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April 6, 2016

Brad McRae
Chief Administrator Officer
District of Lantzville
7192 Lantzville Road
Lantzville, BC V0R 2H0

Dear Colleague:

Each year Island Health synthesizes available information released provincially and supplements by some information from Island Health. The Local Health Area (LHA) Profiles have been central to the Medical Health Officer report to your community in the past few years. This year, I have been reporting specifically on substance use issues and mentioned the LHA profiles were being released.

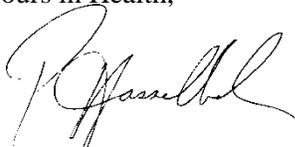
Please find with this communication, the 2015 LHA profile which is based on data from 2014 or earlier, depending on when data is released and available to us. The profiles can also be found at: http://www.viha.ca/mho/stats/lha_profiles.htm once they are posted on-line (a process that takes a few weeks after release of the document). The past year has seen an increased delay in the release of information resulting in the LHA profiles being delayed into the early part of this year.

Should you have any questions, or identify any material that appears incorrect, please feel free to contact my office or Melanie Rush at melanie.rush@viha.ca.

If invited by Council, I would be available to present the updated information and contextualize results over time and across geographies. I will report out on longer term trends based on the LHA reports to Councils at some point in the upcoming years.

Please feel free to contact my office at any time on matters of mutual interest.

Yours in Health,



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Local Health Area Profiles Interpretation Guide 2014

Prepared by Planning
Island Health
February 2016

This Interpretation Guide is intended to be read with the LHA Profiles.

These profiles are not intended to be used for detailed planning or analysis. As they are updated on an annual basis, there may be more current data available. If you are intending to use these profiles for health planning purposes, or if you have questions or notice a discrepancy, please contact [Melanie Rusch](mailto:Melanie.Rusch@viha.ca) (Melanie.Rusch@viha.ca).

Please note: This Guide accompanies the 2014 profiles.

These profiles are intended to shed some light on community health including the many factors that contribute to and detract from health such as economic status, child development, education, housing, justice, social support and health services. Successful improvements in health can only come about with the involvement of an entire community. Partnering of community organizations, all levels of government, and community members, is essential. Island Health can be a participant in such partnerships, but does not necessarily play a primary role in addressing these issues.

Table of Contents

- Overview.....1
- 1 Highlights2
- 2 Geography2
 - 2.1 Location Description2
 - 2.2 Transportation2
- 3 Demographics.....3
- 4 Social Determinants of Health4
 - 4.1 Economic Wellbeing.....5
 - 4.2 Education7
 - 4.3 Housing9
 - 4.4 Social Support11
 - 4.5 Healthy Development (Child & Youth).....13
 - 4.6 Child Health.....15
 - 4.7 Crime16
- 5 Health Status17
 - 5.1 Birth Statistics17
 - 5.2 Mortality Statistics19
 - 5.3 Chronic Disease Prevalence22
 - 5.4 Life Expectancy at Birth.....22
- 6 Health Service Utilization.....23
 - 6.1 Hospital Admissions23
 - 6.2 Emergency Visits25
- Glossary26
- Appendix A: Major Clinical Categories (MCC).....28

Overview

This guide was created as an accompaniment to the Local Health Area (LHA) Profiles prepared by Island Health’s Planning and Community Engagement Department. These profiles are intended to provide an overview of the health status and an insight into the health needs of Island Health’s LHAs.

Format

This guide follows a similar format to the LHA profiles. Each group of indicators is provided with a header explaining the overall health significance of those indicators. The indicators themselves are presented in table form where applicable, with a definition of the term drawn from the data source, an interpretation given to show the significance of the indicator to individual or community health status, and the source of the definition with a link to the appropriate webpage.

Each interpretation is also provided with a **high** and **low** aid. Where possible, statistics in the LHA profile are provided in comparison to the Island Health and British Columbia (BC) averages. The high/low aids are intended to indicate what the direction of variance means for a specific indicator in comparison to the Island Health and BC averages.

Examples: “**High**: Children are more vulnerable” indicates that if the levels of the LHA are higher than Island Health/BC averages, children in that area are more vulnerable than those in Island Health/BC. “**Low**: Fewer people are receiving employment insurance” indicates that if the levels of the LHA are lower than the Island Health/BC average, fewer people in that area are receiving employment insurance than the Island Health/BC average. Depending on the indicator, high and low can be reversed: i.e. high can be good (such as labour force participation rate) or bad (serious juvenile crime rate).

Terms which are underlined are defined in the glossary at the end of this document.

Some indicators measure health status, while others measure the vulnerability of individuals and/or populations. Although people who are vulnerable will not necessarily have more health problems, when they do, they are more likely to experience a greater impact.

1 Highlights

This section contains the highlights from individual indicator groups. It is intended to give a quick and convenient overview of some of the most pertinent statistics for the LHA.

2 Geography

Island Health provides care to a diverse geographic range covering the entirety of Vancouver Island, the Gulf Islands, the Discovery Islands, and a portion of the mainland from north of Powell River to south of Rivers Inlet. The communities it provides service to range from urban centres like Victoria and Nanaimo to rural/remote areas such as Kingcome, Gilford and Tahsis. It has long been known that there is a connection between geographic location and health status: those living in rural locations often fare more poorly in health status than those in urban areas.¹

In order to facilitate health care planning and delivery, Island Health is divided into 14 LHAs (Figure 1).

2.1 Location Description

Describes where the LHA is located, its size, and the communities it contains.

2.2 Transportation

According to the Canadian Institute for Health Information (CIHI), “Access to prevention, early detection, treatment or support services... make good health status even more difficult to achieve in rural or remote areas... People living in rural communities generally need to travel longer distances, and often on more dangerous roads, for work, shopping and other reasons.”²

Figure 1: The Vancouver Island Health Authority by Health Service Delivery Area and Local Health Area



3 Demographics

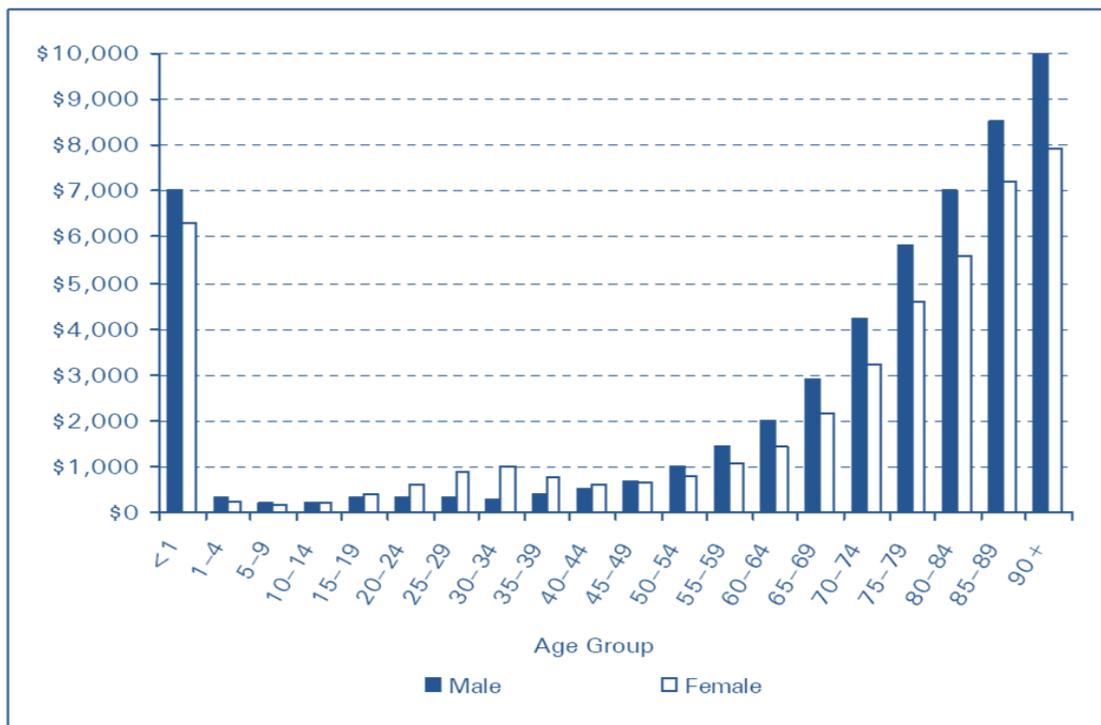
Demographics are often the first indicators to consider when evaluating a population and their health needs. The changing characteristics of a population, such as age and size, have a considerable impact on its health needs. A community with an elderly population, for example, will likely require more health care services overall relative to a community of similar size with a younger population.

As people grow older, they require more health services. On average the need, and the cost, of these services rise dramatically with age (Figure 2). Demographic profiles are one of the tools used to plan health care services.

Those LHAs with relatively small populations are affected by the small number problem. Due to the small denominator, even minor changes in the numerator can appear more significant than they may be. For example, one or two infant deaths in a small community will result in a higher infant mortality rate compared to a larger community which experiences more deaths. Similarly, an increase of one death in the small community from one year to the next could raise the mortality rate significantly.

Also of note, changing data definitions may result in an apparently significant change between reports from two different years. As far as possible, the profiles will attempt to flag where data definitions have changed between the latest profile and previous ones.

Figure 2: Provincial/Territorial Government Health Expenditure per Capita by Age and Sex, Canada, 2007³



As well as the overall demographic trends, it is also important that we consider subpopulations, especially vulnerable populations such as those of Aboriginal status.ⁱ

ⁱ Refers to those persons who self identified with at least one Aboriginal group (North American Indian, Métis or Inuit, and/or those who reported being a Treaty Indian or a Registered Indian, as defined by the Indian Act of Canada, and/or those who reported they were members of an Indian band or First Nation.

Within Island Health, there are 49 First Nations groups⁴ distinct from one another in relation to their location and environment (urban, rural, and remote) with unique cultures, traditions and language. Aboriginal people experience gaps in their health outcomes as a result of a multitude of factors.⁵

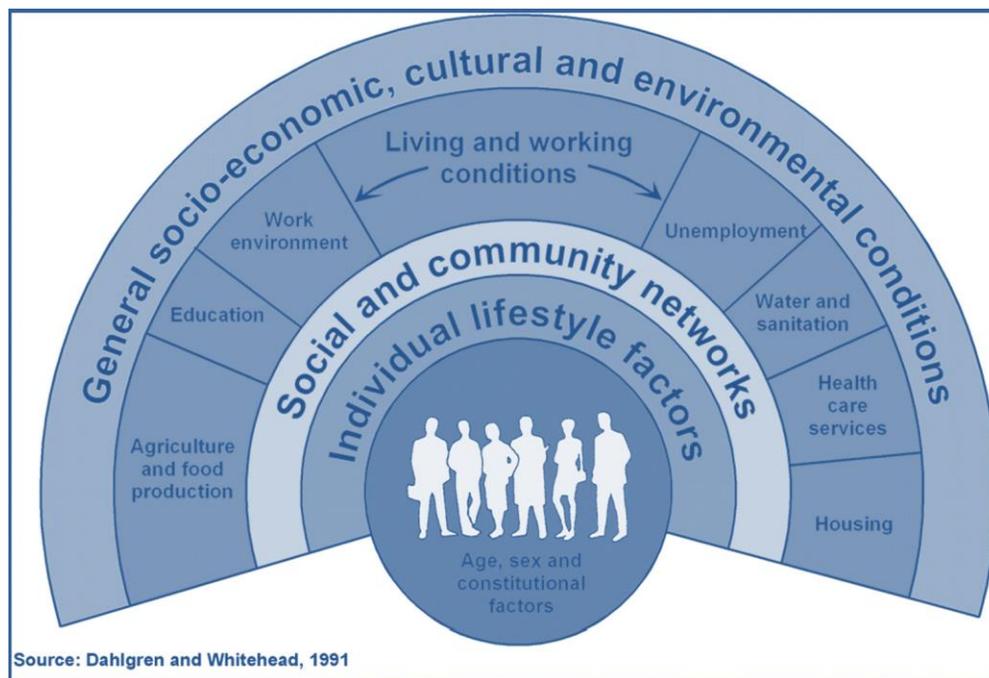
When considering the Aboriginal population data it is important to remember that Aboriginal self-identification patterns and census participation have changed over time and may have caused an inaccurate representation of change in Aboriginal populations.⁶

4 Social Determinants of Health

Access to adequate income, affordable housing, healthy food, education, early childhood development, healthy work environment and recreational opportunities influence our ability to make healthy choices and ultimately the state of our physical and mental health as well as life expectancy (Figure 3). In part, health inequities arise as the result of a concentration of risk factors within disadvantaged populations including the social conditions in which people live and work.⁷ Commonly these determinants are grouped together as factors which contribute to socio-economic status (SES).

Relationships between social inequities and health outcomes are causal and bi-directional. Populations living in poorer social conditions generally have higher rates of chronic disease and through periods of ill health, individuals with chronic disease can lose the security of adequate income and social supports.⁸

Figure 3: The Determinants of Health⁹



Owing to small numbers concerns in VI West, BC Statistics combines that LHA's Social Determinants of Health indicators with those of Campbell River. This reduces the extreme variation that can be caused in rates and percentages when the denominator is very small. BC Statistics was able to provide some of these indicators for Campbell River and VI West individually, and all data coming from the census or other sources was available for the two LHAs separately, however there are some indicators without data. The amalgamated indicators have also been provided in these two profiles to help bridge these gaps. For this reason, the Campbell River and VI West profiles have a slightly different appearance.

4.1 Economic Wellbeing

Sufficient income improves access to adequate housing, nutritious foods, safe communities and participation in recreational, educational and cultural opportunities as well as other essentials for a healthy life. Inadequate income limits the security of these basic living conditions for individuals and families and that insecurity can create tremendous stress which also contributes to ill health.¹⁰ It is one of the key factors affecting health vulnerability. In 2007, Canadians in the lowest income group were twice as likely as those in the highest income group to report their health to be worse than the previous year (22% vs. 11% for women; 19% vs. 9% for men).¹¹ In general, areas with greater levels of affluence will experience better than average health, while areas with lower levels will experience worse than average health.

Note: The indicator used to record family income is the median, rather than the average. The median was chosen in order to avoid disproportionate influence from extreme outliers which in small samples can often skew data and prove misrepresentative.

Term	Definition	Interpretation	Source
Median Family Income	Median family income from all sources in 2010. The middle point of all the income reported for income in families.	Income is profoundly related to the health status of the population. It is a critical predictor of health status. High: Families have higher income Low: Families have lower income	Statistics Canada, NHS 2011
Lone-Parent Family Income	Median family income of lone parent economic families in 2010.	This group is vulnerable in terms of income, and therefore health. High: Families have higher income Low: Families have lower income	Statistics Canada, NHS 2011
Couple Economic Family Income	Median family income of couple economic families reported in 2010.	This group is more likely to have a stable, higher income. This reflects positively on the health of this group High: Families have higher income Low: Families have lower income	Statistics Canada, NHS 2011
Low Income Persons*	Percentage of economic families or persons not in economic families who spend 20% more of their after-tax income than average on food, shelter and clothing.	This group suffers from greater health vulnerability. High: Higher rates of low-income families Low: Lower rates of low-income families	Statistics Canada, NHS 2011
Income Assistance	Percent of population aged 0 to 64 receiving income assistance from a provincial program. Program giving monetary aid to those in the Temporary Assistance category under the BC Employment and Assistance program	This group suffers from greater health vulnerability. High: More people are receiving income assistance Low: Fewer people are receiving income assistance.	BC Stats, 2012 Socioeconomic Profiles
Employment Insurance	Percent of population 15+ on employment insurance. A program of Human Resources Development, it provides temporary financial help to unemployed Canadians. Persons must contribute to the plan and qualify under the rules.	This group suffers from greater health vulnerability. High: More people are receiving employment insurance Low: Fewer people are receiving employment insurance	BC Stats, 2012 Socioeconomic Profiles

Term	Definition	Interpretation	Source
Low Income Seniors*	Percent of persons 65 years of age and over that were below the Statistics Canada Low Income Cut-off Point before tax in 2005.	This group is highly vulnerable, and on average require more health care services. High: More low-income seniors Low: Fewer low-income seniors	Statistics Canada, NHS 2011
Labour force Participation Rate	Percent of Population aged 25 and over that are participating in the labour force	These figures can be used to determine unemployment, which is a predictor of health vulnerability High: More people are participating in the labour force Low: Fewer people are participating in the labour force	Statistics Canada, NHS 2011
Unemployment rate	Percent of population aged 25 and over, excluding institutional residents	Indicative of greater or poorer health vulnerability High: More people are unemployed Low: Fewer people are unemployed	Statistics Canada, NHS 2011
Highest Income Households	Percent of private households earning more than \$80,000	This group is one of the least vulnerable groups in society in terms of health outcomes. High: More high-income families Low: Fewer high-income families	Statistics Canada, NHS 2011
Lowest Income Households	Percent of private households earning less than \$20,000.	This group is one of the most vulnerable groups in society in terms of health outcomes. High: More low-income families Low: Fewer high-income families	Statistics Canada, NHS 2011

*Low Income Cut-off Point: Point used to analyze low income in a population. Usually considered as families spending more than 64% of their after tax income on food, shelter, and clothing (BC stats).

4.2 Education

There is a strong correlation between level of education and health outcomes. There is clear evidence that those who graduate from high school typically experience better health than non graduates.¹² Education is often considered a key measure or predictor of SES and health. In Canada (using Statistics Canada’s National Population Health Survey [NPHS] data), self-rated health status was found to increase with level of education (elementary to secondary to university), while self-reported chronic conditions generally decreased as education increased.¹³

Some indicators in the following section are from the Human Early Learning Partnership Data/Methodology (HELP). HELP is a research initiative based out of the University of British Columbia that works with schools and communities in BC to research and analyse the long-term effects of young children’s environments on their brain development and learning. HELP uses a longitudinal research approach to advance scientific understanding of the importance of early child development as a determinant of long-term health outcomes.

