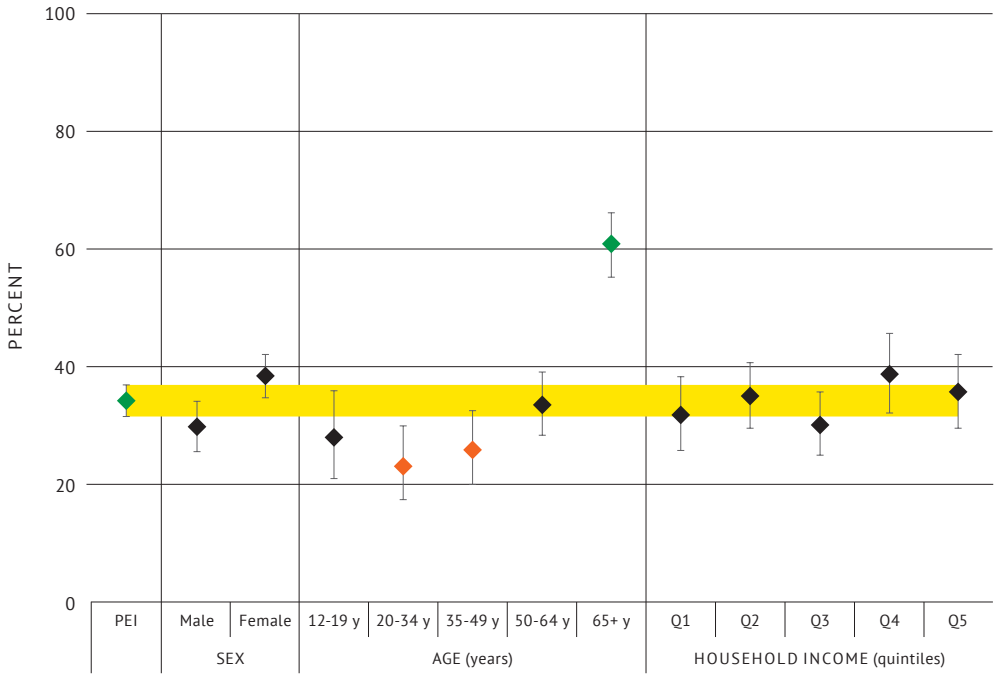
Along with washing your hands, influenza vaccination is the most effective way to prevent influenza illness and severe influenza illness resulting in hospitalization.

Overall 34.2% of Islanders received a flu shot in the past year and this is higher than the Canadian rate (31.4% vs. 28.4% AS). Since 2009, more Islanders have been getting an annual flu shot.

Young and middle-aged adults are much less likely to receive a flu shot compared with Islanders overall. In contrast, 60.7% of Island seniors received a flu shot in the previous 12 months.

Getting a flu shot helps to reduce the chance of getting influenza and some of the associated severe outcomes.

SELF-REPORTED INFLUENZA VACCINATION IN PAST YEAR, PEI
AGED 12+ 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003

Education

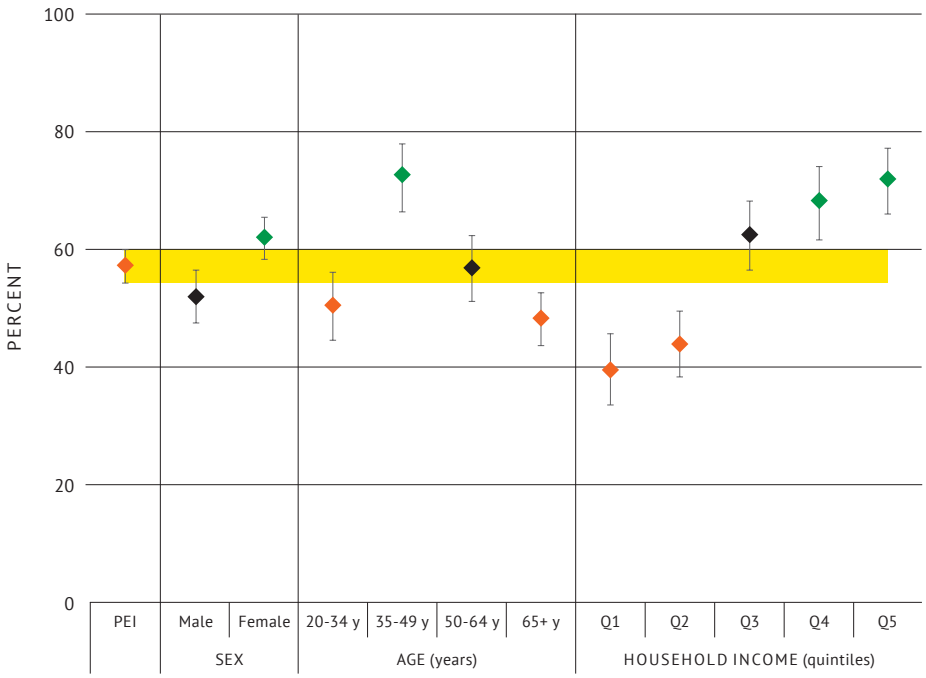
Education is a social determinant of health. Individuals with higher education levels may be able to access information and resources more easily which allows them to make more informed decisions about their health. Also, people with higher levels of education are more likely to have sufficient income, job security and job satisfaction.[4,16]

Fewer Islanders have completed some form of postsecondary education compared with Canadians (59.7% vs. 63.7% AS).

