

PROMOTE, PREVENT, PROTECT
PRINCE EDWARD ISLAND
CHIEF PUBLIC HEALTH OFFICER'S REPORT
AND HEALTH TRENDS 2014



Health and Wellness

KEEP MOVING ON LIFE'S JOURNEY



**Promote, Prevent, Protect
Prince Edward Island
Chief Public Health Officer's Report
and
Health Trends 2014**

Keep Moving on Life's Journey

Dear Minister Currie,

I have the privilege of providing to you the second Chief Public Health Officer's Report for PEI. *Promote, Prevent, Protect - PEI CPHO Report and Health Trends 2014: Keep Moving on Life's Journey* has a focus on healthy aging, summarizes the most recent health trends in PEI and highlights some of the public health areas in the Chief Public Health Office, DHW.

Respectfully submitted,

A handwritten signature in black ink, consisting of a stylized 'H' and 'M' followed by a horizontal line extending to the right.

Dr. Heather Morrison
Chief Public Health Officer

Personal Letter to Islanders

Aging. Sometimes we fight it. Sometimes we deny it is happening. Children can't wait until they are older! Regardless of what we do, we will age. In public health, we want people to "age well." But what does that mean?

Recently, I asked a group of seniors about healthy aging. Eating well and staying active were mentioned, of course. However, I was struck by the number of comments about being happy, interested, positive, engaged, and living with purpose, respect and laughter.

This is my second Chief Public Health Officer report. These reports are intended to provide information to the public and the government in order to stimulate personal and policy decisions. In addition to the health trends in PEI and the highlights of work in the program areas of the Chief Public Health Office, this report contains a section on aging in PEI. This builds on the goals of wellness discussed elsewhere, with a focus on trying to decrease our rate of chronic diseases.

As I write this letter and read this Report, I think about my parents. They live in PEI; they are in their early seventies. I hope they will be able to enjoy their lives, each other, their children and grandchildren for many more years. They will need to be as healthy as possible. Even for my husband and me, how will we make sure that decisions made now will help us age in a healthy way, so we can fully participate in the lives of our children?

In the previous Report I wrote - "I believe we can make a difference by promoting good health, doing our best to prevent illness and trying to protect Islanders from becoming ill." I still think this is true. This time, I want us to focus a bit more about how good health fits with healthy aging as we keep exploring life's incredible journey.

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

Heather Morrison, MD DPhil

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To all Islanders who are doing their best to “age well”.

This report is dedicated to Dr. Lamont Sweet and Anne Neatby in recognition of their significant contributions to public health on Prince Edward Island.

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Executive Summary

This is the second Chief Public Health Officer's report for Prince Edward Island. The Prince Edward Island Chief Public Health Officer's Report and Health Trends 2014 summarizes key health information from a variety of sources, both federal and provincial. The intent of the report is to examine health trends on PEI, describe Chief Public Health Office (CPHO) programs aimed at improving the health of Islanders, and highlight one area of public health that is of particular interest to Islanders. This year's report focuses on the health of seniors and the importance of supporting healthy aging for all Islanders.

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.

In recent years, highly publicized events such as E. coli associated with XL Foods, emerging pathogens such as MERS-CoV in the Middle East, the resurgence of vaccine preventable diseases such as pertussis (whooping cough) and measles, and the continued attention to rising rates of childhood obesity have highlighted the need for a strong public health system.

The mandate of the CPHO is to provide leadership and guidance in the practice of public health on Prince Edward Island. This mandate is accomplished by addressing the six essential functions of public health: health protection; health surveillance; disease and injury prevention; population health assessment; health promotion; and emergency preparedness and response.

Aging and Frailty

Aging

Similar to Canada, Prince Edward Island's population is getting older with seniors representing 17.3% of the Island population compared with 15.3% of Canadians in 2013. The proportion of Island seniors 65 years of age and older is predicted to increase in coming years. In 2020, one in five Islanders will be over 65 years of age; by 2040, this will increase to almost one in three Islanders. Therefore, it is important to understand the normal aging process and key factors that can contribute to healthy aging in our population.

The aging process can be rewarding as individuals explore new roles and gain new experiences and skills. Healthy aging affords seniors independence and quality of life by taking advantage of opportunities for physical, social and mental health.

Investing in healthy aging is an important priority for governments because:

- Seniors contribute significantly to their communities and the economy through their life experience, knowledge and support to younger generations as well as through unpaid work and voluntary contributions to society.
- Healthy aging slows the onset and decreases the severity of chronic disease and disability. This saves health care costs and decreases the need for long-term and home care resources.
- Healthy aging programs achieve measurable improvements in mortality and morbidity.
- Canadians and Islanders believe that supporting seniors in healthy aging is an integral part of our values.

Healthy aging is influenced by many factors, some that can be changed and others that cannot. Age, sex and heredity are not modifiable; however physical activity, healthy eating, smoking cessation, and drinking sensibly are changeable. Modifiable factors are influenced not only by personal behavior choice but by the environment in which we live. Social factors such as income, education, age-friendly communities, and social connectedness interact to produce an environment which can foster healthy aging. This environment in turn enables healthy personal choices. Investing in these underlying social determinants of healthy aging is one way that governments can support healthy aging.

The latest Canadian Community Health Survey – Healthy Aging was used to observe the health trends in PEI's aging adults and to compare them to what is occurring on a national level. The measures of aging that were reviewed included: self-perceived general health, self-perceived mental health, level of pain, mobility and functional health (i.e. cognition, hearing, mobility, emotion, and vision), social factors (i.e. satisfaction with life, social participation, and companionship) and personal behaviors (i.e. physical activity, nutrition, smoking and excessive alcohol consumption).

The results showed that aging Islanders were very similar to Canadians in most of the measures of aging. A few notable differences included: Islanders 65 years of age and older reported greater social participation and overall general health than their Canadian counterparts; Islanders 50 years of age and over reported significantly lower rates of regular alcohol consumption; unfortunately, Islanders 65 years of age and older lagged behind Canadians in cognition, hearing, and physical activity during leisure time; and Islanders 50 to 64 years of age were less likely than Canadians to have a healthy body mass index (BMI).

Frailty

Frailty is a state of vulnerability that can lead to poor health. Many factors contribute to an individual's level of frailty including nutritional status, physical activity, social relations and mental health.

Frailty may be a better predictor of health than age alone. Seniors who are frail for their age are more likely to experience illness, decreased quality of life and premature death. While no specific treatment for frailty exists, the recognition of pre-frailty and frailty within seniors provides an opportunity for intervention and to recognize the increased vulnerability and risk of adverse outcomes in an individual. It is important to remember that frailty states are transitional. Those who are frail can improve their health to become pre-frail or non-frail.

Data from the Canadian Community Health Survey were used to measure frailty on the Island compared to Canada. The frailty indicator was built from measures which included: general health, emotional/mental health, physical activity, body size, pain and chronic conditions. The same proportion of Islanders and Canadians were classified as non-frail, pre-frail and frail. In total 43% of those aged 65 years and older were frail as were 29% of those aged 50 to 64 years. In addition, 43% of those aged 65 years and older were pre-frail as were 47% of those aged 50 to 64 years. These frailty proportions, although quite high, are not surprising given the composition of the frailty measure. Physical size, activity level and the presence of chronic conditions, such as diabetes and hypertension, are known diseases and risk factors that are quite prevalent in our Island population.

A similar proportion of females and males were considered to be frail. Widowed, separated and divorced individuals were more frail compared to those in a relationship or those who were single. No difference was detected between urban dwellers and their rural counterparts. Frailty decreased as household income and level of education increased emphasizing the importance

of social factors on health. Based on the Canadian dataset, consumption of recommended fruits and vegetables daily was less likely as frailty increased and current smoking was also more likely as frailty increased. Alcohol consumption was not found to have a significant relationship with frailty. As expected, overall health care resource utilization increased with frailty, with frail respondents being more likely to have received medical services, including both physician care and hospital based services.

Measuring frailty as an indicator provides an opportunity to make health improvements now, and to use the indicator as a reference measure to monitor our future rates of frailty and follow any trends that develop as our population continues to age.

Governments, health care providers and individuals all have a role in improving the factors that contribute to frailty. Promoting wellness through age-friendly communities, physical activity, healthy eating, falls prevention, smoking prevention and cessation, mental health promotion, and social connectedness will benefit frail Islanders now as well as prepare the next generation to age well. Having enough income and education are key factors that impact frailty and affect everyone's health. Continued attention to poverty reduction and a strong educational system may be the most important government interventions that will contribute to equitable health for all Islanders.

Though we cannot change the composition of our aging population, we can work to improve the frailty in our population at all ages. PEI should strive to have the healthiest population possible regardless of age.

The factors that prevent frailty are the same factors that promote healthy aging. In turn, these are the same factors we all need to ensure overall wellness and to "Keep Moving on Life's Journey".

Health Trends

The Health Trends section is presented in four sub-sections: demographics, health status and determinants, common & chronic conditions, and communicable diseases. Islanders are commonly compared with the entire Canadian population as an assessment of how different or how similar PEI rates are with the national rates.

Below is a summary of the key findings within each sub-section.

Demographics

- Male Islanders born in 2008 are expected to live for 78 years and female Islanders for 83 years, both are similar to Canadian expectancies. Life expectancies have been slowly increasing over time and Canada boasts one of the highest life expectancies in the world.
- Cancer, heart disease and stroke are the leading causes of non-accidental death accounting for more than half of all deaths in both PEI and Canada.
- Fewer low birth weight babies are born in PEI compared to Canada and this rate has remained stable over time.
- PEI's education levels, similar to Canada's, are improving; however post-secondary education is more likely as your socioeconomic status (measured by quintiles) improves.

- PEI's median household income had been increasing since 2000; however since 2008 it has been on a decreasing trend. It is significantly lower than Canada's median household income.
- The unemployment rate in PEI has decreased since the early 1990's but remains consistently higher than the Canadian rate.

Health Status & Determinants

- The same proportions of Islanders and Canadians report their health as very good or excellent (60% and 61% respectively), however this proportion decreases with age and increases as socioeconomic status improves.
- Over 70% of Islanders and Canadians report their mental health as very good or excellent; however this proportion decreases with age and increases as socioeconomic status improves. There has been an increase of reporting fair or poor mental health both provincially and nationally.
- Less than one third of Islanders consume the recommended five or more fruits and vegetables per day which is lower than our Canadian counterparts. Females are significantly more likely to consume at least five fruits and vegetables per day than men.
- The proportion of Island women breastfeeding their infant at the time of hospital discharge has steadily increased over time.
- More Islanders are likely to be obese than Canadian counterparts. It is concerning that 60% of Islanders (18 years of age and older) are either overweight or obese.
- Islanders are more likely to be physically inactive than Canadians. Physical inactivity increases with age and decreases as your socioeconomic status improves.
- Although the same proportion of Islanders and Canadians report they are current drinkers, PEI's heavy drinking rate is consistently higher than the Canadian rate and continues on an upward trend.
- The same proportion of Islanders report daily smoking as Canadians.
- More Islanders were exposed to second hand tobacco smoke in a car compared to Canadians. Exposure to second hand smoke in the home and in a public place did not differ significantly between Islanders and Canadians.
- Over half of all Islanders intend to do something to improve their health in the next year. The overwhelming majority intend to get more exercise.
- More Islanders report a strong sense of belonging to their community compared with other Canadians and this has been consistent over time.

Common & Chronic Conditions

- Islanders are more likely to suffer from "any chronic condition" (arthritis, asthma, heart and stroke, diabetes or cancer) than Canadians overall, 31% vs. 28%, respectively.

- Prostate (males), breast (females), lung and colorectal cancer are the most common cancers diagnosed in both PEI and Canada. Cancer is more common in males than females.
- A similar proportion of Islanders and Canadians are living with diabetes which is more likely to occur in males and rises considerably after age 40.
- One in every five Islanders aged 20 years and over has been diagnosed with hypertension. Hypertension is more common in females but the difference between men and women is decreasing over time.
- More than one in every ten Islanders has been diagnosed with asthma which is more commonly diagnosed in our younger population.
- One in every seven Islanders (aged 35 years and over) has been diagnosed with Chronic Obstructive Pulmonary Disease (COPD) which is mainly caused by tobacco smoke.
- In 2010, over 20,000 Islanders (15.1%) were treated for a mental health condition of which 57% were females. The proportion of Islanders treated for a mental health condition increases as people age with the most common mental disorders in Islanders aged 80 years and older being dementia, depression and acute confusion.

Communicable Diseases

- The most common sexually transmitted infection in 2013 in PEI was chlamydia which accounted for over 50% of all sexually transmitted and bloodborne infections. The majority of chlamydia cases occurred in people aged 20 to 29 years and alcohol in association with risky sexual behaviour is cited as the most common risk factor.
- The number of new hepatitis C cases in PEI has been increasing. Recent cases have described a history of injection drug use. Based on an analysis of data from 2010-2013, males accounted for the majority of cases (66%) and the median age of cases was 35 years.
- During the 2012-13 influenza season, 44% of lab confirmed influenza cases were hospitalized. Existing chronic conditions were present in 64% of all influenza hospitalized patients. Immunization for influenza is recommended annually for the general population and has been shown to be effective in preventing severe infections requiring hospitalization. In 2011/12, 33% of Islanders received their annual influenza immunization. Approximately 61% of seniors were vaccinated.

From Evidence to Action

The Chief Public Health Office (CPHO) provides leadership and guidance in the practice of public health on PEI. To accomplish this mandate, the CPHO administers programs to address public health priorities in the areas of health protection, disease and injury prevention, health promotion, health surveillance and population health assessment and emergency management. The previous CPHO report identified five priority areas as important to strengthening public health on PEI. Over the past two years, the CPHO has made considerable progress on these priority areas. These areas, as well as on-going activities, are highlighted below.

CPHO Highlights and On-going Activities

- 1) Maintaining a strong focus on Health Protection programs which are legislated under the *Public Health Act*, including Food Protection, Immunization and Communicable Disease surveillance and follow up.
 - Renewal of the *Public Health Act* including amendments to the Notifiable Diseases and Conditions and Communicable Disease Regulations, and proposed amendments to the Food Premises Regulations to strengthen public health protection on PEI.
 - Implementation and evaluation of a risk-based model for inspection of food premises.
 - Strengthening of PEI's Childhood Immunization Program with the following additions:
 - Human papillomavirus (HPV) vaccination for Grade 6 boys.
 - Rotavirus vaccination for infants with greater than 90% uptake resulted in hospitalizations due to rotavirus decreased by 97%.
 - Pertussis vaccination of parents and close contacts of newborns (Cocooning Strategy).
 - Management of several outbreaks including gastrointestinal illnesses, influenza, measles and pertussis (whooping cough).
- 2) Improving immunization rates to ensure better protection against vaccine preventable diseases.
 - Development of a provincial immunization rates committee aimed at improving PEI's immunization rates in children by the age of two. Focus is on three areas: education for health care providers, determining indicators of success, and public education and information.
 - Introduction of influenza vaccine free of charge to those aged 65 and over in collaboration with Health PEI.
- 3) Maintaining robust surveillance systems in order to appropriately inform program and public health policy development.
 - Incorporation of best practices for provincial surveillance and national reporting.
- 4) Working with partners within the Department of Health and Wellness, other government departments and all Islanders towards attaining healthy weights. This includes working to improve breastfeeding rates and developing a provincial breastfeeding policy.
 - Introduction of Breastfeeding policy in July 2012. Collaborating with Health PEI to work towards the Baby Friendly Designation (<http://breastfeedingcanada.ca/BFI.aspx>).
- 5) Working with Islanders in collaboration with our partners, particularly health promotion, to address the significant burden that high rates of chronic diseases such as heart disease, cancer and diabetes place on our society.
 - Actively providing information and analysis on the health of PEI's population to key stakeholders which includes:
 - Producing and updating chronic disease reports (diabetes, hypertension, COPD, asthma, heart disease, mental health and other conditions) bi-annually, annually, monthly, or as needed.
 - Participation on a number of working groups and committees including the Integrated Chronic Disease Working Group, and the Provincial Cancer Strategy Steering Committee.

- Introduction of Tanning Facility Regulations under the *Public Health Act*.

6) Other

- Introduction of The *Period of PURPLE Crying®* program which is designed to educate parents and caregivers about the normal patterns of infant crying, to anticipate this behaviour and to safely respond to a crying infant.
- In June 2012, the PEI Vital Statistics Registry introduced a bundled birth service that provides an easy and efficient way for parents to access government services related to the birth of a new child. Since this bundled service became available to parents, 98% have accessed it at the time of birth registration.

Conclusion

The role of public health includes developing and influencing public policy to ensure the population is as healthy as possible as well as preventing injury, illness, and premature death. We know that even small changes in lifestyle behaviours that an individual makes today will have a positive effect on the health of that person; however, the resulting improvements in the health status of our population as a whole may take years to achieve.

The evidence tells us that having enough income and education are key factors that affect all aspects of health including frailty. Action on these social determinants of health requires concerted effort over time. Continued attention to poverty reduction and a strong educational system may be the most important government interventions that will contribute to health and healthy aging for all Islanders. The Chief Public Health Office will continue to emphasize promotion, prevention and protection to help Islanders move towards improvements in health and healthy aging.

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Introduction

This is the second Chief Public Health Officer's report for Prince Edward Island. The Prince Edward Island Chief Public Health Officer's Report and Health Trends 2014 summarizes key health information from a variety of sources, both federal and provincial. The intent of the report is to examine health trends on PEI, describe Chief Public Health Office programs aimed at improving the health of Islanders and highlight one area of public health that is of particular interest to Islanders. This year's report focuses on the health of seniors and the importance of supporting healthy aging for all Islanders.

Public Health on Prince Edward Island

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.¹

Vision

*The **Chief Public Health Office** ensures excellence in Public Health practice through leadership and guidance in health protection, disease and injury prevention, health promotion, surveillance and population health assessment and emergency management for the Department of Health and Wellness, Government and all Islanders.*

The mandate of the Chief Public Health Office (CPHO) is to provide leadership and guidance in the practice of public health on Prince Edward Island. This mandate is accomplished by addressing the six essential functions of public health to promote, prevent and protect the health of Islanders:

- **Health Protection:** Actions to ensure water, air, and food are safe. Protection from environmental hazards through regulation, inspection, and enforcement
- **Disease and Injury Prevention:** Preventive measures to reduce the risk of injury and disease including immunization, screening and infection control
- **Health Promotion:** Enabling people to improve their health by encouraging healthy lifestyles, creating healthy environments and public policies, strengthening community action and reorienting healthcare services to promote healthy living
- **Health Surveillance:** The ongoing, systematic collection, analysis and interpretation of health data for the planning, implementation and evaluation of public health practice
- **Population Health Assessment:** Monitoring the health status of communities or specific populations and measuring the effectiveness of public health policies and programs
- **Emergency Management:** Actions involved in the prevention, preparation, response and recovery from emergencies that threaten the health of the public.

The CPHO collaborates with the division of Sport, Recreation and Healthy Living in the area of Health Promotion. The CPHO also works directly with programs and services in Health PEI (e.g. Public Health Nursing, Medical LabNetwork, Provincial Pharmacy, etc.) and with other governmental and non-governmental agencies to meet legislated responsibilities under the *Public Health Act*² and Regulations.

Healthy Aging for all Islanders

Over the last 100 years life expectancy has greatly increased and the proportion of seniors, often defined as individuals 65 years and older, has increased in number.³ An aging population is a modern success story with longevity tied to advances in public health such as vaccination and control of infectious diseases, safe and healthy food and water, tobacco cessation programs, motor vehicle safety, safe workplaces and healthy child development. However, the growing number of seniors in Canada and Prince Edward Island has also led to challenges such as an increase in prevalence of chronic disease. Increasing life expectancy has been accompanied by longer periods of morbidity and disability in Canadians and, with the rising number of seniors, prevention and management of chronic conditions has become a priority for Canada's health care system.³

The necessity of studying the health of seniors has been recognized in public health research. The Public Health Agency of Canada's Chief Public Health Officer's 2010 report used the concept of "healthy aging" when reporting on the health of Canada's aging population.⁴ Healthy aging is defined as "the process of optimizing opportunities for physical, social and mental health to enable seniors to take an active role in society without discrimination and to enjoy independence and quality of life."⁴ Recently, the idea of successful aging was attributed to three factors: a low probability of disease and disease related disability; a high level of physical and cognitive functioning; and active engagement of life.⁵ Although there are discrepancies in exactly how healthy aging is defined, research on this topic makes it apparent that it cannot simply be explained through the physical health of an individual. A variety of aspects must be considered when determining the health of a senior including, but not limited to, mental and physical health, satisfaction with life, level of pain, functional health, social participation, and healthy behaviors. Frailty is a term used to describe a state of vulnerability which can lead to a variety of poor outcomes for seniors' health. While frailty increases with age it is also associated with many modifiable factors that can be improved leading to healthier aging for seniors.

Healthy aging is a broad topic encompassing the normal aging process, the promotion of healthy aging and the measurement, prevention and treatment of frailty. In this report, different aspects of health in our aging Islanders will be presented as both a marker for how well we are aging right now as well as a point of reference for changes in the health of our aging populations as we keep moving on life's journey.

Report Overview

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

Section 1: Aging and Frailty - Section 1 describes the population structure in PEI, normal changes experienced in aging and how Islanders compare to Canadians on factors associated with healthy aging. Frailty is defined along with the use of frailty indices and their association with morbidity and mortality. An overview of frailty in PEI is provided using data from the Canadian Community Health Survey.⁶

Section 2: Health Trends – Section 2 provides an overview of the health of all Islanders. The Health Trends section is presented in four sub-sections: demographics, health status and determinants, common and chronic conditions, and communicable diseases. Under each sub-section, health indicators are presented for Islanders and compared to the reference Canadian population when available.

Section 3: Chief Public Health Office Programs – Section 3 describes current initiatives under the following CPHO program areas: Environmental Health, Communicable and Vaccine Preventable Diseases, Infection Prevention and Control, Reproductive Care, Health Emergency Management, and Vital Statistics.

SECTION 1: AGING AND FRAILTY

Please see the Appendix for detailed data tables.

Aging

Following a national trend, Prince Edward Island's population is getting older. With the proportion of Island seniors 65 years and older forecasted to increase in coming years, it is important to understand the normal aging process and key factors that can contribute to healthy aging in our population.

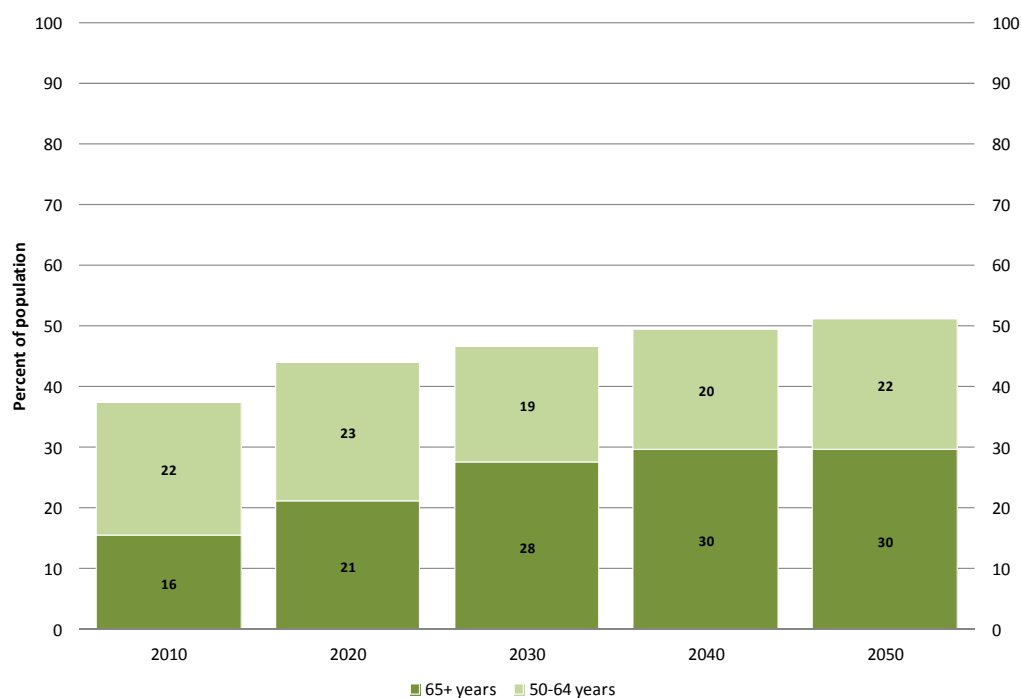
Population structure in PEI

According to the 2013 Statistics Canada population estimates, PEI has 25,076 adults aged 65 and over, representing 17.3% of the population.⁷ In comparison, only 15.3% of all Canadians are in this age group. In addition, the median age in PEI is 43.1 years of age while the median age in Canada is 40.2 years.

For Islanders aged 65 and over, there are more women (13,730) than men (11,346). The middle age adult population from 50 to 64 years represents an additional 22.7% of the population of PEI. By 2020, population projections indicate that 1 in 5 Islanders or 20% of the population will be aged 65 and over (Figure 1)⁷; by 2040, this will increase to almost one in three Islanders. This large and growing segment of the Island population is experiencing, to varying degrees, normal changes associated with aging.

Prince Edward Island's population is older than Canada's population and the proportion of Island seniors age 65 years and over is forecasted to increase.

PEI Population Projections by Age, 2010-2050



Normal changes associated with aging

The aging process can be rewarding as individuals explore new roles and gain new experiences and skills.