Term	Definition	Interpretation	Source
Preschool Language Development Vulnerability	Percent of Kindergarten children rated as vulnerable for language and cognitive development (problems in reading, writing, and numeracy)	Early development skills are critical predictors of school achievement and social/emotional health. Educational achievement is a predictor of long-term health outcomes. High: Children are more vulnerable Low: Children are less vulnerable	Human Early Learning Partnership
Preschool Communication Skills Vulnerability	Percent of kindergarten children rated as vulnerable in communication and general knowledge skills	Early development skills are critical predictors of school achievement and social/emotional health. Educational achievement is a predictor of long-term health outcomes. High: Children are more vulnerable Low: Children are less vulnerable	Human Early Learning Partnership
Grade 4 & 7 Below Standard in Reading	Percent of students scoring below standards on standardized test in reading. **This indicator is reported at the School District level**	Reading skills are an important measure of a child’s school achievement and social/emotional health. Educational achievement is a predictor of long-term health outcomes. High: Children are faring worse Low: Children are faring better	Ministry of Education
Grade 4 & 7 Below Standard in Writing	Percent of students scoring below standards on standardized tests in writing. **This indicator is reported at the School District level**	Writing skills are an important measure of a child’s school achievement and social/emotional health. Educational achievement is a predictor of long-term health outcomes. High: Children are faring worse Low: Children are faring better	Ministry of Education
Grade 10 English Exam Completion Rate	Percent of students who did write or pass Grade 10 provincial English exam. **This indicator is reported at the School District level**	English skills are an important measure of a youth’s school achievement and social/emotional health. Educational achievement is a predictor of long-term health outcomes. High: Children are faring better Low: Children are faring worse	Ministry of Education

Term	Definition	Interpretation	Source
First time Grade 12 Graduation Rate	A measure of students recorded as being in Grade 12 for the first time in September who then graduate in that same school year **This indicator is reported at the School District level**	Educational achievement is a predictor of long-term health outcomes. High school graduates experience on average better health than non-graduates. High: Children are faring better Low: Children are faring worse	Ministry of Education
Adults with High School Certificate*	Percent of Population aged 25 to 64 with high school certificate or equivalent	Educational achievement is a predictor of long-term health outcomes. High school graduates experience on average better health than non-graduates. High: Adults are better educated Low: Adults are less well educated	Statistics Canada, NHS 2011
Post Secondary Education	Percent of Population 25 to 64 with trades certificate or diploma, college and other non-university certificates or diplomas and university undergraduate certificates.	Educational achievement is a predictor of long-term health outcomes. University graduates experience on average better health than non-graduates. High: Adults are better educated Low: Adults are less well educated.	Statistics Canada, NHS 2011

* High School Certificate: A certificate demonstrating a high school level of attainment which is alternative to obtaining a British Columbia Certificate of Graduation. There exist multiple options, namely a British Columbia Adult Graduation Diploma, General Educational Development (GED) Secondary Equivalency Certificate, Adult Basic Education (ABE) Provincial Diploma, and letters of assessment. (<http://www.bced.gov.bc.ca/reporting/glossary.php>)

4.3 Housing

Housing can have both direct and long term impacts on health. Individuals living in substandard housing (e.g. old, cramped, insufficiently insulated or ventilated housing) are more likely to have poorer health than those living in satisfactory housing. On average, when people spend excessive amounts of income on housing, fewer resources are available for other health essentials, especially if they also have an inadequate income. Studies suggest affordable housing improves health outcomes by freeing up resources for food and other essentials. It also reduces stress, exposure to allergens, neurotoxins and other dangers as well as provides the stability that enables patients with chronic diseases to access and maintain the level of care they need.¹⁴

Term	Definition	Interpretation	Source
Multiple-Family Households	Percent of private households with multiple families.	This group may face greater health vulnerability due to living in close quarters, (e.g. disease transmission) Also may have more support networks such as child-care etc. High: More multiple-family households Low: Fewer multiple-family households	Statistics Canada, Census 2011
Crowded Households	Percent of private households with 6 or more persons living inside them	This group may face greater health vulnerability due to living in close quarters, (e.g. disease transmission) Also may have more support networks such as child-care etc. High: More crowded households Low: Fewer crowded households	Statistics Canada, Census 2011
Older Housing	Percent of dwellings built prior to 1960.	Buildings built prior to 1960, especially if not updated, carry health risks (e.g. asbestos, mould, etc.). High: More older housing units Low: Fewer older housing units	Statistics Canada, NHS 2011
Dwelling Needing Major Repair	Percent of dwellings rated as needing major repairs by renter or owner.	These buildings carry health risks (e.g. structural integrity, asbestos). They may also indicate financial and health vulnerability. High: More dwellings in need of repairs Low: Fewer dwellings in need of repairs	Statistics Canada, NHS 2011
Home Ownership Costs	Percent of home owners spending more than 30% of income on housing.	May not have the financial “safety net” in case of emergency and may impact ability to make healthy lifestyle choices. It is a predictor of health and financial vulnerability. High: Higher home ownership costs Low: Lower home ownership costs	Statistics Canada, NHS 2011
Gross Major Monthly Payment	Average gross major monthly payment of owner-occupied private non-farm, non-reserve dwellings	Should be viewed in conjunction with income indicator. Provides additional context to homeowner costs. High: Monthly payments are higher Low: Monthly payments are lower	Statistics Canada, NHS 2011

Term	Definition	Interpretation	Source
Housing Rental Costs	Percent of renters spending more than 30% of income on rent.	Impact ability to make healthy lifestyle choices. It is a predictor of health and financial vulnerability. High: Higher housing rental costs Low: Lower housing rental costs	Statistics Canada, NHS 2011
Average Gross Rent	Average gross rent of tenant-occupied private non-farm, non-reserve dwellings	Should be viewed in conjunction with income indicator. Provides additional context to rental costs. High: More rent is paid Low: Less rent is paid	Statistics Canada, NHS 2011

4.4 Social Support

Support from families, friends and communities is associated with better health. Such social support networks could be very important in helping people solve problems and deal with adversity, as well as in maintaining a sense of mastery and control over life circumstances. The caring and respect that occurs in social relationships, and the resulting sense of satisfaction and well-being, seem to act as a buffer against health problems.¹⁵ While social isolation tends to increase as people age, other factors play a role, including: poor health, disabilities, gender, loss of a spouse, living alone, reduced social networks, transportation barriers, place of residence, distrust of others, poverty and low self-esteem. Factors affecting one person may not affect another in the same way. For instance, living alone does not necessarily mean someone is lonely or unsupported. Moreover, individuals who have fewer social contacts as they age may not necessarily feel dissatisfied or lonely. Research suggests that the quality of social contacts is more strongly associated with well-being than the quantity.¹⁶

Term	Definition	Interpretation	Source
Seniors Living Alone	Percent of persons aged 65 and over that are not in census families and are living alone.	A lack of social support in the home intensifies the greater vulnerability of seniors. High: More seniors living alone Low: Fewer seniors living alone	Statistics Canada, Census 2011
Adults Living Alone	Percent of persons in private households that are not in census families and are living alone.	Adults living alone may face more vulnerability in times of illness or need. High: More adults living alone Low: Fewer adults living alone	Statistics Canada, Census 2011
Male Lone-Parent Families	Percent of census families in private households that are male lone-parent families. Households where the father is the sole present parent, main caregiver and breadwinner.	Male lone-parent families may experience more challenges with healthy living for self and children. May also be more vulnerable in terms of income. High: More male lone-parent families Low: Fewer male lone-parent families	Statistics Canada, Census 2011
Female Lone-Parent Families	Percent of census families in private households that are female lone-parent families. Households where the mother is the sole present parent, main caregiver and breadwinner	Female lone-parent families may experience more challenges with healthy living for self and children. May also be more vulnerable in terms of income. High: More female lone-parent families Low: Fewer female lone-parent families	Statistics Canada, Census 2011
Lone-Parent Families	Percent of families in private households that are lone-parent families.	Lone-parent families may experience more challenges with healthy living for self and children. May also be more vulnerable in terms of income. High: More lone-parent families Low: Fewer lone-parent families	Statistics Canada, Census 2011
Widowed	Percent of population aged 15 and over that are widowed due to the death of a spouse.	Widowed individuals may face more vulnerability in times of illness or need. High: More widowed individuals Low: Fewer widowed individuals	Statistics Canada, Census 2011

Term	Definition	Interpretation	Source
Separated or Divorced	Percent of population aged 15 and over that are or were legally married but are separated or since divorced.	Separated or divorced individuals may face more vulnerability in times of illness or need. High: More separated or divorced individuals Low: Fewer separated or divorced individuals	Statistics Canada, Census 2011
Common-law	Percent of the population aged 15 and over that are in a common-law relationship. Usually considered as two people living together as though they were married.	Greater levels of social support may contribute to better health. High: More common-law relationships Low: Fewer common-law relationships	Statistics Canada, Census 2011
Married	Percent of population aged 15 and over that are legally married (not separated)	Greater levels of social support may contribute to better health. High: More married individuals Low: Fewer married individuals	Statistics Canada, Census 2011
Singles	Percent of population aged 15 and over that have never legally married.	Singles may be more vulnerable in times of illness and/or need. High: More single individuals Low: Fewer single individuals	Statistics Canada, Census 2011

4.5 Healthy Development (Child & Youth)

Healthy development for children and youth has a key impact on an individual's health vulnerability not just in the early years but throughout life. A number of important early childhood factors that can have long term developmental implications on health and social functioning have been identified. These include poverty, family stability and violence, social assistance dependency, residing in public housing, and related factors that reflect social conditions that affect children during their formative years¹⁷ As childhood development has a significant impact on an individual's mental and physical health later in life, these indicators therefore show not only the health of children, but help to predict the future health of the population. Many of these indicators are also predictors of socio-economic status, and so serve to further predict not only the health of the children but the overall health of the population.

This section includes both rates and percentages. Please take care to distinguish them.

Term	Definition	Interpretation	Source
Teen Mother	Live births to mothers under 20 years of age per 1,000 live births	Will likely face more challenges with healthy living for self and child due to social, educational, and financial vulnerabilities. High: More teen pregnancies Low: Fewer teen pregnancies	BC Vital Statistics
Children on IA Living with Single Parent	Percent of children less than 15 years of age receiving income assistance (IA) and living with a single parent.	May be a predictor of low income and therefore of higher vulnerability in times of need. High: More children living on IA with a single parent Low: Fewer children living on IA with a single parent	BC Stats, 2012 Socioeconomic Profiles
Children on Income Assistance	Percent of children less than 15 years of age receiving income assistance.	Predictor of children in low income families. They may face financial barriers that could lead to long-term health outcomes. High: More children on IA Low: Fewer children on IA	BC Stats, 2012 Socioeconomic Profiles
Children in Care	Children aged 0 to 18 taken into care (e.g. foster care, specialised residences) by the provincial child care authorities. Rate per 1,000 population.	May be an indicator of broader social issues. High: More children in care Low: Fewer children in care	BC Stats, 2012 Socioeconomic Profiles
Children in Need of Protection*	Reported child abuse cases per 1,000 children aged 0 to 18 years. Defined as the physical, emotional, or sexual mistreatment of children.	Child abuse predicts financial and health vulnerability. High: Higher levels of child abuse Low: Lower levels of child abuse	BC Stats, 2012 Socioeconomic Profiles
Preschool Social Development Vulnerability*	Percent of kindergarten children rated as having problems forming friendships, accepting rules, and showing respect for adults.	Early development skills are critical predictors of school achievement and social/emotional health, and can be a predictor of long-term health outcomes. High: Children are more vulnerable Low: Children are less vulnerable	Human Early Learning Partnership

Term	Definition	Interpretation	Source
Preschool Emotional Development Vulnerability*	Percent of kindergarten children rated as having problems with aggressive behaviour, impulsivity, disobedience, and inattentiveness.	Early development skills are critical predictors of school achievement and social/emotional health, and can be a predictor of long-term health outcomes. High: Children are more vulnerable Low: Children are less vulnerable	Human Early Learning Partnership

*Healthy Development: Indicators contributing toward the healthy social development of children and youth.

4.6 Child Health

Like Child and Youth Healthy Development, Child Health has a major impact on vulnerability both for children in their formative years and throughout their entire lives. The tie between these indicators and children's health is clear. In addition to providing information on the health of children in an area, some may also predict vulnerability not just for the child but the population and therefore provide broader information regarding the health of the community. In addition, illnesses or injuries received in childhood may have long-term impact, lowering the health status of individuals and requiring increased health services.

This section includes both rates and percentages. Please take care to distinguish them.

Term	Definition	Interpretation	Source
Injury and Poisoning Hospitalizations	Hospitalization per 1,000 children aged 0 to 14 due to an injury or poisoning. Includes hospitalizations with primary diagnostic codes S00 through T88.	Indicator of a greater social issue such as lack of education or awareness. High: More injury and poisoning hospitalization Low: Fewer injury and poisoning hospitalizations.	Ministry of Health, HealthIdeas
Respiratory Diseases Hospitalizations	Hospitalization per 1,000 children aged 0 to 14 due to a respiratory disease. Includes hospitalizations with primary diagnostic codes J00 through J99.	May be an indicator of potential levels of environmental toxins, chemicals, or pollution. High: More respiratory diseases hospitalizations Low: Fewer respiratory disease hospitalizations	Ministry of Health, HealthIdeas
Dental Surgeries	Hospitalization per 1,000 children aged 0 to 14 for interventions of the tooth.	Indicator of a greater social issue and/or lack of access to services. High: More hospitalizations for dental surgeries. Low: Fewer hospitalizations for dental surgeries.	Ministry of Health, HealthIdeas
Preschool Physical Development Vulnerability	Percent of kindergarten children rated as having problems with fine and gross motor skills, daily preparedness for school, washroom skills, and handedness.	Early development skills are critical predictors of school achievement and social/emotional health, and can be a predictor of long-term health outcomes. High: More development vulnerability Low: Less development vulnerability	Human Early Learning Partnership
Maternal Smoking	Percent of pregnant women who reported smoking at any time during their current pregnancy.	Predictor of financial and health vulnerability. Maternal smoking can result in life-long health vulnerability for the infant. High: Higher levels of maternal smoking Low: Lower levels of maternal smoking	Perinatal Services BC
Infant Mortality	Deaths of children under 1 year of age per 1,000 live births.	Infant mortality is an internationally accepted indicator of population health status. It is a major contributor to life expectancy and premature mortality. High: Higher rate of infant mortality Low: Lower rate of infant mortality	BC Vital Statistics
Preterm Births	Newborns with a gestational age of less than 37 weeks per 1,000 live births.	Preterm babies have increased risk of morbidity and premature death. High: Higher rate of preterm births Low: Lower rate of preterm births	BC Vital Statistics

Term	Definition	Interpretation	Source
Low Birth Weight	Births weighing less than 2,500 grams per 1,000 births.	Predictor of lifelong health vulnerability. High: More low-weight births Low: Fewer low-weight births	BC Vital Statistics
Hospitalizations for Mental Disease and Disorders	Hospitalization per 1,000 children and youth aged 0 to 24 due to an injury or poisoning. Includes all hospitalizations coded with a Major Clinical Category (MCC) 17 (Mental Disease and Disorders).	Indicator of increased burden of mental health concerns High: More mental health hospitalization Low: Fewer mental health hospitalizations.	Ministry of Health, HealthIdeas

4.7 Crime

High crime rates are often associated with poorer health, and areas of lower socio-economic status.¹⁸ Depending on the category of crime, it may have a direct impact on the health of individuals, for example drug offences and violent crimes. High crime rates in an area are often the result of other social issues, such as social, educational, and financial vulnerabilities. All of these factors have a high correlation with health status.

Term	Definition	Interpretation	Source
Illicit drug deaths	Deaths per 100,000 population aged 19-64 due to drug usage.	May be an indicator of greater social, educational and financial issues. High: More illicit drug deaths Low: Fewer illicit drug deaths	Centre for Addictions Research BC
Alcohol Sales per Capita*	Litres of absolute alcohol sold per resident population aged 15 and older (1 litre = 58 standard drinks).	Depending on tourism, these numbers can sometimes be misrepresentative of an area. However, higher rates can indicate potentially excessive alcohol consumption that can have adverse effects on the health of a population. High: More alcohol sales Low: Fewer alcohol sales	Centre for Addictions Research BC
Non-Cannabis Drug Offences	Non-cannabis drug offences per 100,000 of population.	May be an indicator of greater social, educational and financial issues. High: More non-cannabis drug offences Low: Fewer non-cannabis drug offences	BC Stats, 2012 Socioeconomic Profiles
Crime Activity to Police Ration	Number of serious crimes per police officer.	May be an indicator of greater social, educational and financial issues. High: Greater crime to police ratio Low: Lower crime to police ratio	BC Stats, 2012 Socioeconomic Profiles
Motor Vehicle Theft Rate	Motor Vehicle theft rate per 1,000 population.	May be an indicator of greater social, educational and financial issues. High: Higher motor vehicle theft rate Low: Lower motor vehicle theft rate	BC Stats, 2012 Socioeconomic Profiles
Serious Crime Rate	Total violent and property crime rate per 1,000 population.	May be an indicator of greater social, educational and financial issues. High: Higher serious crime rate Low: Lower serious crime rate	BC Stats, 2012 Socioeconomic Profiles

* Represents sales per resident population 19+, therefore high tourist areas will be overstated

5 Health Status

Health status indicators measure the health of a population and are useful in predicting and prioritizing the health care needs of the area. This includes births, deaths and morbidity.

5.1 Birth Statistics

Statistics based on birth events form a crucial part of the demographic profile of communities, regions, provinces, and countries. They are used to derive important indicators of health status, fertility, infant mortality, and population growth. In turn, those indicators are used for health planning, policy formulation, research, and commerce.¹⁹

Term	Definition	Interpretation	Source
Elderly Gravida Rate	Any mother who was 35 years of age or older at the time of delivery of a live born infant. Rate per 1,000 live births.	Indicator of potential risk to mother and predictor of long-term health vulnerability to the infant. High: More elderly gravidae Low: Fewer elderly gravidae	BC Vital Statistics
Low Birth Weight Rate	Births weighing less than 2,500 grams per 1,000 live births.	Predictor of lifelong health vulnerability. High: More low weight births Low: Fewer low weight births	BC Vital Statistics
Infant Mortality Rate	Deaths of children under 1 year of age per 1,000 live births.	Infant mortality is an internationally accepted indicator of population health status. It is a major contributor to life expectancy and premature mortality. High: Higher rate of infant mortality Low: Lower rate of infant mortality	BC Vital Statistics
Teen Mother Rate	Live births to mothers under 20 years of age per 1,000 live births.	Will likely face more challenges with healthy living for self and child due to social, educational, and financial vulnerabilities. High: More teen pregnancies Low: Fewer teen pregnancies	BC Vital Statistics
Cesarean Rate	A delivery involving the surgical incision of the abdomen and uterine walls, per 1,000 live births.	A measure of high risk births which could be an indicator of long-term health vulnerability for mother and infant. High: More cesareans performed Low: Fewer cesareans performed	BC Vital Statistics
Preterm Birth Rate	Newborns with a gestational age of less than 37 weeks per 1,000 live births.	Preterm babies have increased risk of morbidity and premature death. High: More preterm births Low: Fewer preterm births	BC Vital Statistics

Term	Definition	Interpretation	Source
Stillbirth Rate	The complete expulsion or extraction from its mother after at least 20 weeks of pregnancy, or after attaining a weight of at least 500 grams, of a product of conception in which, after the expulsion or extraction, there is no breathing, beating of the heart, pulsation of the umbilical cord, or unmistakable movement of voluntary muscle. Rate per 1,000 births	Rate of stillbirths is an indicator of population health. High: More stillbirths Low: Fewer stillbirths	BC Vital Statistics
Live Birth Rate	Infants are considered “live” if there is: (a) breathing; (b) beating of the heart; (c) pulsation of the umbilical cord; or (d) unmistakable movement of voluntary muscle, whether or not the umbilical cord has been cut or the placenta attached. Rate per 1,000 population	Higher live birth rates are typically reflective of a younger population High: More live births Low: Fewer live births	BC Vital Statistics

5.2 Mortality Statistics

Mortality statistics play an essential role in health surveillance, planning and research. Causes of death are crucial components of health status for regional, national, and international comparisons. While other causes may have contributed to the death, mortality is recorded by the Underlying Cause of Death, defined as the condition or injury that initiated the train of events leading directly to the death.²⁰

These statistics include both the standardised mortality ratio (SMR) and potential years of life lost index (PYLLI) values. The SMR is used to compare the actual number of deaths due to a certain cause to the expected number of deaths for that cause. The PYLLI is a measure of premature mortality. Both indicators are standardized and compare Island Health to BC (for example, an Island Health ratio of 1.07 indicates that Island Health is 7% higher than BC).

