



Report of the Chief Medical Health Officer on the Health Status of Vancouver Island Residents

2010



March 2011

Dr. Perry Kendall
Provincial Health Officer
4th Floor, 1515 Blanshard Street
Victoria, BC V8W 3C8

Dear Dr. Kendall:

I have the honour of submitting the Chief Medical Health Officer's Annual Report for the 2009/2010 fiscal period, for the Vancouver Island Health Authority.

Yours sincerely,

Richard S. Stanwick, M.D., M.Sc., FRCPC, F.A.A.P.
Chief Medical Health Officer

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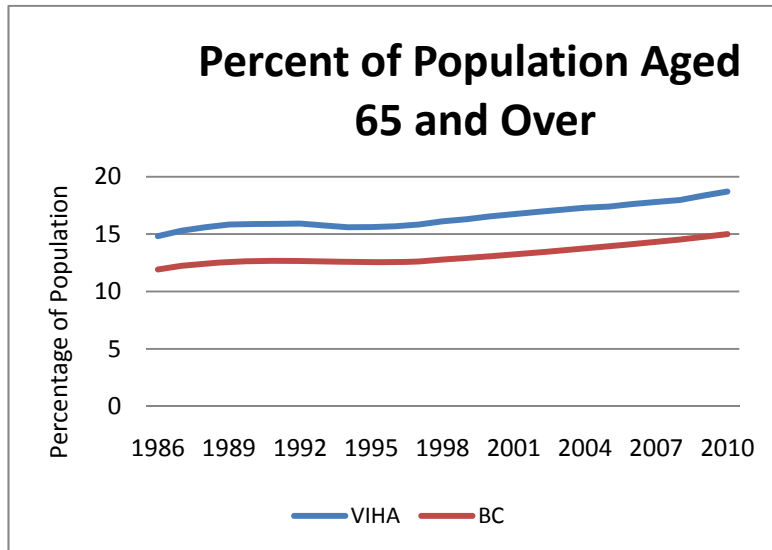
Introduction

The Chief Medical Health Officer's annual Health Status Report for the Vancouver Island Health Authority (VIHA) has been revised to not only meet the requirements of the *Health Act* but also the broad information needs of a variety of constituents. The focus is on providing a succinct overview of the health status of VIHA residents based on a number of key indicators. It is intended to serve as a primer on the health of the population of this region. It neither provides a detailed analysis of specific health indicators nor detailed geographical profiles within the health authority. However, it does provide insights into the challenges and opportunities associated with sustaining and improving our population's health status. As Chief Medical Health Officer, I also oversee the development of a variety of in-depth and comprehensive reports that frequently have their origins in this tracking of general trends in regional health indicators. In the past, special reports have been generated on the subjects of Women's Health, Aboriginal Health, Infant Mortality, Environmental Health and the Social Determinants of Health. During the coming year, reports will be issued on Motor Vehicle Collisions and Premature Mortality.

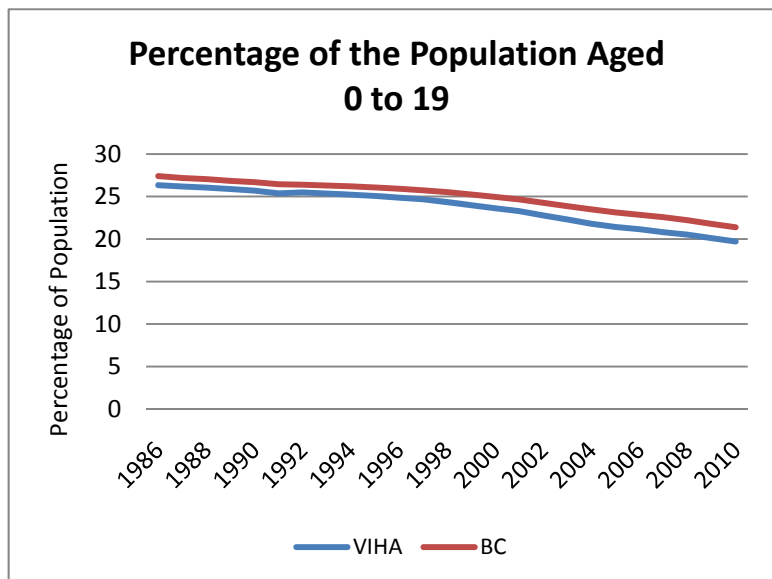
VIHA also produces annual profiles of health-related indicators in each of its 14 Local Health Areas. These profiles include demographic, social determinants, health status, and health utilization indicators, and are found on VIHA's public website.

Determinants of Health

Population



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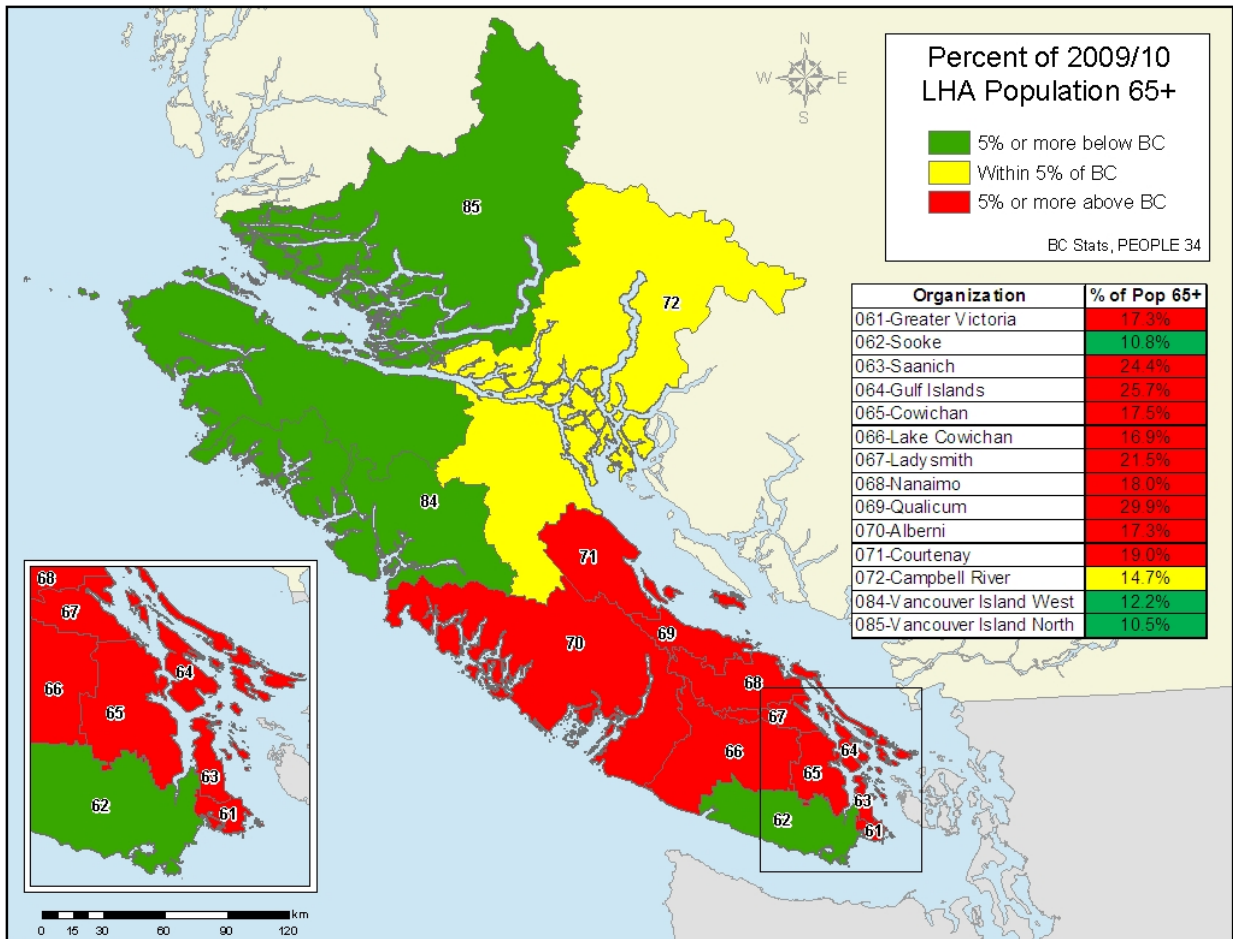


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The proportion of our population which is aged sixty-five and over is continuing to grow. This age group has been larger in VIHA than the province as a whole for the past twenty-five years and the size of the gap has remained relatively unchanged.

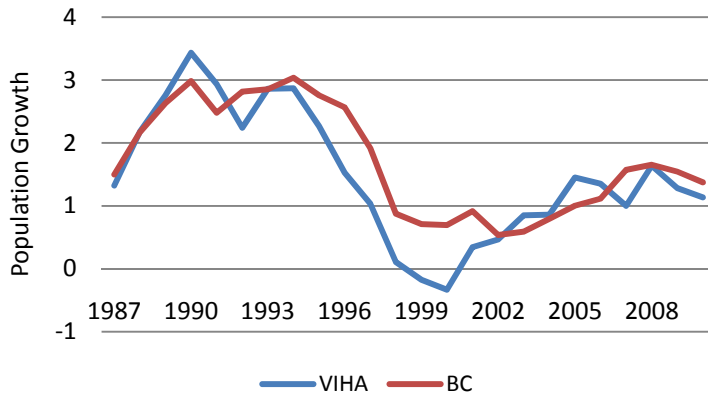
In 2010, 18.4% of the VIHA population was aged 65 and over, well ahead of the Canadian rate of 13.9%. The relative size of this population in the VIHA catchment area puts us on par with some of the older European nations such as Sweden. The Canadian figure is not expected to exceed 18% until after 2020.

At the other end of the age-spectrum, the proportion of our population aged 0 to 19 has been declining for the past twenty-five years with only a small difference between the local and the provincial rate.



VIHA LHAs by percent of 2009/10 population 65+

Population Growth Rates 1987 to 2010



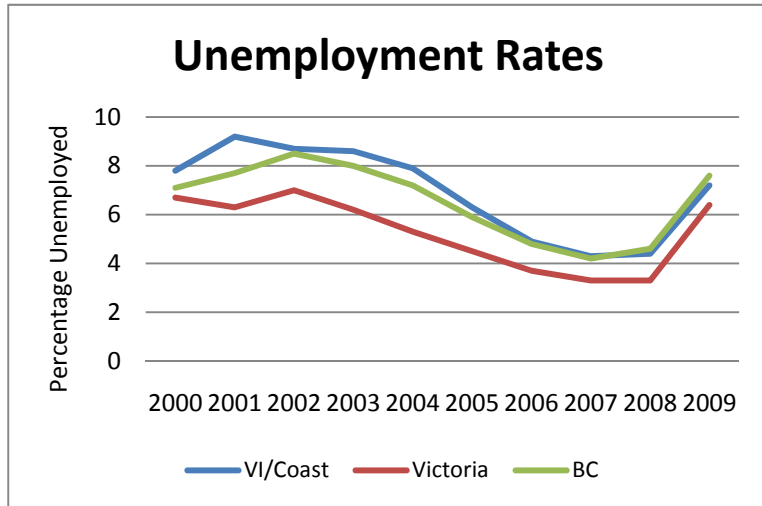
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Provincial and local population growth rates slowed considerably during the latter part of the 1990s and then increased at a moderate rate during the first decade of the new millennium. Despite the increase, the growth rates remain below those experienced during the early nineties.