Fewer Islanders have completed post-secondary education compared to Canadians. Islanders with low income are less likely to complete post-secondary education.

Females are more likely to have completed post-secondary school. Age is also a factor, as middle-aged Islanders are more likely and young adults and seniors less likely to have completed post-secondary education. Income is closely tied with post-secondary education and the likelihood of graduation increases with increasing income.

SELF-REPORTED EDUCATION LEVEL OF POST-SECONDARY GRADUATION, PEI AGED 20+, 2013-14



Source: Statistics Canada. CCHS 2013/14, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003

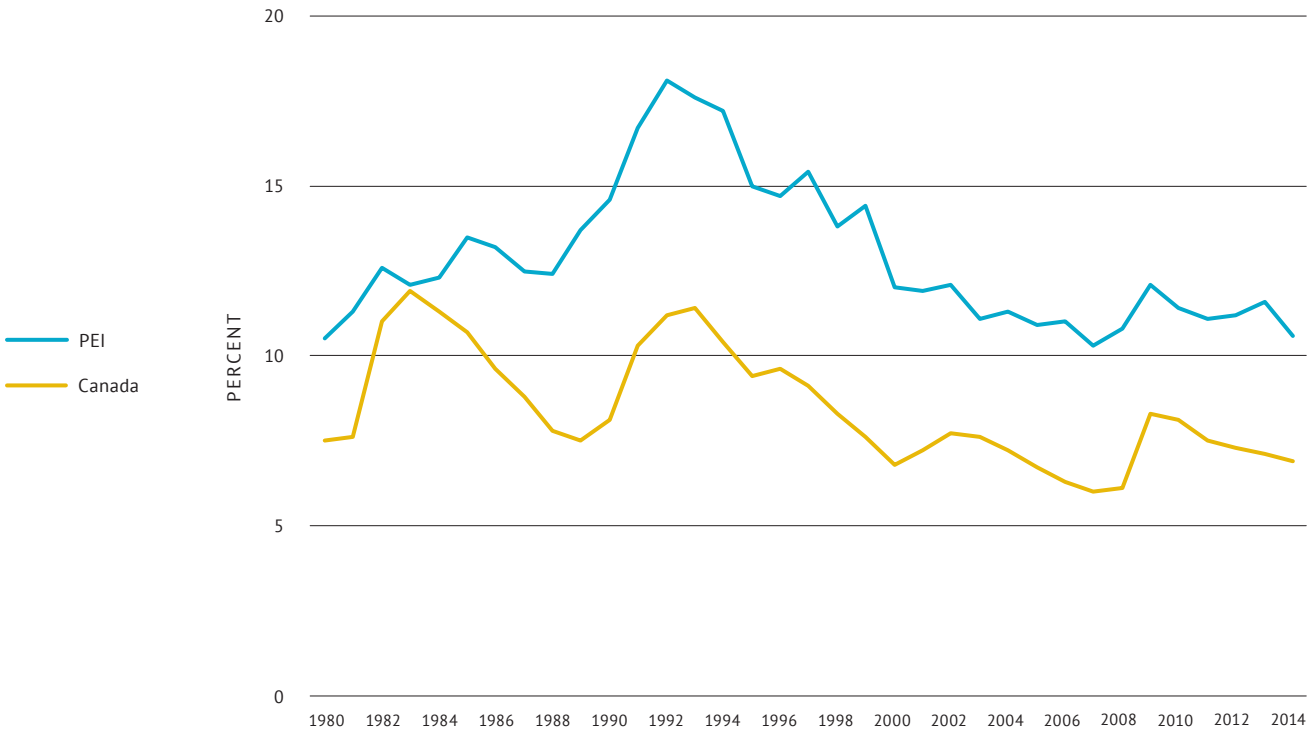
Unemployment

Unemployed people tend to experience more health problems than those who are employed.[16] Employment provides income, identity and daily structure to life. Unemployment is a stressful event that lowers self-esteem, changes routines and increases the risk of anxiety.[52]

The unemployment rate in PEI and Canada has been fluctuating over the past ten years, but follows a similar trend. Consistently, PEI has approximately 4% higher unemployment compared to the national rate.

Unemployment has a negative impact on health. In 2014, the Island unemployment rate was 10.6% compared to Canada's unemployment rate of 6.9%.