Term	Definition	Interpretation	Source
Drug-induced deaths ^{† †}	This category of deaths excludes unintentional injuries, homicides, and other causes that could be indirectly related to drug use. Deaths directly due to alcohol are also excluded.	May be an indicator of greater social issues. High: More drug-induced deaths Low: Fewer drug-induced deaths	BC Vital Statistics
Medically Treatable Diseases	Deaths due to disease categories which mortality could potentially have been avoided through appropriate medical intervention, such as pneumonia, appendicitis, and meningitis.	May be indicative of a greater social and public health issue. High: More deaths from medically treatable diseases Low: Fewer deaths from medically treatable diseases.	BC Vital Statistics
Circulatory System	Includes all circulatory diseases, ischemic heart disease, stroke and all other circulatory diseases.	Measure of a population's health status and could be indicative of a service change or addition. High: More deaths from circulatory disease than expected Low: Fewer deaths from circulatory disease than expected	BC Vital Statistics
Digestive System	Includes all chronic liver disease/cirrhosis.	Measure of a population's health status and could be indicative of a service change or addition. High: More deaths from digestive disease than expected Low: Fewer deaths from digestive disease than expected	BC Vital Statistics
Alcohol Related Deaths	Alcohol-related deaths include deaths where alcohol was a contributing factor (indirectly related) as well as those due to alcohol (directly related).***	Measure of a population's health status and could be indicative of a service change or addition. Predictor of health and financial vulnerability. High: More alcohol related deaths than expected Low: Fewer alcohol related deaths than expected	BC Vital Statistics

Term	Definition	Interpretation	Source
Falls	Deaths due to accidental falls.	Measures long-term success in reducing deaths due to falls. Lower death rates indicate success in fall prevention and treatment. High: More deaths due to falls Low: Fewer deaths due to falls	BC Vital Statistics
Cancer*	Cancer mortality includes colorectal, lung, breast, prostate cancer, etc..	Measure of a population's health status and could be indicative of a service change or addition. Lower death rates may indicate success in cancer prevention, detection, and treatment. High: More deaths from cancer Low: Fewer deaths from cancer	BC Vital Statistics
Respiratory	Includes all respiratory disease, pneumonia and influenza, bronchitis/emphysema/asthma, and all other respiratory diseases.	Measure of a population's health status and could be indicative of a service change or addition. Lower death rates may indicate success in respiratory disease prevention, detection, and treatment. High: More deaths from respiratory disease Low: Fewer deaths from respiratory disease	BC Vital Statistics
Suicide [†]	Death resulting from suicide.	Measure of a population's health status and could be indicative of a service change or addition. May indicate long-term success in reducing suicide, a social as well as a major public health concern. High: More deaths from suicide Low: Fewer deaths from suicide	BC Vital Statistics
Motor Vehicle	Deaths resulting from Motor Vehicle Accidents.	Measures long-term success in reducing deaths due to motor vehicle accidents. Lower death rates may indicate success in motor vehicle accident prevention. High: More deaths from motor vehicle accidents Low: Fewer deaths from motor vehicle accidents	BC Vital Statistics
End/Nut/Met Diseases	Death from Endocrine, Nutritional and Metabolic Diseases and Immunity Disorders	Measure of a population's health status and could be indicative of a service change or addition. Lower death rates may indicate success in End/Nut/Met disease detection, prevention and treatment. High: More deaths from End/Nut/Met diseases Low: Fewer deaths from End/Nut/Met diseases	BC Vital Statistics

Term	Definition	Interpretation	Source
<u>Diabetes</u>	Death from diabetes	Measure of a population's health status and could be indicative of a service change or addition. Lower death rates may indicate success in diabetes detection, prevention and treatment. High: More deaths from diabetes Low: Fewer deaths from diabetes	BC Vital Statistics
Arteries/Arterioles/Capillaries	Death from arteries/arterioles/capillaries diseases.	Measure of a population's health status and could be indicative of a service change or addition. Lower death rates may indicate success in artery/arteriole/capillary disease detection, prevention and treatment. High: More artery/arteriole/capillary disease deaths Low: Fewer artery/arteriole/capillary disease deaths	BC Vital Statistics
Pneumonia and Influenza	Death from pneumonia and influenza	Measure of a population's health status and could be indicative of a service change or addition. Lower death rates may indicate success in pneumonia and influenza detection, prevention and treatment. High: More pneumonia and influenza deaths Low: Fewer pneumonia and influenza deaths	BC Vital Statistics
Lung Cancer*	Death from lung cancer	Measure of a population's health status and could be indicative of a service change or addition. Lower death rates may indicate success in lung cancer detection, prevention and treatment. High: More lung cancer deaths Low: Fewer lung cancer deaths	BC Vital Statistics
<u>Ischaemic Heart Disease</u>	Death from ischaemic heart disease	Measure of a population's health status and could be indicative of a service change or addition. Lower death rates may indicate success in ischaemic heart disease detection, prevention and treatment. High: More ischaemic heart disease deaths Low: Fewer ischaemic heart disease deaths	BC Vital Statistics

Term	Definition	Interpretation	Source
Chronic Lung Disease*	Death from chronic lung disease	Measure of a population's health status and could be indicative of a service change or addition. Lower death rates may indicate success in chronic lung disease detection, prevention and treatment. High: More chronic lung disease deaths Low: Fewer chronic lung disease deaths	BC Vital Statistics
<u>Cerebrovascular Disease/Stroke</u>	Death from cerebrovascular disease	Measure of a population's health status and could be indicative of a service change or addition. Lower death rates may indicate success cerebrovascular disease/stroke detection, prevention and treatment. High: More cerebrovascular disease/stroke deaths Low: Fewer cerebrovascular disease/stroke deaths	BC Vital Statistics

* Lung cancer is included in this statistic, and so there is overlap between Respiratory, Lung Cancer and Chronic Lung Disease.

† Any death where the underlying cause of death is suicide by drugs will be counted as a drug induced death and a suicide.

‡ Alcohol-related and drug overdose deaths are the only cause of death categories that are not based entirely upon underlying causes of death.

5.3 Chronic Disease Prevalence

Life expectancies in Canada and BC increased dramatically during the past century. This increase was accompanied by an equally dramatic shift in causes of death. As mortality rates from infectious diseases dropped and people lived longer, mortality rates from chronic diseases increased as more people reached ages in which chronic diseases predominate. Most people experience some form of chronic disease.²¹ According to the CCHS 4.1, 58 percent of Island Health area residents over the age of 30 reported having been diagnosed with one or more chronic conditions in 2007.²² Chronic diseases are characterized by complex causality, multiple risk factors, a long latency period, a prolonged course of illness, functional impairment or disability, and in most cases, the unlikelihood of a cure. They can have a profound effect on the physical, emotional and mental wellbeing of individuals, often making it difficult to carry on with daily routines and relationships. They are a major contributor to the burden of ill health and premature death, and are associated with significant economic costs (both direct health care costs and lost productivity).²³

Chronic disease rates are age-standardized to a standard population (1991 Canadian population). This allows for better comparability across geographic regions. Prevalence rates include all cases identified in the current and previous fiscal years, excluding any cases that have died. Incidence rates include all new cases in the current fiscal year.

5.4 Life Expectancy at Birth

This indicates the average life expectancy of infants born in the community. Life expectancy at birth is a common measure of the overall health of the population.

6 Health Service Utilization

Health service utilization data, like health status, provides insight into a population's health and its acute care needs by revealing a community's acute care use (i.e., visit to an acute care facility for inpatient or day procedure). Health service utilization is influenced by several factors, such as health status, demographics, physician referral patterns, patient choice, distance to care and wait lists. Utilization data does not necessarily reflect what health care services a community *needs*, but more accurately what a community is *using*. While these two concepts are interconnected, they are not identical.

These statistics show high level acute care use of an LHA by several different indicators including inpatient versus day care, medical versus surgical care, reason for stay, most common cases by case mix group (CMG) and major clinical category (MCC), alternate level of care (ALC) rate, resource intensity weight (RIW), and ambulatory case sensitive conditions (ACSC) rate.

This data looks at the most common cases for a region, the referral patterns, and bed use. It must be considered as a whole, relative to other indicators and the population demographics.

6.1 Hospital Admissions

This section records hospital cases† by the following categories:

Category	Definition	Interpretation
Medical*	All cases which do not involve surgery – e.g. illness diagnosis, infection or illness treatment with pharmaceuticals, radiation/chemotherapy, convalescence/recovery, etc.	Medical patients on average have greater lengths of stay, and higher rates of Emergency Department admittance. ²⁴
Surgical	All cases which involve surgery.	Surgical patients often have lower lengths of stays and are typically admitted by means other than the Emergency Department. ²⁵
Maternity	All cases involving pregnancy and childbirth (grouped by <u>major clinical category</u> (MCC))	High maternity rates suggest a younger population, low rates an older one. ²⁶
Psychiatric	Most cases involving mental diseases and disorders (grouped by <u>MCC</u>) are flagged as psychiatry cases; some of these cases, however, are flagged as medical rather than psychiatry; this is based on the cases' CMG and the patient's age group ²⁷	Generally reflective of the mental health of a population. Higher rates suggest greater vulnerability. Patients with mental diseases and disorders on average have high lengths of stay and a high rate of Emergency Department admittance. ²⁸
Inpatient	Patients who are admitted to a hospital or care centre and stay for at least one night.	Generally reflective of more complex cases or more invasive procedures.
Day	Patients who are admitted to a hospital or care centre, typically for diagnosis or treatment, but do not stay overnight. They are also known as outpatients or ambulatory patients.	Generally reflective of less complex cases or less invasive procedures.

Category	Definition	Interpretation
Case Mix Group	CMGs are a way of grouping patients with similar diagnoses and treatment requirements. CMGs are ordered within Major Clinical Categories (MCC) which identify either a body system (e.g. Respiratory System), or other specific types of clinical problems (e.g. Mental Disorders, Neonates, Burns). There are currently 20 MCCs (see appendix A) and nearly 1,000 CMGs. ²⁹	Used to analyze trends in a population's health needs.
ALC	Percentage of inpatient days where a physician (or designated other) has indicated that a patient occupying an acute care hospital bed was well enough to have been cared for elsewhere. ³⁰	This indicator is designed to assess the processes that ensure the placement of patients in the most appropriate care setting. It identifies the proportion of patients who are occupying acute care beds due to the unavailability of services in another more appropriate setting. ³¹
ACSC	The Ambulatory Care Sensitive Conditions (ACSC) rate represents people with conditions where appropriate ambulatory care can prevent or reduce the need for hospital admission, who nevertheless have been admitted to hospital. ³² For example <u>angina</u> , <u>diabetes</u> , heart failure, grand mal seizures, etc.	ACSC is an indicator of admissions practices and/or ambulatory care resources. Timely and effective ambulatory care can potentially reduce the risk of hospitalization by possibly preventing or controlling the onset of an illness or by managing the chronic condition. May be related to factors such as access to and quality of primary care, the prevalence and acuity of chronic conditions in the population, socio-economic status, and differences in community and hospital-based practice patterns. ³³

†Hospital cases excludes newborn records.

* In the table showing total hospital cases, maternity and psychiatry cases are included as medical cases.

6.2 Emergency Visits

These indicators are based on LHA of residence regardless of the location of the hospital at which the patient received care. For example a person from Nanaimo receiving care at Royal Jubilee Hospital will be counted in the Nanaimo LHA profile.

Category	Definition	Interpretation
Canadian Emergency Department Triage & Acuity Scale (CTAS)	A measure of severity of condition brought to the Emergency Department. 1 is the most severe and 5 the least.	A high number of 4s and 5s can be indicative of inappropriate system use for one reason or another.
Use by day of the week	Visits to the Emergency Department recorded by day of admittance.	Can indicate the availability of non-emergency care. If visits are higher on the weekend, it can be because often drop-in clinics are closed for those days.
Visits by age group per 1,000 population	Visits to the Emergency Department by 10 year cohort.	These statistics are compared to the Island Health Emergency Department utilization to indicate whether some age groups are showing inordinate Emergency Department use.

Glossary

Medical definitions from MediNet³⁴ unless otherwise cited

Alternate Level of Care: (ALC) is indicative of time spent in an inappropriate level of care, for example, a long-term residential patient occupying an intensive care bed due to lack of available residential care beds. As the majority of ALC patients take up beds of a higher level of care than they require, rather than a lower, they are inefficient and costly as well as being uncomfortable to the patients themselves who feel out of place.

Ambulatory Care Sensitive Conditions: (ACSC) represent people with conditions where appropriate ambulatory care can prevent or reduce the need for hospital admission, who nevertheless have been admitted to hospital.³⁵ It is therefore an indicator of admissions standards and/or ambulatory care resources.

Angina: Chest pain due to an inadequate supply of oxygen to the heart muscle. The chest pain of angine is typically severe and crushing. There is a feeling just behind the breastbone (the sternum) of pressure and suffocation.

Antepartum Disorder: Depression occurring during pregnancy.

Arrhythmia: In an arrhythmia the heartbeats may be too slow, too rapid, too irregular, or too early. Rapid arrhythmias (greater than 100 beats per minute) are called tachycardias. Slow arrhythmias (slower than 60 beats per minute) are called bradycardias. Irregular heart rhythms are called fibrillations (as in atrial fibrillation and ventricular fibrillation). When a single heartbeat occurs earlier than normal, it is called a premature contraction.

Atherosclerotic Heart Disease: A general term for the progressive narrowing and hardening of coronary arteries, due to atheroma deposition which, with time undergo calcification and ulceration.³⁶

Canadian Emergency Department & Triage Acuity Scale (CTAS): Scale indicating the gravity of a patient's injuries and conditions upon arrival to an acute care setting. Level 1 is the most severe and is categorized as resuscitation. Level five is the least severe and is categorized as non urgent.³⁷

Cardiac Catheter: a long, fine, tubular, flexible surgical instrument designed for passage, usually through a peripheral blood vessel, into the chambers of the heart under radiographic control³⁸

Census Family: Defined as a married couple and their children; a common law relationship between two partners and their children; or a lone parent regardless of marital status living in a dwelling with at least one child. All members of the census family live in the same dwelling.³⁹

Census Household

Cerebrovascular Disease: Disease of the blood vessels and, especially, the arteries that supply the brain.

Cerebrovascular disease is usually caused by atherosclerosis and can lead to a stroke.

Congestive Heart Failure: Congestive heart failure (CHF) is a condition in which the heart's function as a pump is inadequate to deliver oxygen rich blood to the body.

Chronic Obstructive Pulmonary Disease: Chronic obstructive pulmonary disease (COPD) is comprised primarily of three related conditions –chronic bronchitis, chronic asthma, and emphysema. In each condition there is chronic obstruction of the flow of air through the airways and out of the lungs, and the obstruction generally is permanent and may be progressive over time.

Dementia: Significant loss of intellectual abilities such as memory capacity, severe enough to interfere with social or occupational functioning. Criteria for the diagnosis of dementia include impairment of attention, orientation, memory, judgment, language, motor and spatial skills, and function. By definition, dementia is not due to major depression or schizophrenia.

Demographics: Statistical information about characteristics of a population such as age, income, gender, ethnicity, age, educational attainment, etc.⁴⁰

Diabetes: Diabetes mellitus is a group of metabolic diseases characterized by high blood sugar (glucose) levels, that result from defects in insulin secretion, or action, or both.

Enteritis: Crohn's disease by another name, a chronic inflammatory disease of the intestine primarily in the small and large intestines but which can occur anywhere in the digestive system between the mouth and the anus

Health Authority: Governing body with responsibility for the planning, coordination and delivery of health services in a specific region, including hospital, long term care and community services. (BC Medical Association Glossary)

Hypertension: High pressure (tension) in the arteries.

Ischaemic Heart Disease: (IHD) any of a group of acute or chronic cardiac disabilities resulting from insufficient supply of oxygenated blood to the heart.⁴¹

Major Clinical Category: Major Clinical Category (MCC) assignment, which represents the first step in the grouping methodology, is almost always determined by the most responsible diagnosis (MRDx). Usually, the MRDx is a

unique assignment to one MCC known as the 'home' MCC. There are some exceptions to this rule, such as diagnoses with gender edits and the assignment of cases to MCC 15. MCC 15, Newborns and Neonates, is based on age < 29 days or an entry code of newborn. A further division within this MCC is based on the weight of the baby. Although the most responsible diagnosis is defined by CIHI as 'the one diagnosis which describes the most significant condition causing a patient's stay in hospital,' this may not always be the condition for which the patient is admitted. If the diagnosis recorded as most responsible is invalid, the case is assigned to MCC 999, Ungroupable Data.⁴²

Osteoarthritis: Osteoarthritis is a type of arthritis that is caused by the breakdown and eventual loss of the cartilage of one or more joints. Cartilage is a protein substance that serves as a "cushion" between the bones of the joints. Osteoarthritis is also known as degenerative arthritis

Perinatal: Pertaining to or occurring in the period shortly before, during and after birth, starting at 22 completed weeks of gestation and ending seven completed days after birth⁴³

Resource Intensity Weight: (RIW) methodology is a relative resource allocation tool for estimating a hospital's inpatient-specific cases. RIW are used to standardize the expression of hospital case resource consumption, recognizing that not all patients require the same health care resources. Total resource consumption is then expressed as "weighted cases". Factors which could have an impact include: age group, comorbidity, flagged intervention, intervention events, out-of-hospital intervention.⁴⁴

Rheumatoid Arthritis: Rheumatoid arthritis (RA) is an autoimmune disease that causes chronic inflammation of the joints. Rheumatoid arthritis can also cause inflammation of the tissue around the joints, as well as in other organs in the body.