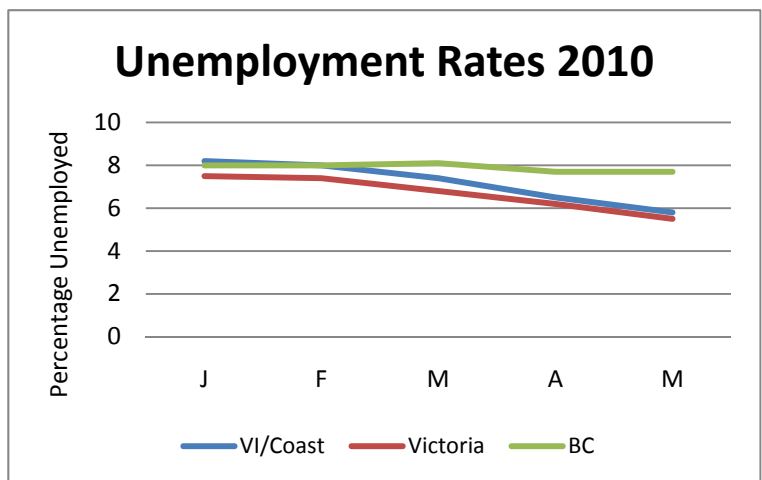
Area	Pop Growth Past 5 Years
Sooke	3
Qualicum	2.4
Gulf islands	2.1
Courtenay	2.1
Ladysmith	1.9
Lake Cowichan	1.7
Nanaimo	1.6
Cowichan	1.4
BC	1.4
Campbell River/VI West	1.2
Greater Victoria	0.6
Alberni	0.6
Saanich	0.5
VI North	-1.1

During the past five years, local growth rates have fluctuated to a greater extent than provincial rates. Sooke and most of the Central Island experienced growth rates in excess of the province rate while the most populated areas (Greater Victoria and Saanich) have experienced lower rates of growth. Vancouver Island North experienced a decline in population.

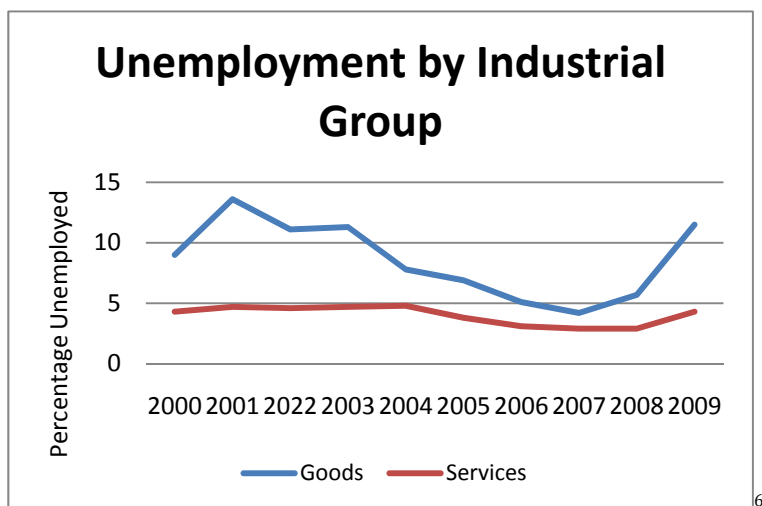
Employment



After falling for eight years, unemployment rates increased dramatically in 2009. Local and provincial trends were almost identical.

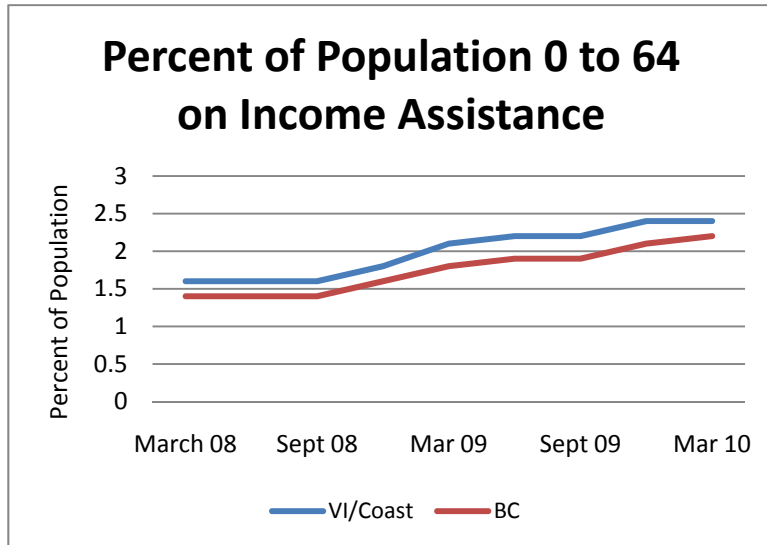


During the first two quarters of 2010, rates fell in the local area more rapidly than the provincial average, but remained well above 2008 levels.

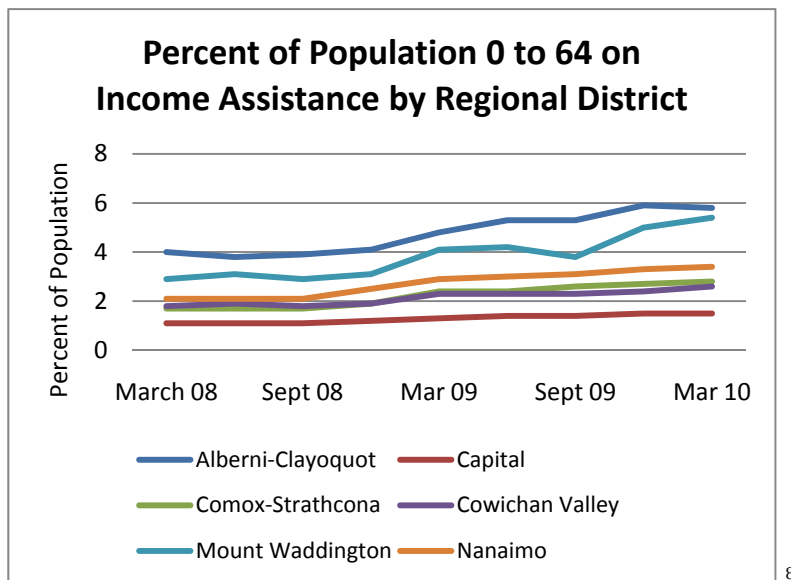


Employment in the goods-producing industries was impacted more strongly by the downturn than employment in the service sector. The goods-producing sector has traditionally experienced higher rates of unemployment than the service sector but the gap between the two sectors had narrowed substantially through to 2008. It widened again during the downturn in 2009.

Income Assistance

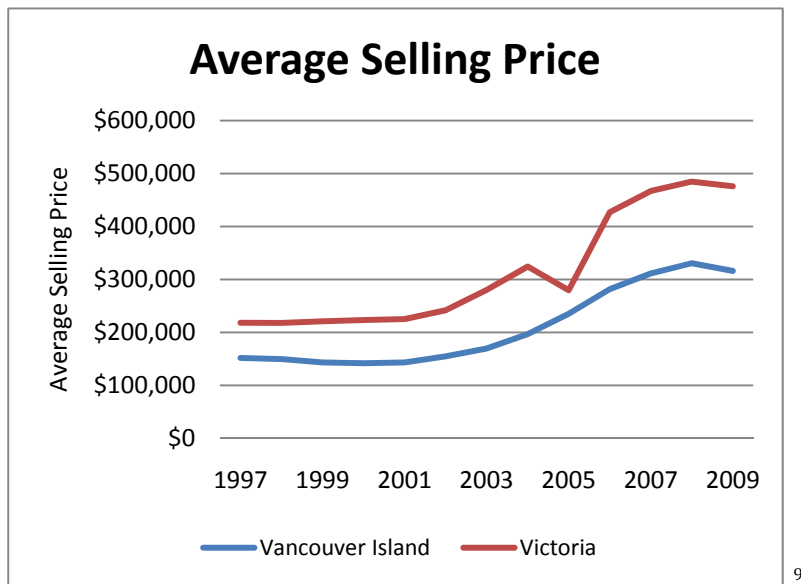


The percentage of the population in receipt of income assistance began to increase in mid-2008 as the effects of the economic downturn on rates of unemployment were experienced by workers.

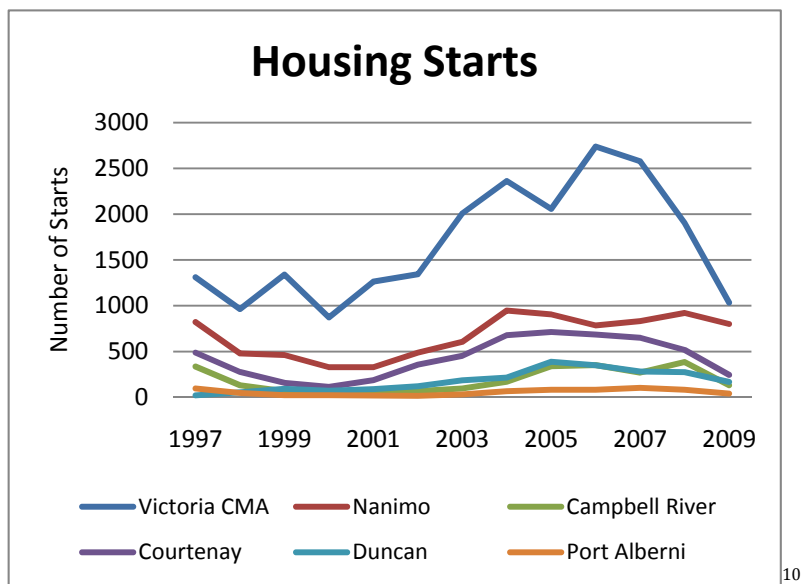


These impacts were felt most strongly in the locations which tended to have the higher rates of income assistance dependency in the pre-downturn period: Alberni-Clayoquot and Mount Waddington.

Housing

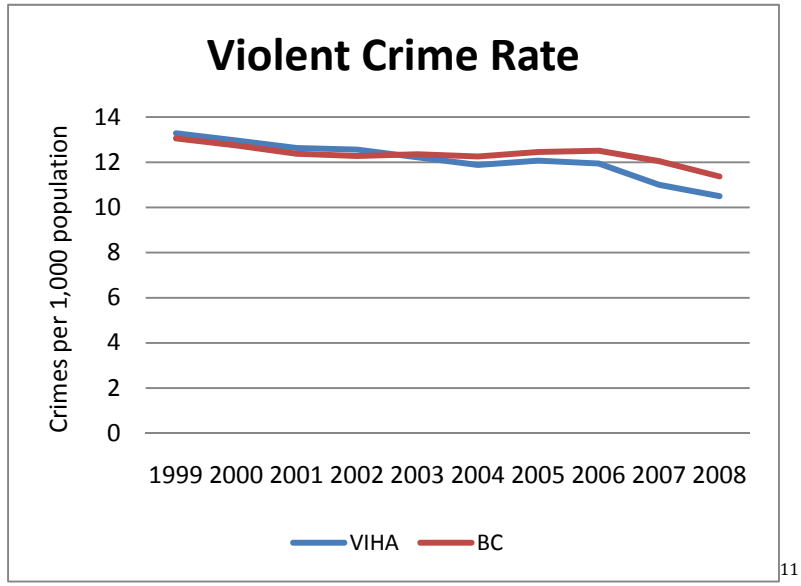


The economic downturn had substantial impacts on the local housing market. The rapid escalation in housing prices that began in 2003 leveled off in 2009.