Aging produces normal physiological and emotional changes in an individual. Skin wrinkles and produces less oil while hair thins. Bone density decreases and body metabolism slows. Hearing becomes less acute while night vision declines. The heart becomes less efficient leading to gradual declines in energy and endurance. Lungs can also become less effective in oxygen exchange over time. While intellectual capacity is not directly affected by aging, slower reaction times and decreased complex decision making does occur.⁸ In addition to these physiological changes, aging can

be emotionally challenging. Seniors not only confront health issues but also experience changes related to their income, work, housing, relationships and their role in the community.

The aging process can also be rewarding as individuals explore new roles and gain new experiences and skills. For those retiring from full-time paid work, part-time work arrangements and volunteer activities provide new opportunities for intellectual stimulation, physical activity and social relationships. Seniors may enjoy spending more time with family, take on an advocacy role for a cause in the community or become a mentor to one who is younger. Frequently retirement is a time to explore hobbies, enter into new relationships, travel or enjoy the comforts of home. Seniors feel a sense of accomplishment and enjoy a strong appreciation for life, enabling them to more fully engage in and share life's moments.



Healthy aging

Healthy aging in Canada has been defined as the “process of optimizing opportunities for physical, social and mental health to enable seniors to take an active part in society without discrimination and to enjoy independence and quality of life”.⁴ Healthy aging is influenced by many factors, some of which are predetermined and others which are modifiable. Predetermined characteristics that influence healthy aging include age, sex and heredity. Examples of modifiable factors include physical activity, healthy eating and smoking cessation. Modifiable factors are influenced not only by personal behavior choice but by the environment in which we live. Social factors such as income, education, age-friendly communities and social connectedness interact to produce an environment which fosters healthy aging. This environment, in turn, enables healthy personal choices. Investing in these underlying social determinants of healthy aging is an important priority for governments.

Healthy aging optimizes opportunities for physical, social and mental health so seniors can enjoy independence and quality of life.

Investing in healthy aging is an important priority for governments because:

- **Seniors contribute significantly to their communities** and the economy through their life experience, knowledge and support to younger generations as well as through unpaid work and voluntary contributions to society.
- Healthy aging **slows the onset and decreases the severity of chronic disease and disability**. This saves health care costs and decreases the need for long-term and home care resources.
- **Healthy aging programs achieve measurable improvements in mortality and morbidity.**⁹
- **Canadians and Islanders believe that supporting seniors in healthy aging is an integral part of our values.**

Age-friendly communities

The goal of an age-friendly community is to promote many forms and levels of activity to all age groups including seniors. In 2007, the World Health Organization launched the *Global Age-Friendly Cities Guide* that groups can use to improve the age-friendliness of their community by having:

- Clean, quiet and peaceful environments
- Adequate, well-lit and well-maintained streets and sidewalks
- Walking paths that are safe from users on wheels with nearby accessible toilets
- Accessible and affordable public transportation with priority seating
- Housing design that integrates older people into the community
- Opportunities for seniors to participate in civic, cultural, educational and voluntary activities by making these accessible and affordable.⁹

Physical activity

There are significant benefits to continued physical activity including improved health, prevention and management of chronic conditions, and continued independence in activities of daily living (ADLs).¹⁰ ADLs are activities an individual needs to be able to perform for independence in daily life such as dressing, washing, toileting, transferring and ambulating. Physical activity also fosters social connectedness, another pillar of healthy aging.⁴

Healthy eating

Healthy eating is an important component of healthy aging. It increases mental acuity, improves resistance to and recovery from illness, decreases disease and injury risk, produces a more robust immune system, provides higher energy levels, and improves management of chronic conditions. Barriers to accessing healthy foods such as cost and availability are more common among seniors. Many seniors experience risk factors for malnutrition such as dietary restrictions, medication use, physical or psychological diseases, changes in taste or smell, difficulty chewing or swallowing, and alcoholism.

Many factors contribute to healthy aging. Some factors such as sex and heredity are predetermined while others such as healthy eating; physical activity and social connectedness can be improved.

Injury prevention

Falls and motor vehicle collisions are associated with significant morbidity, mortality and healthcare utilization among seniors. Chronic or acute illness, multiple medications, cognitive impairment, alcohol consumption, and lacking social networks all contribute to an increased risk of falling.^{11,12} Effective fall prevention programs can significantly reduce the risk of falling through education, support, environmental changes, and targeted exercises.^{13,14} Age-related changes in vision, reaction times, and speed of cognitive processing increases the risk of motor vehicle collisions among seniors. The Canadian Association of Occupation Therapists has developed a National Blueprint for Injury Prevention in Older Drivers with funding from the Public Health Agency of Canada. This blueprint outlines a vision and actions for promoting safe driving among older drivers in Canada.¹⁵

Smoking cessation

Although fewer Island seniors smoke than the Canadian average, those that do are mostly lifelong smokers. Smoking is well known to be detrimental to health and is associated with an increased risk of lung cancer, heart disease, stroke, hip fractures, cataracts, chronic obstructive pulmonary disease (COPD) and kidney and pancreatic cancers. Smoking also interferes with drug therapies and seniors who smoke have double the mortality rate than those that are non-smokers.¹⁶ Smoking cessation among seniors confers benefits including decreased health risks, improved quality of life, and extended life expectancy (i.e. a 60 year old smoker who quits extends their life expectancy by 3 years).¹⁷ Motivating factors for quitting in seniors include advice of a physician, self-motivation, or diagnosis of an illness.

A 60 year old smoker who quits extends their life expectancy by 3 years.¹⁷

Mental health promotion and social connectedness

Mental health plays a significant role in healthy aging and is an important component of physical health. Programs that target mental health can help seniors remain healthy as they age. Social connectedness can help seniors maintain independence through the development and maintenance of informal social support networks. Addressing social isolation helps ensure greater access to community facilities, transportation, and affordable activities. Seniors living in rural/remote areas, new immigrants, and those in care-giving roles are most at risk for social isolation.¹⁰



Aging on the Island compared to Canada

The Canadian Community Health Survey – Healthy Aging (2009) was used to observe the health trends in PEI's aging adults and to compare them to what is occurring on a national level.¹⁸ Canadian individuals were asked a variety of questions spanning all areas of their lives to attempt to better understand the aging process and to obtain a complete picture of the physical and mental health of today's seniors. The results are described below for those aged 50 years and older (underlined are key variables that were analyzed).

Island seniors report higher overall general health than fellow Canadians.

Self-perceived general health, how individuals describe their own health, looks at a range of physical, mental, and social factors. Residents of PEI (65 years and older) were significantly more likely to report their health as very good or excellent (52%) compared with Canadians of the same age (44%). Islanders 50 to 64 years of age reported their health as excellent or very good (62%) similar to fellow Canadians (57%).

Self-perceived mental health, how individuals describe their own mental health, includes an assessment of their ability to cope and enjoy life. While mental health is an important health factor on its own, it also has implications with respect to physical health, as poor mental health can aggravate physical conditions or illnesses. Reports of excellent and very good mental health did not differ between Islanders and Canadians with approximately three of every four 50 to 64 year olds and between 70-75% of those 65 years and older having positive mental health.

The level of pain an individual experiences can directly impact both their physical and mental health. It can also inhibit people from participating in activities or physical exercise that might improve their overall well-being. A large proportion of Islanders aged 50 to 64 years and 65 years and older reported no pain or pain that did not prevent activity (86% of 50 to 64 year olds and 82% of those 65 years and older). This did not differ from Canadians of the same age category.

Mobility and functional health is an area of healthy aging that is particularly important as we age. It describes the ability of individuals to function in a variety of ways including: cognition, hearing, mobility, emotion, and vision. These aspects of health describe capacity for functioning as an independent member of society and provide a sense of what a day in their life may be like. While Islanders had similar results as Canadians for most of these areas, we were less likely to report “able to remember most things” and “able to hear what is said in a room with at least three people without a hearing aid” than our Canadian counterparts in the 65 years and older age category.



Mobility and Functional Health	PEI	Canada
	%	%
Cognition (able to remember most things)		
50 to 64 years	76	78
65 years and older	65*	71
Hearing (able to hear well)		
50 to 64 years	95	97
65 years and older	81*	85
Mobility (able to walk around neighborhood without help)		
50 to 64 years	97	97
65 years and older	88	88
Emotions (happy and somewhat happy with life)		
50 to 64 years	97	96
65 years and older	97	96
Vision (read ordinary print and recognize friends from a distance)		
50 to 64 years	99	99
65 years and older	96	96

*significantly lower than Canada (p<0.05)

Social factors such as satisfaction with life, social participation, and companionship can also have an impact on healthy aging and can often make the difference between having a “good day” and a “bad day”. Life satisfaction describes how happy individuals are with their life overall, which includes physical, mental, and social factors. In general, Islanders are satisfied with life (88% in 50 to 64 year olds and 91% in those 65 years and older). Islanders and Canadians had similar results although Islanders (65 years and older) reported significantly higher social participation in community activities than Canadians of the same age (96% vs. 92%, respectively). When seniors participate in social activities, it can decrease their levels of loneliness and isolation, which can have a positive impact on both their mental and physical health. One way to measure isolation and loneliness is through the amount of companionship an individual feels they have. Island seniors did not report different rates of companionship than Canadians with approximately 77% hardly ever lacking companionship.

Personal behavior also impacts healthy aging. Some healthy behaviours, such as physical activity and good nutrition positively influence overall health. Other behaviours, such as smoking or excessive alcohol consumption, can have a negative impact on healthy aging. Poor nutrition is a particular area of concern for seniors as maintaining a healthy diet can become increasingly difficult. There were no differences in terms of nutritional risk between Islanders and Canadians, however between 32-38% of seniors in Canada are considered at nutritional risk.

Regular physical activity has a beneficial effect on both physical and mental health. Significantly less Islanders aged 65 years and older were getting regular leisure physical activity compared to Canada (77% and 84%, respectively). This is an important issue to address, because physical activity has a direct impact on all areas of an individual's health. Significantly fewer Islanders between 50 and 64 years of age are at their ideal Body Mass Index (BMI) (28%) when compared with other Canadians (37%). Islanders aged 65 years and older also have a lower proportion at an ideal weight (35%); however this is not different than the rest of Canada.

Smoking rates in PEI's aging population were not significantly higher than those found in the rest of Canada with 78% and 89% of Islanders 50 to 64 years and 65 years and older, respectively, being categorized as non-smokers (former and never smoked).

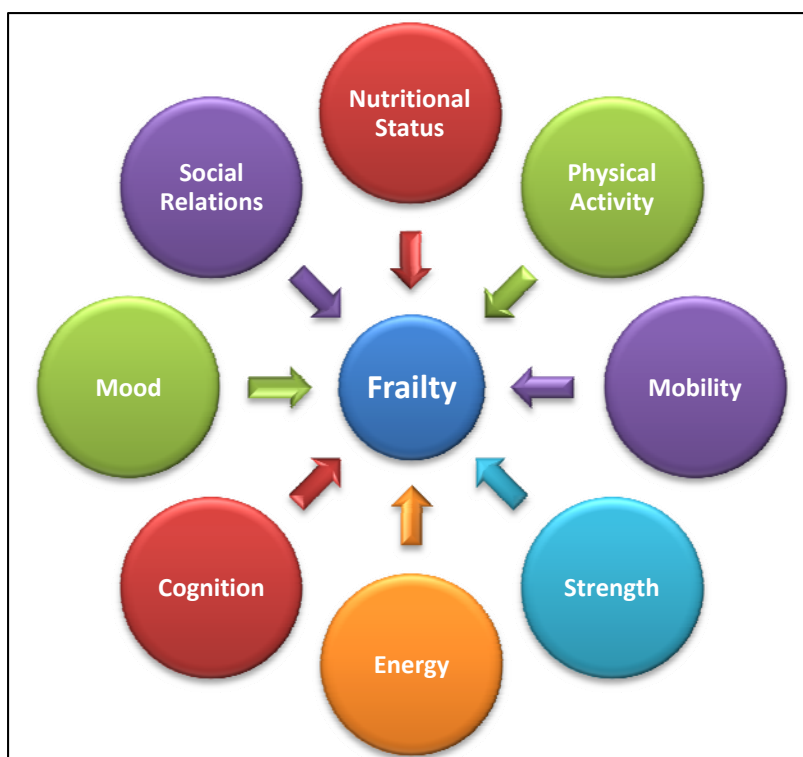
Excessive drinking detrimentally impacts both physical and mental health. Islanders aged 50 years and older are significantly less likely to be "regular" drinkers compared to Canadians of similar age. Rates of binge drinking did not differ between Islanders and Canadians 50 years of age and older.



Frailty

Frailty is the state of increased vulnerability from age-associated physiologic changes reducing one's ability to cope.¹⁹ All of the deficits used to describe frailty increase with aging. However, increased age does not necessarily mean that a person is frail.²⁰ Frailty has been described as the reason for the variability in the risk of death in individuals of the same age.²¹ While the process by which someone becomes frail is not yet clear, eight factors believed to be important in defining frailty are shown in the figure below.²² These factors mirror those discussed in the previous section on healthy aging.

Frailty is a state of vulnerability that can lead to poor health. Many factors contribute to a senior's level of frailty including nutritional status, physical activity, social relations and mental health.



Frailty is a concept distinct from disability and chronic disease. Frail individuals are more likely than robust individuals to have illness presentations including delirium, falls, immobility and functional decline.²³ This has important clinical implications in both recognizing frailty and in identifying acute precipitating factors in health problems among frail individuals. There are several elements that predispose an individual to develop frailty including lack of exercise, psychological factors, smoking, low (< 20) and high (> 30) BMI and weakness.

Frailty indexes are used to measure an accumulation of deficits that together produce a significant impact on morbidity and mortality. Individual deficits accumulated are not as important to overall mortality and morbidity risk as the overall number of deficits.²³ Frailty indexes provide a measure of the aging process within an individual and as an alternative to chronological age.²⁴

Why is frailty important

Frailty has repeatedly been shown in research studies to be significantly associated with mortality, morbidity and increased healthcare utilization. The ability to accurately and quickly identify pre-frail and frail individuals allows care providers and program organizers to target individuals in need of a higher level of supportive care and intervention.²⁵

Frailty may be a better predictor of seniors' health than age alone. Seniors who are frail for their age are more likely to experience illness, decreased quality of life, and premature death.

Because of the variability of aging in seniors, frailty indexes provide a means of characterizing the progress of the aging process both for individuals and across groups of people.²⁶ This provides valuable information to health professionals on the morbidity and mortality risk of their patients and to health planners and governments about the current and future healthcare utilization of pre-frail and frail individuals.²⁶ A clear definition of frailty allows for the identification of individuals who would most benefit from targeted interventions to prevent further health decline.²⁷

Increasing frailty was associated with increasing risk of mortality in a long-term Canadian survey of 14,127 respondents who were surveyed seven times over 12 years. The same survey found that frail respondents had an increased risk of admission to long-term care compared to the non-frail respondents (12.5% vs. 0.7%) and hospital admission in the previous two weeks (18.4% vs. 5.0%).²⁸ Even once an individual is hospitalized, a Nova Scotia study of 409 patients followed over the first two weeks of their hospital stay showed that being more frail results in fewer improvements in balance, mobility and transferring in and out of bed. Individuals with higher frailty scores on admission had less chance of being discharged home and a greater risk of being institutionalized and dying.²⁹

While no specific treatment for frailty exists, the recognition of pre-frailty and frailty within seniors provides an opportunity for intervention and to recognize the increased vulnerability and risk of adverse outcomes in an individual.^{18,29} Clinicians who are able to recognize frail senior individuals when they enter the healthcare system are better able to modify interventions and institute preventative measures for common complications.³¹ Both the modification of interventions and the use of preventative measures within the healthcare system could lead to considerable health care cost savings.

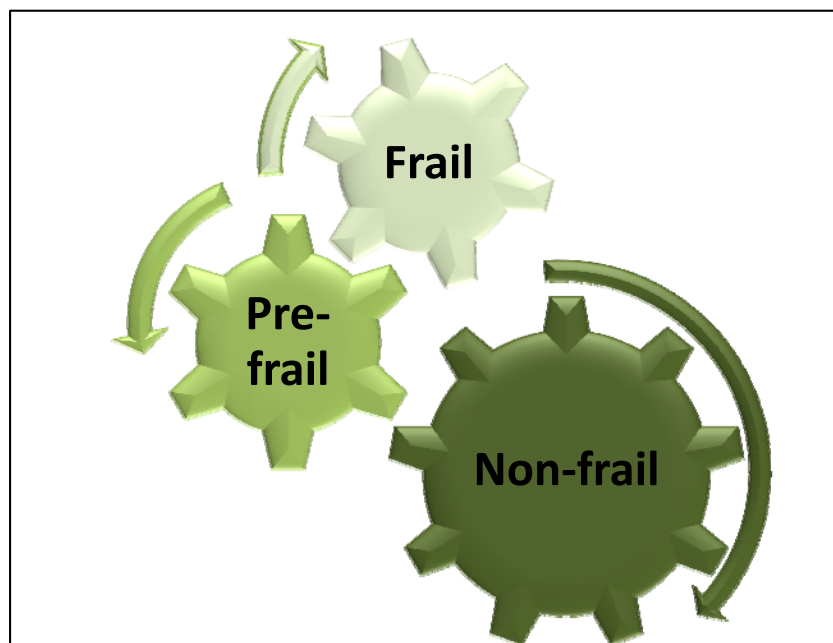


In addition, examining the frailty characteristics within a specific population allows governments to plan more accurately for current and future health care needs and healthy aging programs. For example, if a particular population has more frail individuals than average, that population is at increased risk of morbidity and mortality and will consume more healthcare resources than a population with fewer frail individuals on average. Planning for publicly funded health programs that specifically target seniors and their increased risk of pre-frail and frail states is beneficial to the health of seniors and sustainability of health care. An understanding of the process of the development of frailty and potential interventions is key for effective decision-making.

Levels of frailty

Ability to move in and out of different levels

Transitions from one frailty state to another occur gradually and frequently in seniors and can be towards states of greater or less frailty. In examining a population of seniors over an extended follow-up period, many individuals transition between frailty states, not only from non-frail to pre-frail and frail but also sometimes towards more improved frailty states. A study of 405 women aged 70 to 79 assessed over four follow-up visits showed that 72% had at least one transition between frailty states over the 7.5 years. Some women had up to four transitions, with a minority (17%) making a transition from frail to non-frail during the follow-up period. This study demonstrates that frailty is not necessarily a one-way step-wise progression from non-frail to pre-frail and frail and that there remains an important window for intervention in the health of pre-frail and frail seniors.¹⁹



Understanding how frailty develops can help target interventions that will contribute to healthy aging.

In the majority of cases, changes in frailty states occur gradually.³² Entering the senior years with high mobility is an important protection against frailty.³² With this understanding, improving mobility early is an important intervention in maintaining mobility and potentially decreasing frailty.

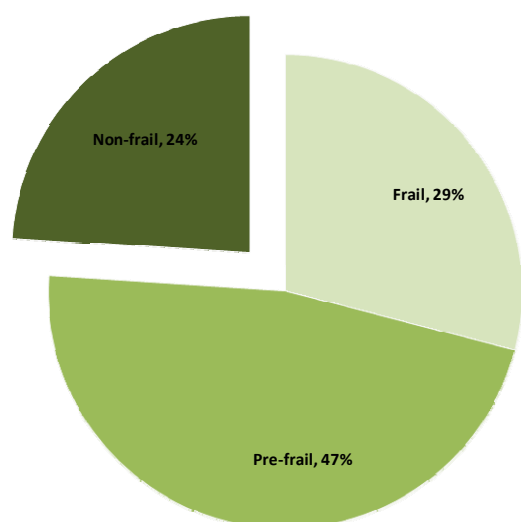
Frailty on the Island compared to Canada

Data from the Canadian Community Health Survey (CCHS) 2011-12⁶ were used to measure frailty. A total of 28 items were selected and recoded to align with Statistics Canada methodology and comprised measures of general health, emotional/mental health, physical size, activity level, pain, and chronic conditions.³³ Frailty index scores could range from 0 (fit) to 1 (frail). The final sample was comprised of 906 respondents aged 50 years and older. Frailty scores greater than 0.21 were categorized as 'frail' similar to the Canadian study.³³ The pre-frail category ranged between 0.10 and 0.21 and non-frail represented those who scored less than 0.10 on the frailty index.

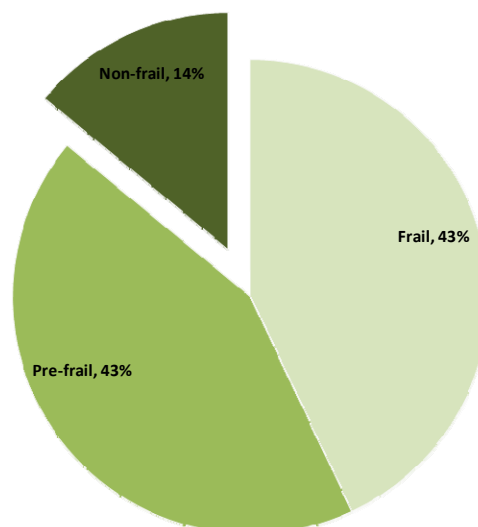
The prevalence rates of Islanders who are frail are similar to the Canadian population and indicate a large portion of those aged 50 years and older are vulnerable to health problems.

No differences in the proportions of Islanders being classified as non-frail, pre-frail or frail existed when compared with Canada. In total, 29% of those 50 to 64 years of age were frail and this increased to 43% in those 65 years and greater. It is possible that these estimates are actually underestimates of the population as our survey did not include individuals that live in institutions.

Frailty in PEI Population aged 50-64 years, 2011/12



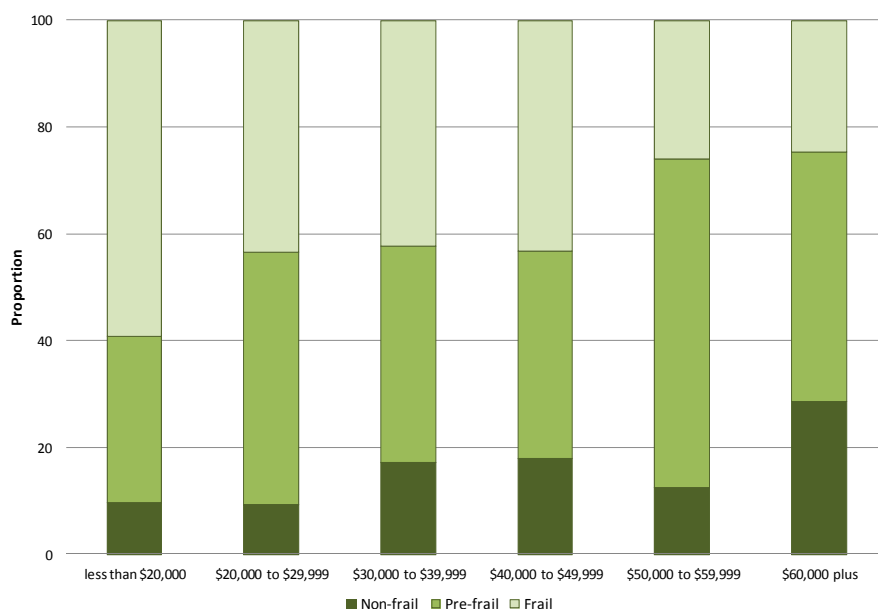
Frailty in PEI Population aged 65+ years, 2011/12



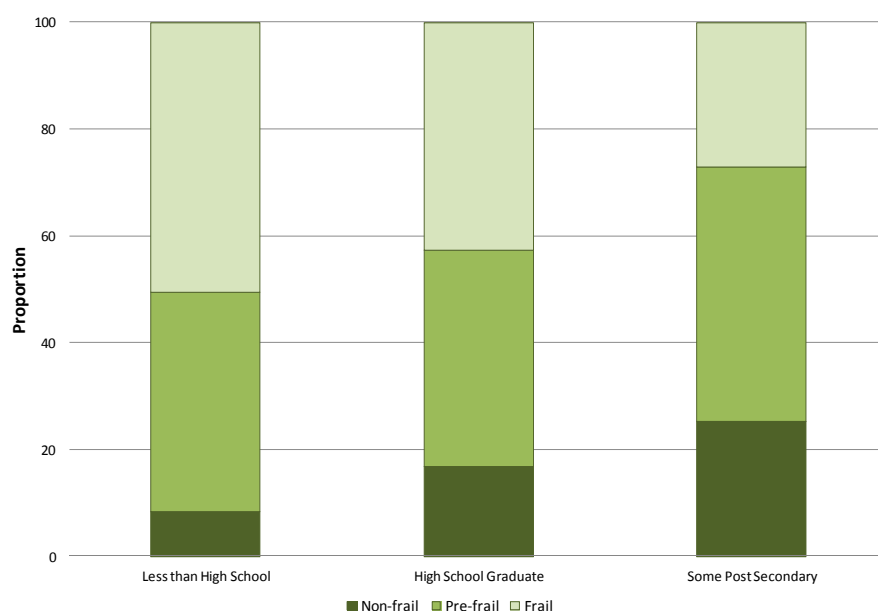
A similar proportion of females and males were considered to be frail. Widowed, separated and divorced individuals were more frail compared to those in a relationship (married or common law) or those who were single (never married). No difference was detected between urban dwellers and their rural counterparts.

Frailty decreased as household income and level of education increased.

Household Income and Frailty, PEI 2011/12



Education level and Frailty, PEI 2011/12



Based on the Canadian dataset, consumption of recommended fruits and vegetables was less likely as frailty increased and current smoking was also more likely as frailty increased. Alcohol consumption was not found to have a significant relationship with frailty.