UNEMPLOYMENT, PEI AND CANADA, LABOUR FORCE AGED 15+



Source: Statistics Canada. CCHS 2013/14

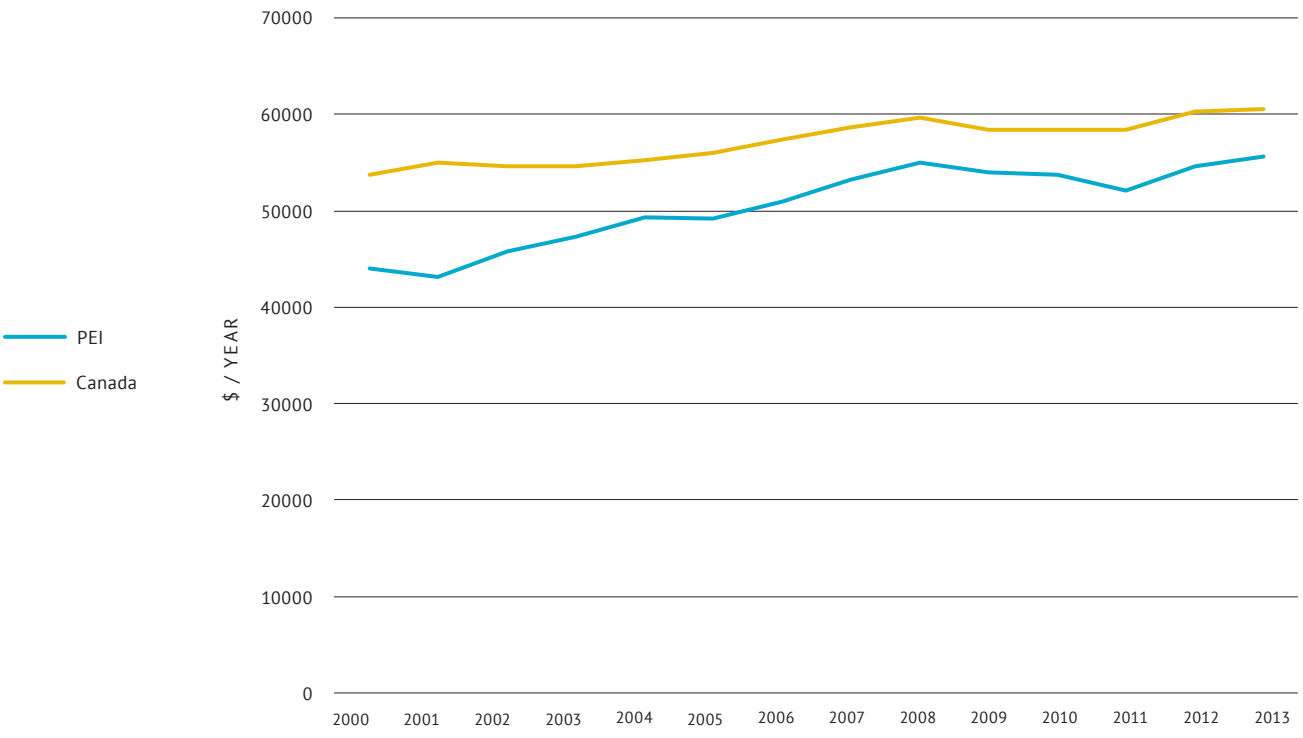
Income

Higher income is associated with better health.[53] Low income makes it hard to afford basic needs like food, clothes and shelter. Low income also makes participating in social activities more difficult, thereby increasing the chance of feeling socially excluded. Feeling socially excluded makes a person less likely to feel they are leading a fulfilling life.[52]

Household income in PEI is consistently lower than Canada. However, since 2011 Canadian incomes, including PEI, have been increasing.

In 2013 the middle Island family income was $55,600. Canada's was $60,500.

MEDIAN HOUSEHOLD INCOME ($), PEI AND CANADA



Source: Statistics Canada. Table 206-0021 - Income statistics by economic family type and income source, Canada, provinces and selected census metropolitan areas (CMAs), annual

3

CHIEF PUBLIC HEALTH OFFICE

About the Chief Public Health Office

The Chief Public Health Office (CPHO) promotes, prevents and protects the health of Islanders under the *Public Health Act*[54] and associated regulations of PEI so that fewer people become sick or injured and more people live healthier lives.

In the fall of 2014, program re-structuring occurred within the Department of Health and Wellness resulting in the former Healthy Living Unit transitioning to the CPHO. The unit was renamed Health Promotion to better align with public health initiatives and priorities. There are now four units within the CPHO:

Health Promotion is responsible for advancing health promotion in PEI and shifting the focus beyond individual behavior towards a wide range of social and environmental interventions. These broad interventions in turn enable Islanders to proactively care for their health both within the health system and the community.

Population Health Assessment and Surveillance supports evidence-informed decision making and promotes continuous improvement by generating, analyzing and interpreting information. The unit produces population health reports, conducts population health research, develops population health databases, and supports the evaluation of health initiatives.

Communicable Disease Control provides expertise and direction on prevention and management of communicable diseases through surveillance, immunization, investigation and follow-up of notifiable diseases, and infection prevention and control. The unit also provides direction for the publically-funded immunization programs in PEI.

Environmental Health protects the health and safety of Islanders and visitors through education, inspections of public and private services and facilities, and consultation regarding environmental health risks. Their focus is prevention of morbidity and mortality as it relates to their program areas (food safety, water safety, enteric disease prevention and control, among others).

THE CPHO PROMOTES HEALTH BY:
- monitoring the health status of communities or special populations
- developing and supporting public policy that promotes a healthy population
- working with community partners to encourage healthy lifestyles

THE CPHO PREVENTS DISEASE AND INJURY BY:
- monitoring and reporting on diseases and events
- preventing and controlling the spread of communicable diseases
- directing childhood and adult immunization

THE CPHO PROTECTS THE HEALTH OF ISLANDERS BY:
- inspecting and licensing facilities such as restaurants, pools, tanning beds and meat and dairy plants
- taking action to ensure food and water are safe
- protecting against environmental threats and hazards through regulation and enforcement

Health Promotion

PEI Wellness Strategy

Non-communicable disease, also known as chronic disease, is the leading cause of preventable disease and disability worldwide and in PEI. The World Health Organization has identified four common behavioural risk factors: poor diet, lack of physical activity, tobacco use and excessive alcohol consumption. These four risk factors are associated with four disease clusters: cardiovascular disease, cancer, chronic pulmonary disease and diabetes that account for 80% of death from non-communicable diseases.[9] In January 2015 the Department of Health and Wellness launched a *PEI Wellness Strategy*[55] outlining 35 actions in five areas: healthy eating, physical activity, living tobacco free, consuming alcohol responsibly and mental health.