Appendix A: Major Clinical Categories (MCC)

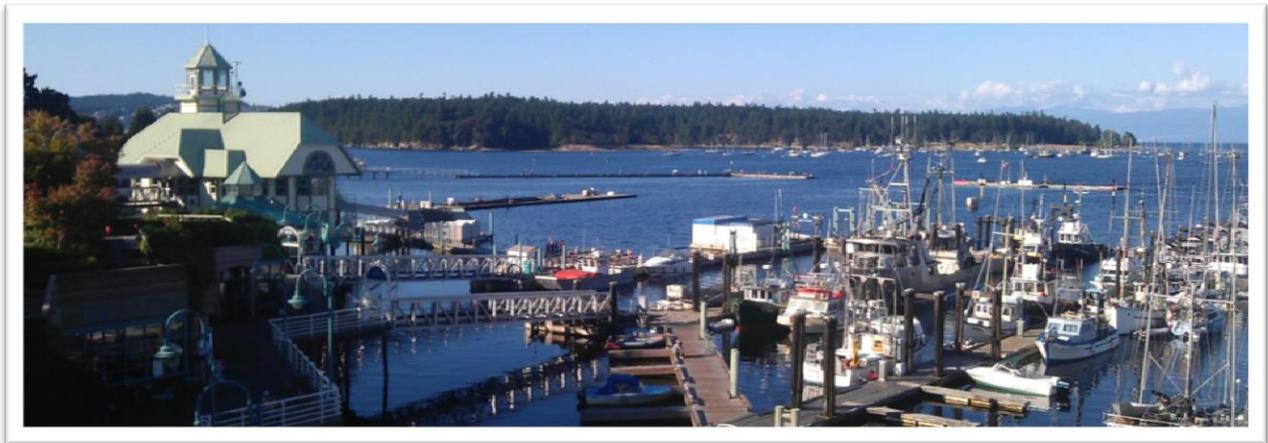
Major Clinical Category +	
Code	Description
1	Diseases and Disorders of the Nervous System
2	Diseases and Disorders of the Eye
3	Diseases and Disorders of Ear, Nose, Mouth and Throat
4	Diseases and Disorders of the Respiratory System
5	Diseases and Disorders of the Circulatory System
6	Diseases and Disorders of the Digestive System
7	Diseases and Disorders of the Hepatobiliary System and Pancreas
8	Diseases and Disorders of the Musculoskeletal System and Connective Tissue
9	Diseases and Disorders of the Skin, Subcutaneous Tissue, and Breast
10	Diseases and Disorders of the Endocrine System, Nutrition and Metabolism
11	Diseases and Disorders of the Kidney, Urinary Tract and Male Reproductive System
12	Diseases and Disorders of the Female Reproductive System
13	Pregnancy and Childbirth
14	Newborns and Neonates with Conditions Originating in the Perinatal Period
15	Diseases and Disorders of the Blood and Lymphatic System
16	Multisystemic or Unspecified Site Infections
17	Mental Diseases and Disorders
18	Burns
19	Significant Trauma, Injury, Poisoning and Toxic Effect of Drugs
20	Other Reasons for Hospitalization
0	Undefined/Not Coded
99	Miscellaneous CMG and Ungroupable Data
NA	Not Applicable

Source: HealthIdeas⁴⁵

End Notes

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- ⁴² CIHI, Case Mix Tools for Decision Making in Health Care. http://secure.cihi.ca/cihiweb/products/Case_Mix_Tools_e.pdf
- ⁴³ BC Vital Statistics 2007 Report Glossary
- ⁴⁴ CIHI, Resource Intensity Weights and Expected Length of Stay. http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=casemix_riw_e
- ⁴⁵ HealthIdeas, <http://healthideas.hnet.bc.ca/reportParamsWeb/bcgov.game.reportapp.gwt.ReportApp/ReportApp.html#load%2CreportName%3DLIST%20OF%20MCC%20PLUS>



2014 Local Health Area Profile Nanaimo (68)

Prepared by Planning
Island Health

An accompanying Interpretation Guide has been created to assist with the interpretation of indicators.

The Interpretation Guide should be read with the profiles.

These profiles are not intended to be used for detailed planning or analysis.

As they are updated on an annual basis, there may be more current data available.

If you are intending to use these profiles for health planning purposes, or if you have questions or notice a discrepancy, please contact

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Table of Contents

1. Key notes	1
2. Geography	2
2.1 Location Description	2
2.2 Transportation	2
3. Demographics	3
4. Social Determinants of Health and Wellbeing	5
4.1 Economic Wellbeing	5
4.2 Education	6
4.3 Housing	7
4.4 Social Support	8
4.5 Healthy Development (Child and Youth)	9
4.6 Child Health	9
4.7 Crime	12
5. Health Status	13
5.1 Birth Statistics	13
5.2 Mortality Statistics	13
5.3 Chronic Disease Prevalence	13
5.4 Life Expectancy at Birth	14
6. Health Service Utilization	15
6.1 Hospital Admissions	15
6.2 Emergency Visits	21

1. Key notes

Demographics

As of 2015, the Nanaimo Local Health Area represents 14% (107,608 people) of Island Health's population and has an average age of 43.7 years which is slightly younger than that of Island Health (44.2) and BC (44.6). The overall population in Nanaimo is expected to increase by 28% over the next 20 years; however the greatest change is expected among the 75+ age group which is expected to increase by 104%. In 2011, 6.6% of people living in Nanaimo identified themselves as Aboriginal* which is similar to that of Island Health.

Social Determinants of Health

Social determinants such as education, income, housing and social support can all have an impact on our health and wellbeing. In general the residents of Nanaimo have comparable levels of education and similar labor participation rates (61.6%) to that of Island Health and BC, although the unemployment rate and percentage of people on income assistance is higher.

The percentage of lone-parent families in Nanaimo (33.4%) is higher than BC (26.7%) or Island Health (31.1%); and a higher proportion are male lone-parent families. The proportion of children living in families on income assistance is also higher. School performance measures indicate more than a quarter of Grade 4 and 7 students in Nanaimo scored below average on standardized reading exams – higher than BC (19.6%) or Island Health (24.3%).

Population Health

Nanaimo has a life expectancy of 80.8 years, lower than BC (82.5) and Island Health (82.1). The difference in life expectancy between males (78.4) and females (83.2) is larger – 4.8 years – compared to the typical 4 year difference seen in other areas.

The birth rate within the Nanaimo LHA is comparable to Island Health and BC at around 9 births per 1,000 people. Infant mortality rates were slightly higher for Nanaimo – 5.1 per 1,000 live births, compared to 3.9 per 1,000 for Island Health as a whole. Prevalence rates for many chronic conditions are similar to BC and Island Health rates, with depression/anxiety, hypertension and asthma being the most prevalent chronic conditions.

Health Service Utilization

Nanaimo has a slightly higher acute care utilization rate (174.3 per 1,000 people) than Island Health overall (167.6 per 1,000) and a similar emergency room visitation rate.

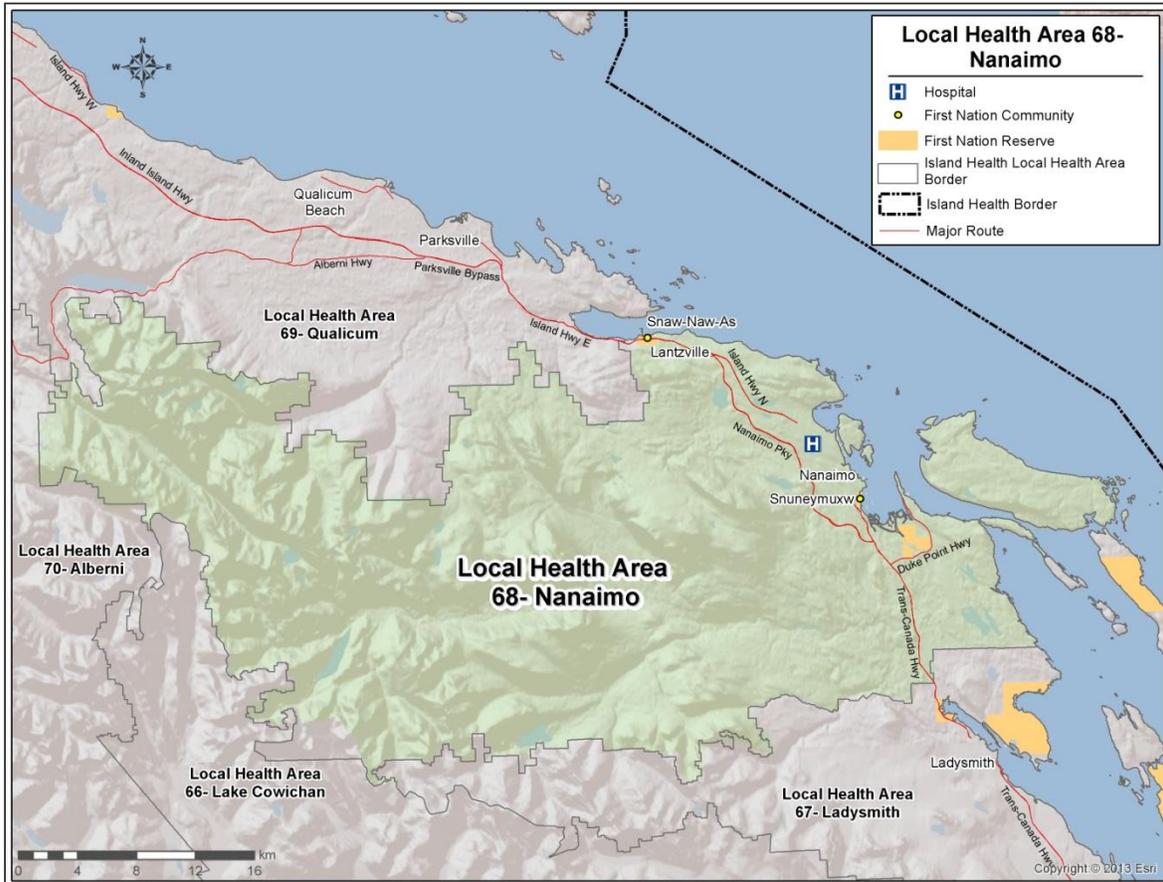
In 2013/14, there were 20,188 hospital admissions for Nanaimo residents. Of the 78,658 patient days for Nanaimo residents, 11.6% were for alternate level of care, which is similar to that of Island Health and has similarly been decreasing since 2010/11. Similar to many other LHAs, the majority of patient days were attributed to mental diseases and disorders (13,847 days or 17.6% of all patient days).

* Statistics Canada, National Household Survey, 2011; Aboriginal identity includes persons who reported being an Aboriginal person, that is, First Nations (North American Indian), Métis or Inuk (Inuit) and/or those who reported Registered or Treaty Indian status, that is registered under the *Indian Act* of Canada, and/or those who reported membership in a First Nation or Indian band.

2. Geography

2.1 Location Description

- Nanaimo LHA is one of 14 LHAs in Island Health and is located in Island Health’s Central Health Service Delivery Area (HSDA).
- Nanaimo is in the centre of the Central HSDA on the east coast of Vancouver Island. It is 1,308 square kilometres and encompasses the communities of Nanaimo, Lantzville and Gabriola Island. It borders on four other LHAs: Courtenay, Alberni, Ladysmith and Lake Cowichan.



2.2 Transportation

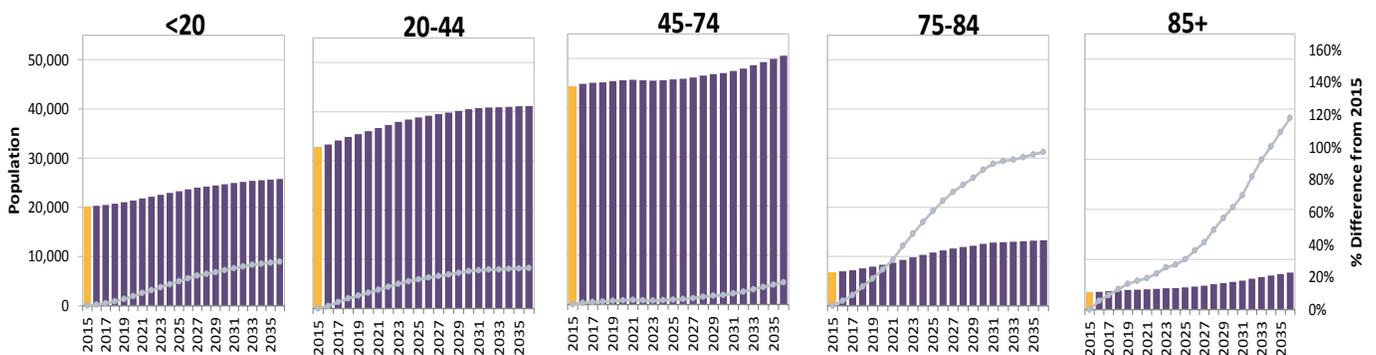
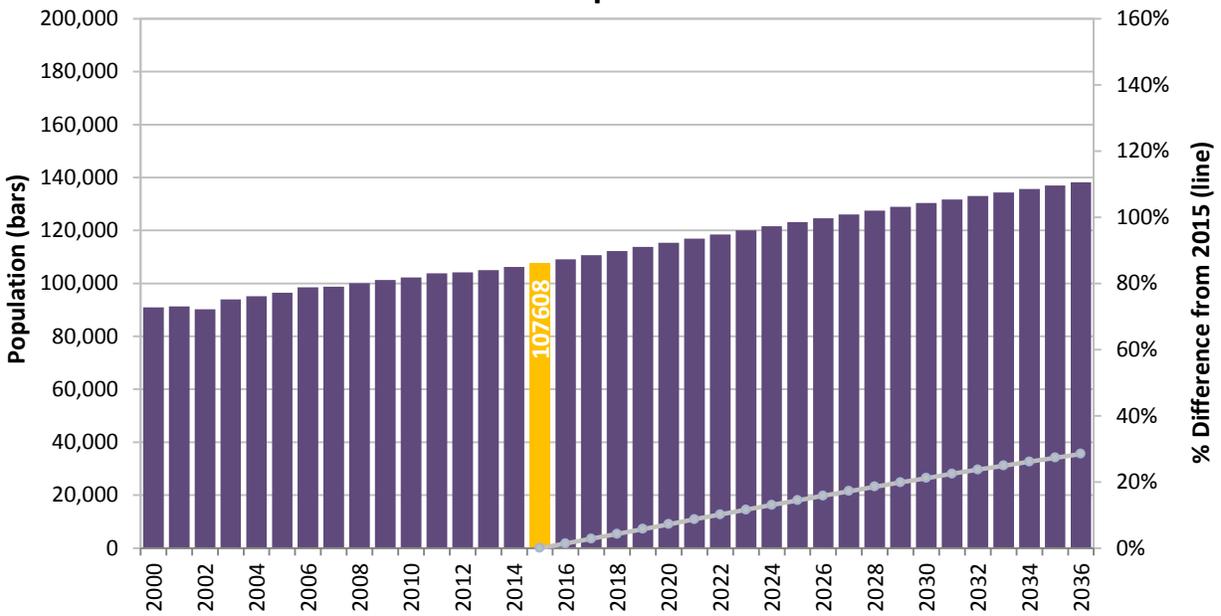
- Nanaimo is situated alongside Highway 1 and Highway 19. It is approximately one and a half hours from Victoria.
- Nanaimo has over 15 bus routes and a handyDART service. BC Ferries runs services to Tsawwassen and Horseshoe Bay.

3. Demographics[†]

Key Notes:

- **Average Age:** On average, the population of Nanaimo is younger than that of Island Health, but older than that of BC.
- **Percent of Population:** As of 2015, Nanaimo represented 14.0% (107,608 people) of the Island Health population of 768,131.
- **Aboriginal Identity:** As of 2011, 6.6% of people living in Nanaimo identified as Aboriginal[‡] compared to 6.6% in Island Health and 5.4% in BC.
- **Population Growth:** The total Nanaimo population is expected to grow by 28% by 2036, while the proportion of the population over 75 is expected to grow 104%.

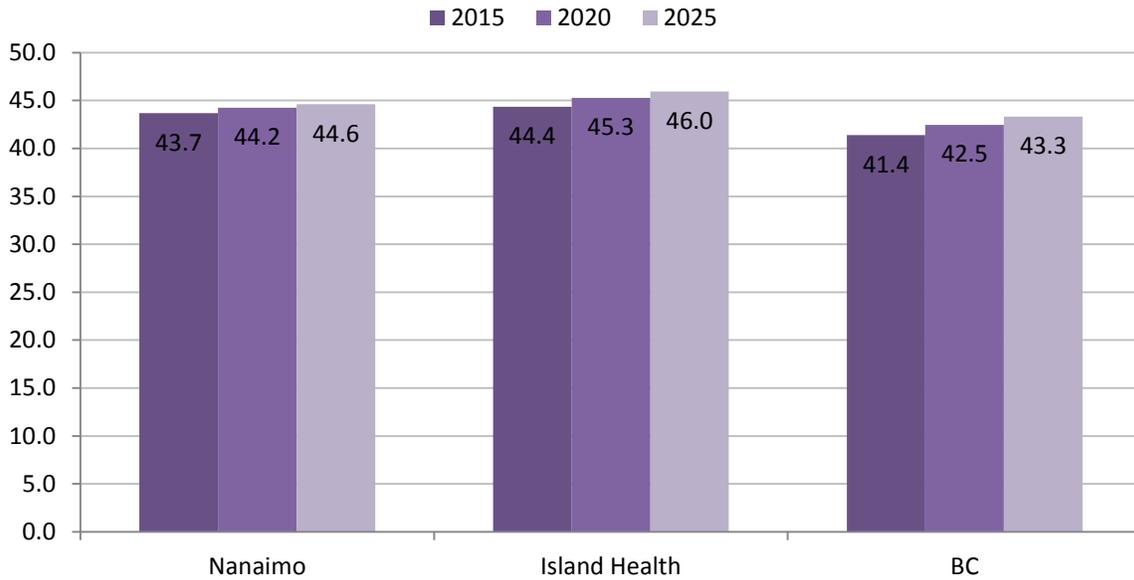
Total Population



[†] Source: BC Statistics, PEOPLE 2014, unless otherwise specified.

[‡] Statistics Canada, National Household Survey, 2011; Aboriginal identity includes persons who reported being an Aboriginal person, that is, First Nations (North American Indian), Métis or Inuk (Inuit) and/or those who reported Registered or Treaty Indian status, that is registered under the *Indian Act* of Canada, and/or those who reported membership in a First Nation or Indian band.