Overall health care resource utilization increased with frailty index scores, with frail respondents being more likely to have received medical services, including both physician care and hospital based services. While the type of hospital services received did not significantly differ by degree of frailty, frail individuals were significantly more likely to have received the services of a medical specialist as compared to a family doctor or general practitioner at their last medical visit.

What Island programs exist now?

As the number of aging adults continues to grow in PEI, the importance of healthy aging should be an Island focus. When measuring the robustness of a population, frailty is a better gauge compared to chronological age alone. Based on survey data, a substantial proportion of the Island (and Canadian) population aged 50 years and older are classified as either pre-frail or frail. Focusing on programs that maintain fit status or that can aid pre-frail or frail individuals to transition to non-frail will improve individuals' health and decrease healthcare utilization. Changes will also improve the health of our Island population.

The Healthy Aging Strategy published by the Government of PEI in 2009 highlights health care system changes that are planned to care for aging Islanders. These include a renewal of Long-Term Care beds and an increased focus on providing home care instead of institutional care for as long as possible.³⁴

The Active Living Coalition for Older Adults (ALCOA) supports individuals by providing *Healthy Living Workshops for Older Adults* with CD Tool Kits that support the implementation of *Canadian Physical Activity Guidelines for Older Adults – 65 years and older* and *Your Personal Passport to Healthy Living*.³⁵

The Community Foundation of Prince Edward Island (CFPEI) supports initiatives aimed at people from all walks of life, that support the whole community and are focused on today and tomorrow.³⁶ Currently they provide \$150,000 a year in funding to a wide variety of community enhancing projects and one of their focuses is on seniors, health supports and community services.³⁶ They are rolling out a Smart and Caring Communities strategy to have an Island Fund granting approximately \$300,000 per year by 2017.³⁶

The new Seniors Preparing for Independent Retiring from driving using Innovative Tools (SPIRIT) program addresses risks and social isolation that comes with driving cessation. It raises awareness of the need to both provide tools to help plan for driving cessation and to create a driving cessation program for family or friends to use in a workshop format.³⁷



The go!PEI program is a community-based healthy living program that targets all Islanders with interventions geared towards physical activity and healthy eating. They are partnered with Cycling PEI, Island Trails, PEI Flavours, PEI Healthy Eating Alliance, Sport and Recreation Councils and Municipalities.³⁸ They deliver and provide resources about low or no cost, infrastructure ready, limited equipment, no time constraint, and year round programs and activities

that can be done by any age group individually or in a group.³⁸ There are multiple opportunities

for seniors with programs being run out of community centers and in the outdoors, Island-wide, that specifically target seniors or adults aged 50 years and older.³⁸ The website newsletters contain inspirational stories of individuals including aging adults making healthy lifestyle changes.³⁸

The Seniors' Secretariat maintains a list of resources relevant to seniors in the following priority areas: ageism, promoting positive images of aging, age-friendly communities, financial security and safety, healthy aging, housing, mature workers, and social isolation. The resources contained in their guide cover the areas of active living, finances, health services, housing, life-long learning, personal security, legal services, transportation, and travel.³⁹

Island Seniors are invaluable due to their wisdom, knowledge and sense of community, and we need to ensure that focus is on healthy aging now and in the future.

Discussion

Aging Islanders were very similar to Canadians in most of the measures of aging discussed. Islanders lagged behind Canadians in cognition (aged 65 years and older), hearing (aged 65 years and older), physical activity during leisure time (aged 65 years and older), and healthy BMI (50 to 64 years). On a positive note, Islanders aged 65 years and older reported greater social participation and overall general health than their Canadian counterparts. Islanders aged 50 years and older reported significantly lower rates of regular alcohol consumption.

Governments, health care providers and individuals all have a role in improving the factors that contribute to frailty.

As discussed, measuring frailty may be a better indication of overall health and in using the frailty index, 29% of 50 to 64 year old Islanders are frail. That proportion increases to 43% of Islanders aged 65 years and older. These frailty proportions, although quite high, are not surprising given the composition of the frailty index which includes items of health such as physical size, activity level and presence of chronic conditions such as diabetes and hypertension. These are known diseases and risk factors that are quite prevalent in our Island population. This

important indicator can be used as an opportunity to make health improvements now and as a reference measure to monitor our future rates of frailty and follow any trends that develop as our population continues to age.

The 50 to 64 year age group consists of people who are still working and many are living with dependent children. Children's wellness habits will be influenced by the activity and actions of their parents and there has been much concern noted across the country and in PEI about decreased activity levels in children as well as increased rates of overweight and obesity.

It is not surprising to see the increased use of health care services with increased frailty. Given the proportion of frail and pre-frail adults in our Island population greater than 50 years of age, it should be expected that there will be continued pressures and costs experienced in our health care system. However, it is important to remember that frailty states are transitional. Those who are frail can improve their health to become pre-frail or non-frail.

Promoting wellness through age-friendly communities, physical activity, healthy eating, falls prevention, smoking prevention and cessation, mental health promotion, and social connectedness will benefit frail Islanders now as well as prepare the next generation to age well. Having enough income and education are key factors that impact frailty and affect

everyone's health. Continued attention to poverty reduction and a strong educational system may be the most important government interventions that will contribute to equitable health for all Islanders.

Why is this important?

Chronological age is not something we can change therefore, aging well is essential. Increasing chronological age is a risk factor for the development of many chronic conditions, but it is not the only risk factor. Since we cannot change chronological age or the composition of our population, we can work to improve our frailty. Frailty is a better measure than age as it uses a group of deficits together as a whole to categorize individuals as non-frail, pre-frail or frail. Frailty is associated with increased health care utilization and increased morbidity and mortality.

We can do many things to improve the frailty in our population at all ages. PEI should strive to have the healthiest population possible regardless of the age of that population. To accomplish this we need to:

- **Keep moving**.....mobility and physical activity are extremely important to maintaining your health. Whether it is walking the dog or zumba class, stretching, balance, and keeping moving are the key.
- **Fuel your body wisely**.....your body needs the right mix of carbohydrates, proteins, fats and micronutrients to run well and that can be accomplished by ensuring our diets are rich in fruits and vegetables, lean proteins, whole grains and minimal refined sugars and processed foods.
- **Enjoy alcohol sensibly**.....avoid binge drinking (drinking to excess) and follow the Canadian Low Risk Alcohol Guidelines.⁴⁰
- **Avoid smoking**.....if you don't smoke, pat yourself on the back, if you do smoke there's no time like the present to quit! Numerous smoking cessation aids exist to help you on this journey and the health benefits will be both short-term and long-term.
- **Enjoy the company of family and friends**.....social connectedness is important to everyone's health. Spending time with family and friends is vital to your health.
- **Protect your mental health and resilience**.....good mental health and maintaining and improving your ability to adapt to life's challenges contributes to overall health. Keeping active, eating well, and enjoying the company of others will help keep you happy and optimistic.

The factors that prevent frailty are the same factors that promote healthy aging and protect us from the development of some chronic diseases. In turn, these are the same factors we all need to ensure overall wellness and to "Keep Moving on Life's Journey".

SECTION 2: HEALTH TRENDS

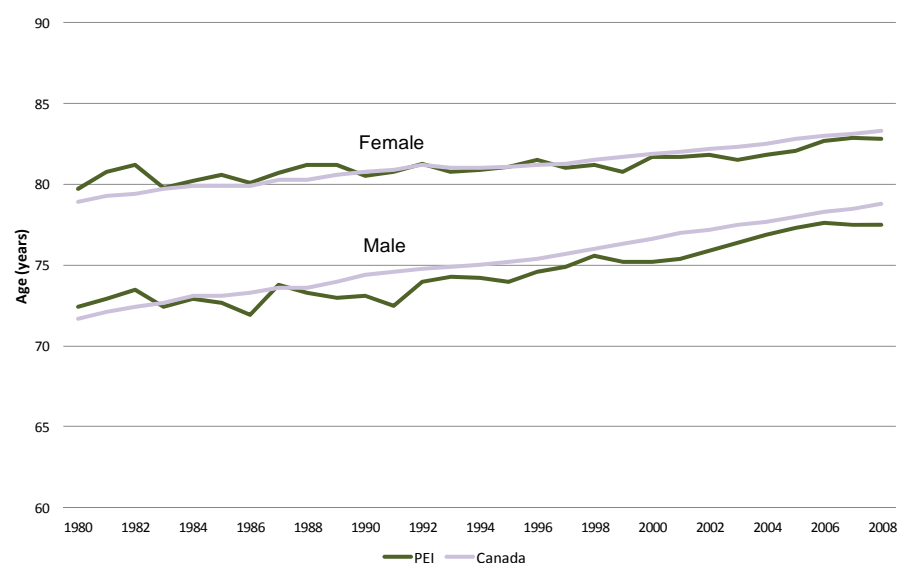
This section of the report presents general information. Please see the Appendix for detailed methodology and data tables.

Demographics

Life Expectancy

Life expectancy is the main 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. Infant mortalities affect overall life expectancy. Increases in life expectancies are partly dependent on fewer deaths of young children, particularly in the first year of life. Life expectancy does not take into account quality of life.

Life Expectancy by Year of Birth, PEI and Canada



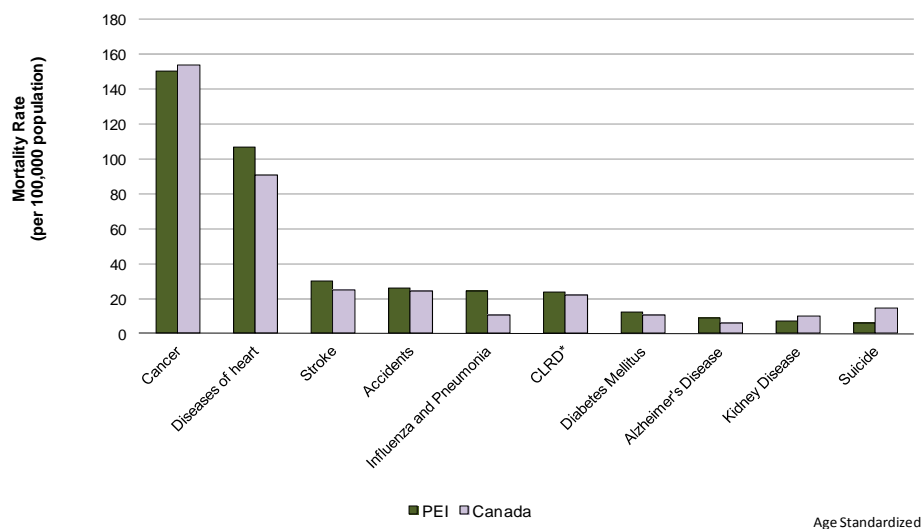
PEI and Canada have similar life expectancies at birth. While the trend for increasing life expectancy is consistent for males and females in Canada, life expectancy for males and females in PEI has been stable for the past few years. PEI males born in 2008 are expected to live to age 78, and females to age 83. The life expectancy in Canada is one of the highest in the world.

Men generally have a lower life expectancy than women; however this gap has been narrowing during the past ten years.⁴¹

Leading Causes of Death

Ranking the leading causes of death is a valuable way to provide information on current mortality patterns in PEI and Canada.

Leading Causes of Death, PEI and Canada 2011



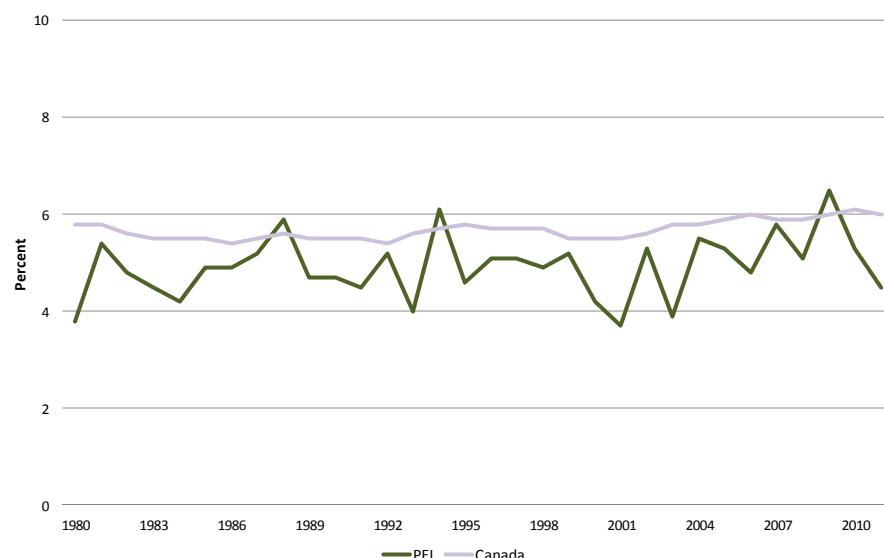
*CLRD: Chronic Lower Respiratory Disease

Cancer, heart disease and stroke are the leading causes of non-accidental death for both Prince Edward Island and Canada. In 2011, 26% of deaths in PEI were due to cancer, 20% were due to heart diseases, and 6% were due to stroke. In Canada, 30% of all deaths were due to cancer, 20% were due to heart disease and 6% were due to stroke.⁴²

Low Birth Weight

Low birth weight is a key determinant of infant survival, health, and development.⁴⁴ Low birth weight babies are more likely to have health and developmental problems such as hearing and visual problems, learning disabilities, respiratory problems and chronic diseases later in life.^{45,46}

Infants Classified as Low Birth Weight, PEI and Canada



Factors which may lead to low birth weight include premature birth, a multiple pregnancy, congenital abnormalities, acute or chronic disease in the mother, maternal age, poor nutrition during pregnancy, smoking while pregnant, the consumption of drugs and alcohol while pregnant, experiencing abuse while pregnant and low socioeconomic status.^{47,48} Other maternal risk factors may include stress, physically demanding work and sexually transmitted infections.

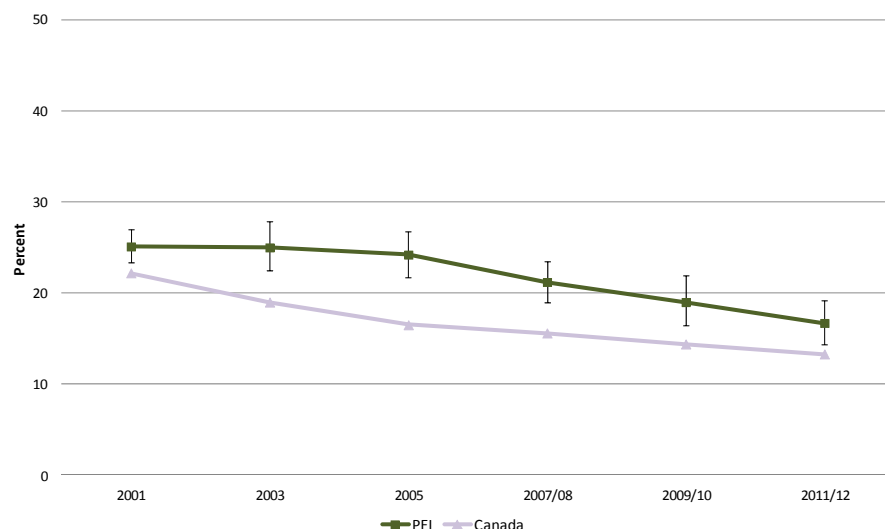
Maternal smoking is one of the most changeable behaviours to prevent low birth weight babies. This demonstrates the importance of programs which prevent women from becoming smokers and help current smokers quit.⁴⁹⁻⁵¹

In 2011, 4.5% of all live births in PEI were considered to be low birth weight. This percentage is lower than the Canadian average of 6.0%. Over time, PEI's rate varies around 5%, and has been consistently one of the lowest rates in Canada.

Education

A person's level of education has been shown to relate to their overall health. Those with higher education levels may be able to access information and resources easier and allow 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. Knowledge and skills needed to solve problems and cope with change may also be provided through education. This gives people a sense of control over their circumstances, which in turn contributes to better health.⁵³

Self-Reported Education Level, Less Than High School, PEI and Canadian Populations Aged 20+

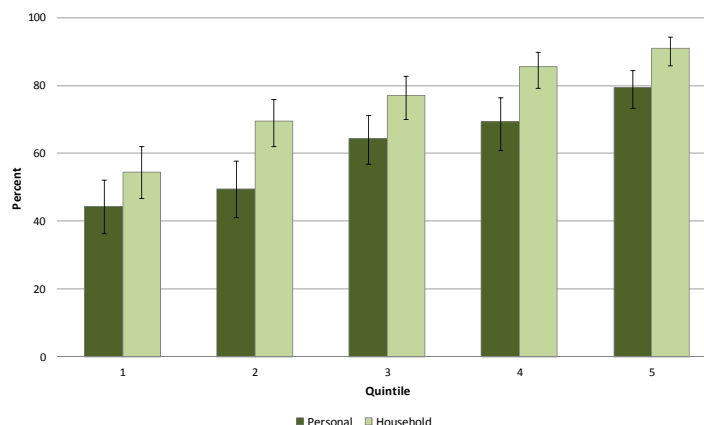


Similar to Canada, education levels are improving in PEI. Since 2001, there is an increasing trend in the number of residents with post-secondary education coupled with a decreasing trend in the number of residents with less than high school education has occurred. In 2011/12, a higher proportion of PEI residents had less than high school education compared to Canadians, 17% and 13% respectively.

In 2011/12, 36% of those aged 65 and older had less than a high school education versus 6.5% of those in the 20 to 34 age group. When looking at the highest level of education by any member in a household, in PEI 9% of households had less than a high school education which was significantly higher than 7% nationally. Fewer PEI households had a post-secondary graduate (76% in PEI vs. 78% in Canada), although this difference was not significant. The overall trends in household education are the same as in individuals'.

Participation in post-secondary education for both the individual and for the household is directly associated with income quintile. This pattern of post-secondary participation has been occurring throughout Canada for many years and was very strong in the early 1990's.⁵⁴

Self-Reported Personal and Household Post-secondary Education, by Quintile, PEI 2011/12



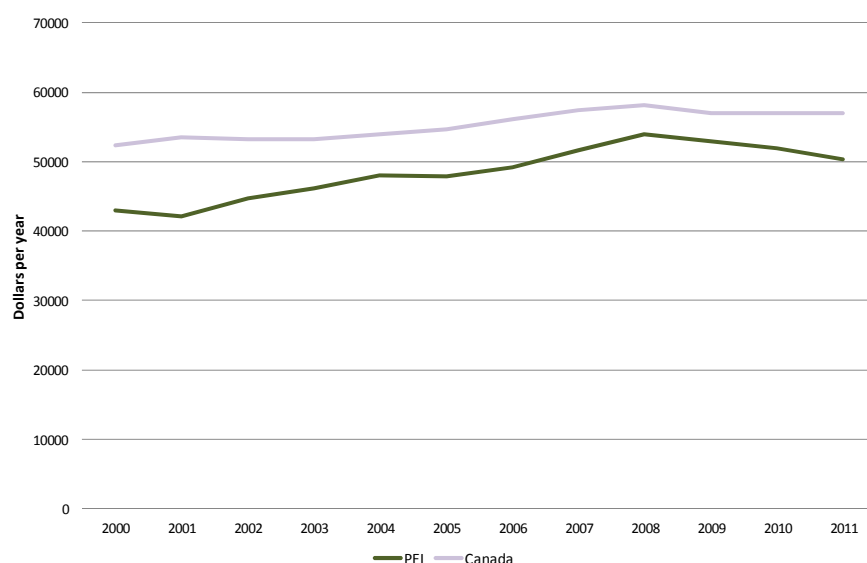
Sources: Statistics Canada: CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003, CCHS 2000/01⁶

Income

Higher income is associated with better health. Canadians with a lower income are more likely to die earlier and to suffer more illness than those with higher incomes, regardless of age, sex, race and place of residence.⁴⁵ Income is needed for shelter, food, warmth and the ability to participate in society, all of which are required for overall health. Not having enough income to buy basic necessities can cause stress and anxiety, therefore decreasing health. In addition, low income limits people's choices for behaviour changes towards health.⁵⁵

PEI's median household income is consistently lower than Canada. In 2011, the median household income was \$50,300 for PEI, lower than the national median of \$57,000. Since 2008, PEI's median income has been on a decreasing trend, whereas Canada's has been stable. Income is a vital component of health and decreases across a population will have detrimental effects to the overall health of the population and resultant increase in health care utilization.

Median Household Income (Dollars), PEI and Canada

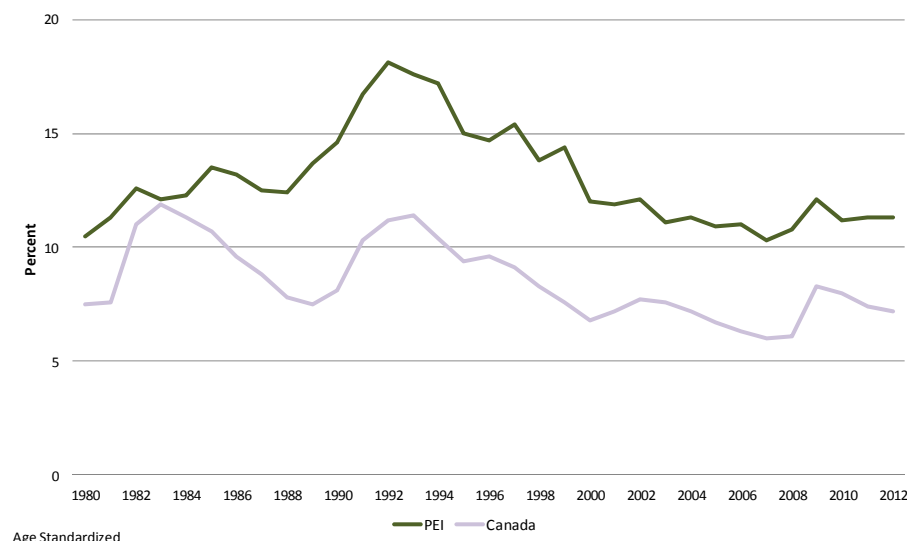


Sources: Statistics Canada Table from PEI 39th Annual Statistical Review 2013⁵⁶

Unemployment

Unemployed people tend to experience more health problems than those who are employed.⁴⁵ Between 1992 and 2012, PEI's unemployment rate decreased from 18% to 11%; however it is consistently higher than the Canadian rate. The 2012 Canadian rate was 7%.

Unemployment, PEI and Canadian Labour Force Aged 15+

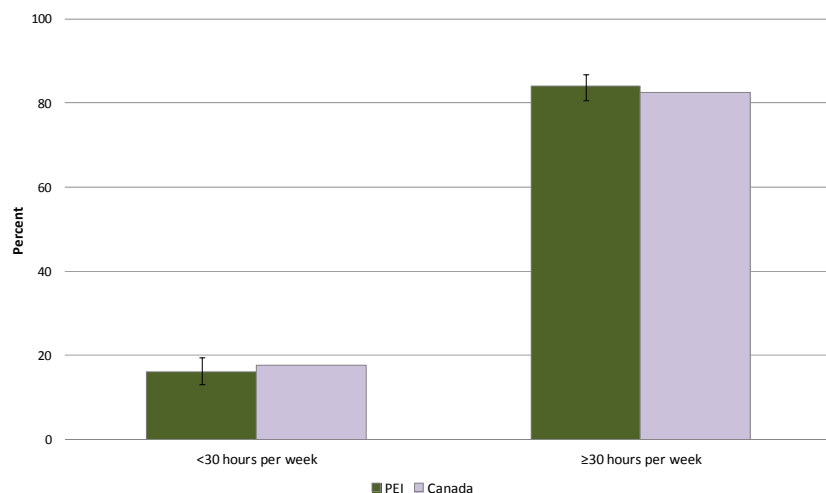


The unemployment rate in PEI has been stable between 2010 and 2012.

Self-Reported Hours Worked

Approximately 84% of Islanders work at least 30 or more hours per week which is similar to the Canadian average. In addition, about 14% of Islanders worked at least 60 hours a week which is higher than the Canadian rate of 10%.

Self-Reported Hours Worked Per Week, PEI and Canada Populations Aged 15+, 2011/12



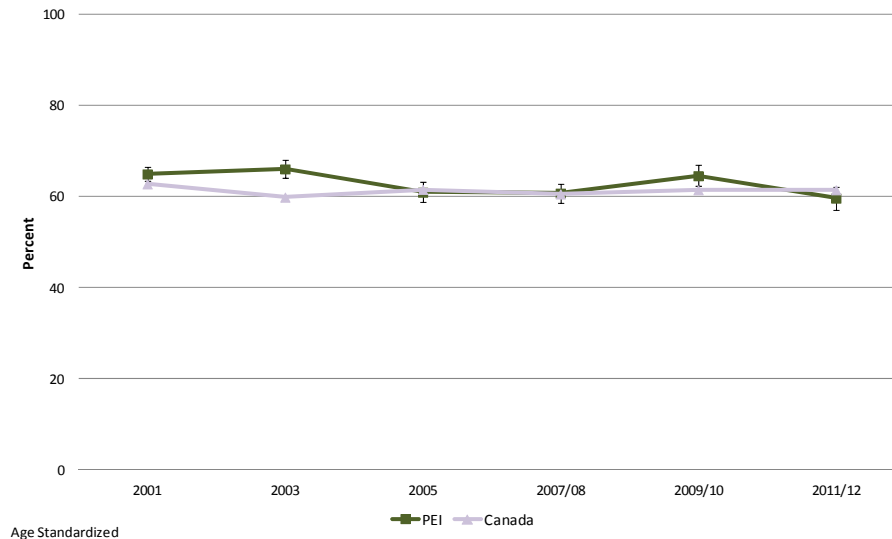
Source: Statistics Canada: Labour Force Survey⁵⁷, CCHS 2011/12, CCHS 2009/10, CCHS 2007/08⁶

Health Status and Determinants

Self-reported Health

Self-reported health, or how healthy a person feels, summarizes physical, emotional and social well-being experienced by the individual. It provides valuable information about the health status of the general population and also represents an individual's psychological attitude and coping skills.