Health Promotion is responsible for creating an action and governance plan to advance work in these areas. The internationally-recognized Ottawa Charter for Health Promotion identifies five strategies for advancing health promotion work: develop personal skills, create supportive environments, build healthy public policy, reorient health services and strengthen community action. To strengthen community action, $100,000 was provided in 2015/2016 to support community wellness projects. With support from the wellness grant fund, 28 community groups and organizations across the Island have been working to improve the health and well-being of Islanders in one or more priority areas of the wellness strategy.

9th Health Promotion Conference

On October 30, 2015 the Chief Public Health Office hosted Prince Edward Island's 9th Health Promotion Conference. The conference was broadened for the first time to include community organizations and government departments outside of health. There were 203 attendees at the conference, an increase of 24% over the previous year.

Presentations included An Overview of Health Promotion, Moving the Markers: PEI Health Trends, and the Ripple Effect: Without Mental Health. In addition, rapid fire presentations and concurrent sessions challenged attendees to look for opportunities to lead wellness in their communities. Key themes of the conference included building healthy public policy, creating supportive environments and reorienting health services to support Island behavior change.

Feedback from the conference reinforced that health promotion is not just the responsibility of the health sector and requires broad collaboration across sectors. The CPHO will continue to work with community groups and organizations, businesses, government departments and Islanders to promote wellness on Prince Edward Island.

The PEI Wellness Strategy was released in 2015 and supported by 28 community wellness grants promoting healthy eating, physical activity, living tobacco-free, responsible alcohol use and mental wellness.

Population Health Assessment and Surveillance

Reports

An important public health priority is surveillance of communicable and non-communicable diseases. Surveillance data identify disease trends over time which informs the development of public health policies and practice such as introducing or adjusting immunization programs, revising legislation and developing guidelines and protocols.

Since 2014, several reports and peer-reviewed papers were published. Below is an example of some:

The Student Drug Use Report[56] which describes the prevalence and trends of tobacco, alcohol, cannabis, and other substance use, as reported by Island students in grades 6-12 from 2004 to 2013. It also explores some healthy living behaviors in the student population such as emotional well-being, academic achievement and bullying.

The two-part study on *Pesticides and Human Health*[57,58] which reviewed research conducted between 2004-2015 on the topic of pesticides and human health. The study concluded that pesticides used in PEI do not pose a significant public health risk when used according to Health Canada's usage and safety precaution labeling. Specifically, eliminating the use of all pesticides in PEI would have little or no impact on Island disease rates, including cancer rates.

Chronic Disease Surveillance

A three-year Memorandum of Agreement was renewed between the DHW and the Public Health Agency of Canada which allows for the continuation and expansion of chronic disease surveillance in PEI under the Canadian Chronic Disease Surveillance System (CCDSS). The CCDSS is a federal, provincial and territorial partnership that ensures chronic disease surveillance in Canada is conducted using validated, evidence-based, scientific approaches consistently across all partners. The CCDSS work is also expanding to incorporate economic feasibility and other chronic-disease related projects that will help all partners address the challenges that prevalent chronic illness creates in the health of our population.

Eliminating the use of all pesticides in PEI would have little or no impact on Island disease rates.

Communicable Disease Control

Immunization Regulations

Immunization protects individuals and communities by preventing the spread of vaccine preventable diseases such as measles, pertussis and meningococcal diseases. As more people are immunized the disease risk for everyone in the population is reduced.

Knowing the percentage of the population that has been immunized is an important indicator of the effectiveness of immunization programs and guides public health interventions. Under the *Public Health Act*[54], *Immunization Regulations*[59] were introduced in PEI in the fall of 2014 requiring recording and reporting of all immunizations administered in PEI.

Human Papillomavirus Vaccine

HPV vaccine was first introduced in PEI in 2007 to girls in Grade 6. In 2013 the National Advisory Committee on Immunization (NACI) recommended HPV vaccine for males as well as females due to the known impact of certain HPV types in males.[60] In 2013, PEI became the first province in Canada to offer the HPV vaccine universally to boys in Grade 6.

HPV is a group of more than 100 different types of related viruses. Some types of HPV are sexually transmitted and can cause anogenital warts or other consequences such as cancer (e.g., cervical, penile and anal). The types which cause anogenital warts do not usually cause cancer.[60]

HPV vaccination for boys in PEI had a successful launch, reaching the Canadian Immunization Committee recommendations of more than 80% in the second year of the program.

For maximum benefit the HPV vaccine works best when it is given to young people before they become sexually active.[60,61]

HPV vaccination for boys in PEI reached the Canadian Immunization Committee recommendation of more than 80% by the second year of the program. It is anticipated that the rate will improve with targeted public health awareness messages and as the program matures.