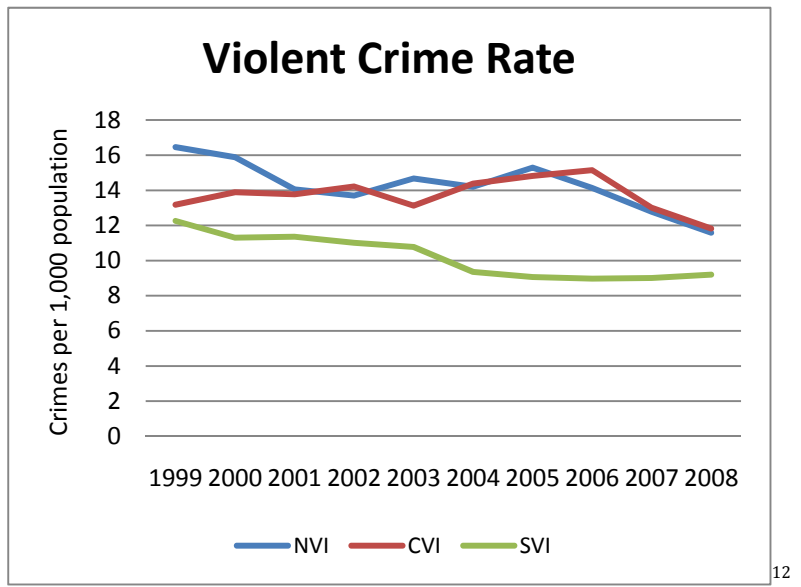


Housing starts decreased substantially after 2007 and the greatest drop occurred in the Victoria Census Metropolitan Area.

Violent Crime



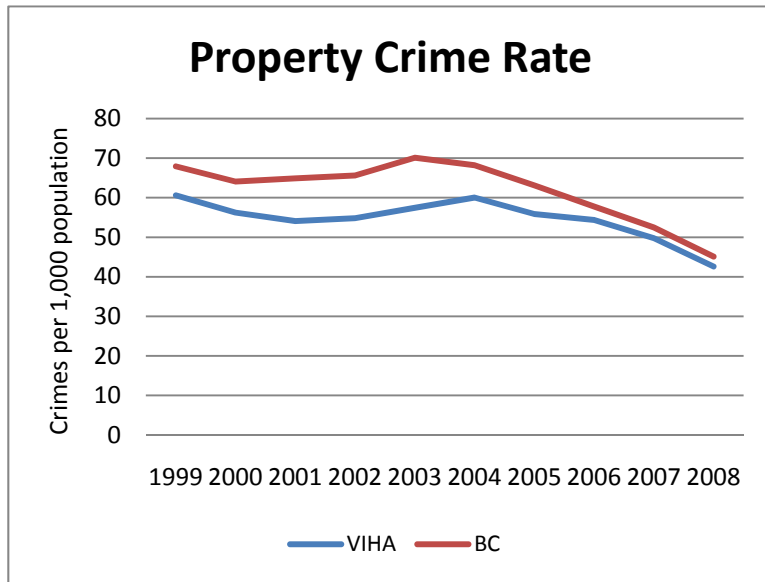
Violent crime rates have been falling in the VIHA catchment area and in the province as a whole for the past decade. The local rates have fallen to a greater extent than provincial rates and a gap has opened up between the local area and the province as a whole.



Violent crime rates have tended to be lower in the South Island than in Central and North Island. The size of the gap widened in 2005 and 2006 before narrowing to a more traditional level in 2008.

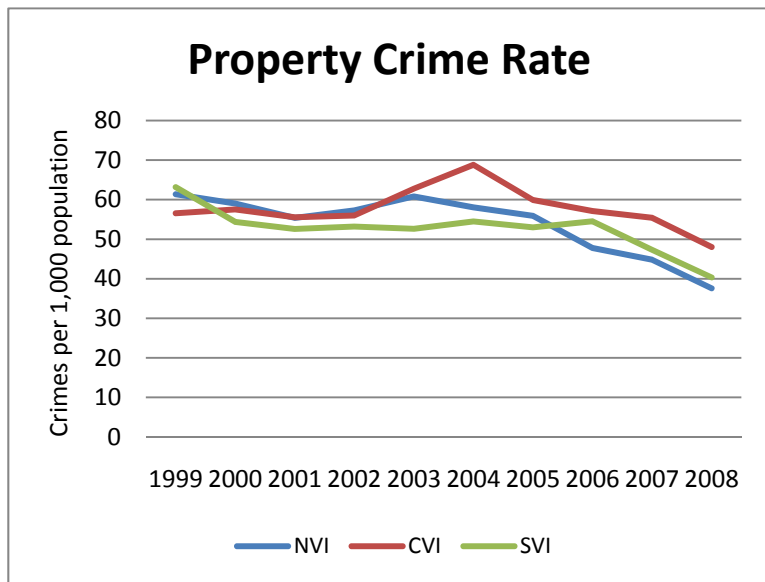
It is noteworthy that the decreased rates across VIHA were largely attributable to decreases in North and Central Island.

Property Crime



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Rates of property crime showed substantial reductions after 2003, when unemployment rates first began to fall. They continued to fall to 2008 and the figures for 2009 are not yet available to examine the extent to which they increased again with the rise in unemployment that occurred during that period.

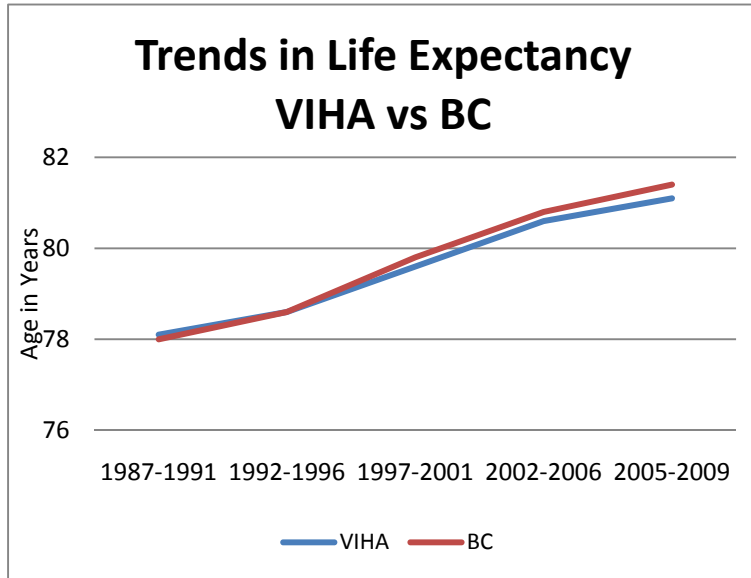


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The post-2003 reduction in property crime rates occurred across the Island. Rates had increased to a greater extent in Central Island and the gap had not yet closed by 2008.

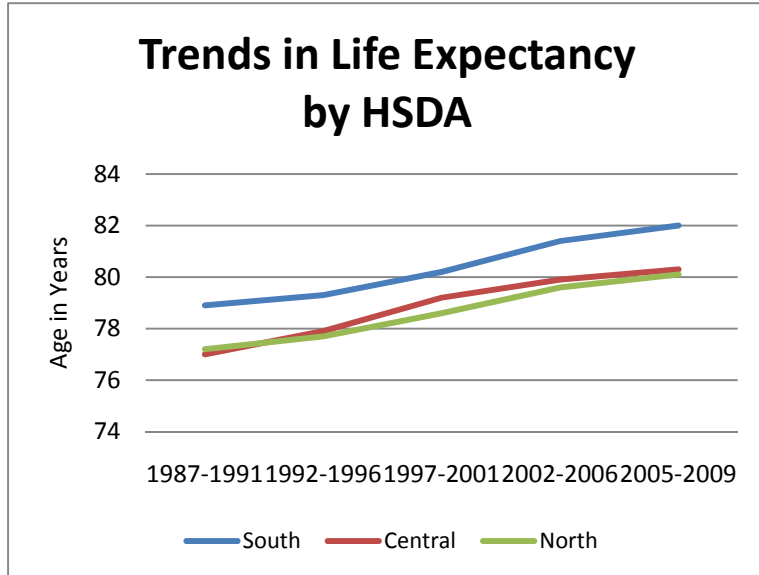
Health Status

Life Expectancy



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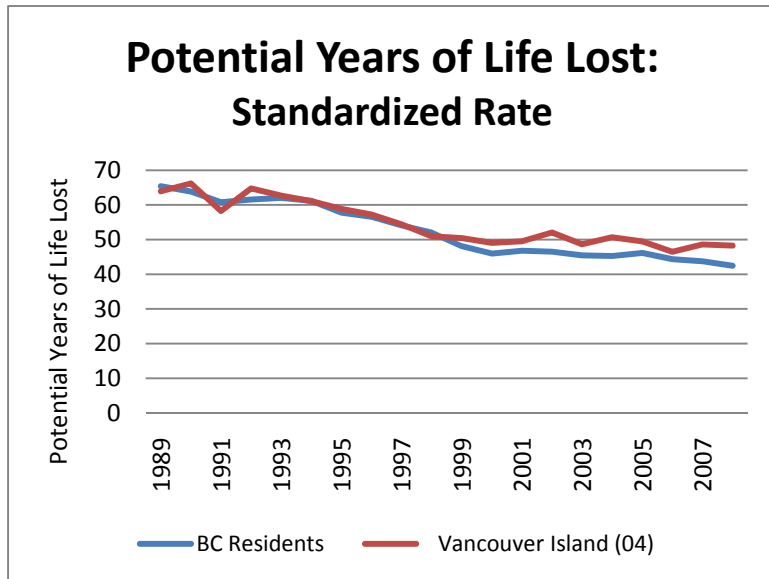
Life expectancy trends within VIHA and BC have diverged slightly during the past decade. The gains within VIHA have lagged slightly behind the provincial average. The differences are not large – only a matter of three or four months – but become more pronounced when viewed at the level of health service Delivery Areas.



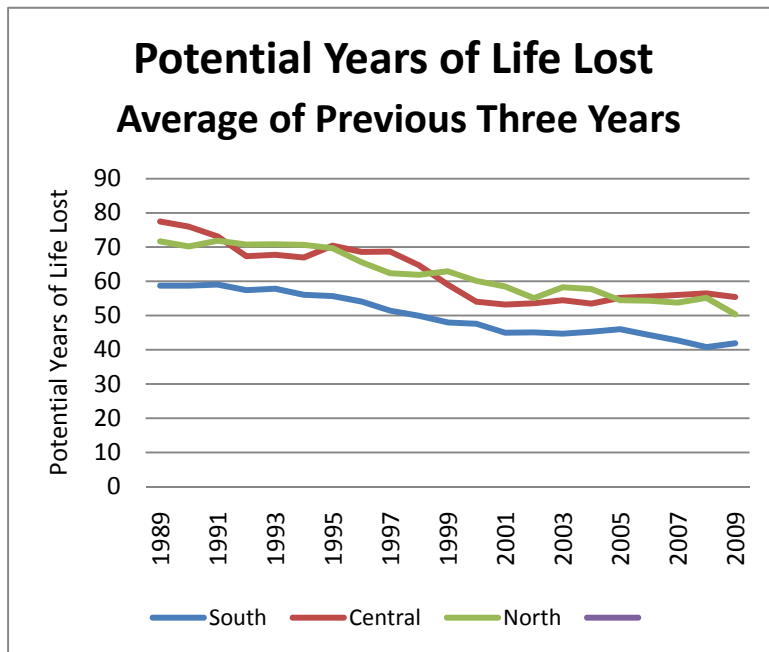
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Life expectancy in South Vancouver Island has been substantially longer than in Central and North Island for the past two decades. During the late nineties, the gap between South and Central closed somewhat but widened again during the most recent decade.