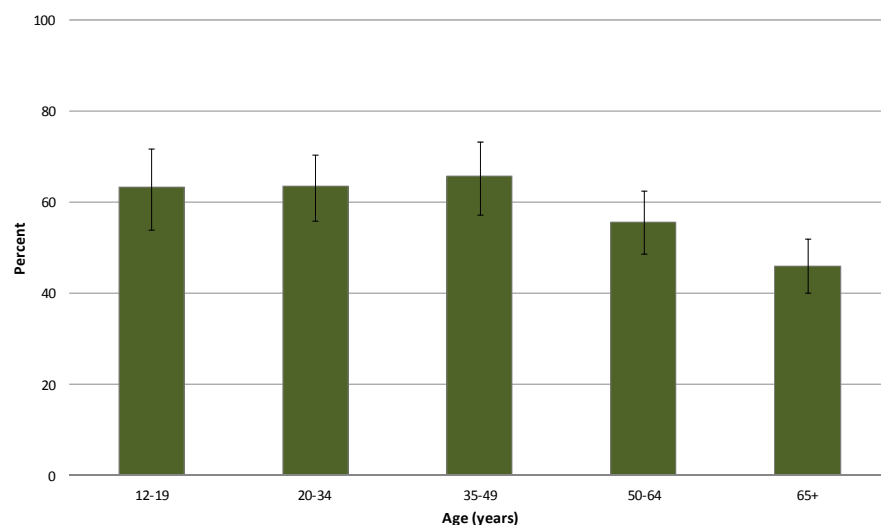
Self-Reported Excellent or Very Good Health, PEI and Canadian Populations Aged 12+



PEI has a similar proportion of individuals describing their health as “excellent” or “very good”, at (60%) compared to Canadians (61%) in 2011/12.

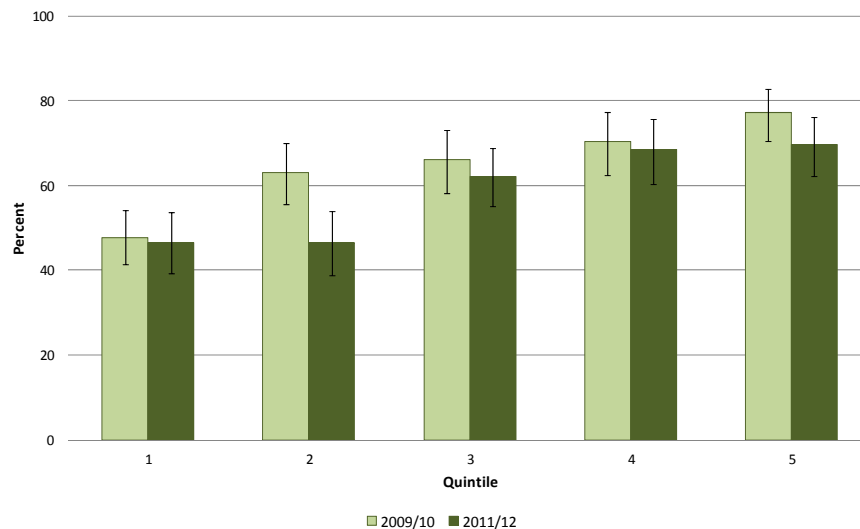
Self-reported health rates are similar between males and females. The lowest proportion of people describing their health as “excellent” or “very good” (46%) is the 65 and older age group.

Self-Reported Excellent or Very Good Health by Age, PEI 2011/12



There appears to be a direct relationship between income quintile and self-reported health. As the income quintile increases, so does the proportion of people who report very good/excellent health. This association has been found in Canadians even after the effect of age, sex, education, smoking, alcohol consumption, and social support were removed. Income level is a primary predictor of future self-reported health status in Canadians.⁵⁸

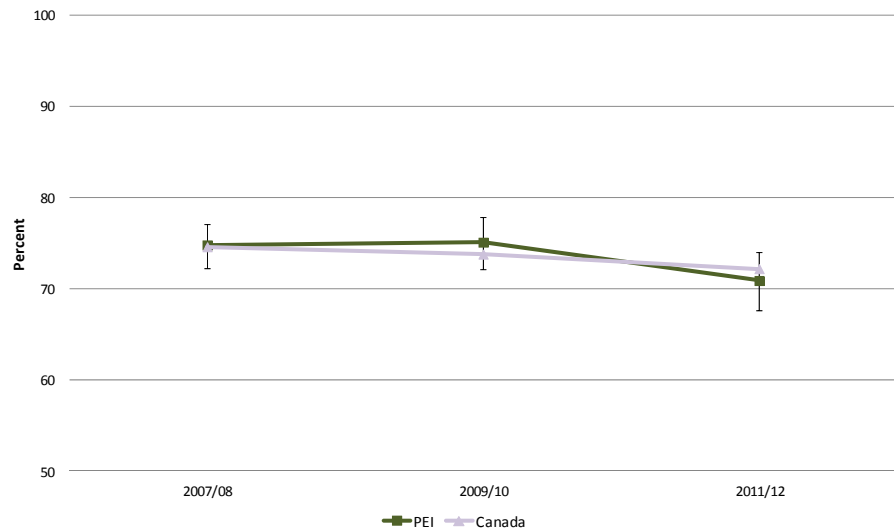
**Self-Reported Excellent/Very Good Health by Quintile,
PEI, 2009/10 and 2011/12**



Self-reported Mental Health

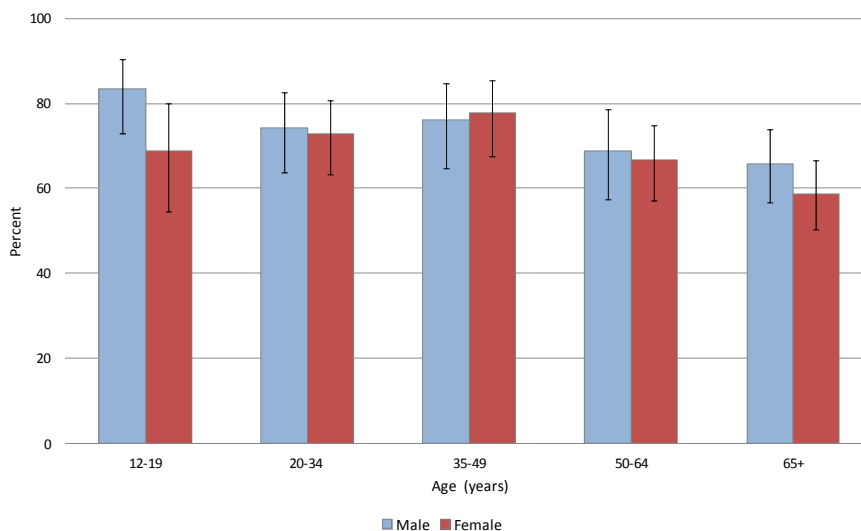
Physical health, well being and quality of life are affected by mental health. Mental health is the ability for each of us to feel, think and act in ways that improve our ability to enjoy life and deal with the challenges we face. Work/life balance, stress, emotional wellness, aging, self esteem, coping skills, and social support of individuals and communities are just a few components of mental health. Without good mental health, people can be unable to fulfill their full potential or play an active part in everyday life.⁵⁹

Self-Reported Excellent or Very Good Mental Health, PEI and Canadian Populations Aged 12+,



Based on the 2011/12 assessment of mental health, approximately 71% of Islanders reported their perceived mental health as excellent or very good which was similar to the Canadian rate but lower than in previous years. There has been an increasing trend of Islanders and Canadians reporting poor or fair mental health since 2007/08.

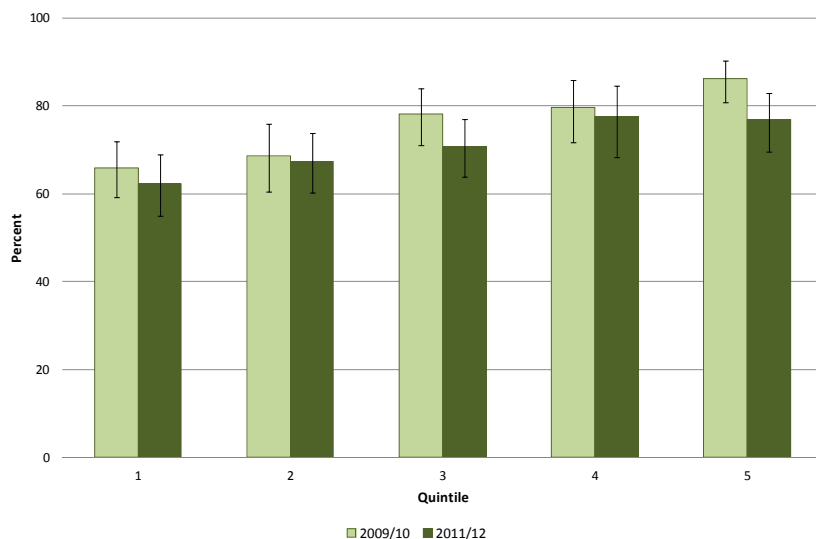
Self-Reported Excellent or Very Good Mental Health by Age and Sex, PEI 2011/12



Excellent or very good mental health decreases with age although there is no discernible difference between 35 to 64 years.

There appears to be a direct relationship between income quintile and self-reported mental health as the Islanders from higher income quintiles are more likely to report very good/excellent mental health. Low income level has been associated with the development of mental disorders.⁶⁰ Negative impacts in overall health are often seen as a result of poverty combined with mental health conditions. The lowest income people may be living under stressful conditions increasing their risk of poor mental health. People with mental health conditions may not be able to work or have limited opportunity to work, resulting in increased poverty and potentially worsening mental health conditions.⁶¹

**Self-Reported Excellent/Very Good Mental Health by Quintile,
PEI, 2009/10 and 2011/12**



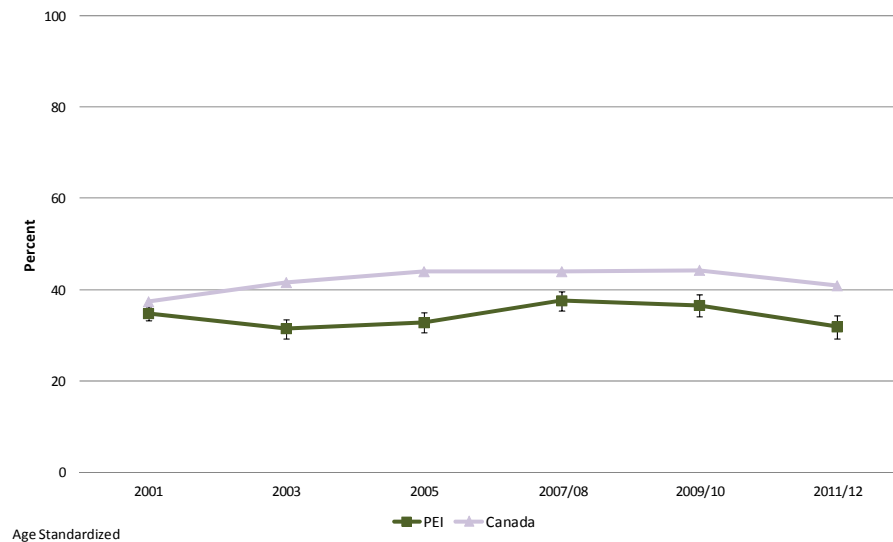
Sources: Statistics Canada: CCHS 2011/12, CCHS 2009/10, CCHS 2007/08⁶

Fruit and Vegetable Consumption

Fruits and vegetables contain essential vitamins, minerals, and fiber that help protect you from chronic diseases such as cardiovascular disease, type 2 diabetes and certain types of cancer.^{62–64}

Consumption of fruits and vegetables is influenced by a number of factors including food affordability, access to healthy foods within the community, knowledge of healthy choices and food skills such as preparation, storage and budgeting.

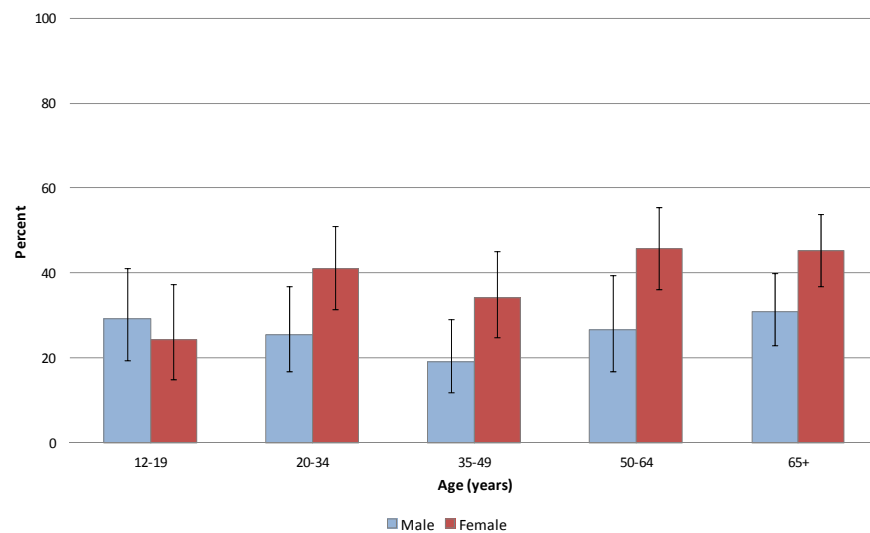
Self-Reported Consumption of 5+ Fruits and Vegetables per Day, PEI and Canadian Populations Aged 12+



In 2011/12, 32% of PEI individuals aged 12 years and older reported consuming fruits or vegetables five or more times a day. This is lower than the Canadian rate which was 41%. This has been trending downward since 2007/08 when it was 38%.

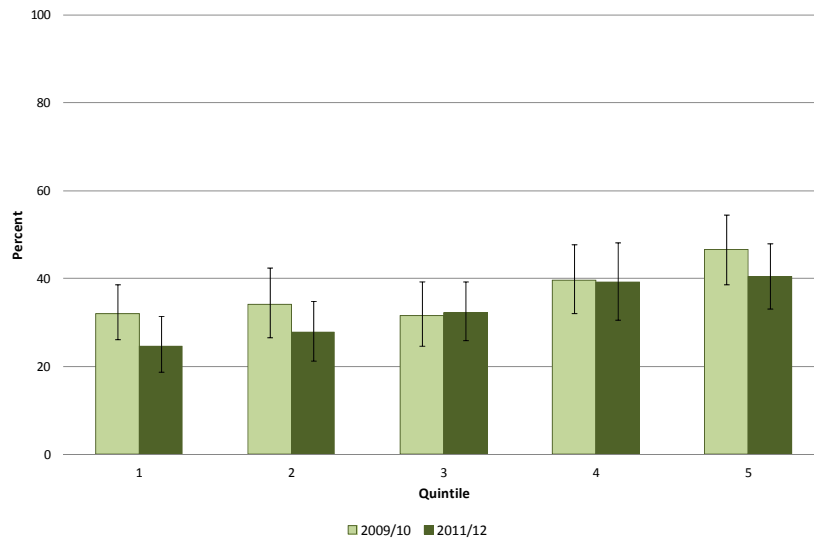
There is a significant difference in consumption of fruits and vegetables between males and females with a larger proportion of females consuming five or more fruit and vegetables per day than males. This difference appears to be consistent by age grouping after 19 years of age.

Self-Reported Consumption of 5+ Fruits and Vegetables per Day by Age and Sex, PEI 2011/12



Individuals in the high quintile groups (four and five) are more likely to consume five or more fruits and vegetables per day than those in the lowest quintile which likely speaks to the food affordability issues facing Islanders and Canadians.

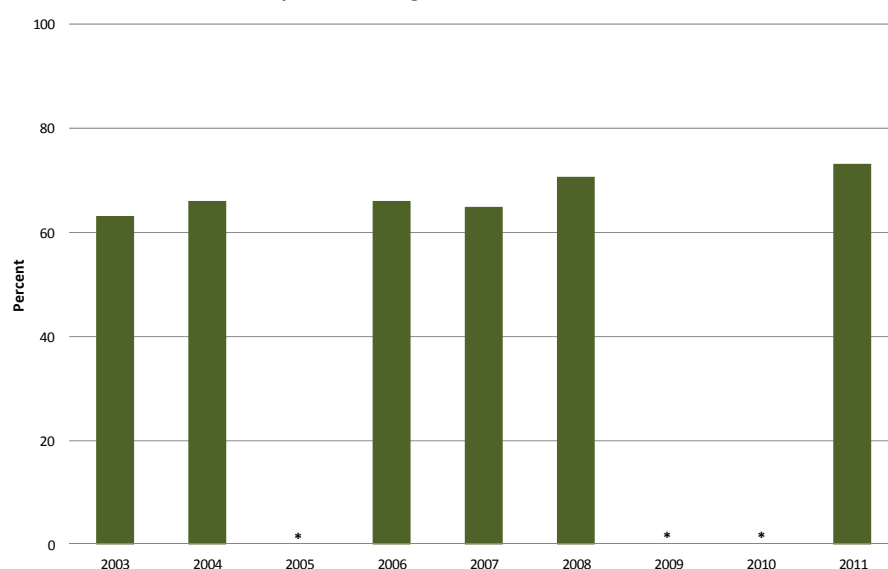
Self-Reported Fruit and Vegetable Consumption (5+ daily) by Quintile, PEI 2009/10 and 2011/12



Breastfeeding

Breast milk is optimal food for infants and contains ideal nutrients to allow proper digestion, brain development and growth. A baby may be protected from illnesses and infections by the antibodies transmitted in a mother's breast milk. Breastfeeding may also protect babies against allergies and respiratory infections⁶⁵ and may lower rates of type 2 diabetes⁶⁶. Summaries of observational studies show that there is evidence to support a protective relationship between breastfeeding and childhood obesity. There is also evidence that this is a dose-response relationship, where longer durations of breastfeeding provided reduced risk of childhood obesity compared to shorter durations.⁶⁷ The bond formed between a mother and child through breastfeeding may also contribute to the healthy psychological development of the child.⁶⁸ In addition to the health benefits of breastfeeding for the child, those mothers who breastfeed may have lower rates of osteoporosis and certain types of ovarian and breast cancer.⁶⁹

Newborns Breastfed at Hospital Discharge, PEI



* data unavailable

In 2011, 73.2% of newborns in PEI were breastfed either exclusively or in combination with formula at the time of hospital discharge. This marks a considerable increase from 1990 when 48% of newborns were breastfed upon hospital discharge.⁷⁰ While breastfeeding initiation rates have increased, Islanders continue to fall behind the Canadian rates of breastfeeding initiation.

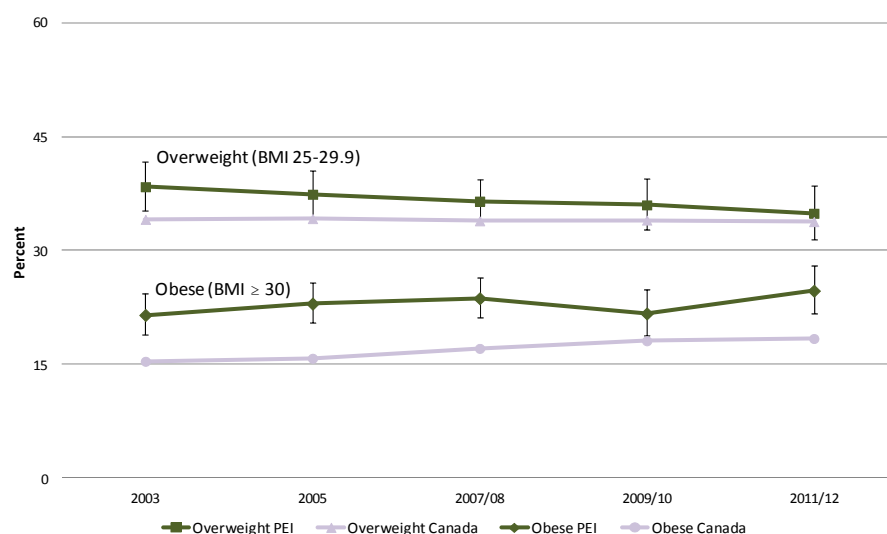
For more information on breastfeeding in PEI see the PEI Reproductive Care Program Perinatal Database Report 2011⁷¹ at http://www.gov.pe.ca/photos/original/dhw_rcp_rpt2011.pdf.

Sources: PEI Reproductive Care Program (2003/2004, 2008, 2011)⁷¹; ISM Public Health Nursing database and Vital Statistics Birth Registrations (2006-2008)

Self-reported Obesity

Body weight depends on a combination of factors, including genetics, mental health, diet, socio-economic status and active living. Obesity is linked to many chronic diseases such as cardiovascular disease, diabetes, and some cancers.⁴⁵ Despite many health initiatives promoting the importance of healthy eating, healthy weight and physical activity, PEI continues to have a high proportion of overweight and obese individuals.

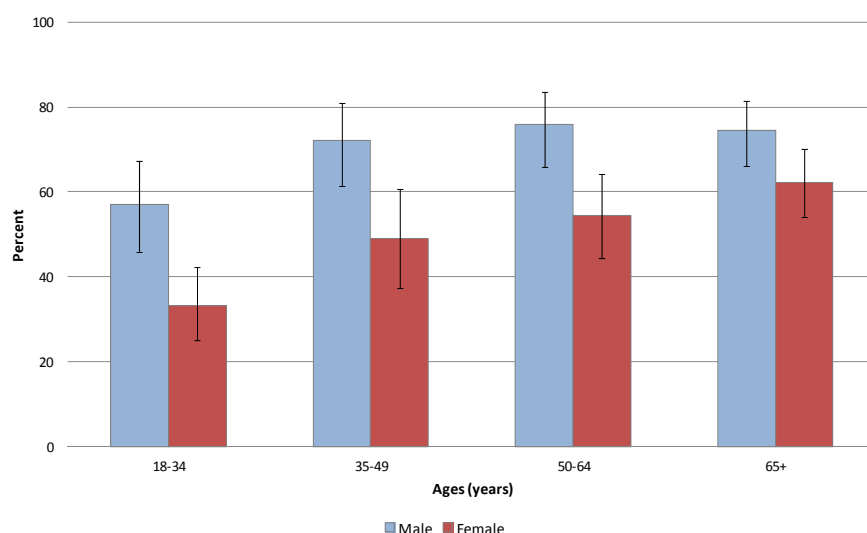
Self-Reported Obesity and Overweight, PEI and Canadian Populations Aged 18+



It is concerning that 60% of Islanders are either overweight or obese. PEI's obesity rate is significantly higher than the Canadian rate, and has been relatively steady since 2003. The Canadian rate of obesity has been steadily increasing. In 2011/12, 35% of Island residents were overweight and 25% were obese (based on self-reported height and weight).

Self reported body weights in adults have been shown to be underestimates of true body weight and overestimated height. Therefore actual PEI and Canadian rates of overweight and obesity are likely higher than these estimates.⁷²

Self-Reported Obesity and Overweight by Age and Sex, PEI 2011/12



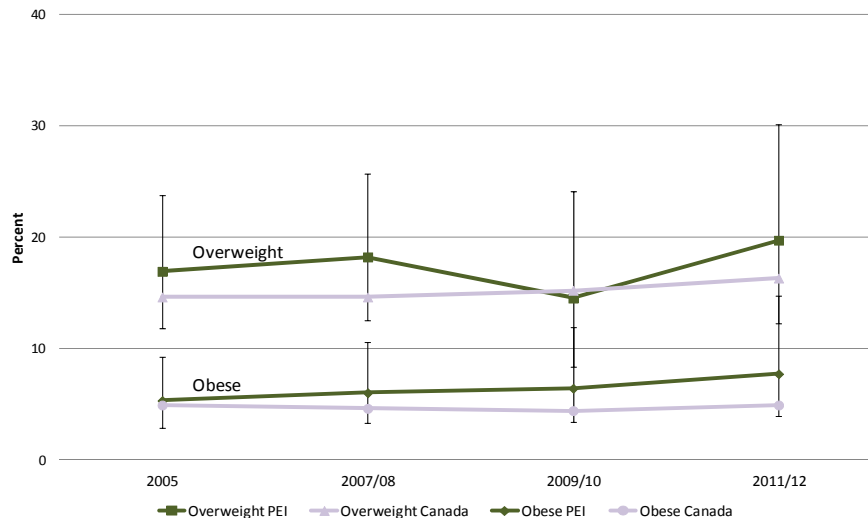
More males reported being overweight than females, 44% vs. 27%, but there was no sex difference for obesity. The 18 to 34 year age group is less likely to report being overweight or obese compared with those 35 years and older.