HPV UPTAKE (3 DOSES) BY SEX, GRADE 6, PEI 2008-2015

School Year	Females (%)	Males (%)
2011-12	85.1	-
2012-13	87.3	-
2013-14	84.9	79.0
2014-15	82.7	81.4

Environmental Health

Food Premises Regulations

The dated Eating Establishment and Licensed Premises Regulations were replaced by new *Food Premises Regulations*[62] in November 2014. These new regulations are based on model food retail and food services regulations and codes developed nationally by a joint industry/government working group with the goal of standardizing food safety regulations across Canada. Education respecting proper food handling procedures is key in the prevention of foodborne illness.

The new regulations provided an opportunity to bring needed improvements to the Environmental Health Information System (EHIS), the database which contains all electronic inspection reports. Environmental Health now has the capacity to provide public access to relevant inspection result information from food premises inspection activity. The *Food Premises Inspection Report Disclosure Website* completes the final recommendation of the Auditor General's 2011 Food Safety Audit.

Electronic Cigarettes

The DHW, as with many health departments and agencies across Canada, has observed the growing popularity of electronic smoking devices (ESDs). The devices contain a cartridge which enables the delivery of a vaporized solution which is inhaled by the user. The cartridge contents are unregulated and may contain nicotine, herbs, flavourings, chemicals, or other products of unknown origin.

In 2015, the DHW amended the Tobacco Sales and Access Act, now the *Tobacco and Electronic Smoking Device Sales and Access Act*[63], and the *Smoke-free Places Act*[64] to regulate the sale, advertising and promotion of ESDs to youth and the use of ESDs in public places and work places, similar to restrictions in place for tobacco products. Compliance respecting the sale and use of ESDs will be incorporated into existing tobacco control activity.

FOOD PREMISES INSPECTION ACTIVITY

	2014	2015
Inspections	2129	2454
Re-inspections (% requiring)	198 (9.3%)	247 (10.1%)
Warnings (% issued)	25 (1.2%)	57 (2.3%)

TOBACCO COMPLIANCE ACTIVITY

	2014	2015
Enforcement Checks	61	163
Compliance Rate	95.1%	98.2%

4

CONCLUSION

CONCLUSION

Canadians are fortunate to enjoy a high level of health and long life expectancy compared to many other countries. Since the early 1900s, the average lifespan of Canadians has increased by more than 30 years with much of this gain due to progress on the social determinants of health (SDH).

The SDH describe the interrelated societal conditions that influence people's health including income and social status, social support networks, education and literacy, employment and working conditions, social environments, physical environments, personal health and practices and coping skills, healthy child development, biology and genetic endowment, health services, gender, and culture.

The 2016 Chief Public Health Officer's Report ***Health for all Islanders*** has explored the relationship between the SDH, health equity, health behaviors and population health outcomes in PEI. In particular, the socioeconomic factors sex, age and household income were used to analyze PEI health trends.

The report's findings are striking and indicate that the SDH have a significant influence on the health of Islanders. An unequal distribution of the SDH among population groups is leading to health inequity: differences in health outcomes that are systemic, unfair and avoidable.

Health inequity exists both between Islanders and Canadians as well as within our Island population. Since the greatest burden of disease in Canada is due to chronic disease, health inequity is particularly evident among those with chronic disease conditions. The following are the report's key findings:

Key Findings

- **The majority of PEI's disease burden is caused by four chronic diseases: cancer, cardiovascular disease, chronic pulmonary disease and diabetes.** This disease burden is predicted to increase as the Island population ages. Health inequity exerts a powerful influence on the four behavioral risk factors closely linked to these chronic conditions: poor diet, lack of physical activity, tobacco use and excessive alcohol consumption.

The Social Determinants of Health have a significant influence on the health of Islanders.

Health inequity exists both between Islanders and Canadians as well as within our Island population.

- **Health inequity exists between Islanders and the rest of Canada.** After adjusting for age, Island rates of treated mood and anxiety disorders, obesity, diabetes, hypertension, heart disease, prostate cancer and chronic conditions are higher in PEI than Canada. Correspondingly, Island rates are lower than the Canadian average for fruit and vegetable intake and physical activity, and higher for daily smoking. Islanders have better outcomes than Canadians for sense of community, and influenza immunization.

- **Health inequity also exists within our Island population.** Islanders with the lowest household income have lower than PEI average rates of self-reported general and mental health. This result is consistent with this group's higher rates of treated mood and anxiety disorders, diabetes, hypertension, heart disease and chronic conditions. Islanders in the highest income group show the opposite trend.

- **Islanders with the lowest income have greater behavioural risk factors.** Islanders with the lowest household income have lower than PEI average rates of fruit and vegetable intake, physical activity, dental visits, sense of community and post-secondary education, and higher rates of daily smoking. Islanders in the highest income groups show the opposite trend.

- **Gender is associated with differences in health outcomes.** Island males have lower than PEI average rates of fruit and vegetable intake, and higher rates of daily smoking and heavy drinking while females show the opposite trend. Island males have higher than PEI average rates of diabetes and heart disease. Island females have higher than PEI average rates of treated mood and anxiety disorders and hypertension.

- **Age is associated with differences in health outcomes.** Chronic disease rates increase with age with Islanders 50 years and older impacted the most. Significantly worse than PEI average was fruit and vegetable intake and daily smoking for Islanders 35-49 years of age, physical inactivity for Islanders 50 years and older, and heavy drinking for Islanders under 35 years of age.

Health inequity in PEI can be addressed through redistribution of societal resources to improve the SDH. Such actions enable individuals to increase control over, and to improve, their health.