Premature Mortality



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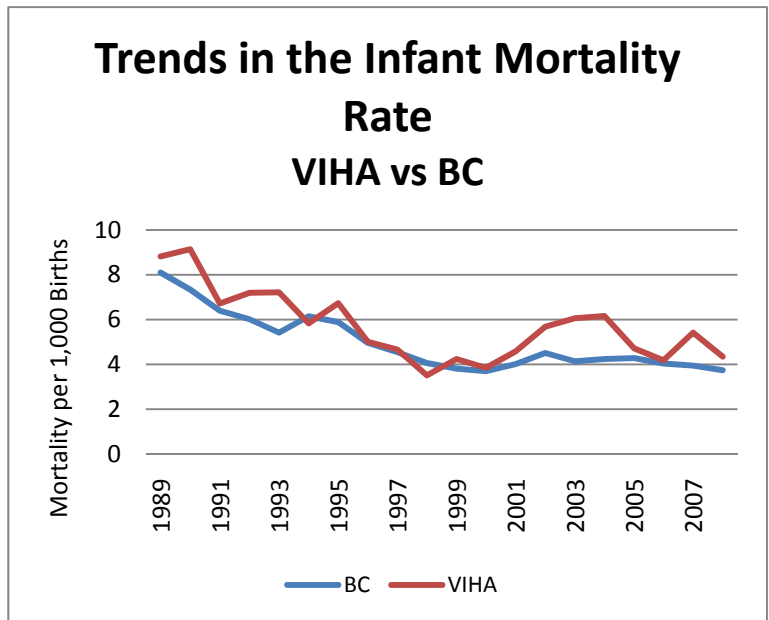


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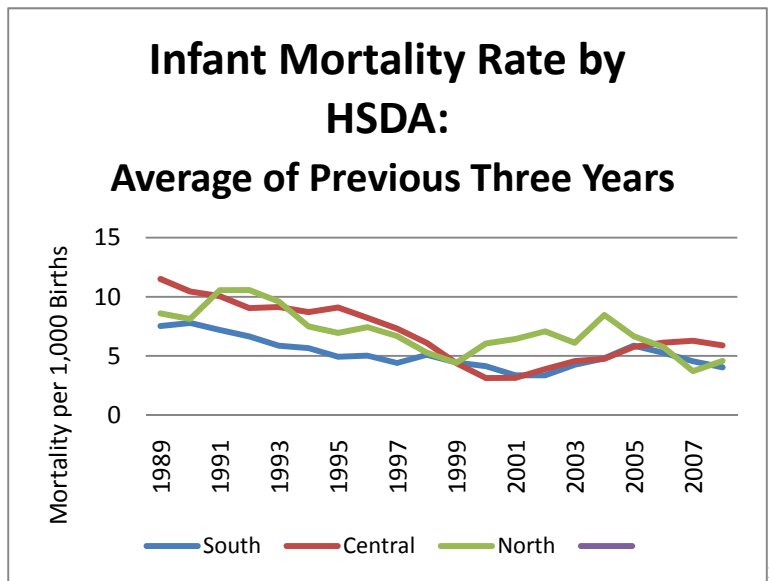
The increased life expectancy that we have experienced locally and provincially has been associated with reduced rates of premature mortality. During the 1990s the rates within VIHA were virtually identical to the provincial rates. During the past decade, however, the rate of decline has slowed, particularly within the VIHA catchment area. A small gap has opened between local and provincial rates with the VIHA catchment area experiencing slightly higher rates.

As with life-expectancy there has been a consistent gap throughout the period between South Island and the rest of the catchment area. Central and North Island are reporting substantially higher levels of premature mortality.

Infant Mortality Rate



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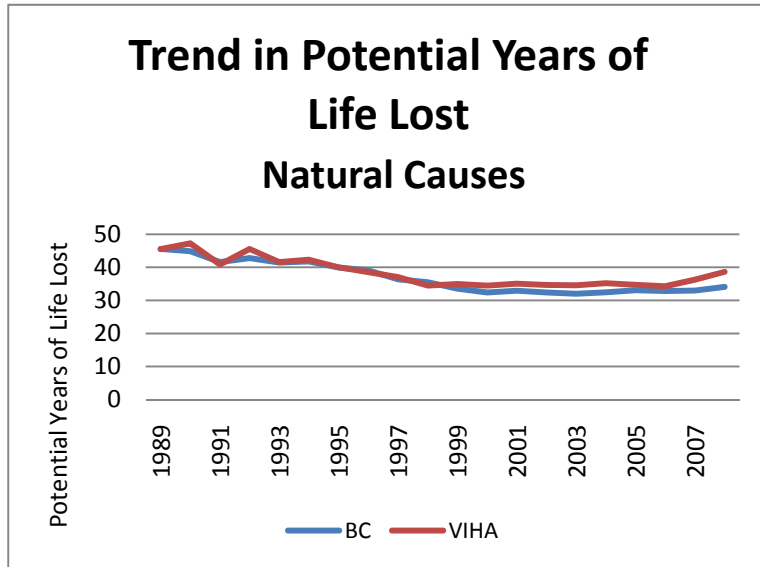


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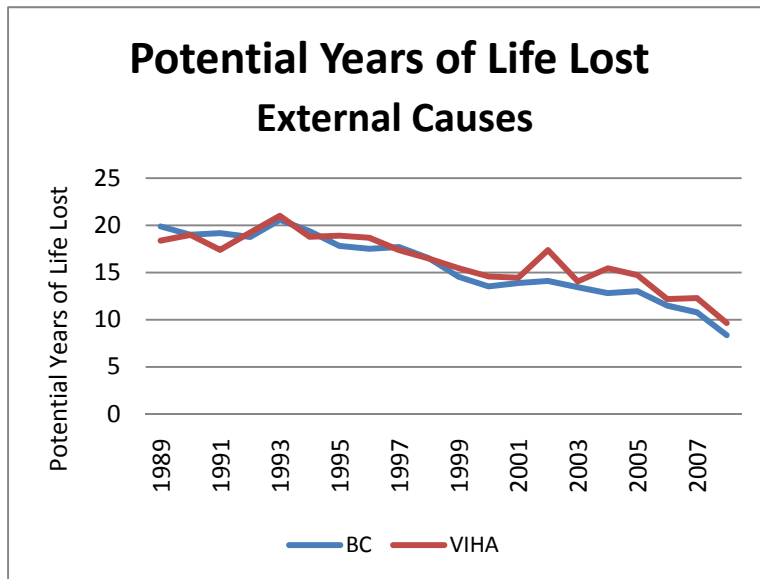
The infant mortality rate is an important determinant of life expectancy and premature mortality. The rate of infant mortality decreased consistently during the 1990s both within the VIHA catchment area and provincially.

The provincial rates leveled off during the most recent decade but the VIHA catchment area experienced a “bubble” in rates during the first half of the decade. This “bubble” was the result of rate increases in all three HSDAs, but most particularly in the North Island. Since 2005, rates have fallen in the South and North Island but continued to remain higher in the Central Island.

Causes of Death



21



22

	Person-years of excess mortality	SVI	CVI	NVI
Malignant Neoplasms	3515		X	X
Injuries	2866		X	X
Suicide	2818		X	X
Liver Disease	1116		X	
SIDS	393		X	

X indicates rates are significantly higher than BC

23

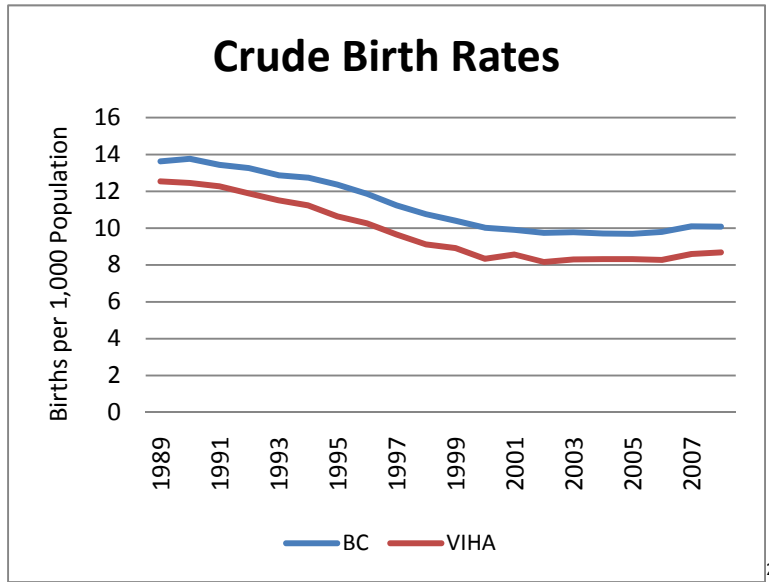
After declining through most of the 1990s, premature mortality from natural causes leveled off and even increased slightly during the past decade. Premature mortality from external causes has continued to decline.

The BC Vital Statistics Agency has identified a number of causes of death which contribute to the higher rates of premature mortality within the VIHA catchment area-

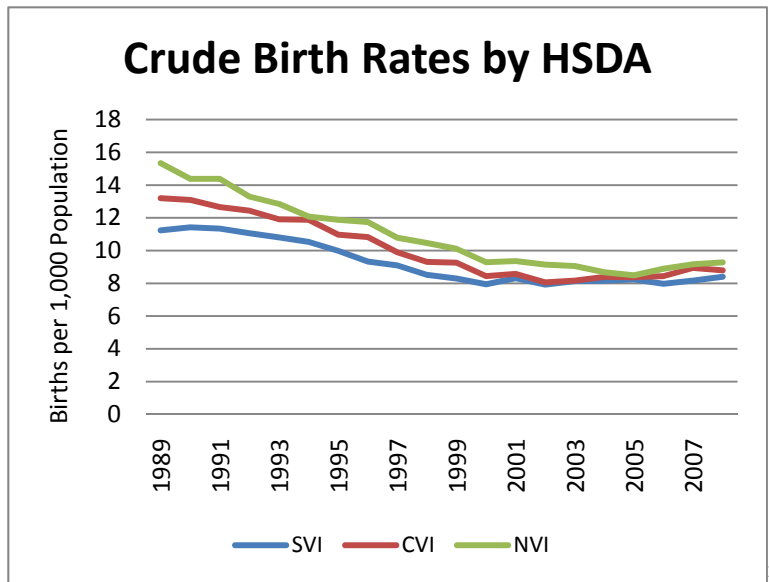
- Malignant neoplasms (digestive and respiratory; 45% are smoking-related)
- Diseases of the Liver (alcohol liver disease)
- Suicide
- Unintentional Injuries (transport accidents)
- Sudden Infant Death Syndrome

None of these rates were higher in South Island than in Central or North.

Birth Rates



24



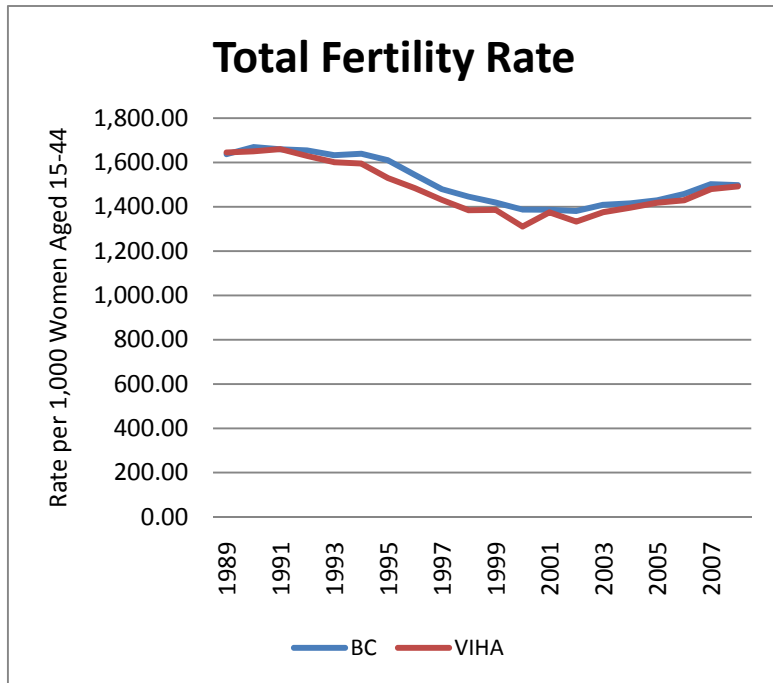
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Birth rates fell locally and provincially during the 1990s and then leveled off during the most recent decade.