Sources: Statistics Canada: CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003⁶

Childhood Obesity

Canada, as well as many other countries, has growing concerns regarding childhood obesity. Obesity rates in both children and youth have almost tripled in the last 25 years. Children who are overweight or obese during childhood or adolescence are more likely to experience complications with premature morbidity or mortality during adulthood.⁷³ In a Nova Scotia study, children of obese mothers were four times more likely to be obese in grade 5 when compared with their peers.⁷⁴ When we consider that in 2011, 24.2% of mothers in PEI entered pregnancy classified as obese (an additional 23% were overweight)⁷¹, we have reason to be concerned. It has been shown that children are eating high energy/high fat food in excess and have become more sedentary than children in the past. As with adult obesity, childhood obesity presents similar health complications such as type 2 diabetes, high blood pressure, liver disease and psychological difficulties (including mood disorders) and visit the health system more often. Children who are obese do not normally “outgrow” their weight concerns but continue to gain more weight as they become older.⁷⁵

**Self-Reported Obesity and Overweight,
PEI and Canadian Populations Aged 12-17 years**



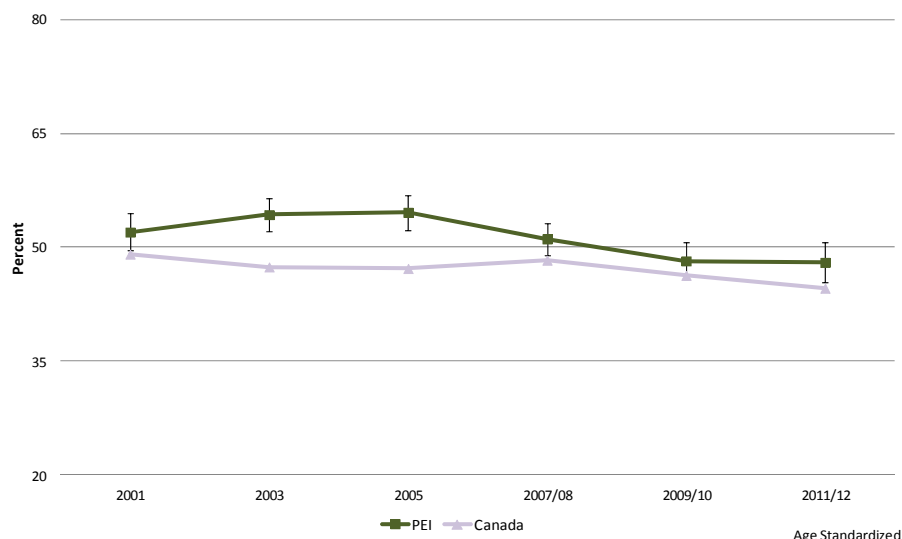
Although the population in the sample was small for children/young adults in PEI, the trend in obesity appears to be increasing over time and may be diverging and increasing at a faster rate provincially from the Canadian rate. Canada is seeing a steady increase in the proportion of overweight children. PEI is seeing a similar trend although given our small numbers, the trend is not smooth. In 2011/2012, based on those Island children included in the survey, 20% were overweight and 8% were obese.

Sources: Statistics Canada: CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005⁶

Physical Activity

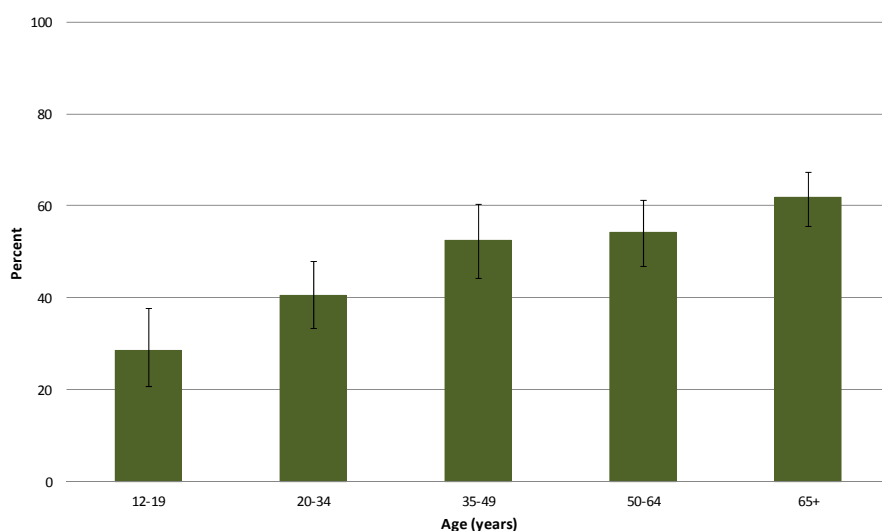
Being physically inactive is a risk factor for serious health conditions such as obesity, type 2 diabetes, osteoporosis, certain types of cancer, heart disease and stroke. These diseases and their complications can be reduced and/or eliminated with healthy lifestyle choices such as being physically active. Those who exercise regularly are less likely to have a number of chronic health conditions. Physical activity has also been shown to not only improve physical health but also improve mental health.^{76,77} Changing peoples' attitudes and behaviours towards physical activity can make a substantial difference in the health of communities.⁷⁸

Self-Reported Physical Inactivity, PEI and Canadian Populations Aged 12+



In 2011/12, about 48% of PEI residents and 45% of Canadians were inactive. PEI rates of inactivity have been consistently higher than Canadian rates; however, PEI rates have been slowly decreasing in recent years. In addition, the proportion of Islanders who have an active physical activity lifestyle has increased since 2001.

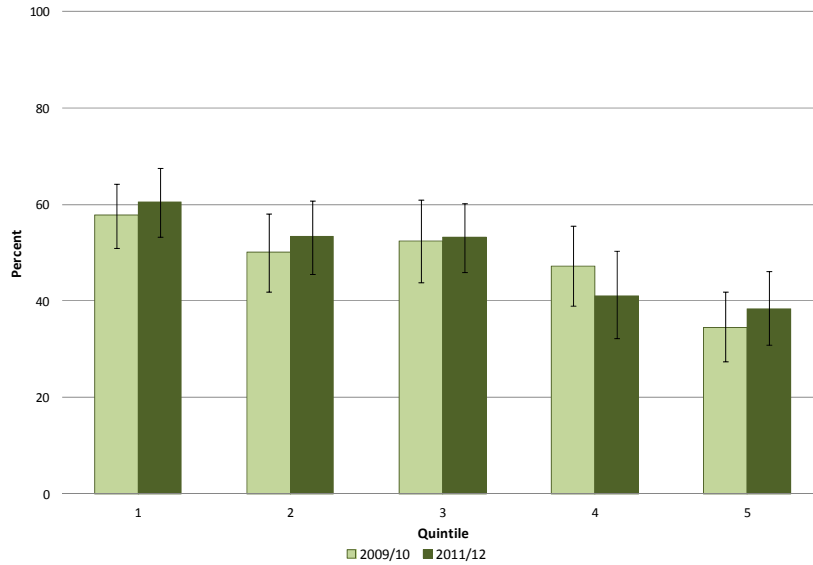
Self-Reported Physical Inactivity by Age, PEI 2011/12



There were no differences between activity level in males and females. The proportion of inactive residents tends to increase with age.

More people in the low income quintiles are more inactive than those of the higher income quintiles. Those in a lower income bracket may not have the financial means or transportation necessary to participate in physical activity such as joining a gym, using the community pool, or joining a sport team. In addition, they may not have the necessary time to participate due to work or family demands.

Physical Inactivity by Quintile, PEI 2009/10 and 2011/12



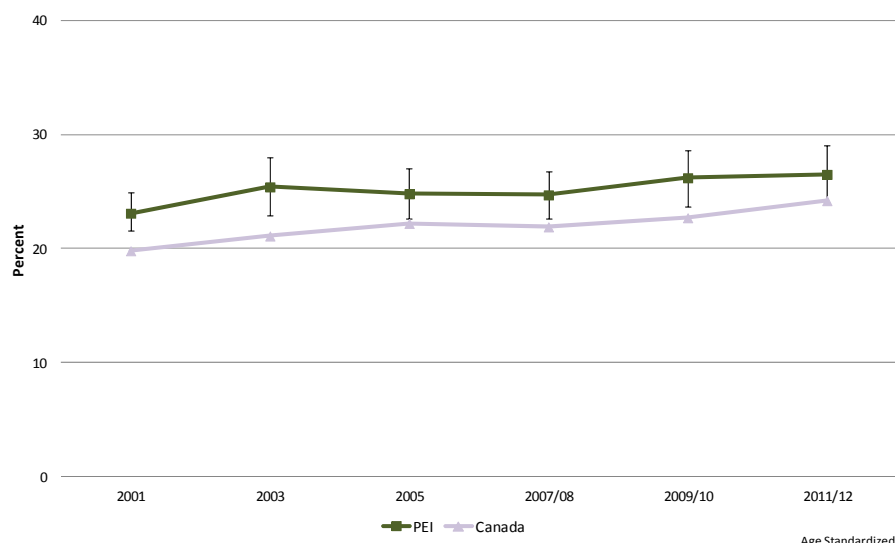
Sources: Statistics Canada: CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003, CCHS 2000/01⁶

Alcohol Use

Alcohol drinking is common across Canada. In PEI, 25% reported never drinking in the last 12 months which is similar to the Canadian rate of 24% (data not shown).

Excessive use of alcohol can lead to health and social problems. Men are more likely than women to report heavy drinking on a regular basis. Heavy drinking (which is defined as current drinkers who report drinking 5 or more drinks per occasion, at least 12 times in the past 12 months) is most common among youth (under 25), and decreases with education level.⁴⁵ Heavy drinking may be associated with several health concerns including: chronic diseases such as liver cirrhosis (damage to liver cells); pancreatitis (inflammation of the pancreas); various cancers, including liver, mouth, throat, larynx (the voice box), and esophagus; high blood pressure; psychological disorders; unintentional injuries, such as motor-vehicle traffic crashes, falls, drowning, burns, firearm injuries; violence, such as child maltreatment, homicide and suicide; harm to a developing fetus if a woman drinks while pregnant (Fetal-Alcohol Spectrum Disorder); Sudden infant death syndrome (SIDS); alcohol abuse or dependence.⁷⁹

Self-Reported Heavy Drinking, PEI and Canadian Populations Ages 12+

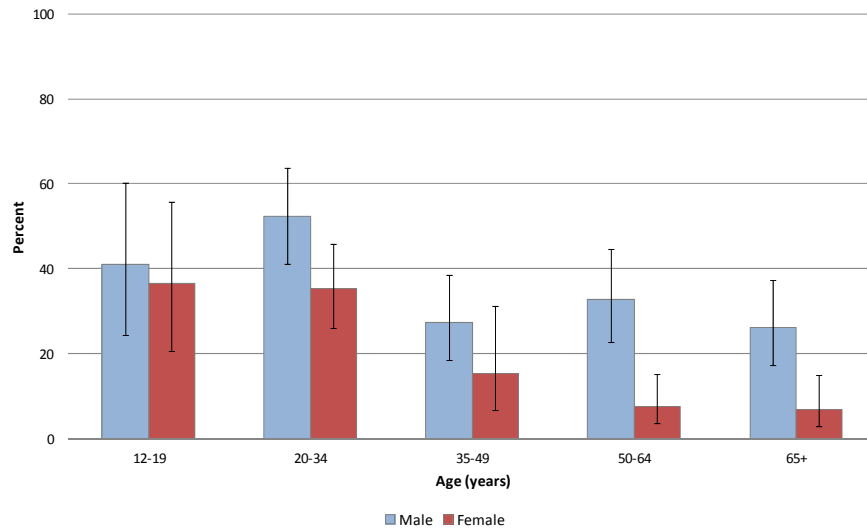


Although the same proportion of Islanders and Canadian people report they are current drinkers, PEI's heavy drinking rate is consistently higher than the Canadian rate (although not significantly higher in 2011/12) and continues on an upward trend. In 2011/12, 27% of PEI residents who consumed alcohol in the last 12 months reported heavy drinking. The Canadian rate was 24%.

Trends in alcohol use pertaining to our student population are described in the Prince Edward Island Student Drug Use 2004-2011⁸⁰ report.

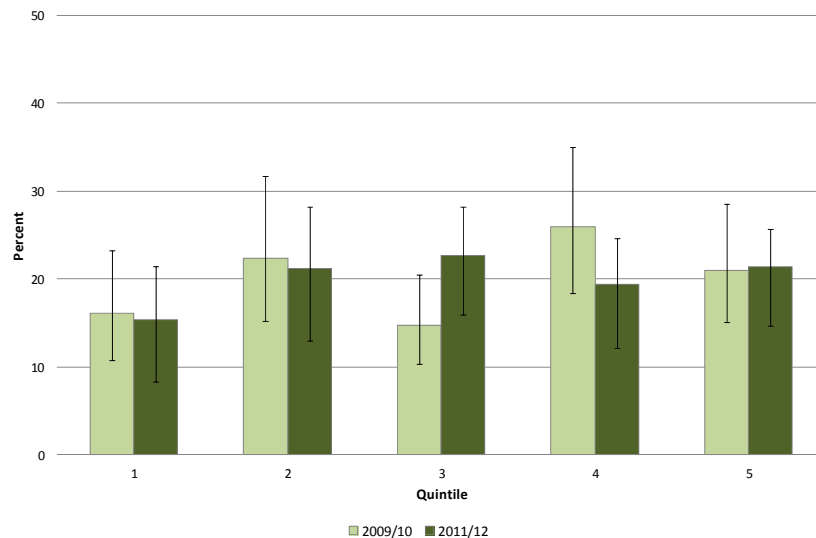
Heavy drinking rates are significantly higher for males (36%) than females (18%). For example, in the 20 to 34 age grouping, 52% of males reported heavy drinking compared to 35% of females. This age group has also identified alcohol use as common when engaging in risky sexual behaviours which often leads to sexually transmitted infections.

**Self-Reported Heavy Drinking by Age and Sex,
PEI 2011/12**



It is interesting that heavy drinking does not follow a similar quintile relationship as do many other health outcomes. Heavy drinking was as likely across all provincial quintiles in PEI.

**Heavy Drinking in Past Year by Quintile,
PEI 2009/10 and 2011/12**



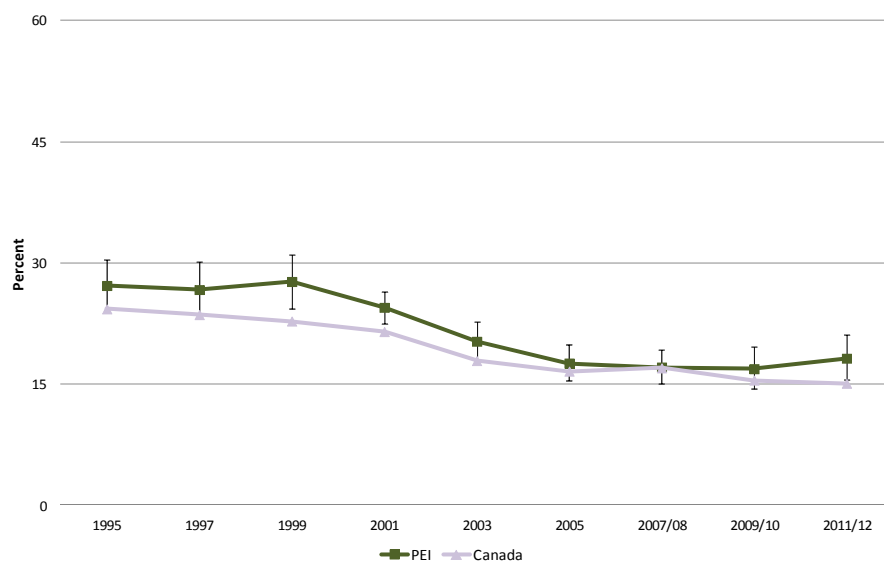
Sources: Statistics Canada: CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003, CCHS 2000/01⁶

Smoking

Smoking is a major preventable cause of premature death and illness. Some of the health effects of smoking include asthma, bronchitis, emphysema, stroke, heart disease, lung cancer and other types of cancer.

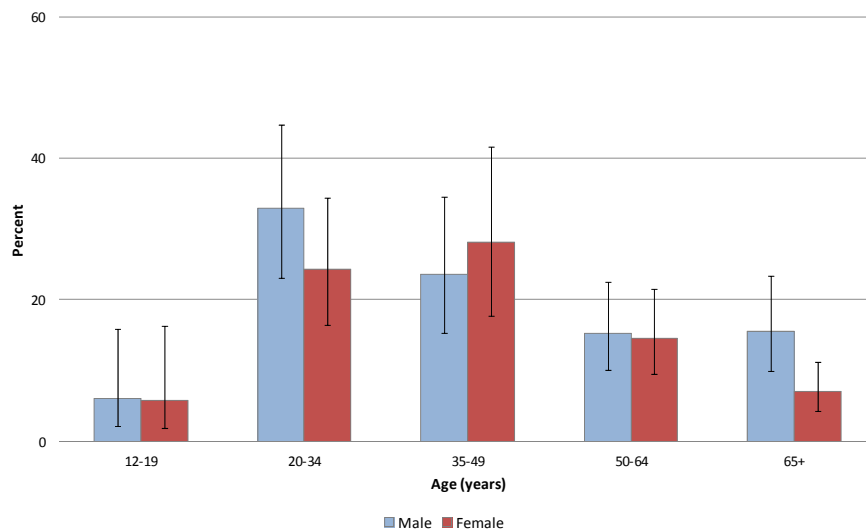
Smoking rates have decreased in both PEI and Canada since 1995. Canadian Cancer Society reports the decreasing rates of smoking have been attributed to smoking restrictions, high costs of cigarettes, limits on advertising, picture warnings on cigarette packages, smoking cessation programs and anti-smoking campaigns.⁸¹ However, the rate in 2011/2012 increased from the previous survey period (although not significantly). This rate will need to be monitored to evaluate if this is normal variability for our population or the start of an increasing trend. Current PEI smoking prevention and cessation programs should be examined for any possible detrimental changes.

Self-Reported Daily Smoking, PEI and Canadian Populations Aged 12+



In 2011/12, 20% of PEI males and 17% of PEI females aged 12 and over reported that they smoked daily. These rates are not significantly different for males and females. This is a decrease since 1995 when 36% of males and 19% of females reported daily smoking. Daily smoking rates are highest during young adulthood through early mid-life (20 to 49 yrs).

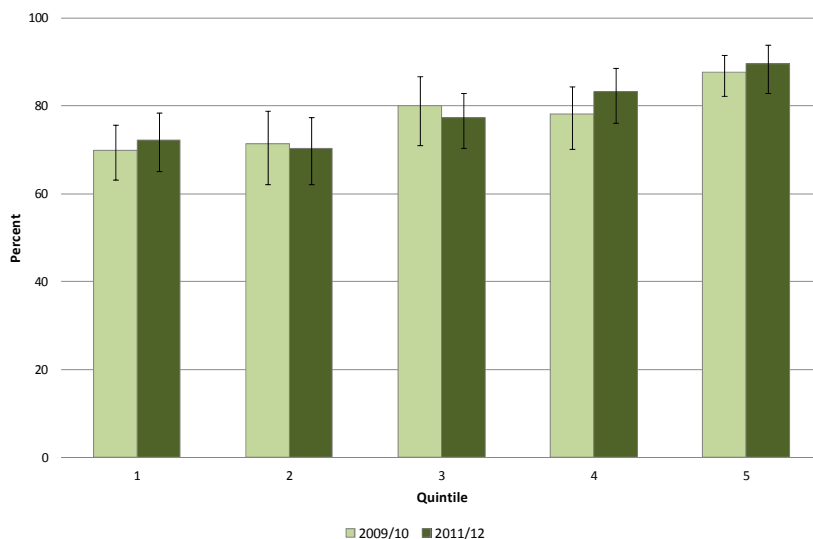
Self reported Daily Smoking by Age and Sex, PEI 2011/12



Trends in tobacco use pertaining to our student population are described in the Prince Edward Island Student Drug Use 2004-2011⁸⁰ report.

In 2011/12, significantly more people from the highest income currently do not smoke (90%) compared to those in the lowest income level (72%). Even though the cost of cigarettes is extremely high, the lowest income quintiles have the highest proportion of smokers. In 2014, the cost of a carton of 200 cigarettes in PEI was the fifth highest of the Canadian provinces at \$107.32.⁸²

Currently Not Smoking (Former/Never) by Quintile, PEI 2009/10 and 2011/12

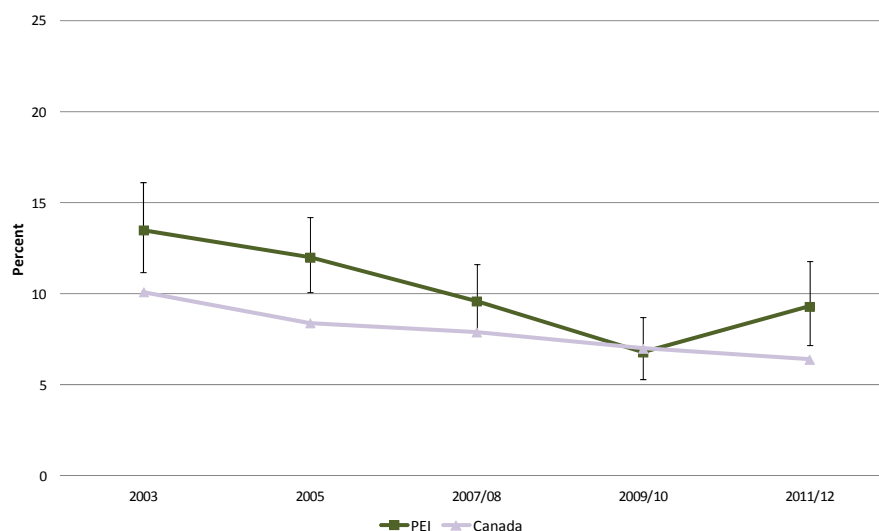


Sources: Statistics Canada: CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003, CCHS 2000/01⁶, NPHS 1998/99, NPHS 1996/97, NPHS 1994/95⁸³

Exposure to Environmental Tobacco Smoke

Environmental tobacco smoke (ETS) refers to exposure to tobacco smoke - not from a person's own smoking, but from being exposed to someone else's cigarette, cigar, or pipe smoke. ETS can also be described as the material in indoor air that originates from tobacco smoke. Breathing in ETS is known as passive smoking, second-hand smoking, or involuntary smoking.

Self-Reported Exposure to ETS in a Car, PEI and Canadian Populations Aged 12+

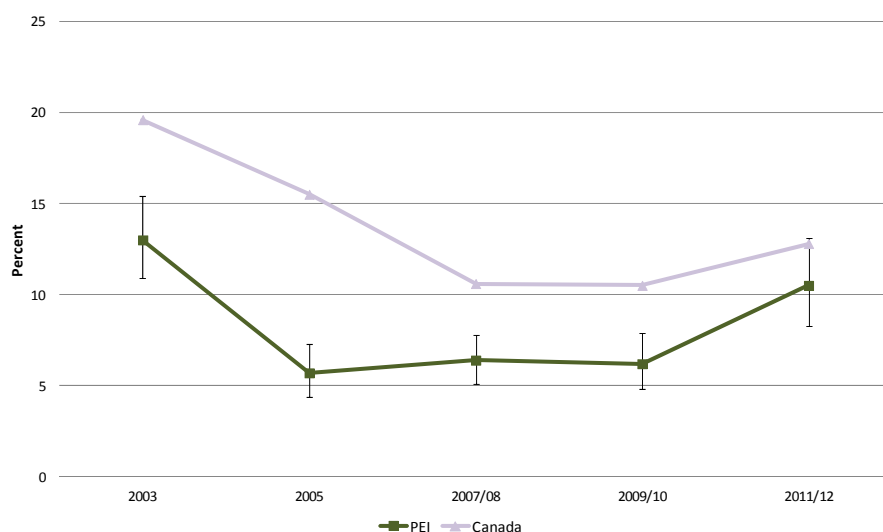


Exposure to ETS may cause lung cancer, heart disease, and respiratory problems. Young children are particularly susceptible. One of the most effective ways to limit exposure to ETS is with restrictions on smoking in public places, and limiting smoking in homes and cars.⁴⁵ PEI has demonstrated improvement in reducing exposure rates to ETS.

In 2011/12, 12% of Islanders reported that they were exposed to ETS in the home compared to 9% of Canadians. Exposure to ETS across Canada has been on a downward trend over time. The PEI rate was lower than in 2007/08 in which 15% reported ETS in the home, however higher than in 2009/10. PEI had a higher rate of exposure to environmental tobacco smoke in a car (9%) than Canada (6%) and this has also increased since 2009/10, whereas the national trend has been downwards.

Approximately 11% of PEI residents reported that they had been exposed to environmental tobacco smoke in a public place, which is lower than the Canadian rate of 13%, however this difference was not significant. Rates of exposure to environmental tobacco smoke in the home, car and public places have decreased since 2003, however all have increased since the previous survey (2009/10), similar to the increase in current smokers.

Self-Reported Exposure to ETS in a Public Place, PEI and Canadian Populations Aged 12+

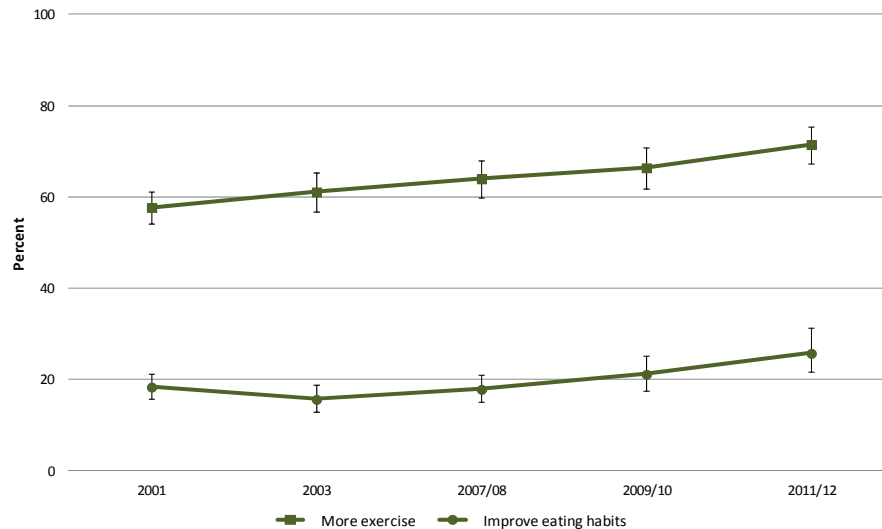


Sources: Statistics Canada: CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003⁶

Changes to Improve Health

On an individual level, several behaviours such as physical activity, proper nutrition and not smoking, are important to maintain optimal health. With consistent messaging and encouragement regarding healthy lifestyles, it is not surprising that people routinely contemplate and make behavioural changes to improve health.