From Evidence to Action

Despite this report's findings, Islanders are ready to improve their health. Almost 60% of Islanders intend to do something to improve their health within the next year. Unfortunately, unequal distribution of the SDH makes it difficult for individuals to make positive changes on their own.

Health inequity in PEI can be addressed through the redistribution of societal resources to improve the SDH, particularly for disadvantaged groups.[65] Such actions enable individuals to increase control over, and to improve, their health. Since many of the SDH lie outside the health sector, action on the SDH will require broad collaboration among individuals, communities, partner organizations and all levels of government. Many initiatives that address the SDH are already taking place across Prince Edward Island, yet more work is needed. A strategic approach to addressing the SDH and health inequity should include:[65]

- **Sustainable, root-cause, population-level interventions.** Long-term investment is needed in high-impact, upstream interventions that reach broad segments of society, enabling individuals to increase control over and improve their health.
- **Health sector leadership.** All individuals and organizations working in the field of health, including the Chief Public Health Office, have a leadership role in encouraging collaborative action on health and the SDH among individuals, communities, partner organizations and all levels of government.
- **Intersectoral engagement and governance.** A robust, intersectoral governance structure is required to action the PEI Wellness Strategy and address the risk factors for chronic disease as well as the underlying SDH.
- **Health in all policies.** Health equity should be integrated into public policy-making at all levels of government by systematically taking into account the health implications of decisions, seeking synergies, and avoiding harmful health impacts.
- **Monitoring progress.** Ongoing, systematic population health assessment and surveillance of PEI health outcomes and determinants is necessary to inform policy and build accountability.

Health equity is a value we all share. Reducing health inequity in Prince Edward Island will create an inclusive, economically effective and healthy population. Together, we can improve the ***Health for all Islanders***.

REFERENCES

1. Lalonde M. A New Perspective on the Health of Canadians [Internet]. 1981.

2. Senate Subcommittee on Population Health. A Healthy, Productive Canada: A Determinant of Health Approach [Internet]. Ottawa, Ontario: Government of Canada; 2009 Jun. Available from: *http://www.parl.gc.ca/Content/SEN/Committee/402/popu/rep/rephealth1jun09-e.pdf*

3. Bryant T, Raphael D, Schrecker T, Labonte R. Canada: A land of missed opportunity for addressing the social determinants of health. Health Policy. 2011 Jun;101(1):44–58.

4. Government of Canada PHA of C. What makes Canadians healthy or unhealthy? - Population health approach - Public Health Agency of Canada [Internet]. 2001 [cited 2015 Dec 15]. Available from: *http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy*

5. Manitoba Health, Healthy Living and Seniors P of M. 2015 Health Status of Manitobans Report | Chief Provincial Public Health Officer [Internet]. [cited 2016 Feb 18]. Available from: *http://www.gov.mb.ca/health/cppho/report.html*

6. Woermke M. Towards reducing health inequities: A health system approach to chronic disease prevention. Vancouver, British Columbia: Provincial Health Services Authority; 2011 p. 92.

7. Reducing health disparities – Roles of the health sector | National Collaborating Centre for Determinants of Health [Internet]. [cited 2016 Feb 18]. Available from: *http://nccdh.ca/resources/entry/reducing-health-disparities*

8. Equity-integrated population health status reporting: Action framework | National Collaborating Centre for Determinants of Health [Internet]. [cited 2016 Feb 18]. Available from: *http://nccdh.ca/resources/entry/equity-integrated-population-health-status-reporting-action-framework*

9. Hunter DJ, Reddy KS. Noncommunicable Diseases. N Engl J Med. 2013 Oct 3;369(14):1336–43.

10. Last J. A Dictionary of Epidemiology. New York: Oxford University Press; 2001.

11. Canadian Public Health Association - What are the Social Determinants of Health? [Internet]. [cited 2016 Mar 4]. Available from: *http://www.cpha.ca/en/programs/social-determinants/frontlinehealth/sdh.aspx*

12. Closing the gap in a generation: health equity through action on the social determinants of health: Commission on Social Determinants of Health final report. World Health Organization, Commission on Social Determinants of Health; 2008.

13. Labour: Minimum Wage (History) [Internet]. [cited 2016 Mar 9]. Available from: *http://www.gov.pe.ca/labour/index.php3?number=1022458&lang=E%20.*

14. Government of Canada SC. Consumer Price Index, historical summary, by province or territory (1996 to 2000) [Internet]. 2016 [cited 2016 Mar 9]. Available from: *http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/econ150d-eng.htm*

15. Whitehead M, Dahlgren G. Levelling up (part 1): a discussion paper on concepts and principles for tackling social inequities in health. Copenhagen, Denmark: World Health Organization; 2006 p. 44.

16. Mikkonen J, Raphael D. Social determinants of health: The Canadian facts. Toronto, ON: York University School of Health Policy and Management; 2010 p. 63.

17. Gore D, Kothari A. Social determinants of health in Canada: Are healthy living initiatives there yet? A policy analysis. Int J Equity Health. 2012;11(1):41.

18. Healthy People, Healthy Performance, Healthy Profits: The Case for Business Action on the Socio-Economic Determinants of Health [Internet]. [cited 2016 Feb 18]. Available from: *http://www.conferenceboard.ca/e-library/abstract.aspx?did=2818*

19. Children vulnerable to areas of early development: A determinant of child health. Ottawa, Ontario: Canadian Institute for Health Information; 2014 p. 17.