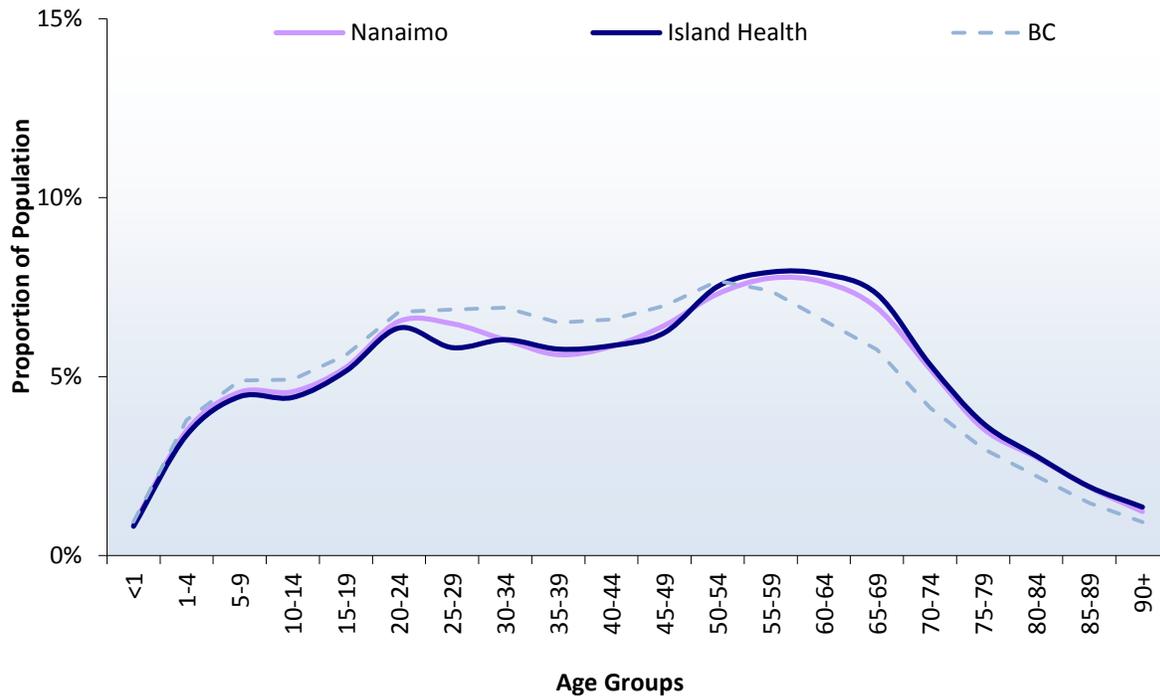
Average Age



Nanaimo’s 2015 population profile is very similar to Island Health; compared to BC, it has:

- A lower proportion of people aged 25-49; and
- A higher proportion of people aged 55+.

Proportion of 2015 Population by 5-Year Age Groups Compared to Island Health and BC

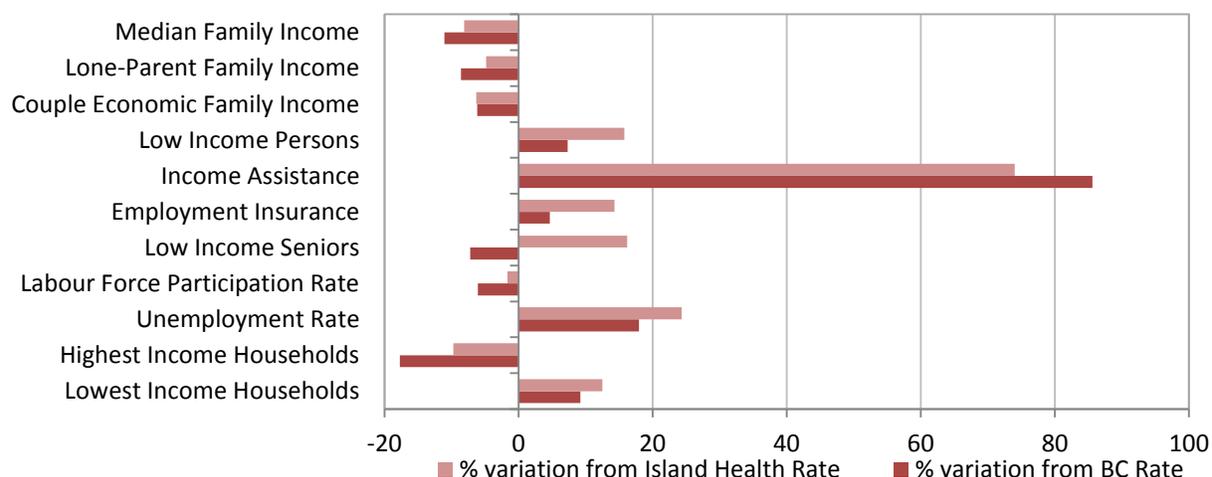


4. Social Determinants of Health and Wellbeing

4.1 Economic Wellbeing

Key Notes:

- **Income Assistance:** Nanaimo had a higher percentage of people on income assistance (3.1%) than BC (1.7%) or Island Health (1.8%).
- **Unemployment Rate:** Nanaimo had a higher unemployment rate (9.2%) than BC (7.8%) or Island Health (7.4%).
- **High Income Households:** Nanaimo had a lower percentage of high income households (29.9%) than BC (36.3%) or Island Health (33.1%).



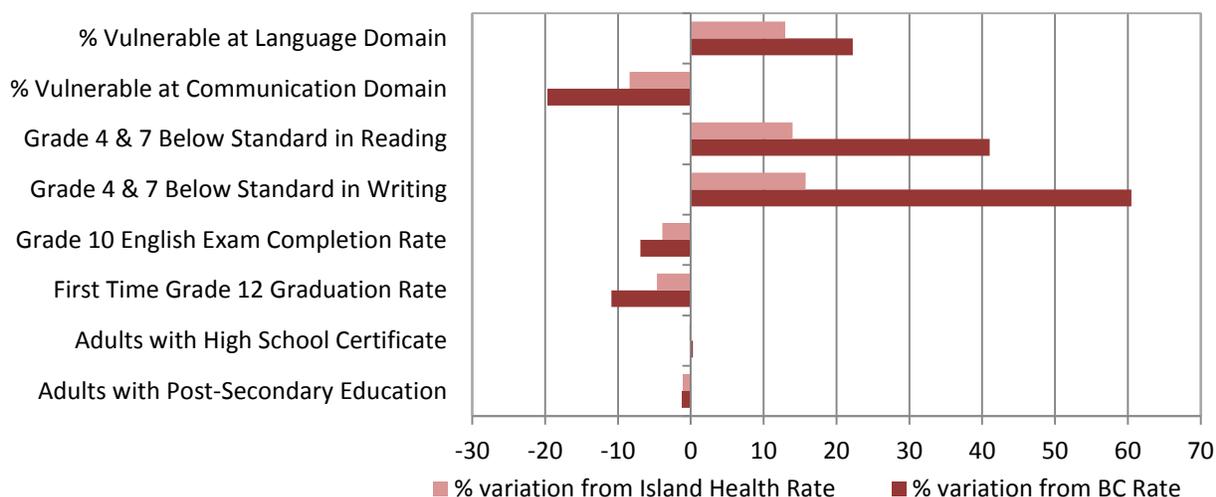
Indicator	Definition	Nanaimo	BC	Island Health
Median Family Income¹	Median family income from all sources in 2010	\$67,417	\$75,797	\$73,358
Lone-Parent Family Income¹	Median family income of lone-parent economic families in 2010	\$38,946	\$42,610	\$40,914
Couple Economic Family Income¹	Median family income of couple economic families in 2010	\$88,804	\$94,632	\$94,769
Low Income Persons¹	Prevalence (%) of low income in 2010 based on after-tax low-income measure	17.6	16.4	15.2
Income Assistance (IA)²	Percent of population aged 15+ receiving income assistance from provincial program	3.1	1.7	1.8
Employment Insurance²	Percent of population 15+ on Employment Insurance	1.6	1.5	1.4
Low Income Seniors¹	Percent of persons 65 years of age and over that were low income in 2010 based on after-tax low-income measure	12.9	13.9	11.1
Labour Force Participation Rate¹	Percent of population aged 25 and over that are participating in the labour force	61.6	65.6	62.6
Unemployment Rate¹	Percent of population aged 25 and over that are unemployed	9.2	7.8	7.4
Highest Income Households¹	Percent of private households earning >\$80,000	29.9	36.3	33.1
Lowest Income Households¹	Percent of private households earning <\$20,000	15.7	14.3	13.9

Source: ¹Statistics Canada (2011 Census); ²BC Statistics Agency, Employment Insurance Statistics and Statistics Canada (4 Quarter Average Dec 2011-Sep 2012)

4.2 Education

Key Notes:

- **Reading and Writing Skills:** Nanaimo had a higher percentage of children below standard in reading (27.7%) and writing (21.8%) than in BC (19.6% and 13.6%) or Island Health (24.2% and 18.8%).
- **Communication Skills:** Nanaimo had a lower percentage of kindergarten children rated vulnerable for preschool communication skills vulnerability (11.0%) than in BC (13.7%) or Island Health (12.0%).
- **Language Development:** A higher percentage of kindergarten children in Nanaimo were rated as vulnerable for language development (11.0%) than in BC (9.0%) or Island Health (9.7%).



Indicator	Definition	Nanaimo	BC	Island Health
Preschool Language Development Vulnerability²	Percent of kindergarten children rated as vulnerable for language and cognitive development (problems in reading, writing and numeracy)	11.0	9.0	9.7
Preschool Communication Skills Vulnerability²	Percent of kindergarten children rated as vulnerable in communication and general knowledge skills	11.0	13.7	12.0
Grade 4 & 7 Below Standard in Reading^{3§}	Percent of students scoring below standards on standardized test	27.7	19.6	24.3
Grade 4 & 7 Below Standard in Writing^{3§}	Percent of students scoring below standards on standardized test	21.8	13.6	18.8
Grade 10 English Exam Completion Rate^{3§}	Percent of students who did write or pass Grade 10 provincial English exam	77.3	83.1	80.5
First Time Grade 12 Graduation Rate^{3§}	Percent of first time Grade 12 students who graduated	72.5	81.3	76.0
Adults with High School Certificate¹	Percent of population aged 25 to 64 with high school certificate or equivalent	90.2	89.9	90.3
Adults with Post-Secondary Education¹	Percent of population aged 25 to 64 with post-secondary education (apprenticeship or trades certificate or diploma, college, CEGEP or other non-university certificate or diploma, or university certificate, diploma or degree)	64.0	64.8	64.8

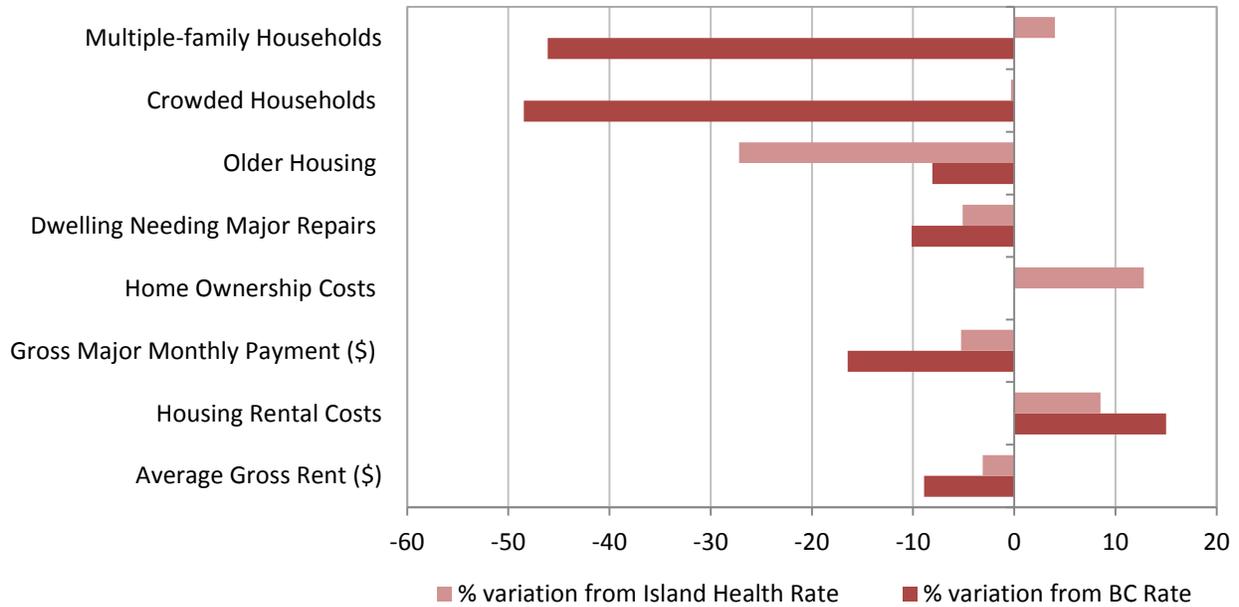
¹Statistics Canada (2011 Census), ²Human Early Learning Partnership (2011-2013), ³BC Statistics Agency and Ministry of Education (2013/14-2014/15)

[§] Value is for School District 68 – includes Ladysmith and Nanaimo.

4.3 Housing

Key Notes:

- **Crowded Households:** There were a lower percentage of crowded (1.7%) and multiple-family households (1.5%) in Nanaimo than in BC (3.3% and 2.9%), but a similar percentage as in Island Health (1.7% and 1.5%).
- **Older Dwellings:** There was a lower percentage of older housing in Nanaimo (14.7%) than in Island Health (20.2%), but a similar percentage as in BC (16.0%).
- **Cost of Home Ownership:** Home ownership costs were higher in Nanaimo (23.8% spending more than 30% of income) compared to Island Health (21.1%), but similar to BC (23.8%).



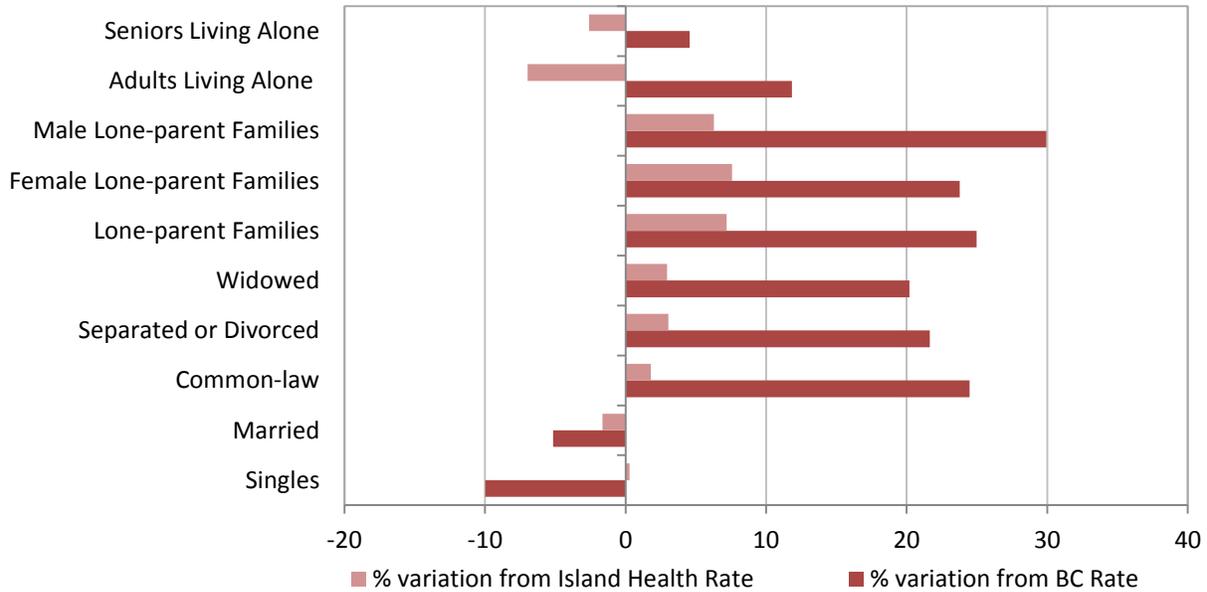
Indicator	Definition	Nanaimo	BC	Island Health
Multiple-family Households	Percent of private households with multiple families	1.5	2.9	1.5
Crowded Households	Percent of private households with 6 or more persons	1.7	3.3	1.7
Older Housing	Percent of dwellings built prior to 1961	14.7	16.0	20.2
Dwelling Needing Major Repairs	Percent of dwellings rated as needing major repairs by renter or owner	6.5	7.2	6.9
Home Ownership Costs	Percent of home owners spending more than 30% of income on housing	23.8	23.8	21.1
Gross Major Monthly Payment (\$)	Average gross major monthly payment of owner-occupied private non-farm, non-reserve dwellings	\$1,026	\$1,228	\$1,083
Housing Rental Costs	Percent of renters spending more than 30% of income on rent	52.1	45.3	48.0
Average Gross Rent (\$)	Average gross rent of tenant-occupied private non-farm, non-reserve dwellings	\$901	\$989	\$930

Source: Statistics Canada (2011 Census)

4.4 Social Support

Key Notes:

- **Male-lone Parent Families:** Nanaimo had a higher percentage of male lone-parent families (7.5%) compared to BC (5.7%).
- **Common-law Relationship:** There were a higher percentage of people in common law relationships in Nanaimo (10.8%) than in BC (8.6%), but a similar percentage as in Island Health (10.6%).
- **Separated/Divorced or Widowed:** There were a higher percentage of separated/divorced (11.4%) and widowed (6.6%) individuals in Nanaimo than in BC (9.4% and 5.5%), but a similar percentage as in Island Health (11.1% and 6.4%).



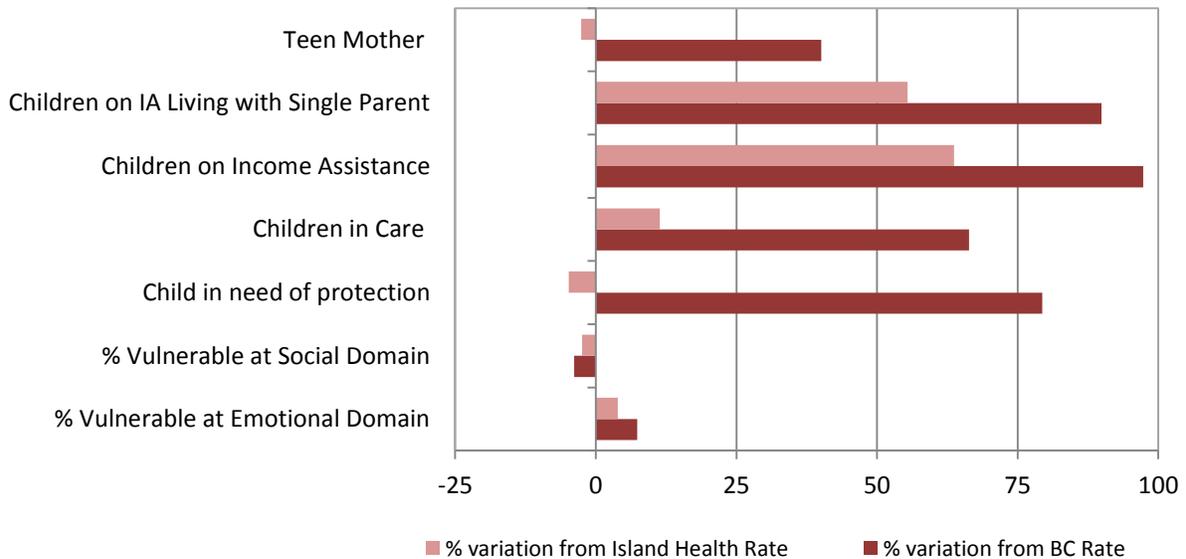
Indicator	Definition	Nanaimo	BC	Island Health
Seniors Living Alone	Percent of persons aged 65 and over that are not in census families and are living alone	26.9	25.7	27.6
Adults Living Alone	Percent of persons in private households that are not in census families and are living alone	12.9	11.5	13.9
Male Lone-parent Families	Percent of census families with children in private households that are male lone-parent families	7.5	5.7	7.0
Female Lone-parent Families	Percent of census families with children in private households that are female lone-parent families	26.0	21.0	24.1
Lone-parent Families	Percent of census families with children in private households that are lone-parent families	33.4	26.7	31.1
Widowed	Percent of population aged 15 and over that are widowed	6.6	5.5	6.4
Separated or Divorced	Percent of population aged 15 and over that are legally married but are separated, or are divorced	11.4	9.4	11.1
Common-law	Percent of population aged 15 and over that are in a common-law relationship	10.8	8.6	10.6
Married	Percent of population aged 15 and over that are legally married (not separated)	46.7	49.2	47.5
Singles	Percent of population aged 15 and over that have never legally married	24.5	27.2	24.5

Source: Statistics Canada (2011 Census)

4.5 Healthy Development (Child and Youth)

Key Notes:

- **Income Assistance:** There were a higher percentage of children living on income assistance with a single parent in Nanaimo (5.1%) than in BC (2.7%) or Island Health (3.3%).
- **Children in need of protection:** There was a higher rate of children in need of protection in Nanaimo (11.6 per 1,000 children aged 0-18) compared to BC (6.4 per 1,000), but a similar rate compared to Island Health (12.1 per 1,000).
- **Juvenile Crime:** There was a higher rate of serious juvenile crime in Nanaimo (5.1 per 1,000 youth aged 12-17) than in BC (3.5 per 1,000) or Island Health (4.5 per 1,000).