Self-Reported Intent to Engage in Activities to Improve Health Within the Next Year, PEI Population Aged 15+



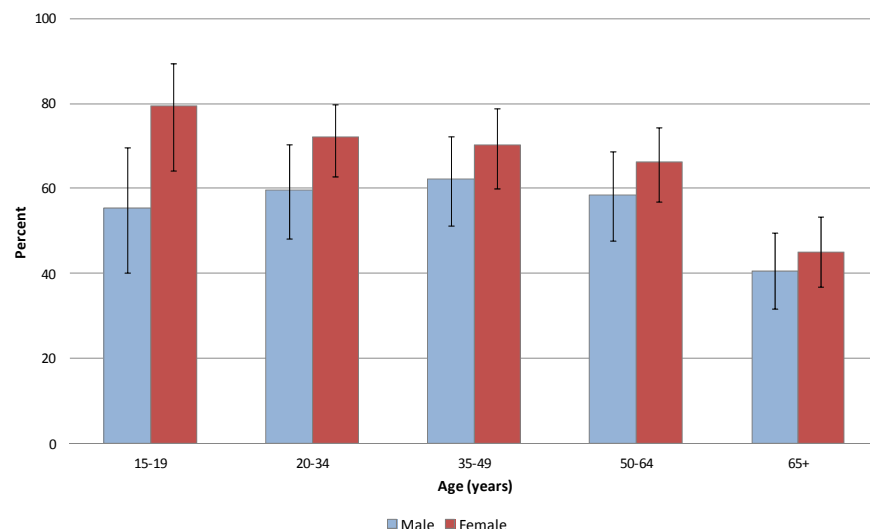
In 2011/12, sixty-one percent of Island residents, 15 years and older, reported the intention to improve their health in the next year, similar to other Canadians who responded (60%). Of those who intended to improve their health, the intent to exercise more was cited most often (72%), followed by improving eating habits (26%).

Note: PEI did not opt in to the module "Changes to Improve Health" in the 2005 collection year.

It is very positive to note that intent to improve health has been steadily increasing over time with more exercise and improving eating habits also trending upwards. This reflects that people are aware and listening to messages about health promotion, however actions (i.e. physical activity and fruit and vegetable consumption) indicators have not reflected an actual change of behavior.

A higher proportion of females (65%) intend to make a change to improve health over the coming year compared to males (56%). The percentage of all people with the intention to improve health decreases in the 65 and older age group.

Self-Reported Intent to Engage in Any Activity to Improve Health by Age and Sex, PEI 2011/12

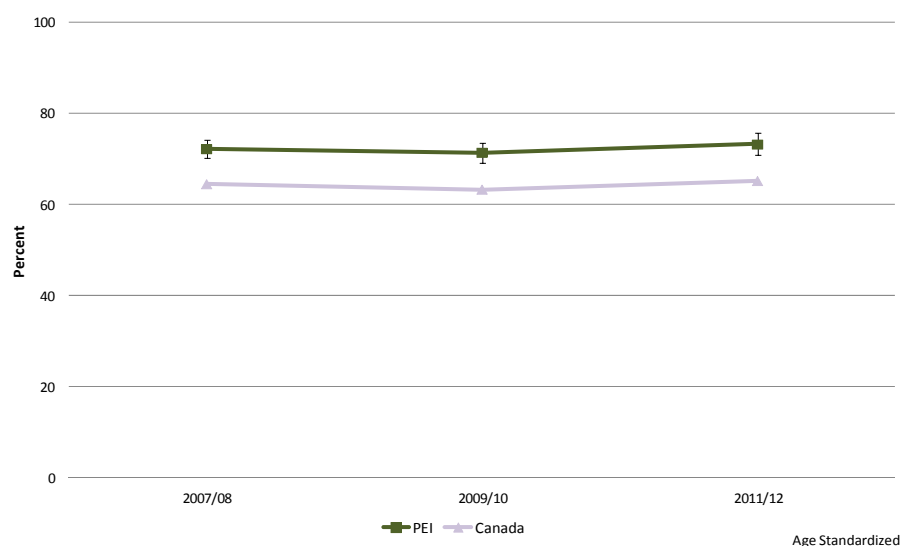


Sources: Statistics Canada: CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2003, CCHS 2000/01⁶

Sense of Belonging

A feeling of belonging to a country, region, and local community can influence a person's sense of identity and the extent to which they participate in society. Social relationships can affect overall health.^{84,85} A sense of belonging is an important aspect of both mental health and social well being.⁸⁶ People who report a strong sense of belonging are more likely to report better physical and mental health.⁸⁷ An increased sense of belonging has also been associated with increased health promoting behaviours.^{88,89} Social supports may have a protective affect against life's stressors and may reduce health effects and death associated with some illnesses.⁹⁰

Self-Reported Very or Somewhat Strong Sense of Belonging to a Local Community, PEI and Canadian Populations Aged 12+



In 2011/12, 73% of PEI residents reported a somewhat or very strong sense of belonging to a local community which is significantly higher than the Canadian rate of 65%. This finding has been consistent over time.

Rates of a “Very” or “Somewhat Strong” Sense of Belonging are not significantly different between males and females and are lowest in the 20 to 34 year old age group. Many of these young adults are transitioning from the school environment to the working environment. It has been suggested that as people age, they may have more sense of belonging as they have more time to take part in the community.⁹¹

Income quintile analysis revealed that the two lowest quintiles (70%) had the lowest proportion of people with very or somewhat strong sense of belonging to a local community. The three other quintiles all had 75% or more with very or somewhat strong sense of belonging. The lowest quintile is the most vulnerable economic population. Social support and social involvement are critically important in keeping this group as healthy as the others.

Common and Chronic Conditions

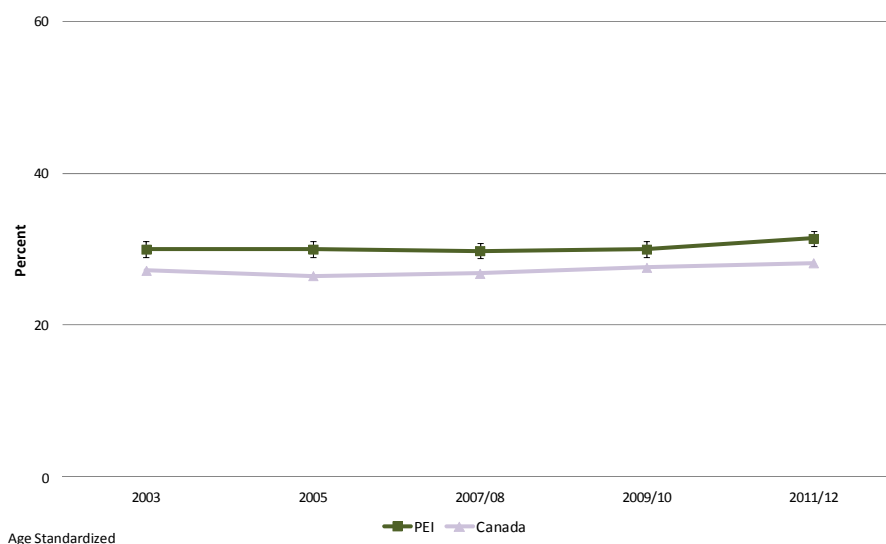
Chronic Conditions

Chronic health conditions typically develop over a long period of time, have a long duration and, in most cases, have no cure which is why appropriate management of these conditions is vital to one's health. Examples of chronic conditions include asthma, arthritis, high blood pressure, chronic respiratory diseases, diabetes, heart disease, cancer, and mood disorders. Chronic conditions are major causes of death, potential years of life lost, hospitalization, and decreased quality of life. Overall, chronic conditions can affect an individual's sense of well-being and their ability to continue their everyday activities.⁹²

Social, cultural, economic and physical environments (e.g. education levels, income and employment status) are major contributors to our lifestyle choices and behaviours (e.g. tobacco use, poor diet, and physical inactivity) which ultimately affect the development and progression of certain chronic conditions.

In 2011/2012, 31% of the Island population reported having a chronic condition (at least one of: arthritis, asthma, heart & stroke, diabetes, or cancer), higher than that reported by all Canadians (28%). Rates for having any chronic condition have been increasing both provincially and nationally since 2007/08.

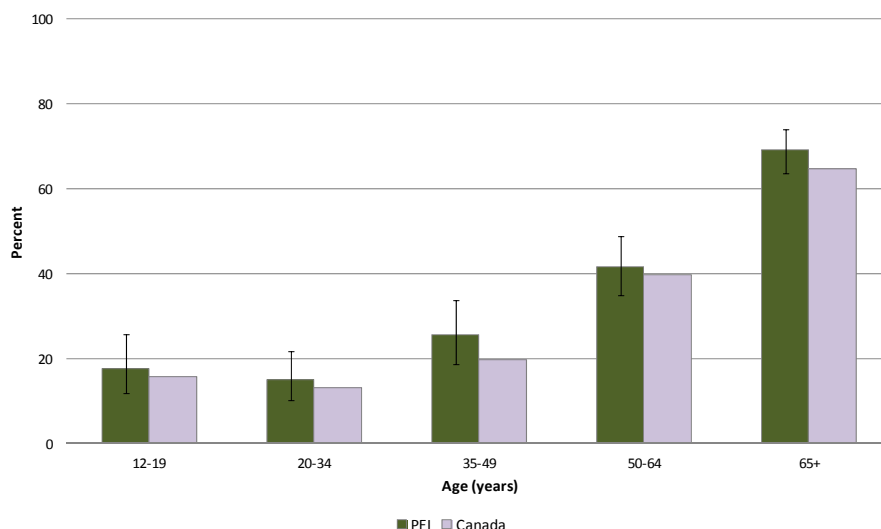
**Percent of Population Reporting Chronic Conditions,
PEI and Canadian Populations Aged 12+**



The risk of developing a chronic condition is increased by increasing risk factors for that disease. Risk factors for chronic conditions can be either modifiable or non-modifiable. Modifiable risk factors are factors that are changeable such as alcohol misuse, smoking, overweight, physical inactivity, etc. Non-modifiable risk factors are factors that are not changeable such as your age and genetics. Non-modifiable risk factors play a part in the development of a chronic condition, but this can be augmented by other factors including low income. Low income is associated with poor housing, undesirable employment, and lifestyle choices such as poor diet, inactivity, and smoking. All of the factors together increase the risk of developing a chronic condition.

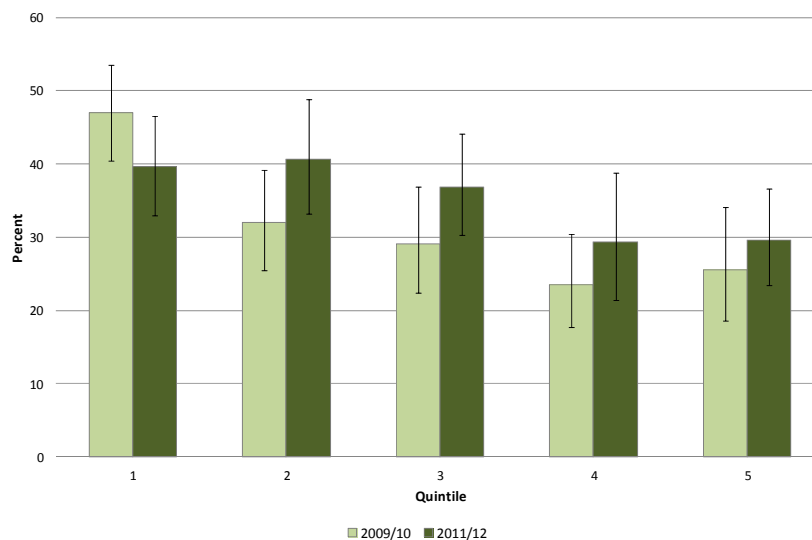
As the population ages, the prevalence of chronic conditions increases. The exception to this would be asthma which is much more likely to be diagnosed in younger people. While the trend for chronic conditions increasing with age is consistent provincially and nationally, there appears to be a steeper rise in PEI at 35 to 45 years when compared to Canadians, reflecting that more Islanders are burdened with chronic conditions at younger ages. In 2011/12, arthritis was one of the most commonly reported chronic conditions in PEI, with 16% of individuals aged 12 years and older reporting a diagnosis from a health professional.

Percent of Population Reporting Chronic Conditions by Age, PEI and Canadian Populations Aged 12+, 2011/12



Islanders in the lowest income quintiles were more likely to report any chronic condition (at least one of: arthritis, asthma, heart disease & stroke, diabetes, or cancer) than those in higher income quintiles. This reiterates that social factors such as income, education, housing, etc. are extremely important for overall health.

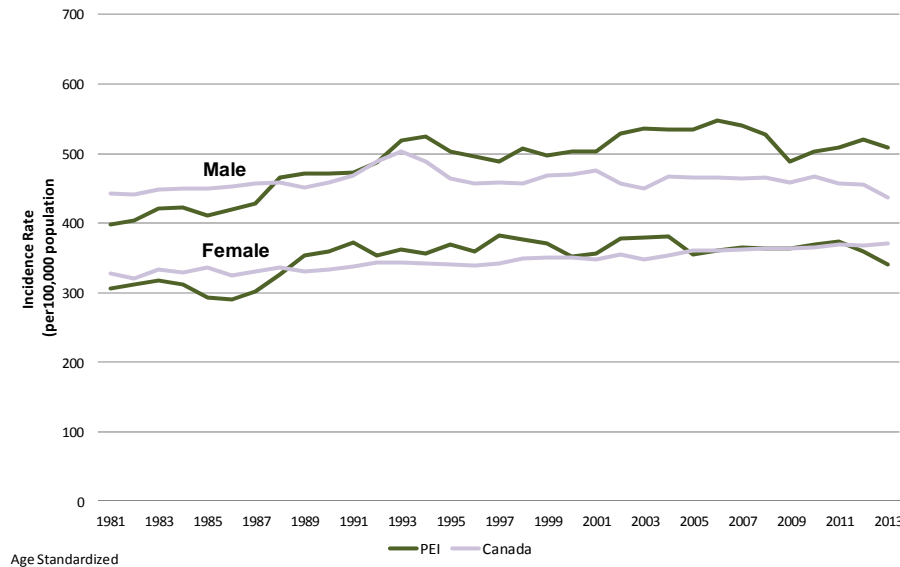
Population Reporting any Chronic Condition by Quintile, PEI 2009/10 and 2011/12



Cancer

Canadian age-standardized incidence rates for cancer have been somewhat stable over time; however the number of new cases and prevalence of cancer continues to rise due to our population growth and increasing age.⁹³ Increasing rates may be due to real changes caused by increases in risk factors such as inactivity and obesity or may be due to artificial changes including improved detection and reporting of cancers.

Overall Cancer Incidence by Sex, PEI and Canada

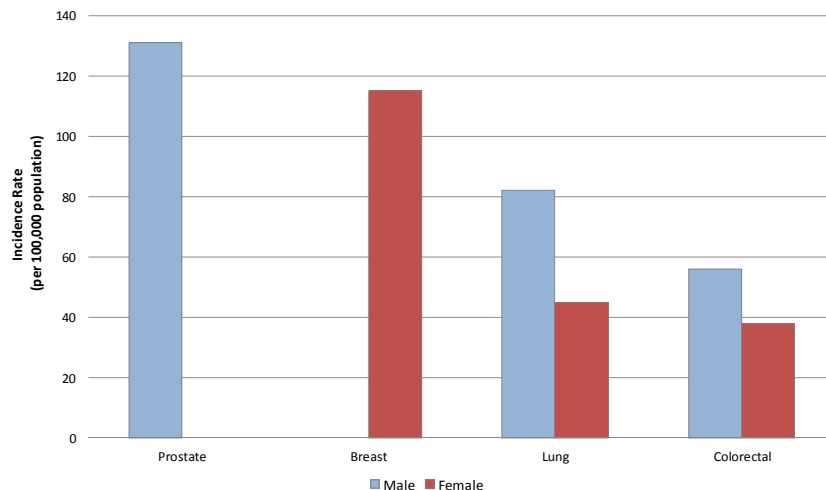


Cancer is more common among males compared to females in specific age groups (e.g. less than 20 years and greater than 60 years) however higher rates of cancer are seen in women between 20 and 59. This can be explained by the incidence of sex-specific cancers (e.g. breast),⁹³ and other important cancers such as thyroid in this age group.

Note: Graph uses 3 year moving average rates for PEI to smooth out annual fluctuations

The four most common cancers in PEI in 2010 were prostate, breast, lung and colorectal. Incidence of lung cancer and colorectal cancer is higher among males.

Incidence of Selected Cancers by Sex, PEI 2010



For a more detailed review of cancer in PEI visit:

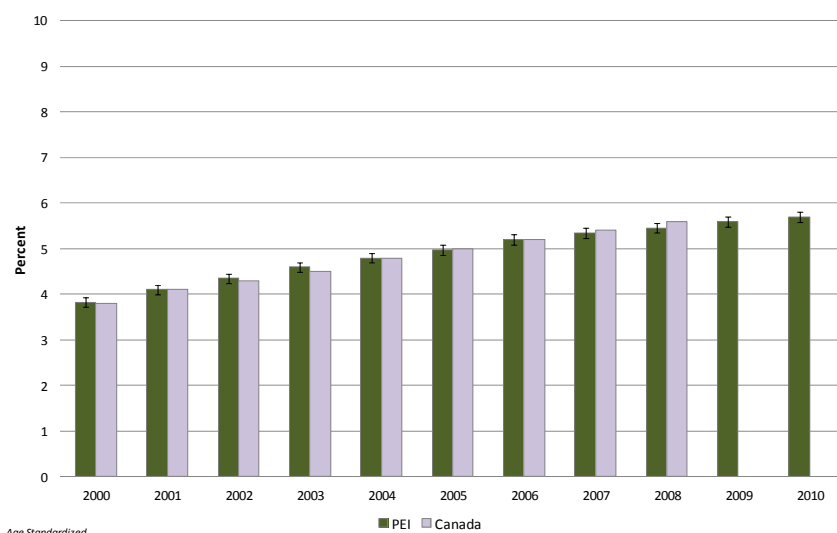
<http://www.gov.pe.ca/photos/original/CancerTrends09.pdf>⁹⁴

Sources: Statistics Canada, Vital Statistics, Canadian Cancer Registry, and Demography Division (population estimates), Health Canada (2011 – 2013 forecast estimates)⁹³

Diabetes

Diabetes mellitus is a chronic condition that stems from the body's inability to produce and/or properly use insulin. The body needs insulin to use sugar as an energy source. Diabetes can lead to serious complications and premature death, however proper management of this disease can lower the risk of complications. There are two types of diabetes, type 1 and type 2. Type 1 occurs when the beta cells in the pancreas no longer produce insulin. There is no way

Prevalence of Diabetes, PEI and Canada, Aged 1+, 2000-2010

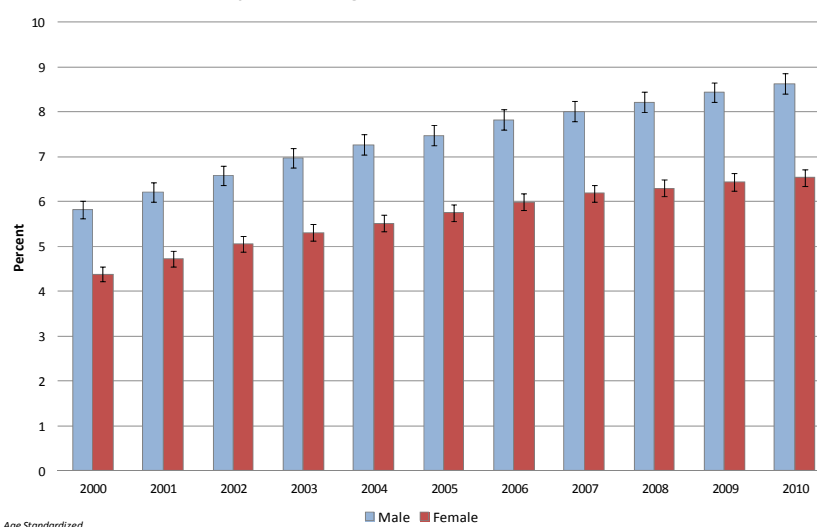


Canadian rates for 2009 and 2010 were unavailable at time of publishing

to prevent type 1 diabetes. Type 2, on the other hand, may be prevented, delayed or reversed in some cases. It occurs when the body does not make enough insulin or does not respond well to insulin. The risk of developing type 2 diabetes can be reduced by making healthy lifestyle choices such as having a healthy diet, exercising regularly and especially losing excess weight. It is estimated that the majority of diabetes cases (90-95%) are type 2.⁹⁵

Results from the Canadian Chronic Disease Surveillance System (CCDSS)⁹⁵ indicate that 5.7% of Island residents had diabetes in 2010. The percent of people living with diabetes (prevalence) has been increasing over time, as the rate was 3.8% in 2000. The rate of new cases of diabetes (incidence) between 2000 and 2008 has remained relatively constant over time with an average of 5.6 new cases per 1,000 Islanders per year. In 2010, the prevalence of diabetes in

Prevalence of Diabetes by Sex, PEI, Aged 20+, 2000-2010



males aged 20 and over (8.6%) was significantly higher than females (6.5%). Diabetes prevalence rates increase with age in both sexes, rising considerably after age 40.

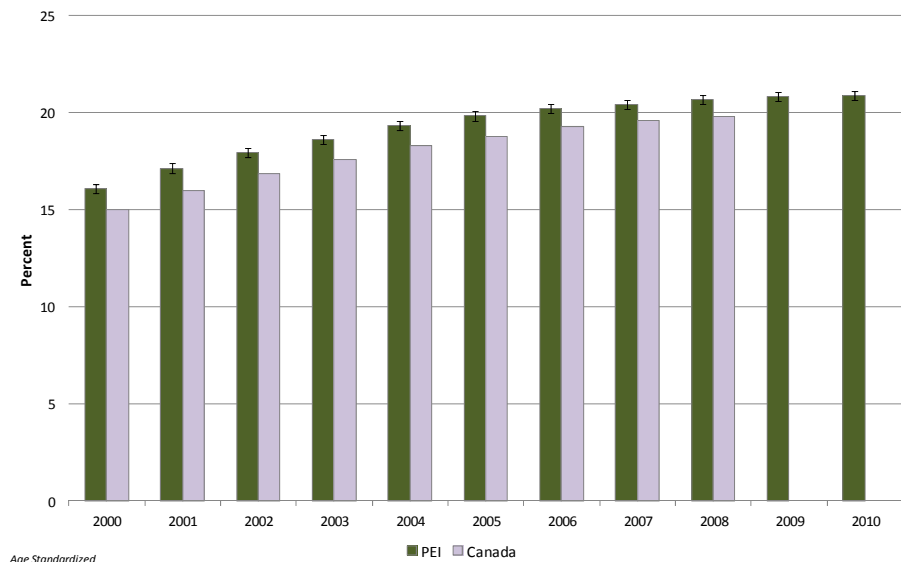
For a full review of diabetes trends in PEI visit:

www.gov.pe.ca/photos/original/dohw_epi_diab13.pdf

Hypertension

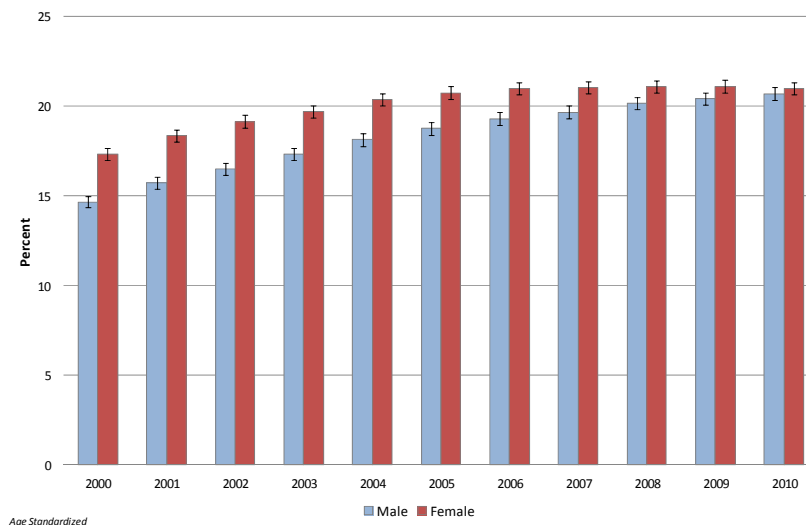
Blood pressure is a force exerted by circulating blood on the walls of blood vessels. This force is necessary to make blood flow throughout the body. High blood pressure, also called hypertension, means there is too much pressure in the arteries. People who have hypertension tend not to have any symptoms, and a large number of people may unknowingly have hypertension. If left untreated or uncontrolled, hypertension will increase a person's risk of death from stroke, heart attack, heart and kidney failure and other vascular diseases. However, there are steps that can be taken to control hypertension and lower the risk of these complications. High blood pressure can be prevented by living a healthy lifestyle that includes regular physical activity, maintaining a healthy body weight, limiting alcohol consumption, measuring and tracking blood pressure regularly, and eating a healthy diet low in sodium with adequate fruits and vegetables, and limited consumption of fat and simple sugars.⁹⁷

Prevalence of Hypertension, PEI and Canada, Aged 20+, 2000-2010



Canadian rates for 2009 and 2010 were unavailable at time of publishing

Prevalence of Hypertension by Sex, PEI, Aged 20+, 2000-2010



Results from the CCDSS indicate that 21% of Island residents aged 20 years and over were hypertensive in 2010. The proportion of Islanders, 20 years of age and older, who have been diagnosed with hypertension (prevalence) rose from 16.1% in 2000 to 20.9% in 2010, a relative increase of 30%. The prevalence of hypertension in females aged 20 and over, has been significantly higher than males in past years; however this difference has been

narrowing over time and is no longer significantly different. Nearly 1900 Islanders were newly diagnosed (incidence) with hypertension in 2010.