20. First Nations diabetes program changing lives. CBC News. PEI; 2012 May 11;

21. Urban physical environments and health inequalities. Ottawa, Ontario: Canadian Institute for Health Information; 2010 p. 85.

22. The standing senate committee on social affairs, science and technology: Final report of the subcommittee on population health. Ottawa, Ontario: Government of Canada; 2009 p. 59.

23. Public Health Agency of Canada - Population Health Approach -Ottawa Charter for Health Promotion: An International Conference on Health Promotion [Internet]. [cited 2016 Feb 18]. Available from: *http://www.phac-aspc.gc.ca/ph-sp/docs/charter-chartre/index-eng.php*

24. Prince Edward Island Department of Health and Wellness. Chief Public Health Officer's Report and Health Trends 2014: Keep Moving on Life's Journey [Internet]. [cited 2014 Oct 28]. Available from: *http://www.gov.pe.ca/health/index.php3?number=1021152&lang=E*

25. Lozano R, Naghavi M, Foreman K, Lim S, Shibuya K, Aboyans V, et al. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. The Lancet. 2012 Dec;380(9859):2095–128.

26. Prince Edward Island Department of Health and Wellness. Prince Edward Island COPD Trends 2000-2008 [Internet]. 2011. Available from: *http://www.gov.pe.ca/photos/original/dhw_epi_COPD.pdf*

27. WHO | World Health Statistics 2015 [Internet]. [cited 2016 Feb 12]. Available from: *http://www.who.int/gho/publications/world_health_statistics/2015/en/*

28. A Report on Mental Illnesses in Canada - Public Health Agency of Canada [Internet]. [cited 2016 Feb 18]. Available from: *http://www.phac-aspc.gc.ca/publicat/miic-mmac/index-eng.php*

29. Guh DP, Zhang W, Bansback N, Amarsi Z, Birmingham CL, Anis AH. The incidence of co-morbidities related to obesity and overweight: A systematic review and meta-analysis | BMC Public Health | Full Text [Internet]. [cited 2016 Feb 12]. Available from: *http://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-9-88*

30. Shields M, Connor Gorber S, Janssen I, Tremblay MS. Bias in self reported estimates of obesity in Canadian Health Survey: An update on correction equations for adults. [Internet]. Statistics Canada; 2011. Report No.: Vol.22 No.3. Available from: *http://publications.gc.ca/collections/collection_2011/statcan/82-003-X/82-003-x2011003-eng.pdf*

31. About Diabetes | Canadian Diabetes Association [Internet]. [cited 2016 Feb 18]. Available from: *http://www.diabetes.ca/about-diabetes*

32. Public Health Agency of Canada. Chronic Disease Infobase | Public Health Agency of Canada [Internet]. [cited 2016 Feb 18]. Available from: *http://infobase.phac-aspc.gc.ca/index-en.html*

33. Lim SS, Vos T, Flaxman AD, Danaei G, Shibuya K, Adair-Rohani H, et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. The Lancet. 2012 Dec;380(9859):2224–60.

34. Mayo Clinic. Overview - Coronary artery disease - [Internet]. [cited 2016 Feb 18]. Available from: *http://www.mayoclinic.org/diseases-conditions/coronary-artery-disease/home/ovc-20165305*

35. Chronic Obstructive Pulmonary Disease (COPD) | The Lung Association [Internet]. [cited 2016 Feb 18]. Available from: *http://www.lung.ca/copd*

36. CANSIM - 103-0553 - New cases and age-standardized rate for primary cancer (based on the May 2015 CCR tabulation file), by cancer type and sex, Canada, provinces and territories [Internet]. [cited 2016 Mar 1]. Available from: *http://www5.statcan.gc.ca/cansim/a26*

37. Canadian Cancer Society's Steering Committee on Cancer Statistics. Canadian Cancer Statistics 2012 [Internet]. Toronto, Ontario: Canadian Cancer Society; 2012. Available from: *http://www.cancer.ca/Canada-wide/About%20cancer/Cancer%20statistics.aspx?sc_lang=en*

38. Prostate Cancer—Systematic Review | Canadian Task Force on Preventive Health Care [Internet]. [cited 2016 Mar 1]. Available from: *http://canadiantaskforce.ca/ctfphc-guidelines/2014-prostate-cancer/systematic-review/*

39. Heymann DL. Control of Communicable Diseases Manual. American Public Health Association Publications; 2015.

40. Health Professionals - Pertussis - Vaccine-Preventable Diseases - Public Health Agency of Canada [Internet]. [cited 2016 Feb 17]. Available from: *http://www.phac-aspc.gc.ca/im/vpd-mev/pertussis/professionals-professionnels-eng.php*

41. Syphilis - Section 5 - Management and Treatment of Specific Infections - Canadian Guidelines on Sexually Transmitted Infections - Public Health Agency of Canada [Internet]. [cited 2016 Feb 17]. Available from: *http://www.phac-aspc.gc.ca/std-mts/sti-its/cgsti-ldcits/section-5-10-eng.php*

42. Public Health Agency of Canada. Enteric disease: A major health concern in Canada [Internet]. 2013 [cited 2016 Feb 17]. Available from: *http://www.phac-aspc.gc.ca/foodnetcanada/ed-me-eng.php*

43. Kramer MS, Kakuma R. Optimal duration of exclusive breastfeeding. In: Cochrane Database of Systematic Reviews [Internet]. John Wiley & Sons, Ltd; 2012 [cited 2016 Feb 17]. Available from: *http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003517.pub2/abstract*

44. WHO | 10 facts on breastfeeding [Internet]. [cited 2016 Mar 2]. Available from: *http://www.who.int/features/factfiles/breastfeeding/en/*

45. Background on Canada's Food Guide - Health Canada [Internet]. [cited 2016 Feb 25]. Available from: *http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/context/index-eng.php*

46. Nandi A, Glymour MM, Subramanian SV. Association Among Socioeconomic Status, Health Behaviors, and All-Cause Mortality in the United States: Epidemiology. 2014 Mar;25(2):170–7.