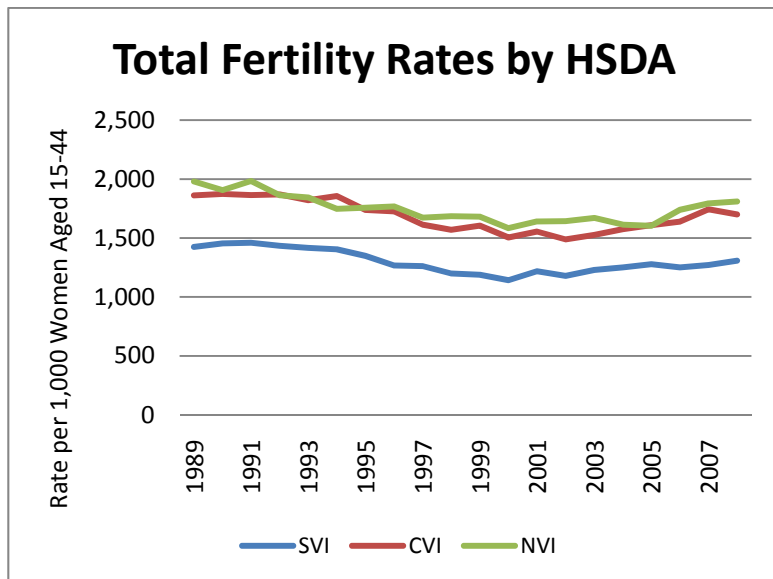
Rates within the VIHA catchment area have been consistently lower than provincial rates.

Differences in rates between the South, Central and North Island have diminished across the period. By 2008, the birth rates were almost identical.

Fertility Rates



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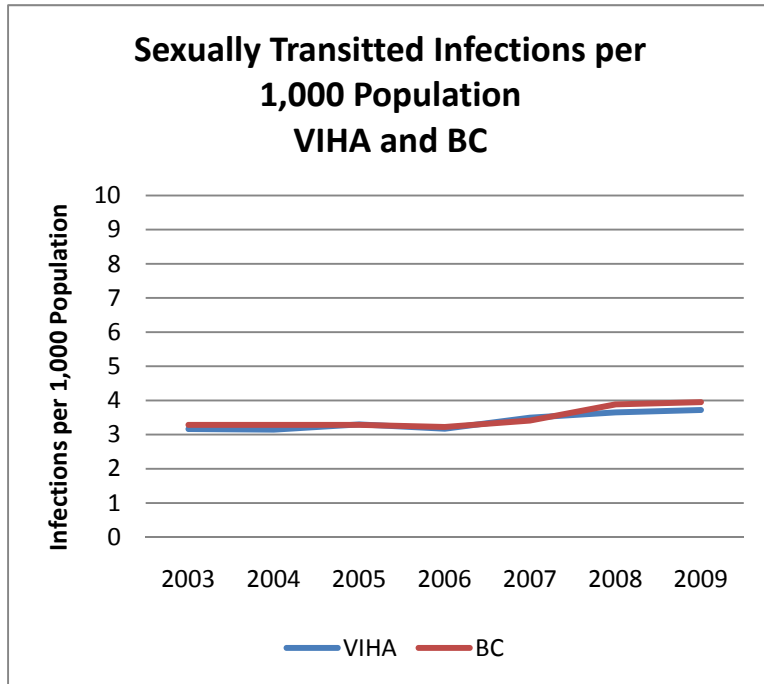
27

The lower birth rates within the VIHA catchment area may be due to a lower proportion of women in the VIHA of child-bearing age. The Total Fertility Rate controls for this issue by estimating the number of births a group of 1,000 women is likely to have during their childbearing years (15-45), given current age-specific fertility rates.

The local and provincial fertility rates are almost identical. This suggests the lower birth rates VIHA are primarily due to age differences in the population, rather than lower fertility among women in their child-bearing years.

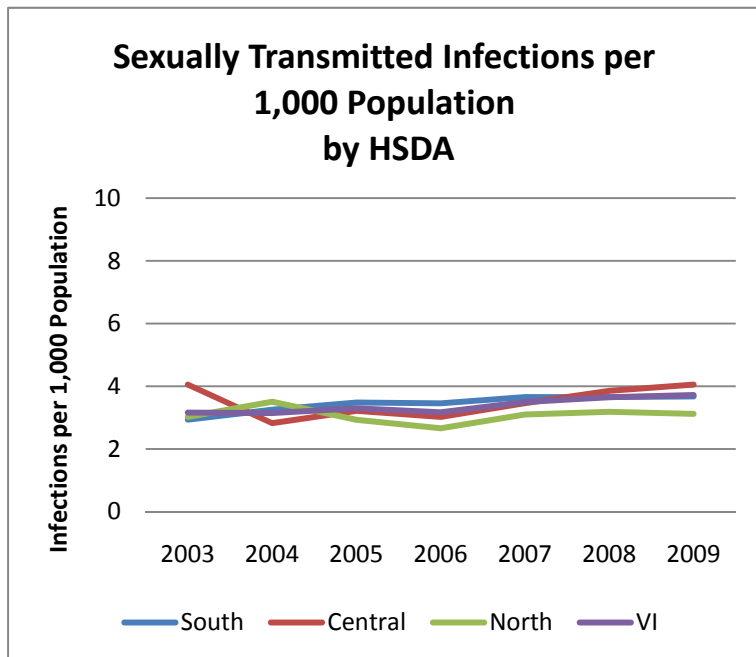
The HSDA figures indicate that South Island had lower fertility rates than Central and North Island. The convergence in birth rates, therefore, is likely due to a larger proportion of women in SVI being at their child-bearing age.

Sexually Transmitted Infections



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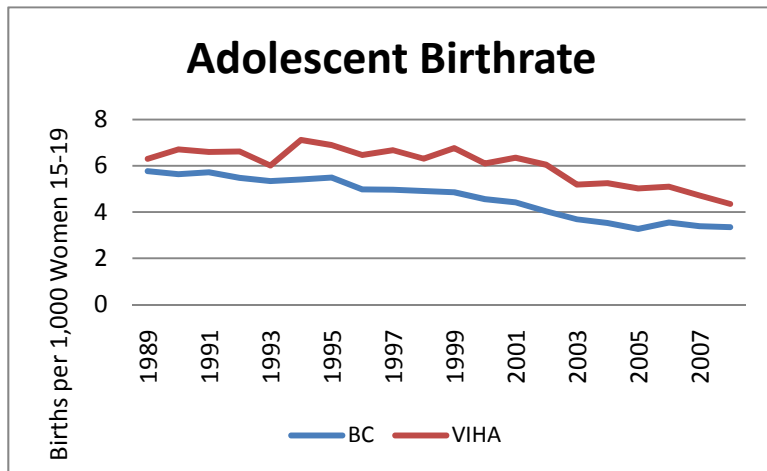
The prevalence rate for sexually transmitted infections has been rising slowly since 2006 in VIHA and in the province as a whole. The provincial rate has risen slightly more than the VIHA rate.



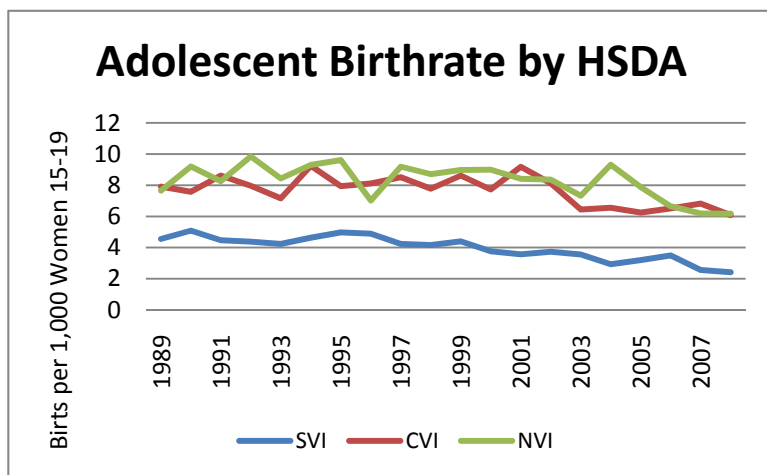
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There has been relatively little variation between South, Central and North Island in STI rates.

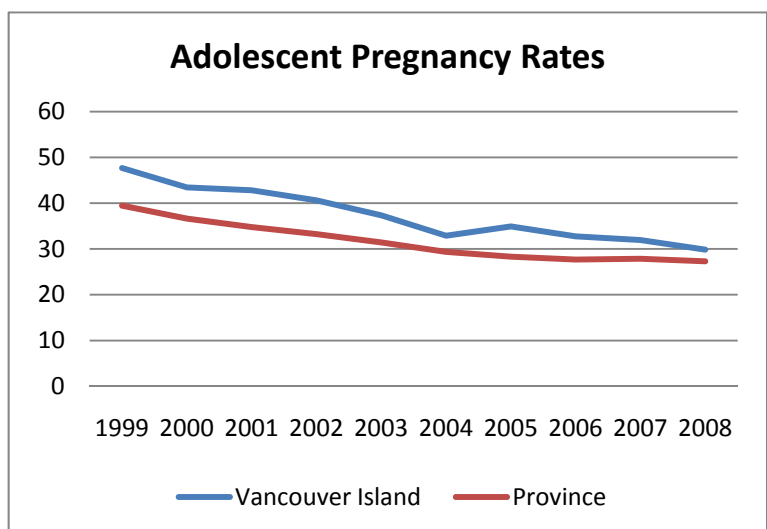
Adolescent Birthrate



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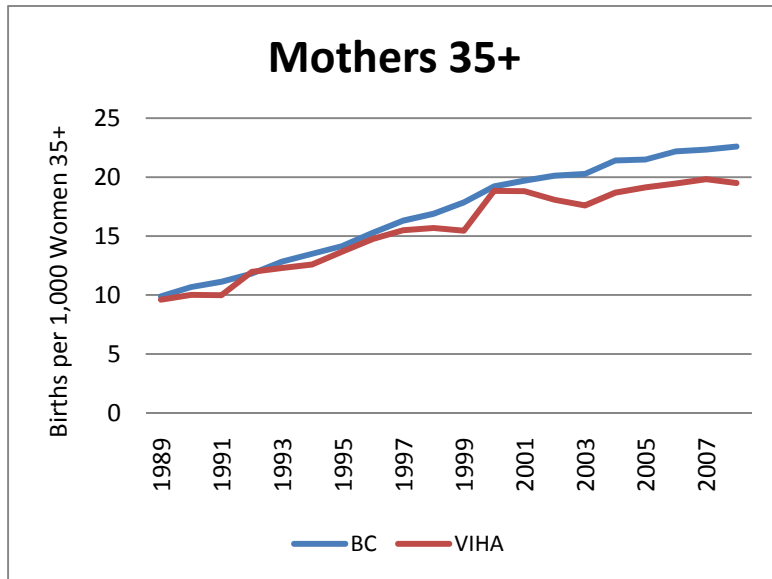
32

Although general birthrates are lower than the provincial average in the VIHA catchment area, adolescent birthrates are substantially higher. However, the rates have fallen considerably across the time period and, in the most recent years the gap between local and provincial rates has closed slightly.

The higher rates in the VIHA catchment area are due to higher rates in the Central and North Island. Rates in the North have fallen substantially since 2003 while rates in Central Island have leveled off.

The decreasing adolescent birthrates are reflective of a general decrease in adolescent pregnancy rates.