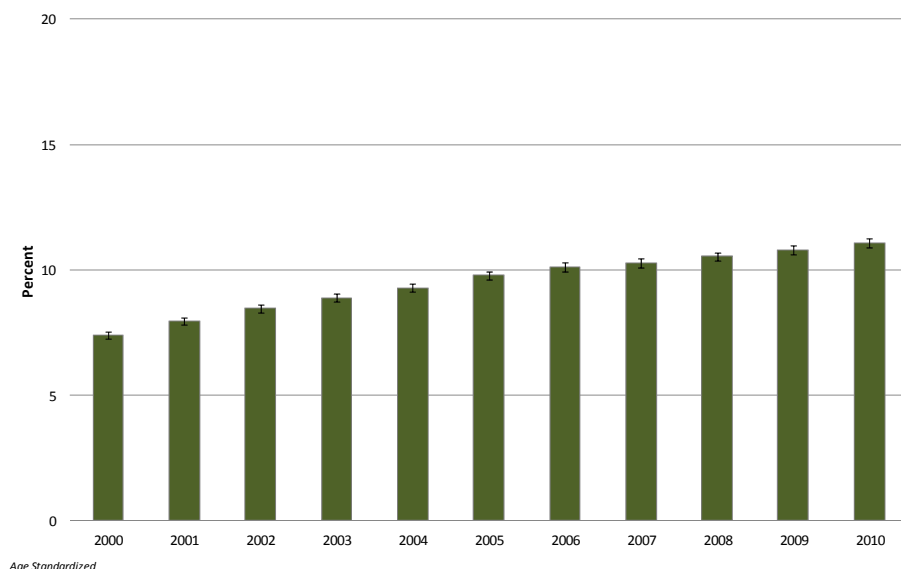
For a full review of hypertension trends in PEI visit:
www.gov.pe.ca/photos/original/dhw_cpho_ht2013.pdf.

Source: Canadian Chronic Disease Surveillance System⁹⁵, PEI Department of Health and Wellness, Chief Public Health Office⁹⁸

Asthma

Asthma is a chronic disease affecting many adults and children in PEI. Asthma is the result of hyper-responsive airways leading to chronic airway inflammation and an abnormal reduction of the airway size. The disease is characterized by repeated episodes of wheezing, shortness of breath, chest tightening, and coughing, often worse at night or in the morning. The reduction in airflow responsible for these symptoms is often reversible spontaneously or with treatment.⁹⁹

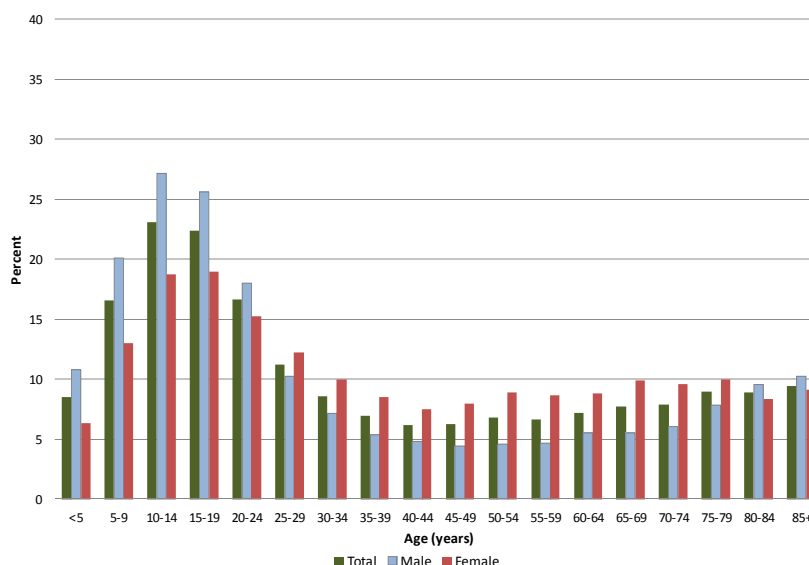
Prevalence of Asthma, PEI, 2000-2010



The proportion of Islanders who have been diagnosed with asthma (prevalence) rose from 7.4% in 2000 to 11.1% in 2010. Currently, more than one in ten Islanders has been diagnosed with asthma. The number of newly diagnosed cases of asthma (incidence) has decreased from 9.4 per 1000 in 2000 to 6.5 per 1000 new cases in 2010.

Asthma is more prevalent in our younger population. The prevalence of asthma decreases considerably after 15 years of age and rises slightly after age 65. The prevalence is significantly higher in males until they reach 25 years of age after which the prevalence is higher in females.

Prevalence of Asthma by Age and Sex, PEI, 2010



For more detailed information on asthma see the most recent trends report which can be accessed at: www.gov.pe.ca/photos/original/dhw_epi_asthma.pdf.

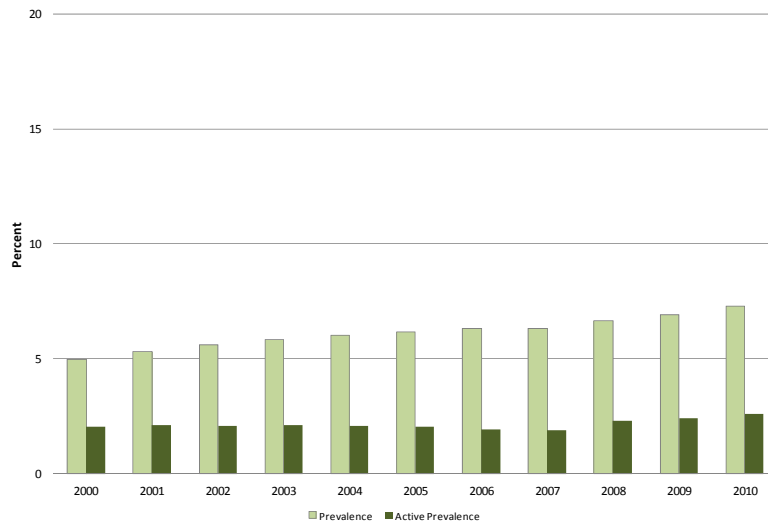
Chronic Obstructive Pulmonary Disease (COPD)

Chronic Obstructive Pulmonary Disease or COPD is a term for multiple chronic respiratory diseases that include chronic bronchitis and emphysema. Most people with COPD have both conditions resulting in a chronic cough with mucus from the chronic bronchitis and progressive destruction of the lungs with shortness of breath from the emphysema.^{101,102} Symptoms of COPD do not usually begin until after 55 years of age, but the damage to the lungs may begin many years earlier.

COPD is a chronic disease but with proper management, the impact of the disease can be reduced. Flare-ups are commonly caused by lung infections which result in symptoms such as shortness of breath, coughing or spitting up mucus. Knowing how to prevent flare-ups of COPD

is critical in the management of the disease.

Prevalence of COPD, PEI, Aged 35+, 2000-2010

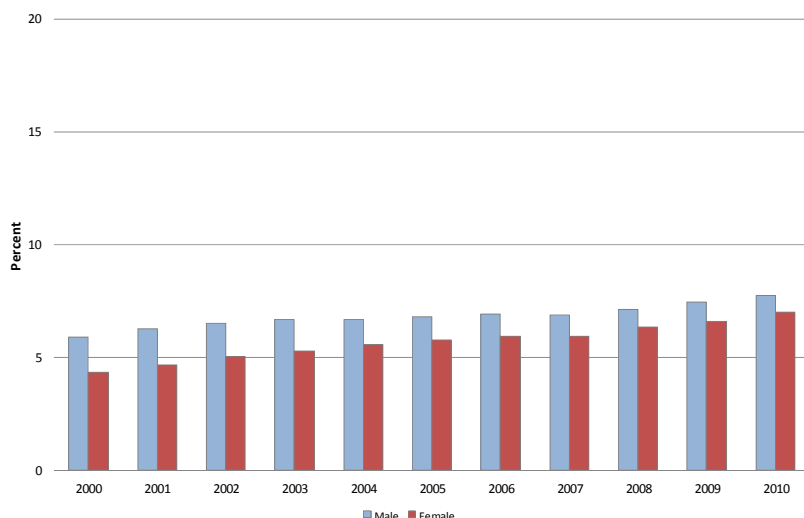


The proportion of Islanders who have been diagnosed with COPD (prevalence) rose from 5.0% in 2000 to 7.3% in 2010, an increase of 46% in the last ten years. The proportion of patients with active COPD (at least one diagnosis of COPD by physician visit or hospitalization per year) remained close to 2% up until an increase in 2008. The active COPD prevalence was 2.6% in 2010.

The number of newly diagnosed cases of COPD (incidence) has increased from 8.9 new cases per 1000 Islanders in 2000 to 11.2 per 1000 Islanders in 2010.

In the early 2000's, the prevalence of COPD was significantly higher in men compared to women. Currently, the prevalence in women is increasing at the same rate as men. In 2010, the prevalence in men (7.8%) was significantly higher than the prevalence in women (7.0%).

Prevalence of COPD by Sex, PEI, Aged 35+, 2000-2010



For more detailed information on COPD see the most recent trends report which can be accessed at:

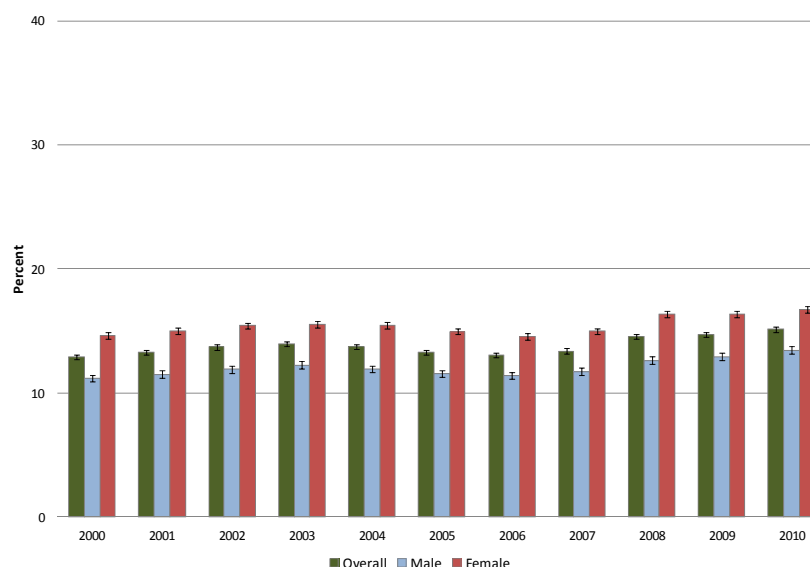
http://www.gov.pe.ca/photos/original/dhw_epi_COPD.pdf.

Source: Canadian Chronic Disease Surveillance System⁹⁵, PEI Department of Health and Wellness, Chief Public Health Office¹⁰³

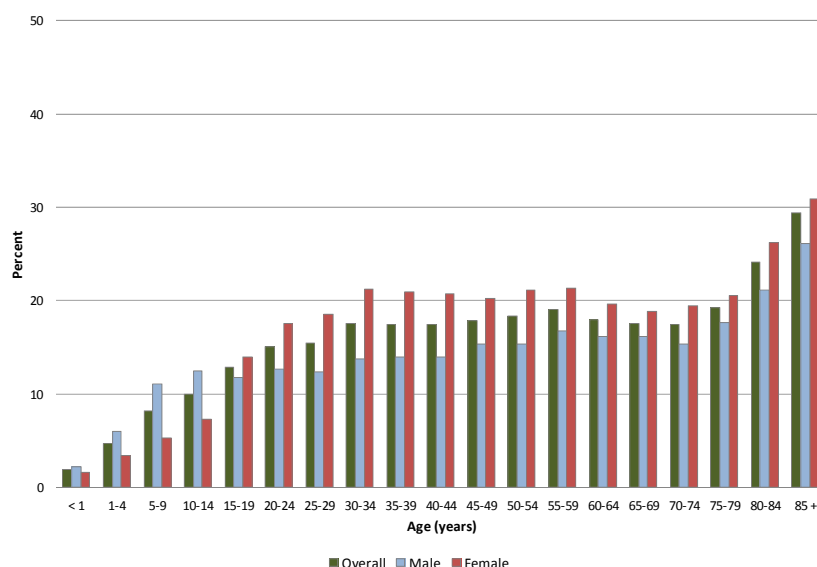
Mental Health Conditions

In 2010, over 20,000 Islanders were treated for a mental health condition, of which 57% were females. The proportion of Islanders being treated for mental health conditions has increased in the last four years, from 13.0% in 2006 to 15.1% in 2010. Females consistently have a higher proportion of treated mental health conditions compared to males. Some of the increased prevalence of treated mental illness can be explained by women having more opportunity to see a doctor because of their increased interaction with the health system for reproductive health care and possibly more often bringing their children to the physician compared to men.¹⁰⁴ This higher prevalence has also been explained by hormonal changes experienced by women¹⁰⁵ (pregnancy, menstrual cycle, and menopause) and different experiences with stress and family/personal responsibilities.¹⁰⁶

Mental Illness Prevalence, Age-Standardized, PEI 2000-2010



Age-Specific Mental Illness Prevalence by Sex, PEI 2010



The proportion of Islanders treated for mental health conditions increases as people age. In the early years of life, males have a higher proportion affected relative to females which has been attributed to a higher level of behavioural disorders in young males.¹⁰⁷ After 15 years of age, females have a higher proportion of mental health conditions relative to males. This difference between females and males is greatest between 25 and 44 years of age. The age groups with the highest

proportion affected are the 80 to 84 years age group with 24.1% and 85 years and older age group with 29.4% affected. The most common mental disorders in people of this age group are dementia, depression and delirium (acute confusion).⁴

For more detailed information on mental health see the Suicide and Mental Health in PEI 2002-2011 which may be accessed at: <http://www.gov.pe.ca/photos/original/suicidetrends.pdf>.

Source: Canadian Chronic Disease Surveillance System⁹⁵, PEI Department of Health and Wellness, Chief Public Health Office¹⁰⁸

Communicable Diseases

Communicable diseases are those that can be passed from one person to another. They can be caused by infectious agents, such as bacteria, viruses, fungi or parasites and/or toxins.

How these diseases spread depends on the specific disease or infectious agent and include:

- physical contact with an infected person, such as through touch (*Staphylococcus aureus*), sexual transmission (chlamydia, gonorrhea, syphilis), fecal/oral transmission (hepatitis A), or respiratory droplets (influenza);
- contact with a contaminated surface or object (norovirus), food (salmonella, *E. coli*), blood (HIV, hepatitis B and hepatitis C), or water (cholera);
- bites from insects or animals capable of transmitting the disease (west nile virus, lyme disease and rabies); and
- airborne transmission (tuberculosis and measles).

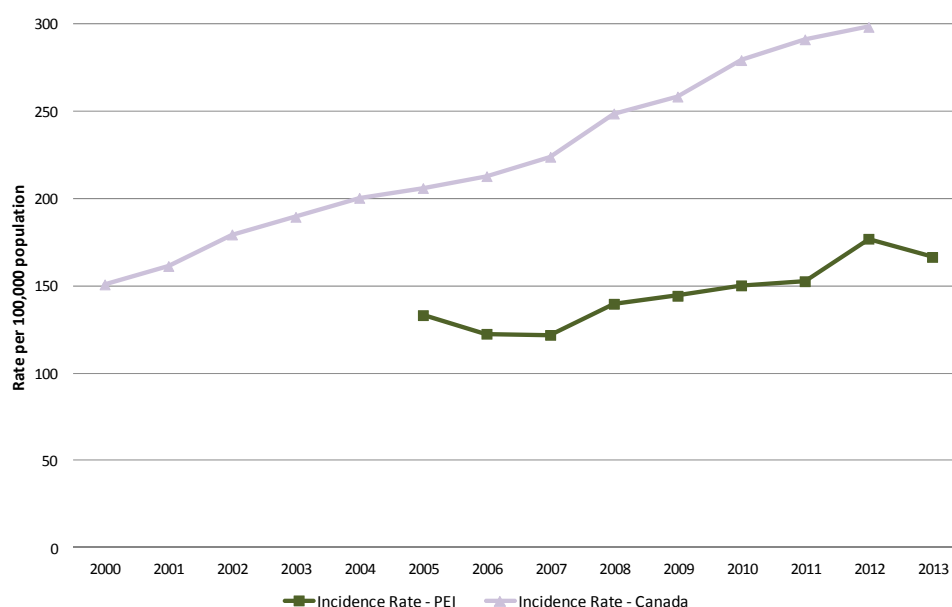
Prevention and control of communicable disease is a foundational component of public health and is discussed further in Section 3 of this report. Three common communicable diseases are highlighted below and a complete count of the communicable diseases which are notifiable under the Prince Edward Island *Public Health Act*² can be viewed in the Appendix.

Chlamydia

Genital chlamydia is caused by *Chlamydia trachomatis* bacteria that are transmitted primarily through sexual contact. Symptoms include abnormal discharge, genital itching and a burning sensation while urinating¹⁰⁹, however many people with chlamydia do not have any symptoms. Because of this, diagnoses are often made through following up with the contacts of a known case, highlighting the importance of thorough contact tracing. If left untreated, complications of infection can include pelvic inflammatory disease, ectopic pregnancy, and infertility. Some risk factors for chlamydia infection include sexual contact with an infected person, unprotected sexual intercourse, and having multiple sexual partners. Avoiding these risk factors can reduce the risk of infection.

The incidence of chlamydia infections in PEI had been increasing from 2007-2012. A slight decrease in cases was realized in 2013. The Canadian rate of chlamydia infections has increased steadily over time and has been consistently higher than the rate observed in PEI.

Chlamydia Rates by Year, PEI and Canada



In 2013, 63% of reported chlamydia cases occurred in people aged 20 to 29 years which reflects the ages during which high risk behaviours are more common. An additional 22% of cases were reported in those less than 20 years of age, particularly females. Overall, chlamydia is reported more often in females (64% of reported cases in 2013 were female).

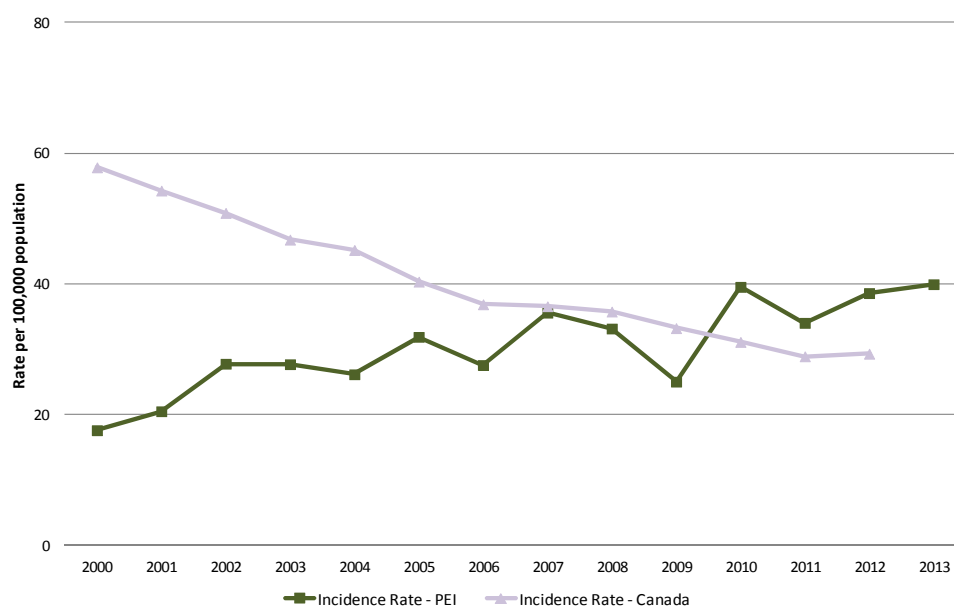
In July 2013 an enhanced STI surveillance system was implemented in an attempt to identify the specific risk factors associated with infection on the Island. With the enhanced data collection it was determined that 50% of cases used alcohol during risky sexual behaviour. It was also noted that travel “out west” for work was identified as a common risk factor for acquisition of infection. These findings will be used going forward to develop educational materials targeted at our population at risk in an attempt to decrease the incidence of all STIs.

Hepatitis C

Hepatitis C is a virus that primarily attacks the cells of the liver. While symptoms of infection are uncommon, those reported include malaise, nausea, right upper quadrant pain, dark urine and jaundice.¹⁰⁹ Some people recover from this initial acute phase of the infection; however up to 85% of acute infections will turn into chronic, long-term infections¹¹⁰. Long term complications of chronic infection may include liver cirrhosis and cancer. Hepatitis C infection is treatable at both the acute and chronic phase; however the asymptomatic nature of this disease makes diagnosis and treatment difficult.

Transmission of hepatitis C occurs through exposure to infected blood or blood products, for example during injection drug use (IDU). In Canada, it is estimated that between 70-80% of all newly acquired cases of hepatitis C are associated with IDU.¹¹¹ Although uncommon, the virus can also be spread through sexual contact or by maternal transmission. People with human immunodeficiency virus (HIV) have a higher prevalence of hepatitis C infection than the general population, largely due to their shared routes of transmission and common risk factors.¹¹⁰ Infection can be prevented by avoiding exposure to contaminated blood and high-risk drug related behaviours.

Hepatitis C Rates by Year, PEI and Canada



Historically, hepatitis C virus was rarely found on the Island. Rates of hepatitis C have doubled in the last decade with an average of 50 new cases diagnosed each year. A substantial number of these new cases are injection drug users.

From 2010-2013, there were 219 new cases of hepatitis C on Prince Edward Island. The median age of cases was 35 years and the majority of cases were male (66%).

Influenza

Influenza is a viral infection of the respiratory system. Influenza affects millions of Canadians a year. It is highly contagious and it may cause serious illness including death. Most individuals with influenza experience fever, cough, and often sore muscles and joints. The virus is transmitted through the air or by direct contact with infected people.¹⁰⁹ The majority of infected people recover within 7 days¹⁰⁹, however the influenza virus can cause severe disease in individuals who are at high risk of developing complications such as those aged 65 years and older, young children (6 to 59 months), those with existing chronic health conditions, pregnant women, aboriginal peoples and those who are morbidly obese. Vaccination against influenza is recommended annually to everyone for protection against infection.

During the 2012-13 influenza season (starting late August 2012) there were 124 lab-confirmed cases in PEI residents. Three different influenza strains were identified during the season which included: A/H3, A/pH1N1, and B. In total, 62% of cases were female and 40% of cases were 65 years of age and older.

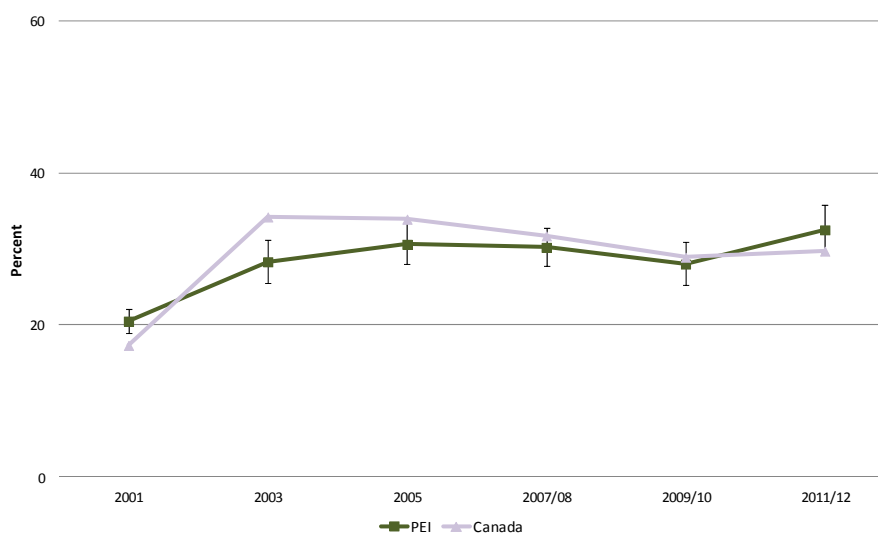
Of the 124 lab-confirmed cases, 54 were hospitalized (6 of these were admitted to ICU). Over half (52%) of hospitalized cases were 65 years and older. Existing chronic conditions were present in 64% of all influenza hospitalized patients. Co-morbidities are known to make individuals more likely to become at risk of developing a severe infection.