47. Canadian Centre on Substance Abuse. Canadian Low-Risk Alcohol Drinking Guidelines [Internet]. 2011 [cited 2014 Apr 7]. Available from: *http://www.ccsa.ca/Eng/topics/alcohol/drinking-guidelines/Pages/default.aspx*

48. Jha P, Ramasundarahettige C, Landsman V, Rostron B, Thun M, Anderson RN, et al. 21st-Century Hazards of Smoking and Benefits of Cessation in the United States. N Engl J Med. 2013 Jan 24;368(4):341–50.

49. WHO | Tobacco [Internet]. WHO. [cited 2016 Feb 24]. Available from: *http://www.who.int/mediacentre/factsheets/fs339/en/*

50. Ferrante G, Simoni M, Cibella F, Ferrara F, Liotta G, Malizia V, et al. Third-hand smoke exposure and health hazards in children. Monaldi Arch Chest Dis [Internet]. 2015 Nov 26 [cited 2016 Feb 17];79(1). Available from: *http://www.monaldi-archives.org/index.php/macd/article/view/108*

51. Daly B, Batchelor P, Treasure E, Watt R. Essential Dental Public Health. OUP Oxford; 2013. 265 p.

52. Fish K. Public health roles for improving health equity. Antigonish, NS: National Collaborating Centre for Determinants of Health; 2013 p. 6. (Let's talk).

53. (CIHI) CI for HI. Reducing Gaps in Health: A Focus on Socio-Economic Status in Urban Canada [Internet]. 2008 [cited 2016 Feb 17]. Available from: *https://secure.cihi.ca/estore/productFamily.htm?pf=PFC1090&lang=fr&media=0*

54. Province of PEI. Public Health Act R.S.P.E.I [Internet]. Cap. P-30 2013. Available from: *http://www.gov.pe.ca/law/statutes/pdf/p-30_1.pdf*

55. Health and Wellness: Wellness Strategy and Grants [Internet]. [cited 2016 Mar 1]. Available from: *http://www.gov.pe.ca/health/wellness*

56. Prince Edward Island Health and Wellness. Prince Edward Island Student Drug Use 2004-2013 [Internet]. 2015 [cited 2016 Mar 3]. Available from: *http://www.gov.pe.ca/photos/original/dhw_cpho_sdu14.pdf*

57. Prince Edward Island Health and Wellness. Pesticides and Human Health - A Systematic Review 2015 [Internet]. 2015 [cited 2016 Mar 3]. Available from: *http://www.gov.pe.ca/photos/original/cpho_pesticidea.pdf*

58. Prince Edward Island Health and Wellness. Pesticides and human health Part 2: PEI health and pesticide use 2015 [Internet]. 2015 [cited 2016 Mar 3]. Available from: *http://www.gov.pe.ca/photos/original/cpho_pesticideb.pdf*

59. Immunization Regulations, PEI Reg EC529/14 [Internet]. [cited 2016 Mar 1]. Available from: *https://www.canlii.org/en/pe/laws/regu/pei-reg-ec529-14/latest/pei-reg-ec529-14.html*

60. Human Papillomavirus (HPV) Prevention and HPV Vaccines: Questions and Answers - Public Health Agency of Canada [Internet]. [cited 2016 Feb 18]. Available from: *http://www.phac-aspc.gc.ca/std-mts/hpv-vph/hpv-vph-vaccine-eng.php*

61. Canadian Cancer Society. Human papillomavirus (HPV) - Canadian Cancer Society [Internet]. [cited 2016 Feb 18]. Available from: *http://www.cancer.ca/en/cancer-information/cancer-101/what-is-a-risk-factor/viruses-bacteria-and-other-infectious-agents/hpv/?region=on*

62. Food Premises Regulations [Internet]. P-30.1 Apr 1, 2014. Available from: *http://www.gov.pe.ca/law/regulations/pdf/P&30-1-02.pdf*

63. Tobacco Sales and Access Act R.S.P.E.I [Internet]. Cap. T-3 1991. Available from: *http://www.gov.pe.ca/law/statutes/pdf/t-03_1.pdf*

64. Smoke Free Places Act R.S.P.E.I [Internet]. Cap.S-4 2003. Available from: *http://www.gov.pe.ca/law/statutes/pdf/s-04_2.pdf*

65. Health in All Policies - Seizing opportunities, implementing policies [Internet]. Ministry of Social Affairs and Health, Finland; [cited 2016 Mar 15]. (Leppo K, Ollila E, Pena S, Wismar M, Cook S, editors. Health in All Policies). Report No.: 2013:9. Available from: *http://www.euro.who.int/__data/assets/pdf_file/0007/188809/Health-in-All-Policies-final.pdf*

Health and Wellness