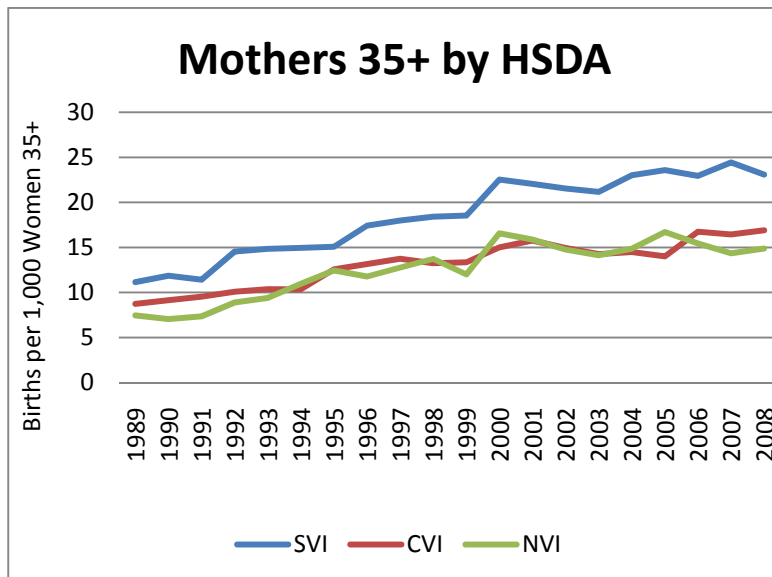
Mothers Aged 35+



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The higher adolescent birthrates in the VIHA catchment area are counter-balanced by lower rates among women aged thirty-five and older, resulting in the lower overall birth rate.

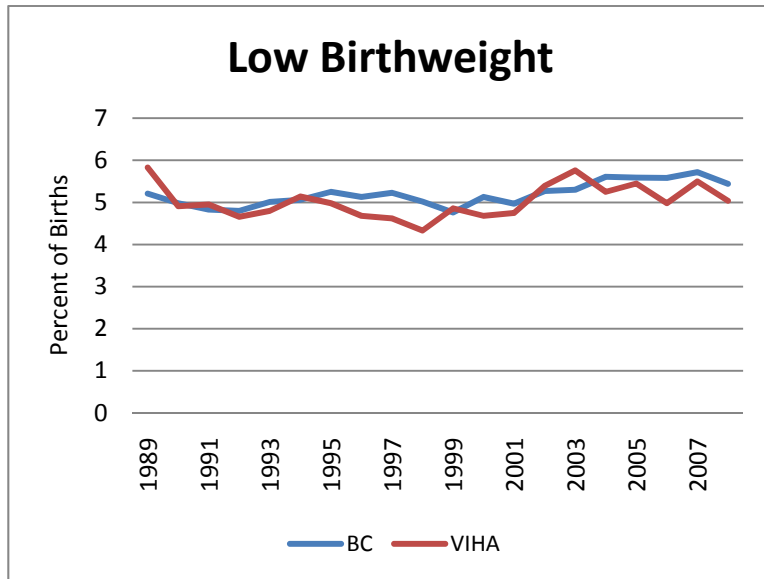
The birthrate among this older cohort has increased substantially across the period as women delayed child-bearing.



34

In contrast with adolescent birthrates, the rates among women aged thirty-five and over are substantially higher in the South Island than in North and Central Island.

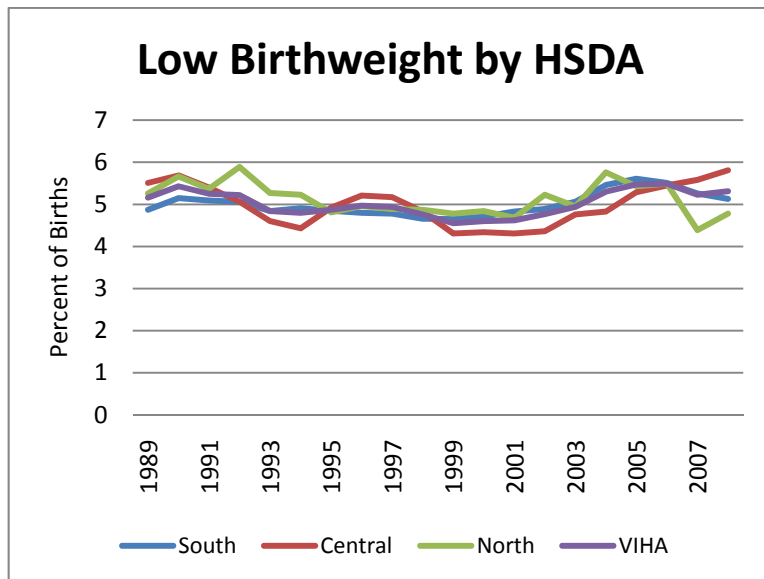
Low Birthweight



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The provincial and local rates of low birthweight have been relatively close for the past twenty years with VIHA rates at a slightly lower level in a majority of years.

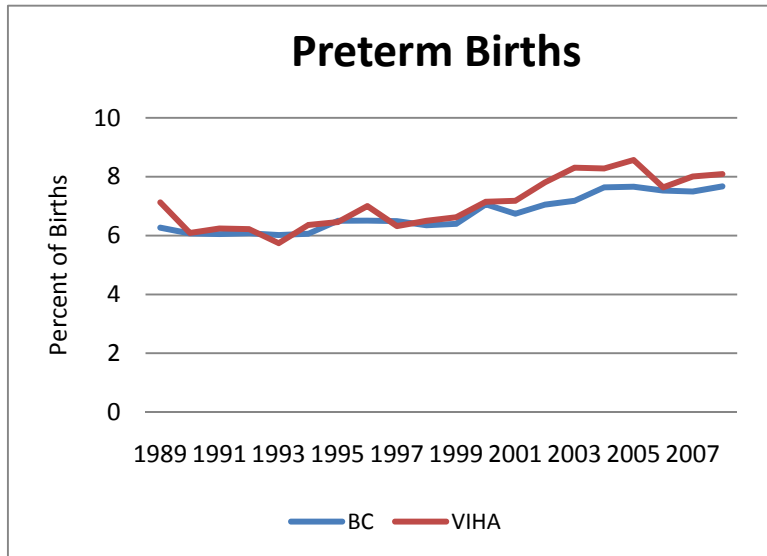
Rates have increased slightly in both jurisdictions since the late 1990s but appear to have leveled off in recent years.



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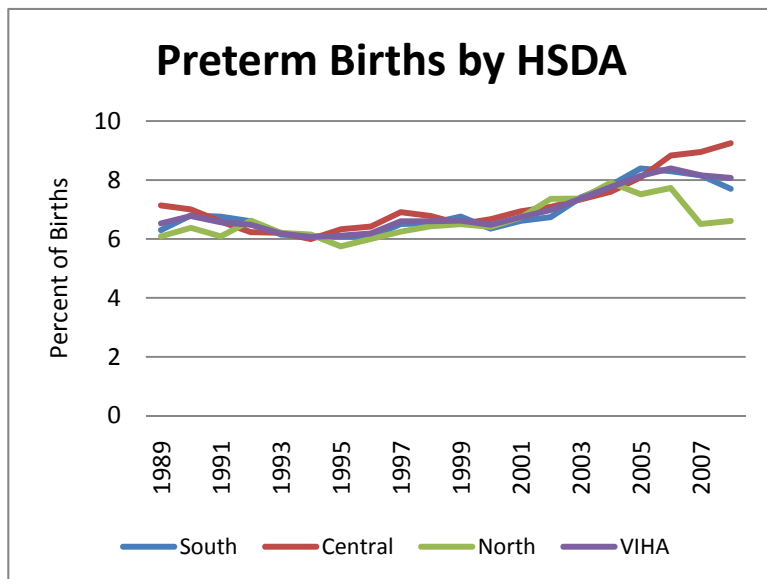
The rates showed little variation between the Health Service Delivery Areas on the Island until the past three years. Since 2006, some divergence has occurred because of reduced rates in the North and continued increases in the Central Island.

Preterm Births



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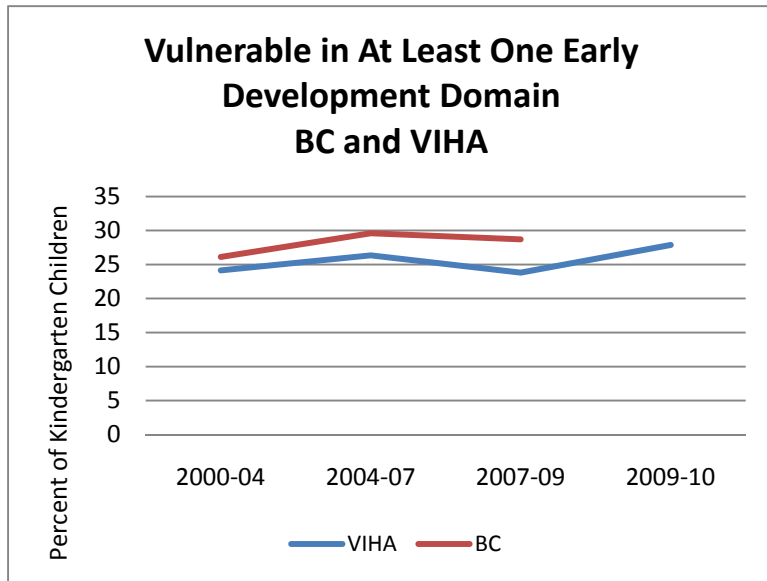
The rate of preterm births has been rising provincially and locally for the past fifteen years. The local rate increased at a faster rate between 2001 and 2005 to create a substantial gap between the two rates. This gap has shrunk during the past three years.



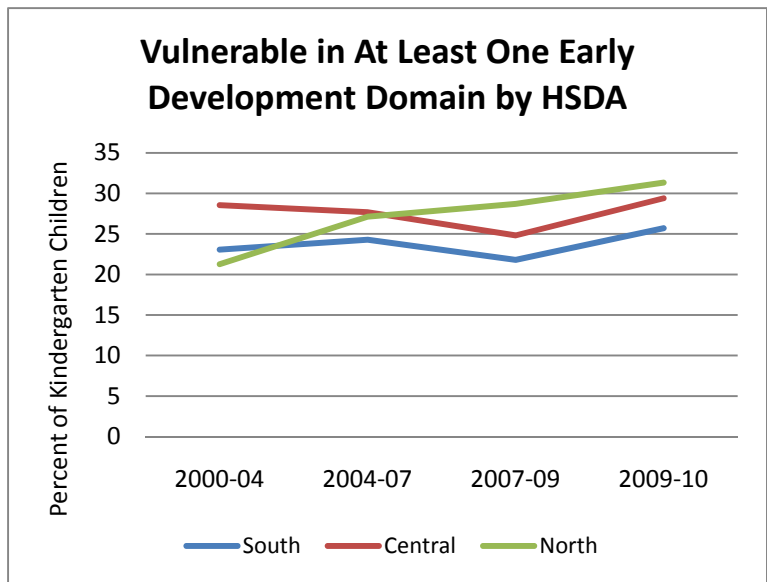
38

The escalated rise in preterm birth rates between 2001 and 2005 in the VIHA catchment area occurred in all three Health Service Delivery Areas and the rates were very close. Since that time a substantial divergence has occurred. The rate has leveled in the South, decreased in the North and continued to increase in Central Island.