Seasonal Influenza Vaccination

Influenza vaccination is recommended annually for the general population. The vaccine is recommended in particular for: all persons 65 years of age and older; residents of chronic care facilities; those with diabetes mellitus, metabolic diseases, cancer, immunodeficiency or suppression, renal disease, anemia, hemoglobinopathy or HIV; those with chronic cardiac or pulmonary disorders; adults or children on long periods of treatment with acetylsalicylic acid; health care personnel; household contacts of high-risk persons; healthy children 6 to 59 months of age; and all pregnant women, to prevent or lessen the severity of influenza.¹¹²

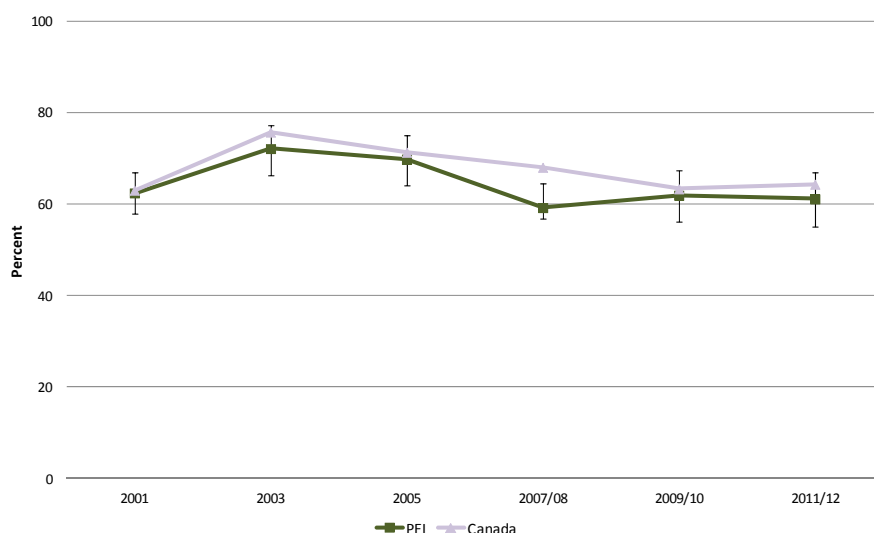
In total, 33% of Islanders aged 12 and older received a seasonal flu vaccine. This is similar to the Canadian rate of 30%.

Self-Reported Influenza Vaccination in Past Year, PEI and Canadian Populations Aged 12+



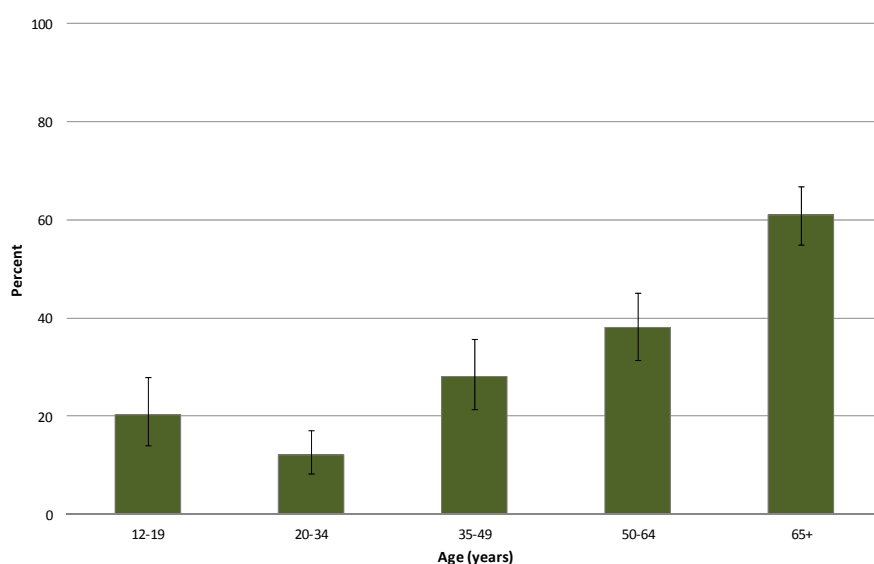
For people aged 65 and over, PEI had similar rates of seasonal influenza vaccination to the overall Canadian rates. Specifically, in 2011/12, 61% of Island seniors and 64% of Canadians aged 65 and older reported having a seasonal flu shot within the last year. These survey results may underestimate the actual number of seniors receiving vaccinations as the survey based numbers do not include those who live in institutions such as long-term care facilities.

**Self-Reported Influenza Vaccination in Past Year,
PEI and Canadian Populations Aged 65+**



The vaccination rate increases with age as a significantly higher proportion of seniors (65 years and older) had a current seasonal influenza vaccine compared to those in younger age categories. No differences exist between males and females.

Self-Reported Influenza Vaccination in Past Year by Age, PEI 2011/12



Sources: Statistics Canada: CCHS 2011/12, CCHS 2009/10, CCHS 2007/08, CCHS 2005, CCHS 2003, CCHS 2000/01

SECTION 3: CHIEF PUBLIC HEALTH OFFICE PROGRAMS

From Evidence to Action

The Chief Public Health Office (CPHO) provides leadership and guidance in the practice of public health on Prince Edward Island. To accomplish this mandate, the CPHO administers programs to address public health priorities in the areas of health protection, disease and injury prevention, health promotion, health surveillance and population health assessment and emergency management. In the Chief Public Health Officer's Report and Health Trends 2012, five priority areas were identified as important to strengthening public health on Prince Edward Island. Over the past two years, the CPHO has made considerable progress on these priority areas and key achievements are highlighted below.

Following these highlights, this section provides more detailed information on the following CPHO program areas: Environmental Health, Communicable and Vaccine Preventable Diseases, Infection Prevention and Control, Reproductive Care, Health Emergency Management and Vital Statistics.

CPHO Highlights

- 1) Maintaining a strong focus on Health Protection programs which are legislated under the *Public Health Act*², including Food Protection, Immunization and Communicable Disease surveillance and follow up.
 - Renewal of the *Public Health Act*² including amendments to the Notifiable Diseases and Conditions and Communicable Disease Regulations¹¹³, and proposed amendments to the Food Premises Regulations to strengthen public health protection on PEI.
 - Implementation and evaluation of a risk-based model for inspection of food premises.
 - Strengthening PEI's Childhood Immunization Program with the following additions:
 - o Human papillomavirus (HPV) vaccination for Grade 6 boys
 - o Rotavirus vaccination for infants
 - o Pertussis vaccination of parents and close contacts of newborns (Cocooning Strategy).
 - Enhancement of National surveillance participation as needed based on the presence of illness on PEI.
 - Management of several outbreaks each year which may occur at food premises, daycares, health care facilities, or in the community including outbreaks of measles, gastrointestinal illness, influenza and pertussis (whooping cough).
 - Introduction of a Hand Hygiene Program aimed at improving hand hygiene rates for health care providers.
- 2) Improving immunization rates of children to ensure better protection against vaccine preventable diseases. It is also a priority to increase awareness regarding adult immunization.
 - Development of provincial immunization rates committee aimed at improving PEI's immunization rates in children by the age of two. Focus is on three areas: education for health care providers, determining indicators of success, and public education and information.

- Communication to health care providers and the public regarding the importance of vaccines at every opportunity (recent opportunities include during outbreaks of influenza, pertussis (whooping cough), and measles).
 - Introduction of influenza vaccine free of charge to those aged 65 and over in collaboration with Health PEI.
- 3) Maintaining robust surveillance systems in order to appropriately inform program and public health policy development.
- Updating surveillance systems (such as infection prevention and control and chronic diseases) to reflect best practices.
 - Participation in national surveillance groups where appropriate and provide input on national surveillance strategies.
 - Preparation and sharing of monthly and annual reports and summarizing surveillance results.
- 4) Working with partners within the Department of Health and Wellness, other government departments and all Islanders towards attaining healthy weights. This includes working to improve breastfeeding rates and developing a provincial breastfeeding policy.
- Introduction of Breastfeeding policy in July 2012. Collaborating with Health PEI to work towards the Baby Friendly Designation (<http://breastfeedingcanada.ca/BFI.aspx>).
- 5) Working with Islanders in collaboration with our partners, particularly health promotion, to address the significant burden that high rates of chronic diseases such as heart disease, cancer and diabetes place on our society.
- Actively providing information and analysis on the health of PEI's population to key stakeholders which includes:
 - Producing and updating chronic disease reports (diabetes, hypertension, COPD, asthma, heart disease, mental health and other conditions) bi-annually, annually, monthly, or as needed.
 - Participation on a number of working groups and committees including the Integrated Chronic Disease Working Group, Obesity Working Group, and the Provincial Cancer Strategy Steering Committee.
 - Introduction of Tanning Facility Regulations¹¹⁴ under the *Public Health Act*².
 - Introduction of The *Period of PURPLE Crying*® program which is designed to educate parents and caregivers about the normal patterns of infant crying, to anticipate this behaviour and to safely respond to a crying infant.

Environmental Health Office

The Environmental Health Office, in coordination with the CPHO, is responsible for the enforcement of the *Public Health Act*² and its regulations, the *Smoke-free Places Act*¹¹⁵ and its regulations, the *Tobacco Sales and Access Act*¹¹⁶ and its regulations, and the *Donation of Food Act*.¹¹⁷ Inspection of child care facilities and nursing homes are also carried out with reporting to the respective licensing boards.

In 2011 Environmental Health introduced the Risk Categorization Model for evaluating potential risk for all food premises in the province. Low, medium and high categories are assigned based on a number of elements such as the types of food prepared and served. The risk category dictates the frequency of routine inspections each year with high risk requiring three inspections, medium risk requiring two inspections and low risk requiring one inspection.

An indicator to measure the effectiveness of the Risk Categorization Model is the percentage of re-inspections required for each category. The following table presents the proportion of satisfactory and unsatisfactory inspections. There are a higher percentage of re-inspections for high risk establishments as compared to medium and low risk establishments for 2012.

Percentage of re-inspections by risk category, 2012

Risk Rating 2012	Satisfactory	Unsatisfactory
High	76.9%	23.1%
Medium	84.1%	16.0%
Low	85.8%	14.2%

Tanning Facilities Regulations¹¹⁴ came into force on September 1, 2013 in an attempt to reduce exposure to dangerous ultraviolet radiation which is a common risk factor for skin cancer. Melanoma skin cancer has been identified as the most rapidly increasing cancer diagnosis in PEI with a rate that has tripled over the past 30 years.⁹⁴ All commercial tanning facilities in the Province are now required to be registered and inspected. The legislation prohibits the marketing, sale and access to tanning equipment for those under 18 years of age. Operators must also post signs to alert users of the age prohibition as well as the significant health risks associated with exposure to ultra violet radiation.

In 2009, the International Agency for Research on Cancer (IARC), an agency of WHO, re-classified the use of tanning equipment to the highest cancer risk group, 'Group 1' carcinogen,¹¹⁸ which is the same classification as cigarette smoke.

To protect children and adolescents from skin cancer and other risks posed by indoor tanning, the Canadian Pediatric Society supports a ban on the use of commercial tanning facilities by Canadian children and youth younger than 18 years of age.¹¹⁹

Communicable and Vaccine Preventable Diseases

The Communicable Disease and Vaccine Preventable Disease Programs aim to prevent and control the spread of infectious diseases within the population of PEI. This is accomplished in a variety of ways, two of which are highlighted below:

Surveillance and Investigation

In September 2013 the new Prince Edward Island *Public Health Act*² was proclaimed and the Notifiable Diseases and Conditions and Communicable Diseases Regulations¹¹³ came into effect on February 1st, 2014. The purpose of the updated regulations is to strengthen surveillance and response to those diseases, conditions and events noted in the regulations. There are over 70 different diseases and conditions that are notifiable including tuberculosis, measles, pertussis, polio, salmonella, and chlamydia to name a few.

The *Public Health Act*² requires physicians and nurse practitioners to report to the CPHO any suspected and confirmed cases of the diseases noted in the regulations. In addition the Provincial Laboratory submits reports of all laboratory confirmed cases. The nursing team within the CPHO initiates and monitors the appropriate follow up with each reported case. The epidemiology team analyses data from reported cases and develops trend reports. All of these activities together ensure that clusters or outbreaks of illness are identified, reported and acted upon in a timely fashion in an attempt to prevent the further spread of disease.

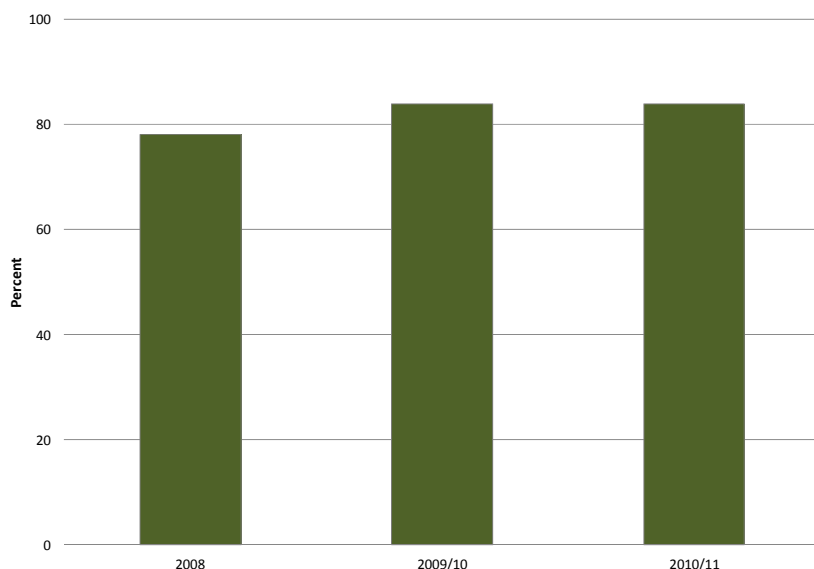
Identified trends in communicable and notifiable diseases (see Appendix), helps to inform the development and implementation of public health policy and programs in the province. For example, a new surveillance and case follow-up process for sexually transmitted illnesses (STI) was introduced in 2013 based on the increasing rate of chlamydia and the re-emergence of both gonorrhea and infectious syphilis in PEI. The information gathered through this process is expected to provide important information that will guide future public health action such as education and health promotion initiatives to targeted groups.

Three notifiable diseases, chlamydia, hepatitis C and influenza, were highlighted in the previous section of this report.

Immunization

In the 2012 Chief Public Health Officer Report for PEI, improvement of waning childhood immunization rates was identified as a priority area moving forward. PEI aims to achieve the Canadian national goal of 95% completion of all childhood immunization by age two and is working on initiatives to improve vaccine coverage of the Island population. The CPHO in partnership with Health PEI's Public Health Nursing provides the best available information about immunizations to parents to help them make informed decisions regarding immunizing their children. Public health nurses introduce the childhood immunization program during pregnancy when parents are taking pre-natal classes and during early post-partum home visits. Additional time and education is made available to parents who may be hesitant regarding childhood immunization.

Children Fully Vaccinated by Age 2, PEI



PEI's childhood immunization rates have improved over the last two years but rates are still below the level needed to prevent outbreaks of vaccine preventable diseases such as measles and pertussis.

Rotavirus is a very common cause of childhood gastrointestinal illness (diarrhea and vomiting) which often requires hospitalization. In December 2010, a vaccine to protect against rotavirus infection was introduced as part of PEI's universal childhood immunization program. With greater than 90% uptake, the effect has been remarkable as Prince Edward Island has seen hospitalization due to Rotavirus gastroenteritis decrease by 97% in children.

Human Papilloma Virus (HPV) is a virus that causes genital warts and certain cancers including cervical cancer. Immunization against HPV has been offered to girls in Grade 6 on PEI since 2007. In September 2013 the Province introduced this vaccine to boys in Grade 6 in an effort to further prevent the spread of HPV. Uptake of this vaccine by girls is one of the highest in the country at 87%. We anticipate a similar uptake in boys.

Infection Prevention and Control Program

Hand hygiene is a primary focus of the provincial Infection Prevention and Control Program and is the responsibility of all individuals involved in health care. This simple action can reduce the risk of health care acquired infections and their impact across the continuum of care. It is important that employers provide sufficient hand hygiene supplies and opportunities for health care providers to perform hand hygiene. When these are in place, the goal is to achieve 100% compliance for all health care providers who come in physical contact with patients and their environments.

- Hand hygiene is one of the most effective ways to prevent illness and infection from spreading in the healthcare environment.
- Patients, families and visitors can help to reduce the spread of illness in health care settings by remembering to perform hand hygiene while in the setting, specifically before entering and when leaving

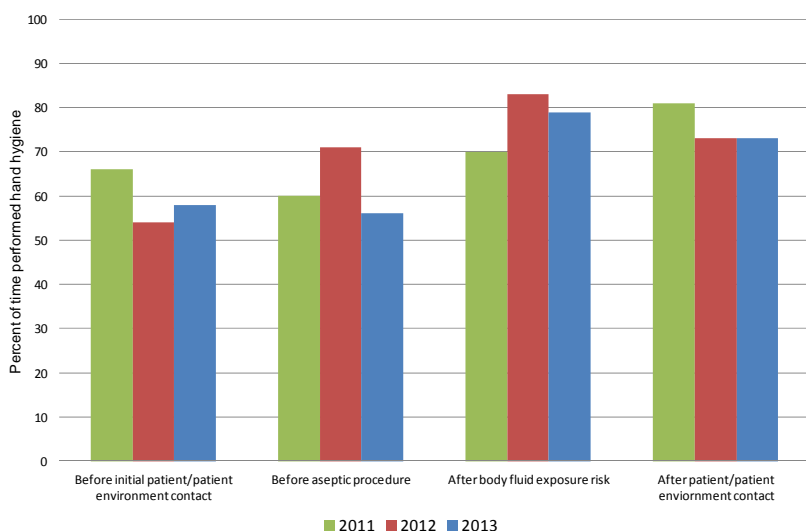
National hand hygiene rates are approximately 40% among health care providers.¹²⁰ While hand hygiene rates in PEI are above the national average, there is still room for improvement. Each year, the rates are posted in each practice setting for staff to be made aware and are used for targeted education and problem solving.

Ongoing efforts are being made to:

- Provide alcohol based hand rub (ABHR) at the point of care and at easy access points throughout healthcare settings.
- Provide education and visual reminders to perform hand hygiene in the workplace.
- Perform routine audits and give timely feedback to staff.



Hand hygiene compliance by indication in health care facilities, PEI 2011-2013



The infection prevention and control program audits hand hygiene practice based on the “4 moments of hand hygiene” as noted in the figure.

Patients or family members may wish to ask the health care provider to perform hand hygiene in front of them before providing care. In some settings the patient and/or family may be asked to help monitor hand hygiene by filling out a card noting if the healthcare provider performed hand hygiene during the visit.

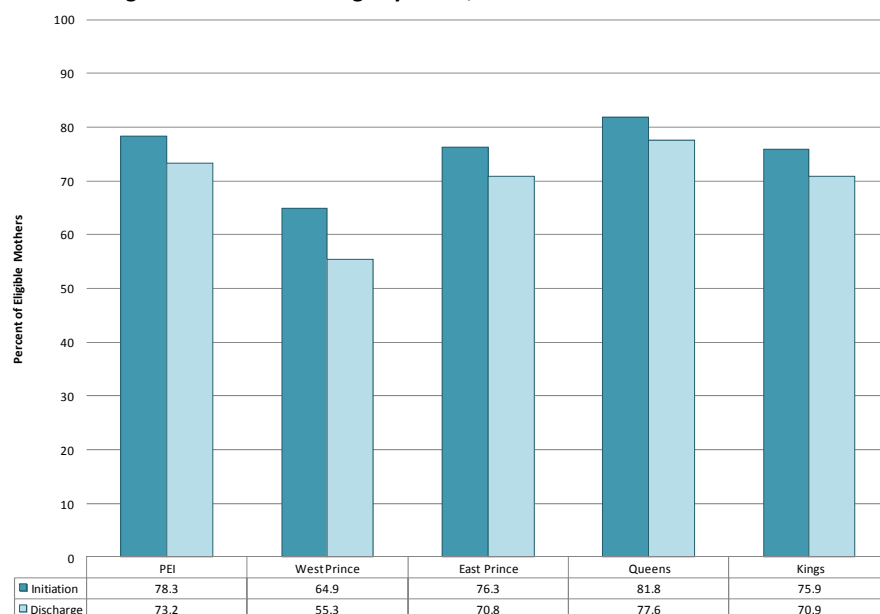
Reproductive Care

The aim of the PEI Reproductive Care Program (RCP) is to optimize fetal, maternal, newborn and family health during the prenatal through postnatal periods. The latest copy of the perinatal database report (2011) can be found at: <http://www.gov.pe.ca/health/reproductivecare>.

The improvement of breastfeeding rates in PEI is one of the major goals of the program. While rates of breastfeeding initiation and discharge vary across the Island, these rates have been improving over time.

The summer of 2012 saw the development of a Provincial Breastfeeding Policy in Prince Edward Island.

Breastfeeding initiation and discharge by zones, PEI 2011



The administration of the Breastfeeding Essentials courses, which are on-line education tools for health care professionals, has been received with much success here in PEI. Since 2010, a total of 212 health care professionals (nurses, dieticians, physicians and others) from across the province enrolled for this continuing education program.

Another important project facilitated by the RCP has been The *Period of PURPLE Crying®*. It is a prevention program designed to educate parents and caregivers about the normal patterns of infant crying, to anticipate this behaviour and to safely respond to a crying infant. Since the introduction province-wide in November 2012, it has been well-received by parents and caregivers of newborns. Many community organizations and Islanders have helped raise awareness of this worthwhile program by knitting *PURPLE®* hats.



Health Emergency Management

Health Emergency Management is an essential function of public health. Under the *Public Health Act*², the CPHO is directly responsible for preparedness, leadership, direction, and response in the event of a public health emergency and works with the Public Health Agency of Canada (PHAC) and other provinces and territories to ensure the World Health Organization (WHO) International Health Regulations (2005) are met.

In 2009, all Health Ministers signed a Memorandum of Understanding (MOU) on Mutual Aid in the event of a health emergency. In this agreement, provinces and territories agreed to work to provide human and material resources at the request of a province or territory experiencing a health emergency. An operational framework was developed and tested and in 2013 two events led to requests for mutual aid under this agreement: Environmental Health Officers were requested to assist in the recovery from the Alberta floods in the summer of 2013 and health care workers with experience in managing communicable disease outbreaks were requested by the WHO to assist the Philippines in the recovery after the typhoon of 2013.

Staff from the CPHO responded to both of these requests and while they were not deployed in the end, the operational framework proved valuable in the planning for these possible provisions of emergency aid.

Vital Statistics

The Vital Statistics Program is responsible for the collection, registration, and maintenance of vital event information for PEI, including: births, deaths, marriages, adoptions, divorces, stillbirths, and change of name. Vital Statistics ensures accurate and timely registration of these events to provide the public with timely, secure and cost effective services in accordance with the *Vital Statistics Act*¹²¹, the *Change of Name Act*¹²² and the *Marriage Act*¹²².

Vital Event Registrations	2011	2012	2013
Birth	1,409	1,290	1,381
Death	1,238	1,203	1,244
Marriage	869	928	841
Stillbirth	<5	7	<5
Divorce	285	303	241
Adoption	14	13	17
Change of Name	62	56	59

Certificates Issued	2011	2012	2013
Birth	5,170	5,088	4,424
Death	105	131	150
Death with Cause	15	16	32
Marriage	804	952	1,131
Change of Name	18	20	43
Total	6,112	6,207	5,780

In 1996 the Vital Statistics Program moved to an electronic database system and over the years evolved from a registry of vital events to a data program which integrates many provincial and federal services for the public as well for health planning and research. In June 2012, the PEI Vital Statistics Registry introduced a bundled birth service that provides an easy and efficient way for parents to access government services related to the birth of a new child. When parents register the birth of their baby with Vital Statistics they may also apply for the Canada Child Benefits (CCB) with the Canada Revenue Agency (CRA) and the baby's Social Insurance Number (SIN) with Service Canada. This registration also activates the new baby's PEI Health Card.

In June 2012, the PEI Vital Statistics Registry introduced a bundled birth service that provides an easy and efficient way for parents to access government services related to the birth of a new child. Since this bundled service became available to parents, 98% have accessed it at the time of birth registration.

Vital Statistics continues to advance its capacity to respond to members of the public in their requests for personal event information. In the spring of 2014, the Registry plans to implement an online payment system that will provide the public with access to apply and pay for vital event information they are entitled to receive.

CONCLUSION

Conclusion

The role of public health includes developing and influencing public policy to ensure the population is as healthy as possible as well as preventing injury, illness, and premature death. This is accomplished through education and awareness, legislation, public health programs such as immunization and food protection, and gathering and reporting accurate and timely information to support program and policy decisions.

In the past couple of years, the Chief Public Health Office with its partners and the community has been working on a number of priorities, including the renewal of the *Public Health Act*² with amendments to the Notifiable Diseases and Conditions, and Communicable Diseases Regulations and upcoming changes to the Food Premises Regulations enhancing health protection and surveillance. In 2013, PEI was the first province in Canada to introduce HPV vaccine for boys as part of the publicly funded Childhood Immunization Program. Immunization with rotavirus vaccine has led to a decrease in hospitalizations due to rotavirus illness by 97% for children under 5 years of age. A breastfeeding policy was initiated in PEI which underlies the importance of healthy babies and healthy weights in children.

These positive public health initiatives and outcomes are balanced with the reality that health trends in PEI overall have not shown measureable improvements. We know that even small changes in lifestyle behaviours that an individual makes today will have a positive effect on the health of that person; however, the resulting improvements in the health status of our population as a whole may take years to achieve.

The evidence tells us that having enough income and education are key factors that affect all aspects of health including frailty. Action on these social determinants of health requires concerted effort over time. Continued attention to poverty reduction and a strong educational system may be the most important government interventions that will contribute to health and healthy aging for all Islanders. The Chief Public Health Office will continue to emphasize promotion, prevention and protection to help Islanders move towards improvements in health and healthy aging as we all “Keep Moving on Life’s Journey”.

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