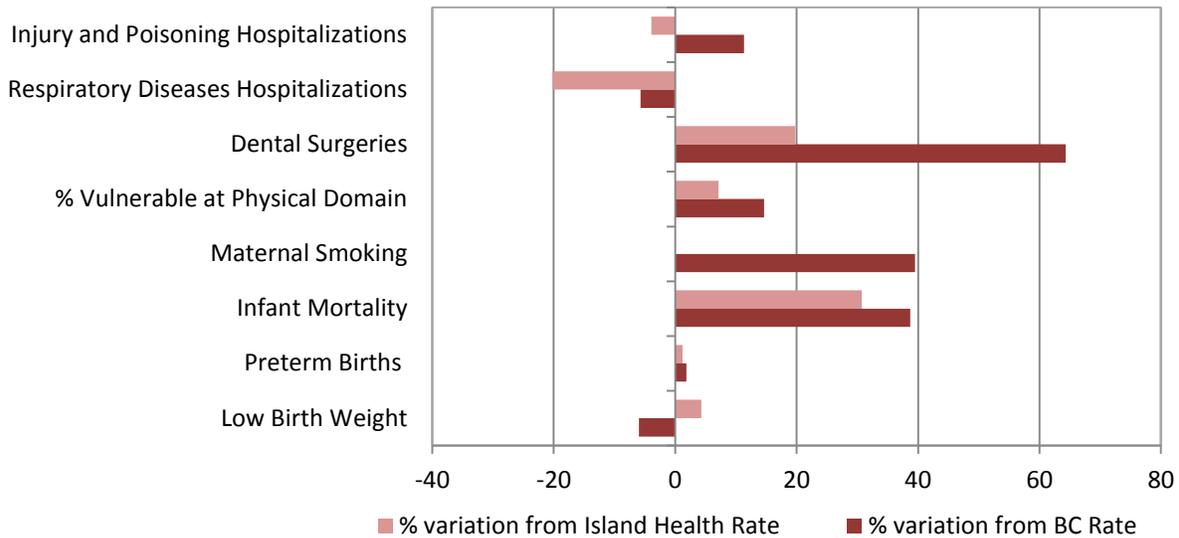
Indicator	Definition	Nanaimo	BC	Island Health
Teen Mother¹	Live births to mothers under 20 years of age per 1,000 live births	38.0	27.1	39.0
Children on IA Living with Single Parent²	Percent of children less than 15 years of age receiving income assistance and living with a single parent	5.1	2.7	3.3
Children on Income Assistance²	Percent of children less than 15 years of age receiving income assistance	6.2	3.1	3.8
Children in Care³	Children in care per 1,000 children aged 0 to 18 years	15.1	9.1	13.5
Children in Need of Protection⁴	Reported children in need of protection rate per 1,000 children aged 0 to 18 years	11.6	6.4	12.1
Preschool Social Development Vulnerability⁵	Percent of kindergarten children rated as having problems forming friendships, accepting rules and showing respect for adults	15.0	15.6	15.4
Preschool Emotional Development Vulnerability⁵	Percent of kindergarten children rated as having problems with aggressive behaviour, impulsivity, disobedience and inattentiveness	16.0	14.9	15.4

¹BC Vital Statistics Agency (2009-2013); ²BC Statistics Agency, Statistics Canada Census 2006 and Ministry of Social Development (Sep 2012); ³BC Statistics Agency and Ministry of Children and Family Development (Dec 2012); ⁴BC Statistics Agency and Ministry of Children and Family Development (Dec 2011); ⁵Human Early Learning Partnership (2011-2013).

4.6 Child Health

Key Notes:

- **Maternal Smoking:** There was a higher rate of maternal smoking in Nanaimo (11.2%) compared to BC (8.1%), but a similar rate compared to Island Health (11.2%).
- **Child Hospitalizations:** Nanaimo had a lower rate of children hospitalized for respiratory diseases (8.3 per 1,000 children aged 0-14) compared to BC (8.8 per 1,000) and Island Health (10.4 per 1,000).



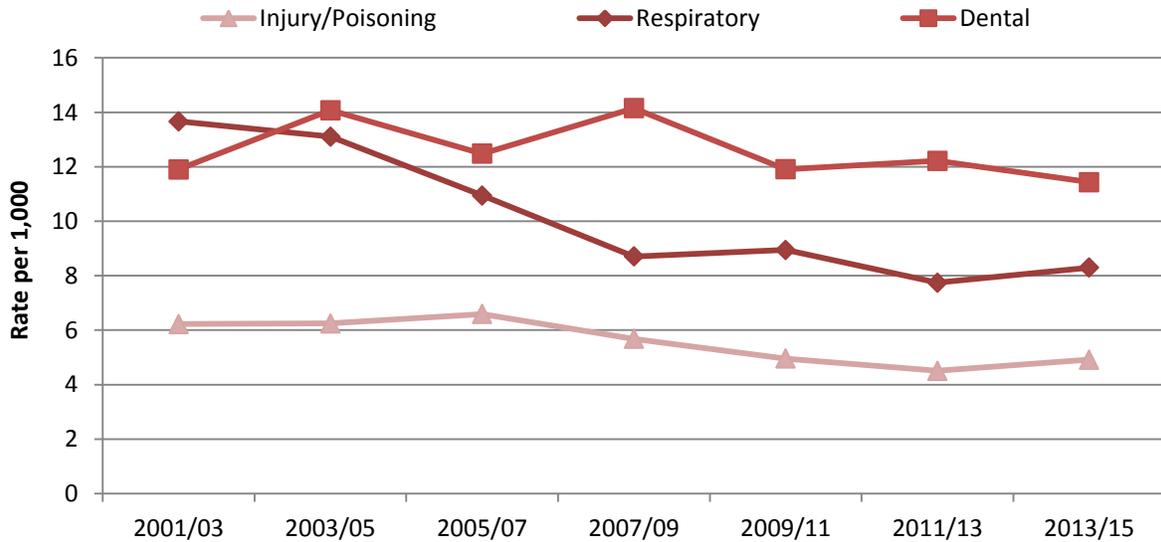
Indicator	Definition	Nanaimo	BC	Island Health
Injury and Poisoning Hospitalizations¹	Hospitalization rate per 1,000 children aged 0 to 14	4.9	4.4	5.1
Respiratory Diseases Hospitalizations¹	Hospitalization rate per 1,000 children aged 0 to 14	8.3	8.8	10.4
Dental Surgery Hospitalizations¹	Hospitalization rate per 1,000 children aged 0 to 14	11.4	7.0	9.6
Preschool Physical Development Vulnerability²	Percent of kindergarten children rated as having problems with fine and gross motor skills, daily preparedness for school, washroom skills, and handedness	18.0	15.7	16.8
Maternal Smoking⁴	Percent of pregnant women who reported smoking at any time during their current pregnancy	11.2%	8.1%	11.2%
Infant Mortality³	Deaths of children under 1 year of age per 1,000 live births	5.1	3.7	3.9
Preterm Births³	Newborns with a gestational age < 37 weeks per 1,000 live births	76.3	74.9	75.4
Low Birth Weight³	Births weighing less than 2,500 grams per 1,000 live births	53.4	56.8	51.2

¹BC Statistics Agency and Ministry of Health (2011-2012); ²Human Early Learning Partnership (2011-2013), ³BC Vital Statistics (2009-2013), ⁴BC Perinatal Health Program (2009/10-2013/14).

Key Notes:

- The rate of hospitalizations for dental related surgeries has slightly decreased from a high of 14.0 per 1,000 in 2003/05 to 11.4 per 1,000 in 2013/15.
- The rate of hospitalization due to injury/poisoning within the Nanaimo LHA has slowly declined from 6.2 per 1,000 to just under 5 per 1,000 over the last 12 years.
- The rate of hospitalizations due to respiratory related diseases within the Nanaimo LHA dropped from 13.6 per 1,000 in 2001/02 to 8.3 per 1,000 in 2013/15.

Nanaimo Child Hospitalizations (0-14)

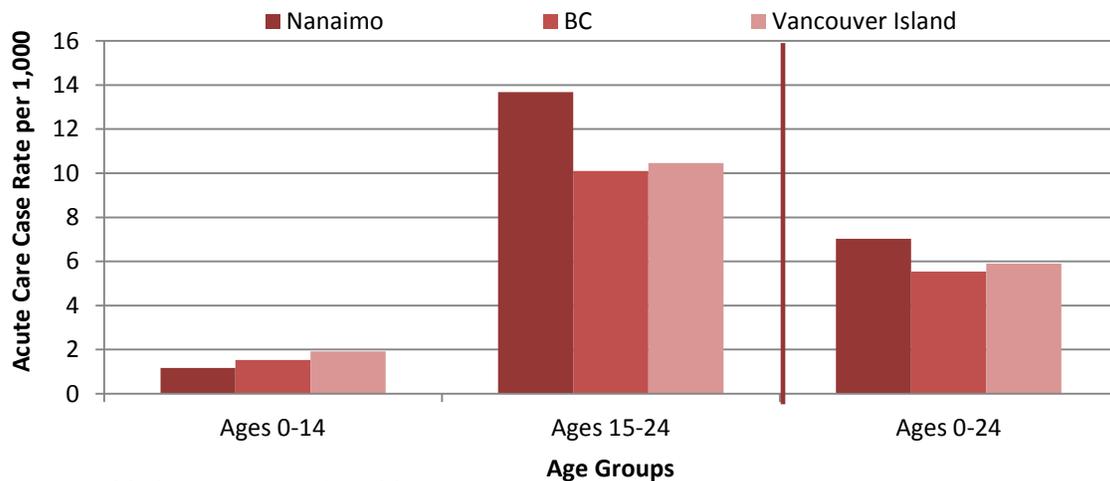


Source: Health Ideas (Ministry of Health)

Key Notes:

- Within the Nanaimo LHA the hospitalization rate among children (<15 years) is lower than that of BC and Island Health, while the hospitalization rate among youth (15-24 years) is higher than that of Island Health and BC.

Age Standardized Rate of Child & Youth Hospitalizations for Mental Health Disease & Disorders

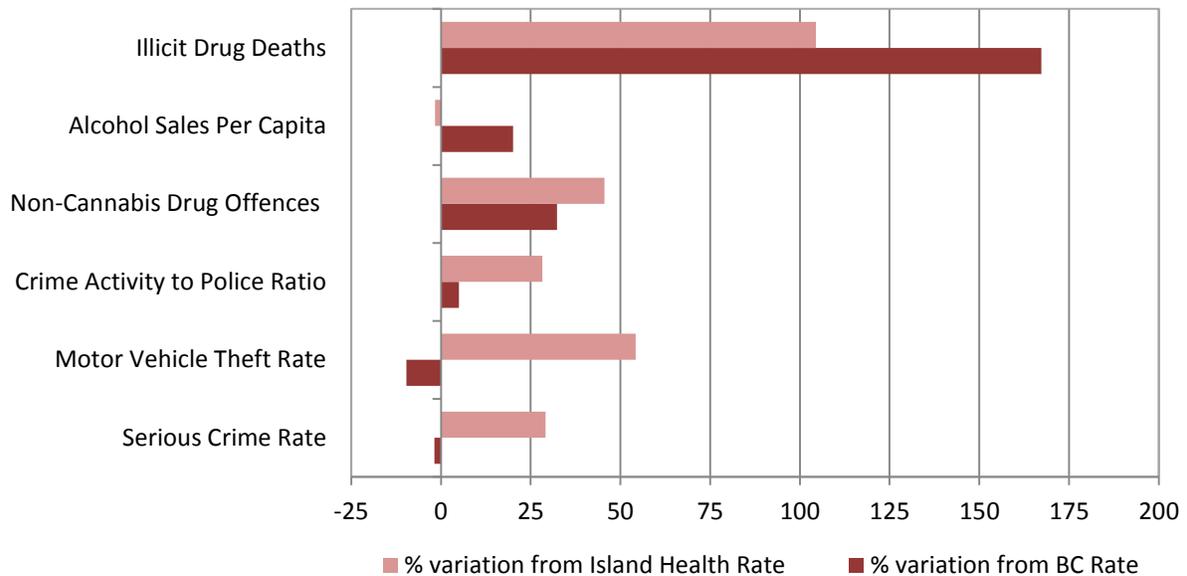


Source: HealthIdeas (Ministry of Health), 2013/14

4.7 Crime

Key Notes:

- **Drug Offences:** There was a higher rate of non-cannabis drug offences in Nanaimo (225.3 per 100,000 people) than in BC (170.3 per 100,000) or Island Health (154.8 per 100,000).
- **Motor Vehicle Theft:** There was a higher motor vehicle theft rate in Nanaimo (3.2 per 1,000 people) than in Island Health (2.1 per 1,000), but a lower rate than in BC (3.6 per 1,000).
- **Deaths due to Illicit Drugs:** There was a higher rate of deaths due to illicit drugs in Nanaimo (19.3 per 100,000 people) than in BC (7.2 per 100,000) or Island Health (9.4 per 100,000).



Indicator	Definition	Nanaimo	BC	Island Health
Illicit Drug Deaths¹	Deaths per 100,000 population aged 19 to 64	19.3	7.2	9.4
Alcohol Sales Per Capita^{1**}	Litres of alcohol sold per resident population aged 19 and older (one litre of absolute alcohol = 58 standard drinks)	10.8	9.0	10.9
Non-Cannabis Drug Offences²	Non-cannabis drug offences per 100,000 population	225.3	170.3	154.8
Crime Activity to Police Ratio²	Number of serious crimes per police officer	7.3	7.0	5.7
Motor Vehicle Theft Rate²	Motor vehicle theft rate per 1,000 population	3.2	3.6	2.1
Serious Crime Rate²	Total violent and property crime rate per 1,000 population	9.9	10.1	7.7

¹ AOD Monitoring Project, Centre for Addictions Research BC (2013 and 2014), ² BC Statistics Agency, Statistics Canada, Canadian Centre for Justice Statistics (Avg 2009-2011)

** Alcohol sales per capita is based on total volume sold in a local health area and does not consider the impact of tourist volume or non-resident alcohol purchases in that area.

5. Health Status

5.1 Birth Statistics

Key Notes:

- **Infant Mortality:** Nanaimo had the second highest infant mortality rate in Island Health.

Birth Rates	Nanaimo	Island Health	% Difference	Rank ^{††} in Island Health	BC	% Difference
Elderly Gravida	172.6	204.8	-16%	7	233.1	-26%
Low Birth Weight	53.4	51.2	4%	5	56.8	-6%
Infant Death	5.1	3.9	33%	2	3.7	40%
Teen Mother	38.0	39.0	-3%	8	27.1	40%
Cesarean	256.6	281.7	-9%	7	315.4	-19%
Pre-term	76.3	75.4	1%	8	74.9	2%
Stillbirth	6.4	7.9	-19%	12	10.0	-36%
Live Birth	8.9	8.4	6%	7	9.7	-8%

Source: BC Vital Statistics, 2009-2013

5.2 Mortality Statistics

Key Notes:

- Nanaimo was ranked 3rd for deaths due to medically treatable diseases.

Indicator	Nanaimo SMR Value	Island Health SMR Value	% Difference	Rank in Island Health	PYLLI
Drug Induced Deaths	1.24	1.14	9%	4	1.11
Medically Treatable Diseases	1.21	0.93	31%	3	1.03
Circulatory System	1.11	1.03	7%	7	1.33
Digestive System	1.03	1.08	-4%	9	1.28
Alcohol Related Deaths	1.28	1.31	-3%	10	1.34
Falls	0.97	1.19	-19%	10	0.70
Cancer	1.10	1.06	4%	6	1.14
Respiratory	0.96	0.93	3%	9	1.33
Suicide	1.06	1.19	-11%	9	1.19
Motor Vehicle	0.79	0.92	-14%	10	0.94
End/Nut/Met Diseases	1.24	1.01	23%	5	1.06
Diabetes	1.30	1.01	29%	4	1.06
Arteries/Arterioles/Capillaries	0.86	1.02	-16%	11	0.80
Pneumonia and Influenza	0.90	0.83	7%	5	1.31
Lung Cancer	1.08	1.04	4%	9	1.13
Ischaemic Heart Disease	1.15	0.99	16%	4	1.32
Chronic Lung Disease	1.02	0.99	4%	7	1.20
Cerebrovascular Disease/Stroke	1.07	1.03	4%	8	1.08
Total Deaths	1.08	1.03	5%	5	1.20

Source: BC Vital Statistics Annual Report, 2011 (Aggregate 2007-2011)

^{††} Rank in Island Health refers to the rank of all LHAs, where 1 is the highest rate and 14 is the lowest.

5.3 Chronic Disease Prevalence

Key Notes:

- **Chronic Disease Prevalence^{**}**: Nanaimo had a higher age standardized prevalence rate per 1,000 people for chronic obstructive pulmonary disease, cardiovascular disease, dementia and heart failure compared to BC and Island Health.