Early Development



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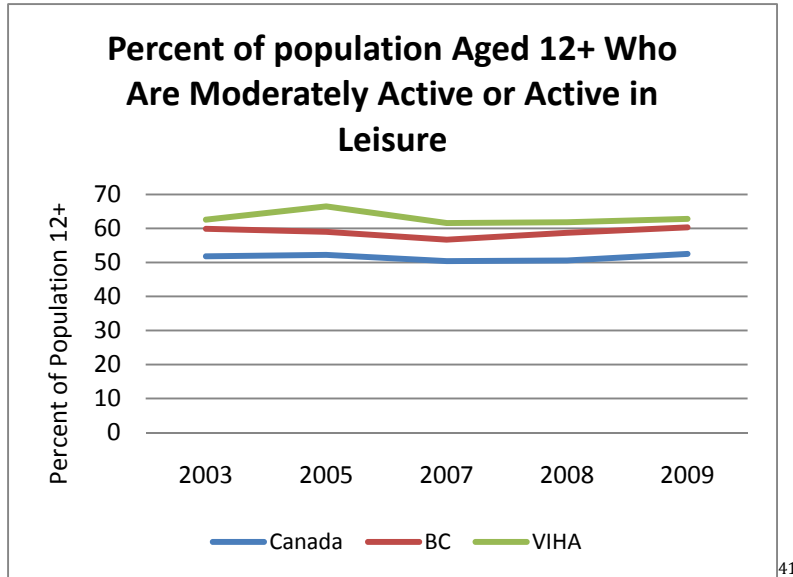
The Human Early Learning Partnership at UBC, funded by the Province, supports all kindergarten children in BC being rated by their teachers on five measures of early development: physical health and wellbeing, social competence, emotional maturity, language and cognitive development, and communications and general knowledge. For each of these measures, low-scoring children are rated as “vulnerable”.

The percentage of VIHA children rated as vulnerable in at least one domain has increased slightly over the decade. Provincial numbers are not yet available for 2009/10 but the VIHA rate has been slightly lower than the Provincial rate throughout the decade.

The increase in the VIHA rate has been due to a substantial increase in the North Island rate and a more modest increase in the South and Central Island.

Healthy Living

Active Leisure



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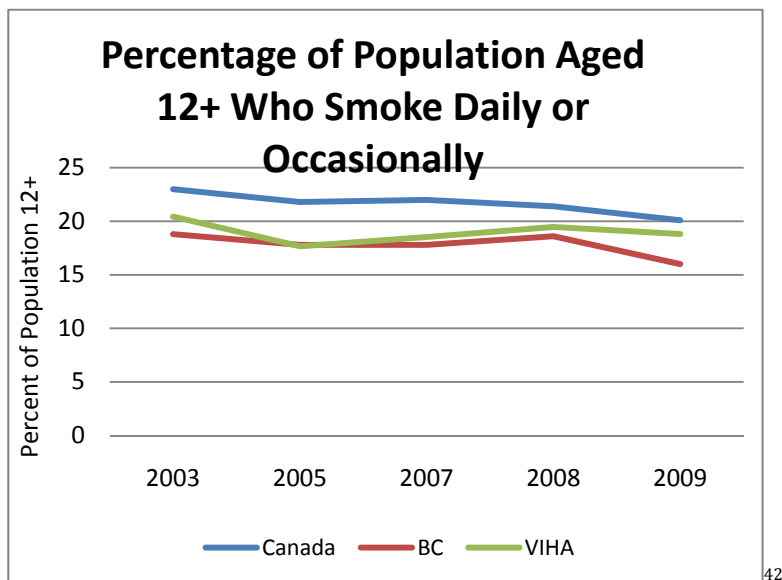
The percentage of the population who are involved in active leisure has remained relatively flat throughout the most recent decade in the VIHA catchment area.

The local population is substantially more active than the national average and very close to the provincial average.

Smoking rates have been dropping locally, provincially and nationally throughout the decade. The local rate has tended to be close to the provincial rate and lower than the national rate. There is some suggestion that the local rate may be leveling in the most recent time period.

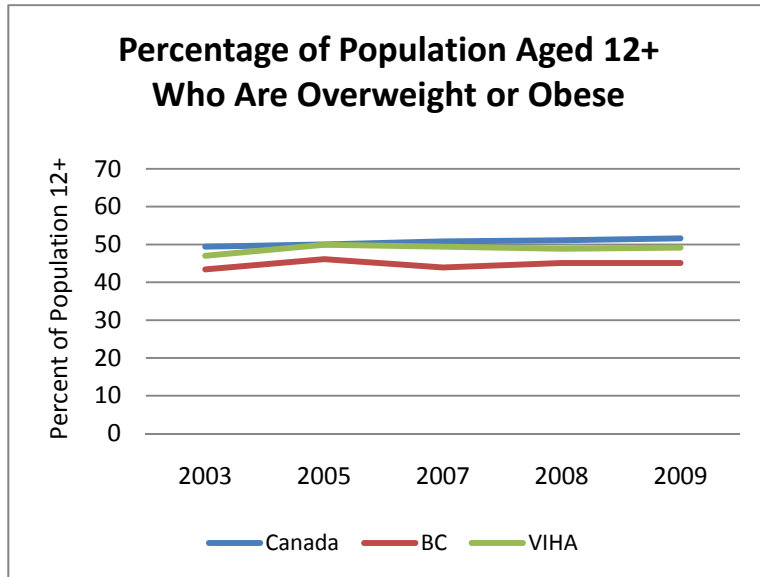
The survey sample which is used to generate these results does not produce robust estimates at the level of HSDA.

Smoking



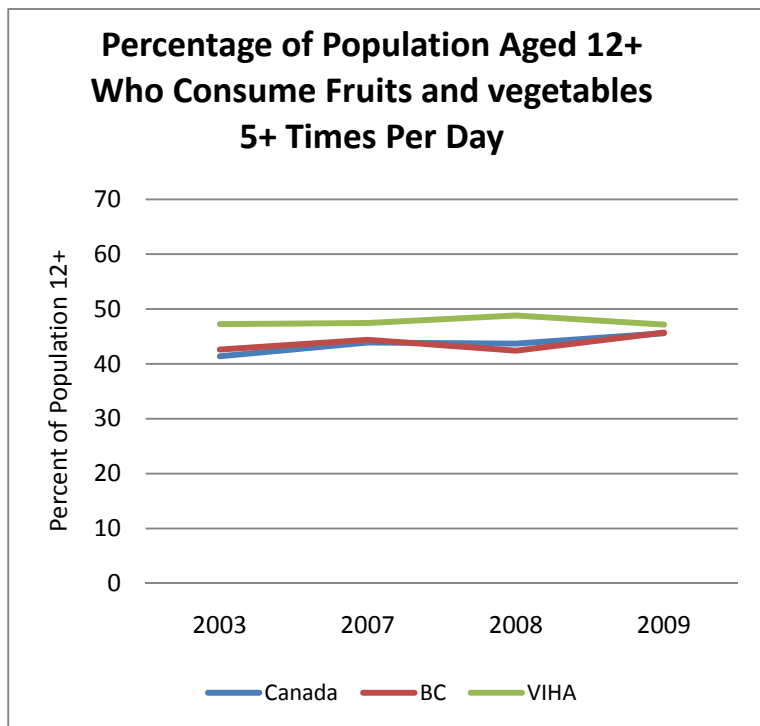
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Healthy Weight



The percentage of the population which is overweight and obese has increased slightly during the past decade. The local rate has tended to be slightly higher than the provincial rate and very close to the national rate.

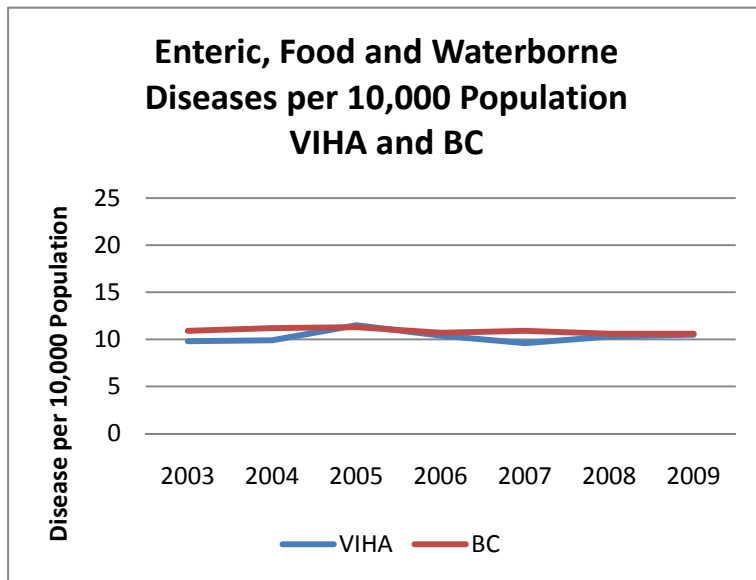
Healthy Eating



The percentage of the population who report five or more servings of fruit and vegetables per day has remained relatively leveled through the decade in the VIHA catchment area, and above provincial and national rates.

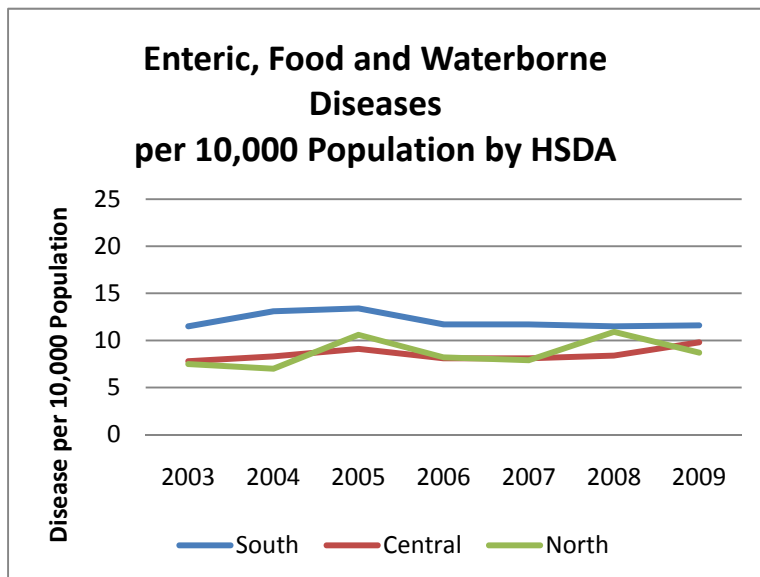
Both the provincial and national rates have increased slightly through the period, resulting in the gap with the local rates closing.

Enteric, Food and Waterborne Diseases



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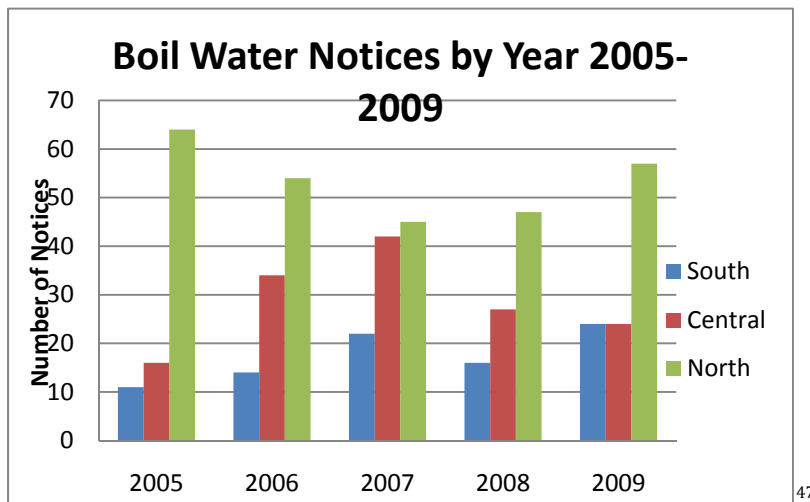
The prevalence of a number of diseases which are commonly borne by food and water has been relatively unchanged since 2003 and the rate within the VIHA catchment area is very close to the provincial rate.



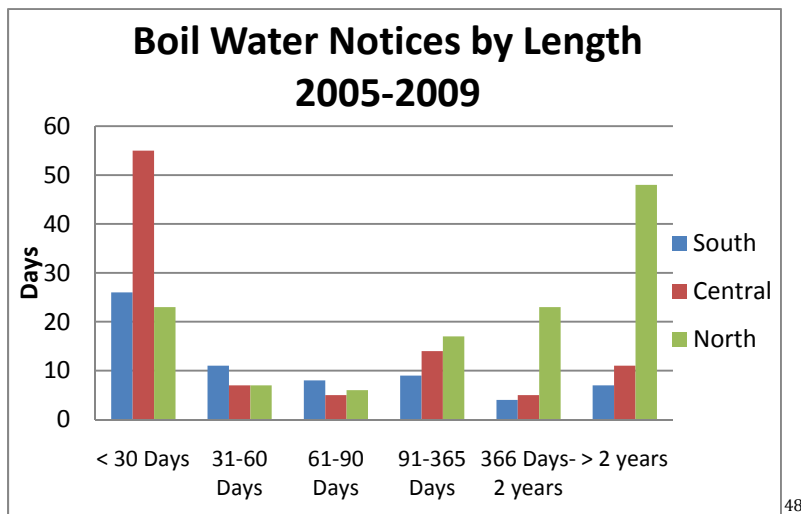
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The reported rates tend to be higher in the South Island than the Central and North Islands.

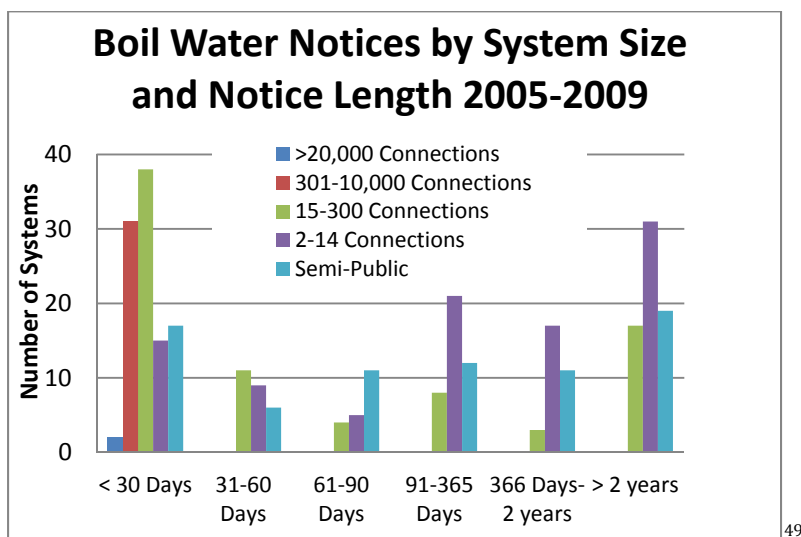
Boil Water Notices



Boil water notices vary with rainfall; extreme conditions can trigger short-duration notices. The North Island generally has more notices in effect than the Central or South Island. These figures include all notices active each year, not just those which began or ended in that period.



Both the South and Central Island have higher numbers of short-period notices, and fewer long-term ones; Central Island in particular has high levels of very short-term notices. The North Island has a higher rate of long-term notices.



Long-term notices are restricted to smaller water systems, facing difficulties such as: lack of funding, lack of trained experts and technology for small jobs, and local unwillingness to upgrade system components. Large water systems experienced only very short notices.

DISCUSSION

Signs of recovery from the recent economic downturn in 2010 are evident in a number of parameters, and the economic slowdown did provide some relief from escalating housing prices. However, residents within the VIHA catchment area were not immune to the effects of the downturn. Unemployment and rates of social assistance dependency increased, and the most economically vulnerable areas of the island were hit harder than more robust areas. The social determinants of health sustained a significant reversal and it is hoped that the duration of the downturn was sufficiently brief to minimize any lasting health effects. By way of example, being continuously unemployed for as little as six months is associated with long term health issues, while unemployment lasting for a year or more reduces the likelihood of ever returning to the work force.

Discrepancies in life expectancy between Central/North Island and the South Island continue to be a concern. Reasons for the gap's slight increase since 2001 may be driven by the same factors associated with the decrease in overall population in North Island and smaller centres in Central – the change the economic foundation for these resource-based communities. It is also notable that we appear to be lagging behind the rest of the province in terms of our gains in life-expectancy. However, for this and other comparisons to the BC population, given the number of inhabitants of the lower mainland, it is to this latter group that the comparisons are effectively drawn.

With respect to the contribution of health behaviours to life expectancy, our traditional advantage concerning active leisure appears to be at risk as the gap between our catchment area and the rest of the province narrows. However, we do continue to outpace the national average. The maintenance of health weights continues to be a challenge locally, provincially and nationally. The increasing rates of overweight and obese individuals that occurred in the 1980's and 1990's appear to have levelled off. We continue to be national leaders in healthy eating but the size of our lead is diminishing and our collective waistlines are not. Current positioning within BC and Canada is not cause to rest on our laurels. A more appropriate benchmark to judge weight and activity levels needs to be generated for the current generation and that of their parents. Growth charts

need to extend as far back as 70 years to accurately and fully depict the challenge upon us. Our smoking rates appear to be levelling off while national and provincial rates continue to inch downwards. The issue of the deployment of sufficient resources to address the most challenging portion of the spectrum of smokers at a time when tobacco control is not seemingly the priority it once was is problematic. Despite conclusive evidence of success, there has not been an extension of the healthiest public policies on tobacco across the island to control exposures. Further, maintenance of compliance with the ones we do have has not been fully realized.

Higher mortality rates due to suicides, motor vehicle crashes, and diseases which are commonly associated with excess alcohol consumption all also contribute to higher rates of preventable premature mortality. In the listing of conditions and events that lead to significant potential years of life lost (PYLL), it is evident that the circumstances surrounding these devastating events either exclusively or significantly reside in the community. Consequently, it is at this level preventive interventions are most appropriately pursued. A review of investment in improving these figures show proportionately very small amounts of resources directed to the potentially largest gains in years of life in the community. Currently, most money and effort is dedicated to saving weeks or months at the end of life within the walls of our institutions. As Senator William Keon remarked, "...Increased expenditures on health care are likely impacting negatively on the general health of our population by virtue of diminished investments in other areas like education (especially early childhood education), public housing, income security and other public services."¹

Infant mortality is another preventable cause of death that is driving our rates of premature mortality at higher than provincial levels. A "bubble" in infant mortality was experienced in the VIHA catchment area after 2001. The North Island was the first area to experience the increased rates and the first to experience a subsequent decrease. The same phenomenon in South Island started later and was more transient, while elevated rates persist in Central Island.

¹ Keon, William, The Hill Times Jan 21th 2008.

When the higher rates became apparent, VIHA established an Infant Mortality Review Committee. This innovative group includes clinical and epidemiologists from VIHA, and representatives from the Ministry of Child and Family Development and the BC Coroners Service. Each infant death is reviewed for preventable causes and the team learns lessons from each of these tragedies so as to reduce future preventable deaths. Concerns were identified by this group relating to Sudden Infant Death Syndrome (SIDS) and lack of safe sleep practices, particularly in Aboriginal communities. This observation prompted the formation of a collaborative led by the Medical Health Officer to promote messages about safe sleep such as Baby's Own Bed. As well, alternatives were explored so as to provide safe sleep environments for infants at risk through programs as the Red Cross' crib donation initiative. VIHA has also identified at least one biological risk factor, CPT1 deficiency, and is in the process of studying the extent to which this genetic condition plays a role in infant mortality on the island.

As would be expected, measures of determinants of health parallel the increasing rates of preschool children with vulnerabilities. A low score in even one early development domain is a cause for concern, and such rates are of concern, particularly in the North Island. The skills measured in this assessment are important predictors of school achievement and social emotional health. The significance of this metric for our region's children is further underscored when comparisons go beyond BC and Canada's borders to other developed countries such as Sweden and Norway. The Provincial Health Officer's upcoming report on child health will undoubtedly provide a blueprint for action, one that will likely be challenging but critical to future generations. In the interim, adolescent births, higher rates of preterm birth and low birth weights in Central Island will continue to be a focus of our community programs.

The higher concentration of older persons in our population has important implications for the health status of our population. The region currently has abundance of older persons which has our population profile resembling some of the "older" European countries such as Sweden. The increasing proportion of seniors, which is often discussed in terms of the near future for Canada, is already being experienced on Vancouver Island.

Our successful experience with the Mount Waddington Community Health Network and, more recently, the Cowichan Communities Health Network, provide new opportunities for VIHA to work with our community partners to address these issues.

For communicable diseases, overall levels generally have remained stable. The incidence of sexually transmitted diseases has been rising slowly since 2006, with relatively little variation within VIHA. The VIHA rate currently sits marginally lower than that of the province. This seemingly static statistic does not capture the dynamic tension between new immunizations, improved hygiene and treatment with the emergence of ever more virulent strains of microorganisms, both old and new. With respect to outbreaks, the three year old tuberculosis outbreak in Port Alberni has seen the number of cases dwindling, but it will be some time before the outbreak can be declared over.

Rates of enteric, food and waterborne illness have seen little change, and tend to be higher in the South Island. It is only through special reports on these and other subjects, as have been released by the Provincial Health Officer and the Ombudsperson, that the challenges are delineated. Only with the granularity of information provided by such documents can opportunities for improvement become apparent and detailed responses planned. Boil Water Notices, which fluctuate yearly due to rainfall and other factors, remain more prevalent in the Central and North Islands. As with other aspects of this report, the information presented is only a high level overview and the gateway to further more fulsome sources of detail on the subject – as can be found on our website.

Continued enhancements in the health status of our population is contingent upon on-going efforts to address a number of well documented health issues with varying degrees of preventability – infant mortality, suicide, motor vehicle mishaps, excessive alcohol intake and smoking. In the case of many of the adverse outcomes, it is not the lack of knowledge but the lack of a sufficient dose of prevention or the necessary healthy public policy. In addition to fulfilling our role in promoting and tracking healthy behaviours such as healthy eating and active leisure, we must look to ways of making the right choices the easy ones – by supporting healthy built environments and food security programs. If a concerted

community-based effort is not launched at local, provincial and national levels to address these issues as the UK has recently, we may have an unprecedented overlap of chronic disease in the near future - the conjoined twin epidemics of chronic illnesses occurring in both the baby boomers and their offspring. We may oversee the first generation of children who will not enjoy a greater life expectancy than their parents.

Glossary

Fertility Rate: Estimated # of births a group of 1,000 women is likely to have during childbearing years (15-45) given current age-specific fertility rates.

Infant Mortality Rate: Deaths of children under 1 year of age per 1,000 live births.

Low birthweight rate: Births weighing less than 2,500 grams per 1,000 births per 1,000 live births.

Preterm birth rate: Newborns with a gestational age of less than 37 weeks per 1,000 live births.

Potential Years of Life Lost (PYLL): The Potential Years of Life Lost Standardized Rate (PYLLSR) is a measure of premature mortality expressed as the rate of potential years of life lost (PYLL) per 1,000 population. The PYLLSR is a theoretical measure that allows comparison of premature mortality rates between genders, disparate geographic regions or populations, or over time periods. The PYLLSR is the theoretical number of potential years of life lost per 1,000 population that would have occurred in the standard population if the age groups in the standard population were dying at the same rate as the population in question. Or, in other words, the PYLLSR is the theoretical number of potential years of life lost per 1,000 population that would have occurred in the population in question if it had the same age group distribution (proportions) as the standard population.

Unemployment Rate: Percent of population aged 25 and over unemployed but actively looking for work in last 4 weeks, excluding institutional residents

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