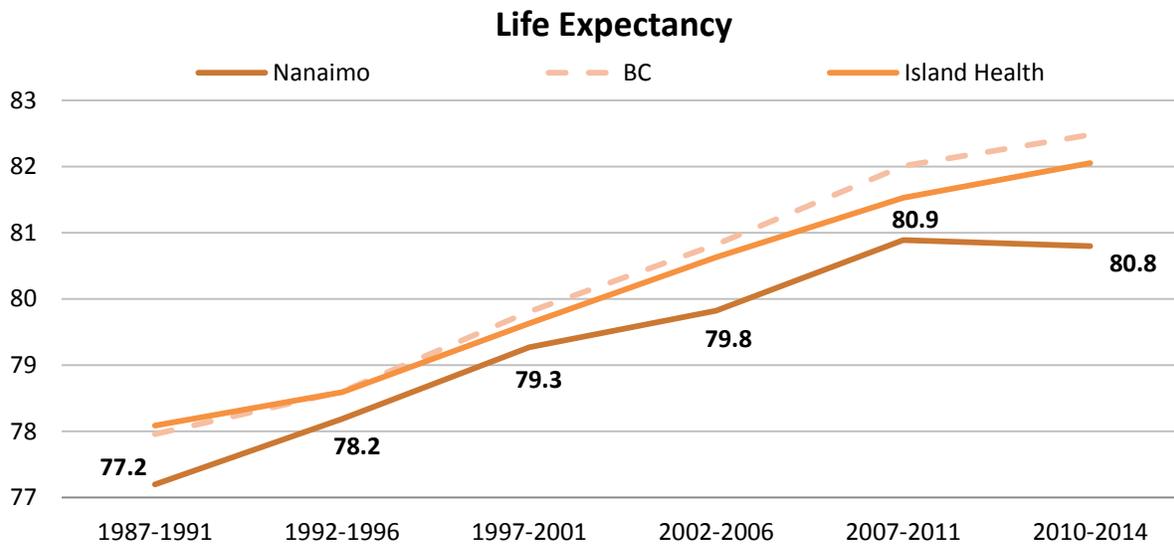
Chronic Conditions, Age Standardized Rates per 1,000	LHA 68		Island Health		B.C Total	
	Incidence	Prevalence	Incidence	Prevalence	Incidence	Prevalence
Asthma	6.0	127.6	6.3	118.9	6.2	105.3
Chronic Kidney Disease	2.3	16.2	2.1	15.0	2.5	14.8
Chronic Obstructive Pulmonary Disease	8.9	60.9	7.9	56.8	8.2	58.7
Cardiovascular Disease	3.5	30.7	3.2	28.1	3.4	30.6
Dementia	8.4	30.3	6.8	29.3	6.3	27.1
Depression/Anxiety	14.2	215.5	16.5	238.8	15.2	213.2
Diabetes	4.7	56.6	4.6	52.9	5.3	60.0
Heart Failure	2.3	13.0	2.1	12.2	2.3	13.8
Hypertension	15.0	170.9	15.6	177.5	18.6	184.9
Ischemic Heart Disease	1.7	22.7	1.7	20.4	1.8	22.5
Osteoarthritis	5.9	64.7	6.2	66.1	5.7	62.1

Source: BC Ministry of Health, Primary Health Care Chronic Disease Registries, 2012/13

5.4 Life Expectancy at Birth

Key Notes:

- **Life Expectancy**: Nanaimo has consistently had a life expectancy slightly lower than BC and Island Health but the difference has grown in the past five years.



Life Expectancy by Sex, 2010-2014

	Nanaimo	Island Health	BC
Female	83.2	84.0	84.5
Male	78.4	80.0	80.4

Source: BC Statistics Agency

^{**} This reflects the lifetime prevalence of these diseases, not the current year's prevalence. If a resident has had one of these diseases in their life it will appear in this data.

6. Health Service Utilization

6.1 Hospital Admissions^{§§}

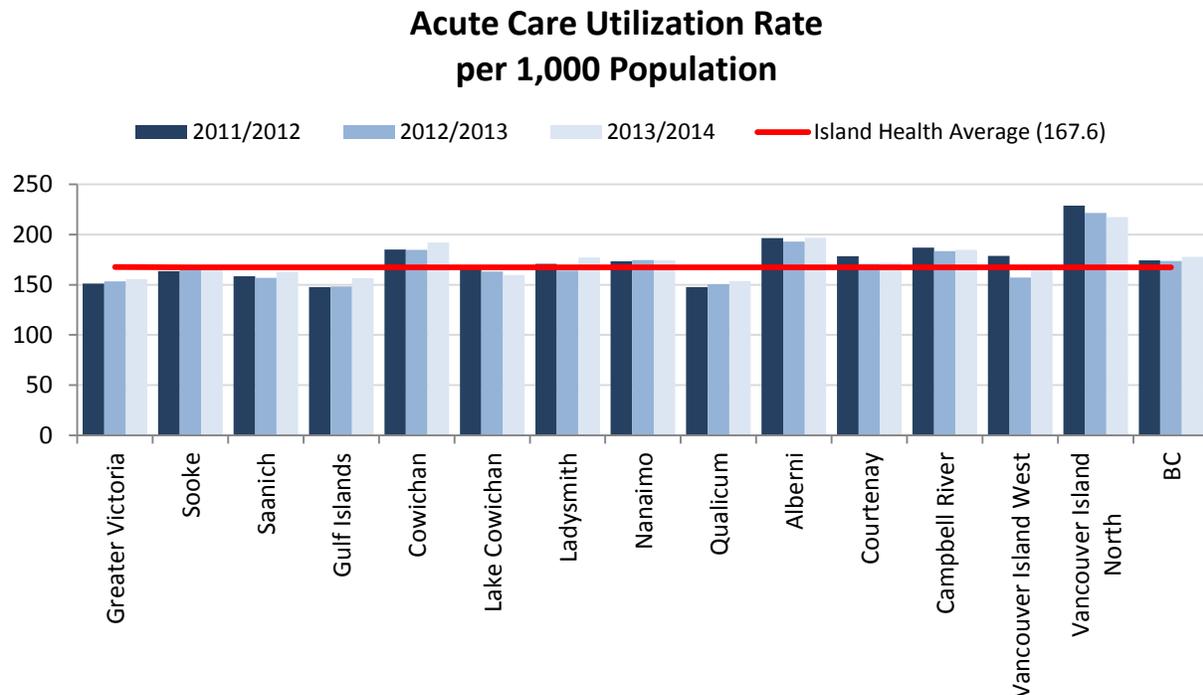
Key Notes:

- Of the 20,188 hospital cases for Nanaimo residents in 2013/14:
 - 46.6% were day cases, while 53.4% were inpatient cases;
 - 55.1% were medical cases, while 44.9% were surgical cases;
 - Digestive symptoms/signs were responsible for the most inpatient cases (328); and
 - Lens extraction/insertion, typically for cataracts, was responsible for the most day cases (1,339).
- Of the 78,658 inpatient days for Nanaimo residents in 2013/14:
 - 11.6% were for an alternate level of care; and
 - Mental diseases and disorders were responsible for the most patient days (13,847 or 17.6%).
- The ambulatory care sensitive conditions (ACSC) rate for Nanaimo residents was 4.7% for 2013/14, which is the same as the Island Health average of 4.7%; and
- The percentage of alternate level of care days (ALC) has been decreasing similar to Island Health since 2010/11.

Total Hospital Cases and Days for Nanaimo Residents

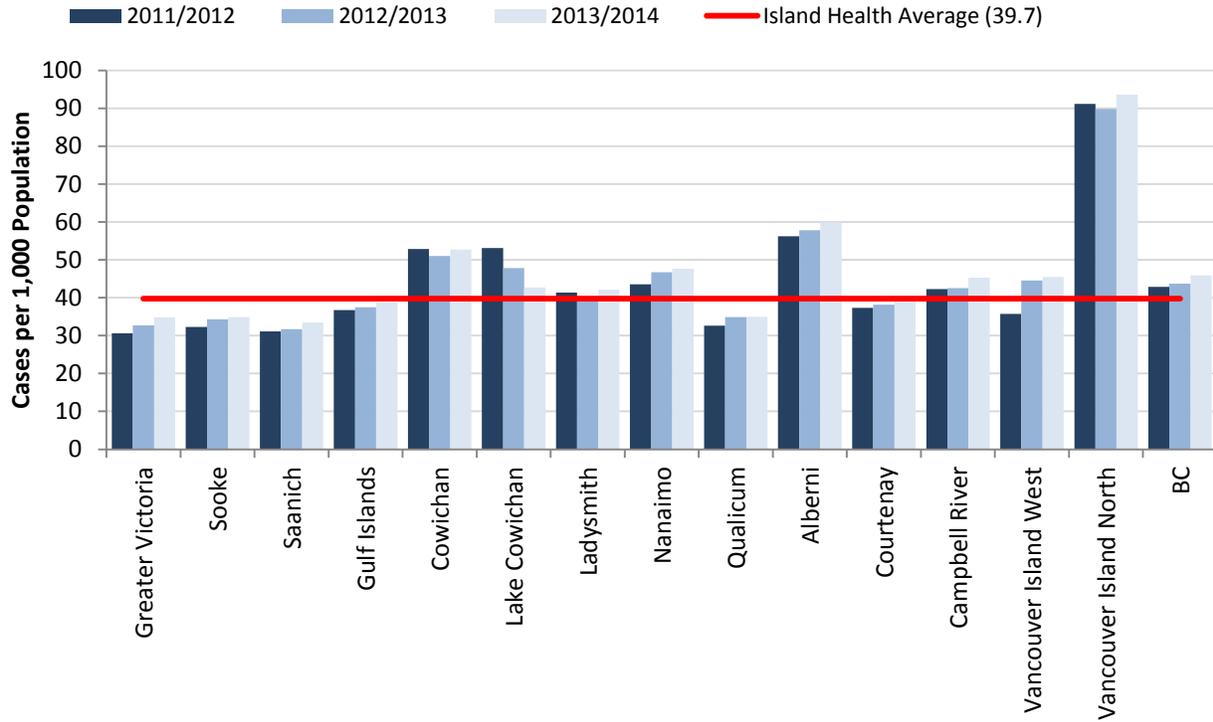
2013/14	Day Cases	Inpatient Cases	Inpatient Days	% Days ALC	Total Cases
Medical	3,664	7,456	56,842	14.1%	11,120
Surgical	5,738	3,330	21,816	5.0%	9,068
Total	9,402	10,786	78,658	11.6%	20,188

Acute Utilization Rates overall and by category:

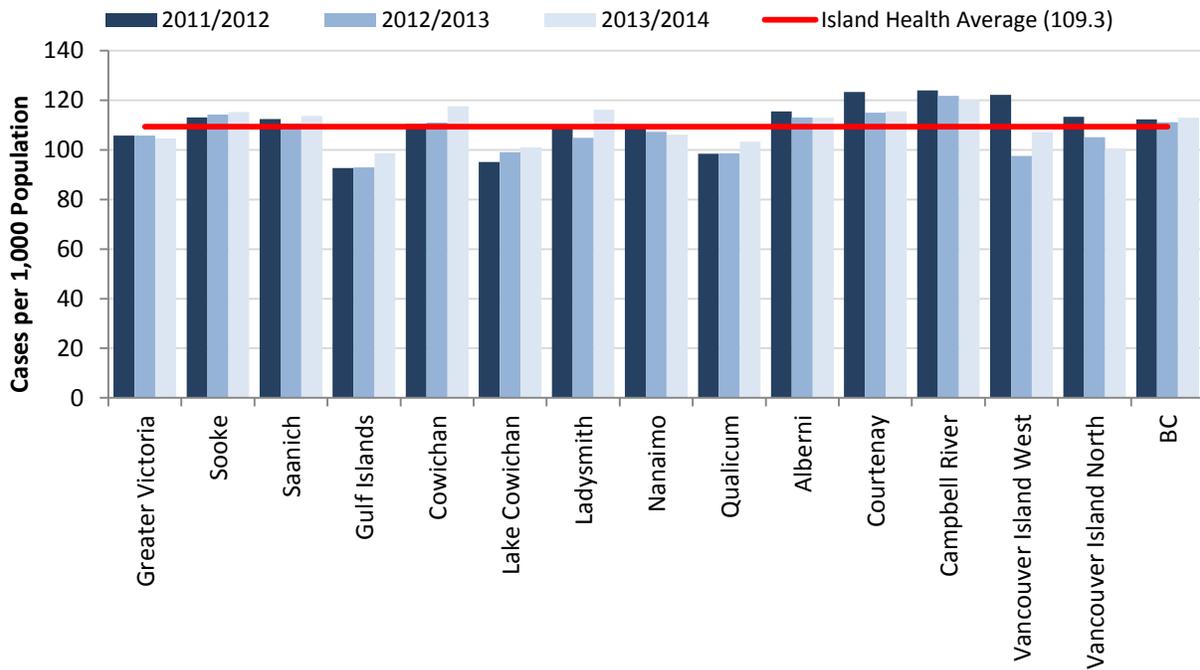


^{§§} Source: 2012/13 Discharge Abstract Database; excludes newborn records.

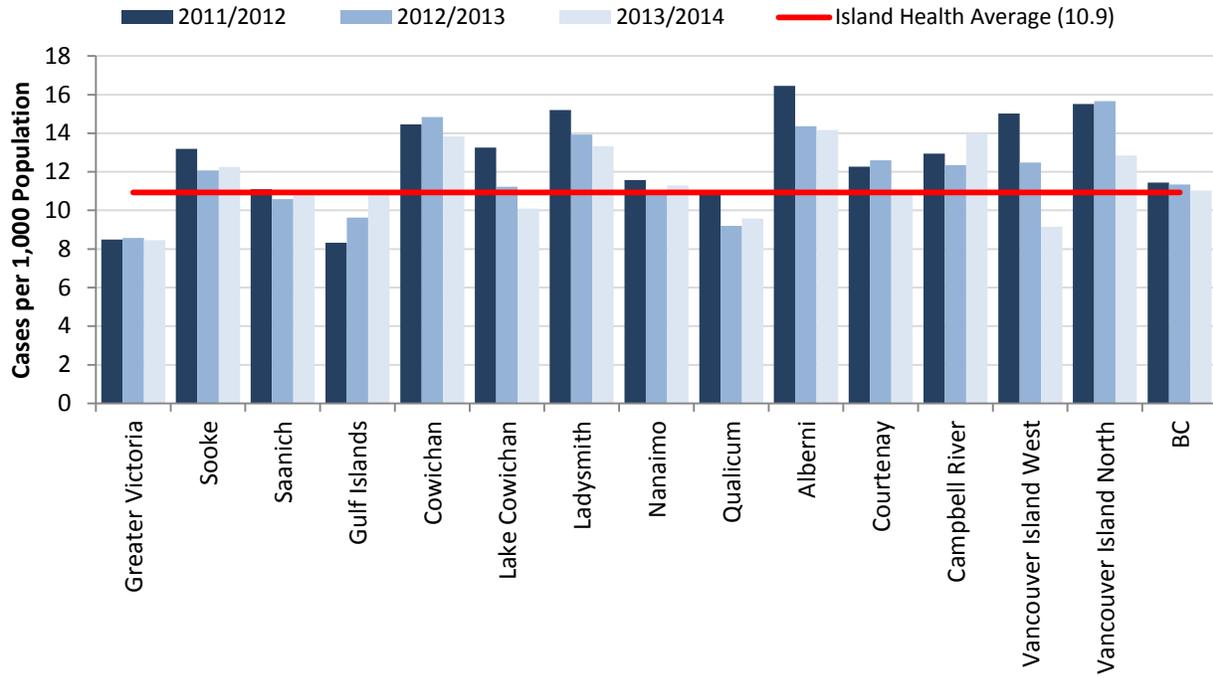
Medical Acute Care Utilization Rate per 1,000 Population



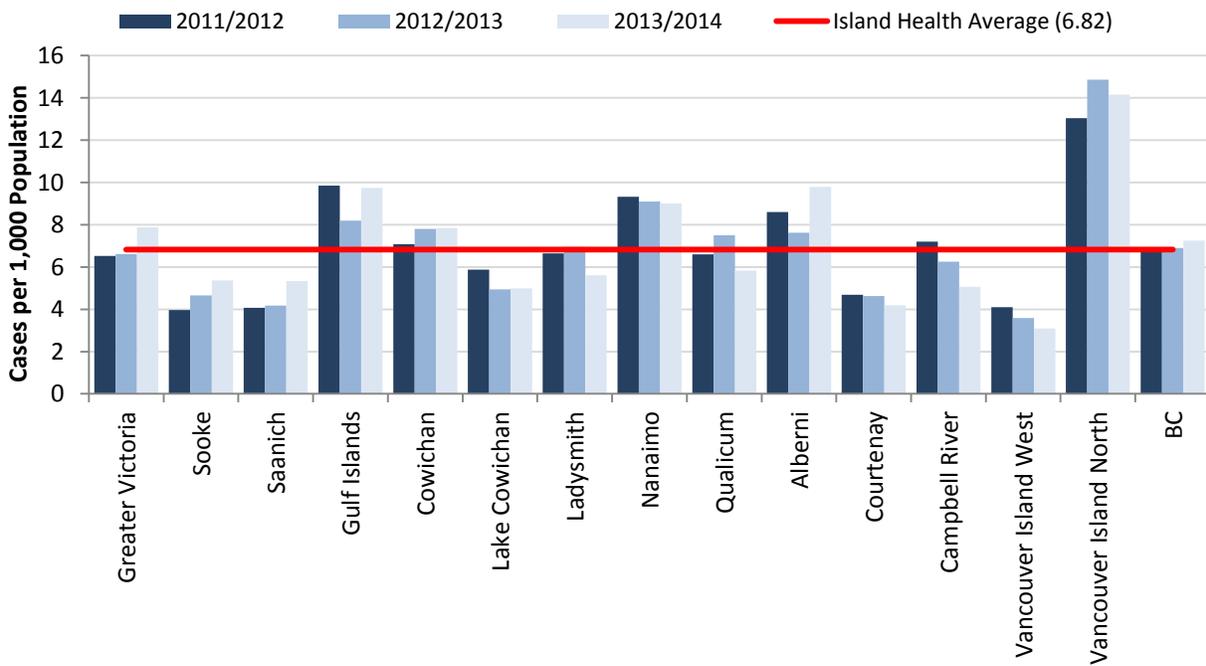
Surgical Acute Care Utilization Rate per 1,000 Population



Maternity Acute Care Utilization Rate per 1,000 Population



Psychiatry Acute Care Utilization Rate per 1,000 Population



Leading reasons for Inpatient and Day cases for Nanaimo Residents by Case Mix Group, 2013/14:**Top 10 Inpatient Cases for Residents by Case Mix Group**

Top 10 Inpatient Case Mix Groups	Cases	Days	ALC Days
Symptom/Sign of Digestive System	328	858	20
Palliative Care	305	3,811	417
Vaginal Birth without Anaesthetic without Non-Major Obstetric/Gynecologic Intervention	269	395	0
Chronic Obstructive Pulmonary Disease	217	2,267	478
Viral/Unspecified Pneumonia	199	1,360	122
Heart Failure without Coronary Angiogram	189	2,603	598
Unilateral Knee Replacement	187	613	0
Myocardial Infarction/Shock/Arrest without Coronary Angiogram	173	786	56
Unilateral Hip Replacement	164	585	0
Hysterectomy with Non Malignant Diagnosis	155	228	0

Top 10 Day Cases for Residents by Case Mix Groups

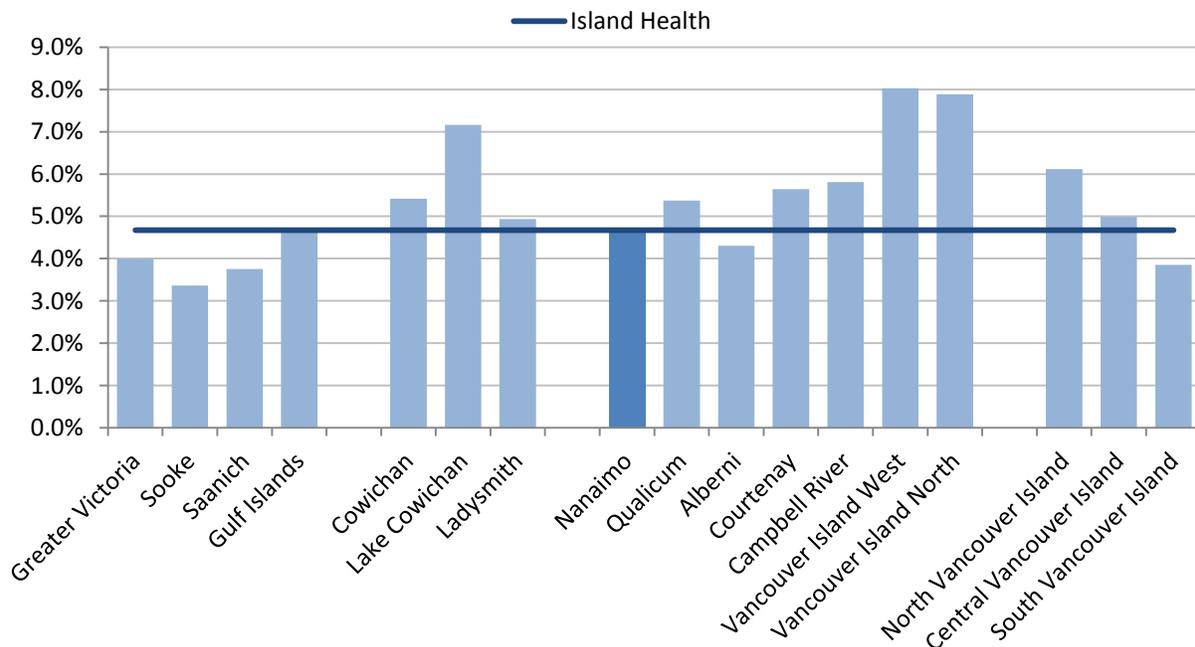
Top 10 Day Case Mix Groups	Cases
Lens Extraction/Insertion	1,105
Minor Lower Gastrointestinal Intervention	908
Other Chemotherapy	671
Closed Knee Intervention except Fixation without Infection	339
Symptom/Sign of Digestive System	335
Esophagitis/Gastritis/Miscellaneous Digestive Disease	302
Diagnosis Not Generally Hospitalized	262
Other Admission with Non-Major Intervention	241
Disease of Oral Cavity/Salivary Gland/Jaw	233
Follow-Up Treatment/Examination	223

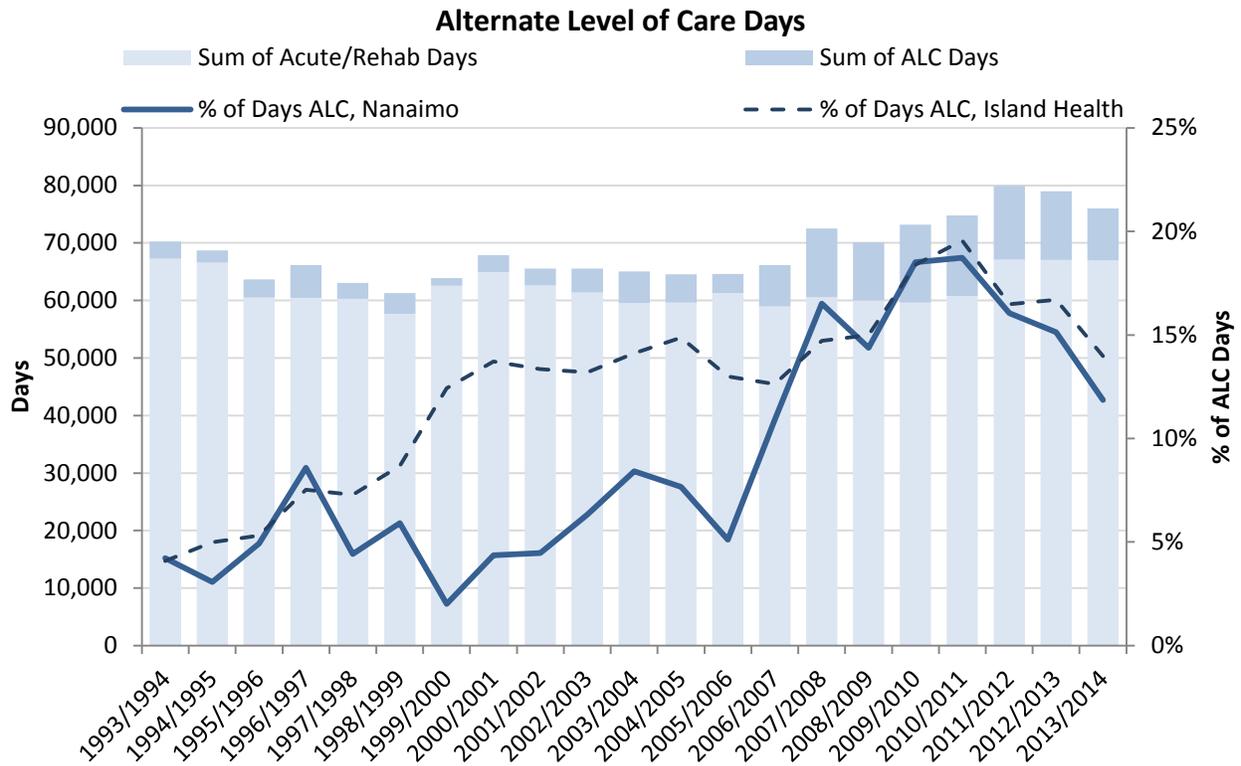
Total Cases and Days for Nanaimo Residents by Major Clinical Category, 2013/14:

Major Clinical Categories	Cases	Days	ALC Days
Digestive System	3,771	7,320	186
Circulatory System	1,941	8,810	545
Musculoskeletal System & Connective Tissue	1,524	4,507	392
Eye	1,335	96	20
Blood & Lymphatic System	1,276	1,915	42
Other Reasons for Hospitalization	1,240	9,932	1,111
Kidney, Urinary Tract & Male Reproductive System	1,182	3,163	317
Significant Trauma, Injury, Poisoning & Toxic Effects of Drugs	1,152	7,491	1,015
Pregnancy & Childbirth	1,053	2,288	3
Mental Diseases & Disorders	1,033	13,847	3,510
Respiratory System	851	5,801	431
Ear, Nose, Mouth & Throat	811	795	24
Female Reproductive System	779	542	0
Skin, Subcutaneous Tissue & Breast	545	1,394	96
Hepatobiliary System & Pancreas	484	2,481	139
Nervous System	424	3,795	862
Miscellaneous CMG & Ungroupable Data	285	26	0
Endocrine System, Nutrition & Metabolism	268	1,477	237
Multisystemic or Unspecified Site Infections	182	2,407	167
Newborns & Neonates with Conditions Originating in Perinatal Period	44	511	0
Burns	8	60	0
Grand Total	20,188	78,658	9,097

Ambulatory Care Sensitive Conditions (ACSC) and Alternative Level of Care (ALC) Days, 2013/14:

ACSC Rate, 2013/2014

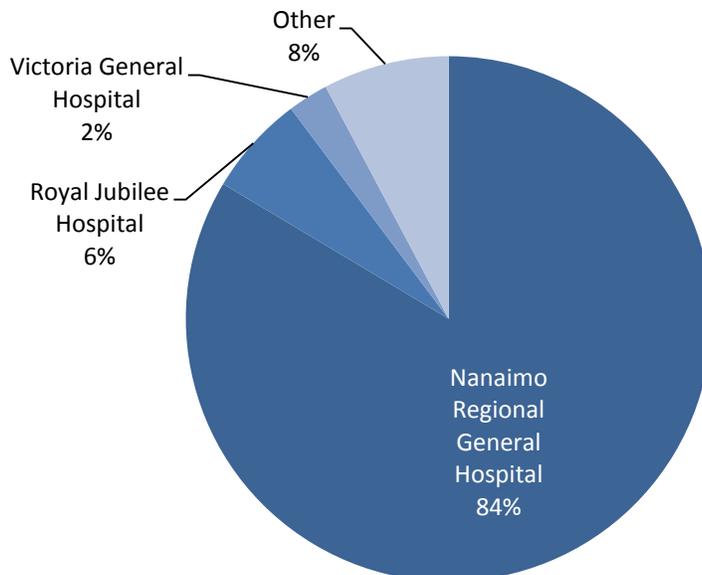




Source: Quantum Analyzer, Discharge Abstract Database

Where Residents Receive Hospital Care

Nanaimo Resident Cases by Hospital

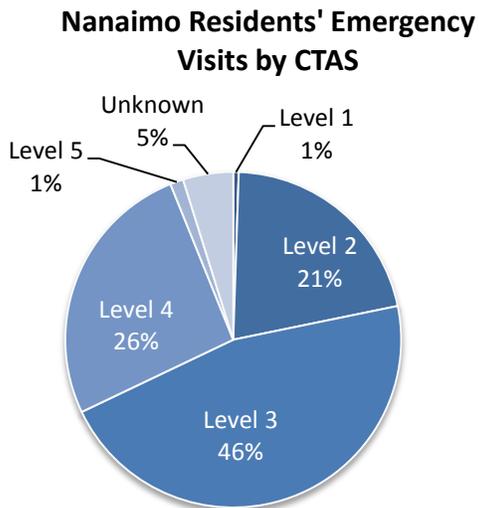


6.2 Emergency Visits by Residents

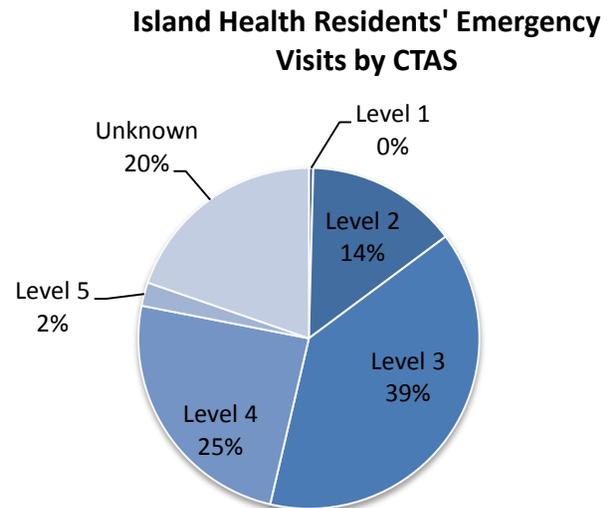
Key Notes:

- Of the 43,531 emergency visits by Nanaimo residents in 2013/14:
 - 68% of those with known scores were CTAS⁷ 1, 2 and 3, similar to Island Health;
 - 92% were at Nanaimo Regional General Hospital; and
 - 32% were for those aged over 60.
- More visits occurred on Saturday, Sunday and Monday than on other days of the week; and
- Nanaimo residents had a slightly higher rate of emergency visits (413 per 1,000) compared to Island Health as a whole (403 per 1,000).

Emergency Visits by Nanaimo and Island Health Residents by CTAS Level



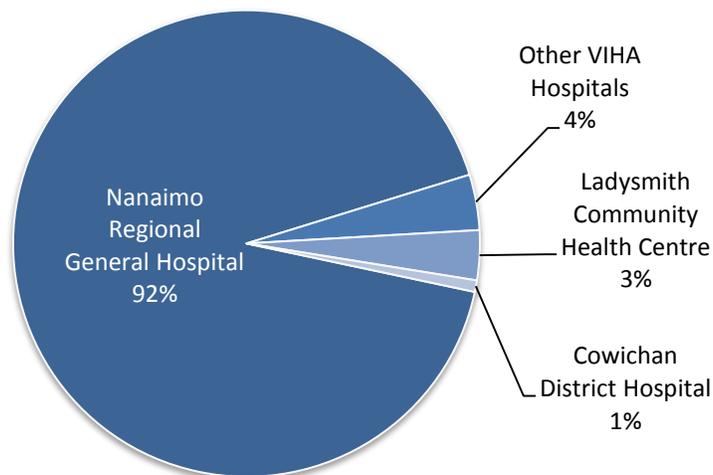
Source: Island Health IDEAS



Source: Island Health IDEAS

Where Residents go for Emergency Visits

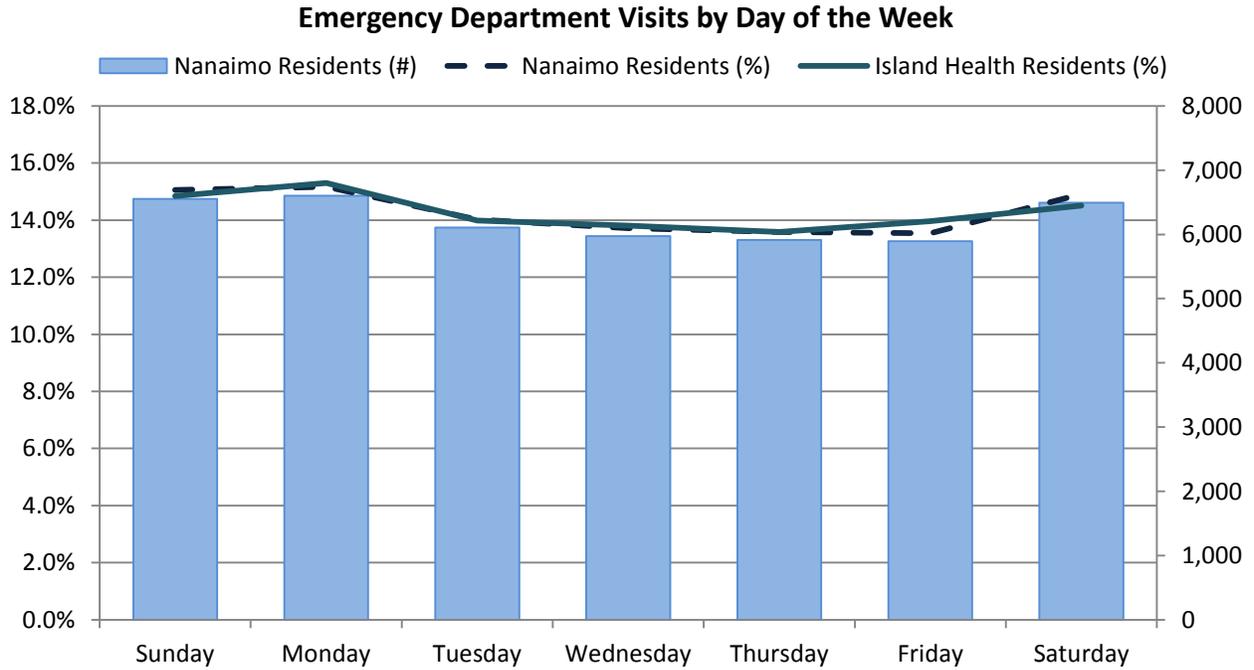
Nanaimo Emergency Visits by VIHA Facility



Source: VIHA IDEAS

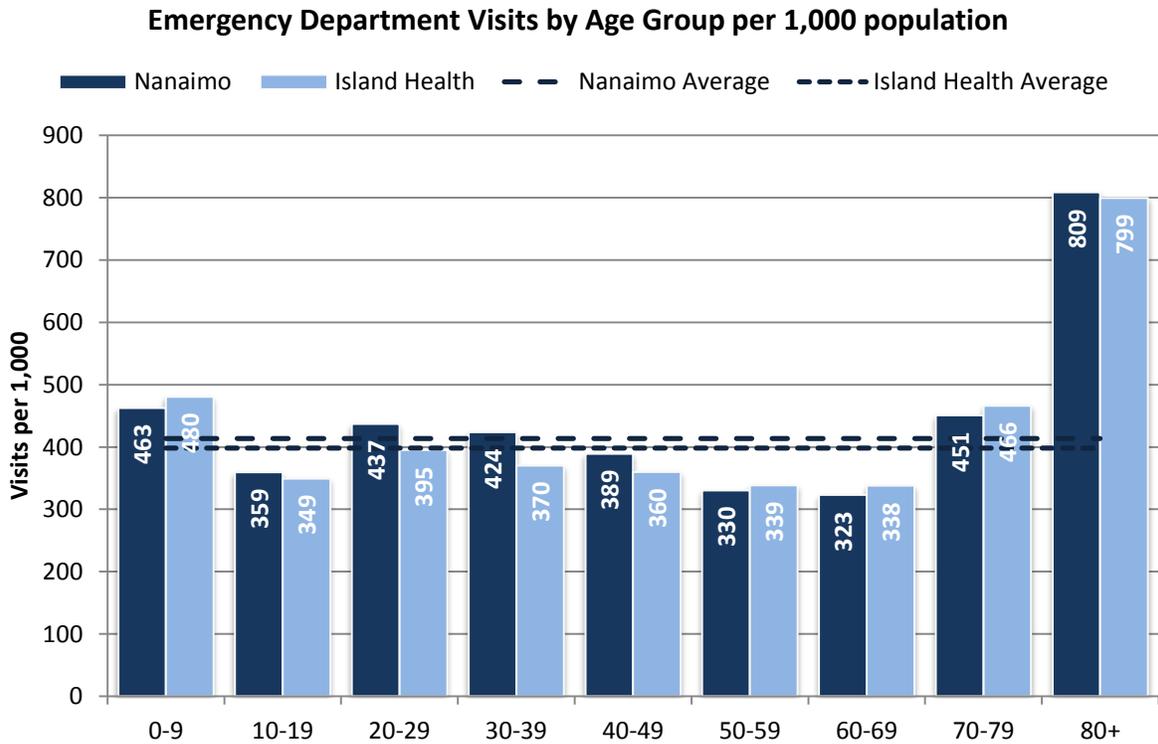
⁷ Canadian Emergency Department Triage & Acuity Scale. Level 1 is the most severe and categorized as resuscitation, Level 5 is the least severe and categorized as non urgent.

Emergency Visits by Nanaimo and Island Health Residents by Day of the Week



Source: Island Health IDEAS

Emergency Visits by Nanaimo and Island Health Residents by Age Group of Patient



Source: Island Health IDEAS