Tackling Health Inequities in Vancouver Coastal Health

Population Health Report - November 2011

Vancouver CoastalHealth
Promoting wellness. Ensuring care.

Executive Summary

In 2010, Vancouver Coastal Health (VCH) identified reducing health inequities as an organizational strategic objective.

This connects to our *People First* agenda and furthers our goals to:

- Provide the best quality of care
- Promote better health for communities
- Use resources efficiently

Health inequities are differences in health status that are unfair and avoidable often linked to systemic barriers and external conditions that are outside the control of individuals.

Health inequities are particularly pronounced for the Aboriginal population and for people with low socioeconomic status, with these groups experiencing higher rates of premature death, disabilities and chronic disease than the average British Columbian.

Based on a wide foundation of research, the role of the health sector in reducing health inequities is to ensure that health services are accessible and effective for disadvantaged groups and to cooperate with other sectors to create healthier physical, social and economic environments.

VCH's approach to reduce health inequities involves the following action areas:

1. Equitable acute care
2. Accessible primary health care
3. Culturally appropriate Aboriginal health care
4. Food security
5. Public policies that promote child health

The first three action areas are to improve health services, recognizing that the health system is itself an important determinant of health. The last two action areas involve enhancing the settings where people live, work and play.

We will use both a targeted and universal approach with the expectation that the health of the whole population will improve through program and policy efforts, but the health of disadvantaged populations will improve more and/or faster to narrow the gap.

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Tackling Health Inequities in Vancouver Coastal Health

In 2010, the Senior Executive Team at Vancouver Coastal Health (VCH) identified the reduction of health inequities as a strategic objective. It is a long-term objective that moves forward VCH's *People First* agenda and the organization's goals to provide the best quality of care, promote better health for communities and use resources efficiently to sustain a viable health system. It also moves forward the Ministry of Health's agenda to reduce the burden of disease through the reduction of chronic disease, as well as the Ministry's goals to improve the health and wellness of British Columbians through more effective health promotion and prevention, more emphasis on primary and community care, and higher quality hospital services.

The purpose of this report is to outline VCH's approach to reduce health inequities.

Health inequities are particularly pronounced for the Aboriginal population and for people with low socioeconomic status, with these groups experiencing significantly higher rates of premature death, disabilities and chronic disease than the average British Columbian.[1] For example, men in the lowest income group are two times – and women three times – more likely to report having heart disease than those from the highest income group in B.C.[2]

There are many research studies documenting this social gradient in health whereby the higher up the social ladder you go, the better your health status and the further down you go, the lower your health status.

Health inequities refer to differences in health status that are seen as unfair and avoidable, often linked to systemic barriers and external conditions that are outside the control of individuals.

Health inequity is also increasingly being recognized by other sectors, most notably by the media and by the business community, with recent articles in the *Economist* and *Globe and Mail* and extensive reports commissioned by the Conference Board of Canada and the Business Council of B.C.[3]

Health inequities are health system cost drivers. Due to the higher prevalence of disease and disorders, socially disadvantaged groups tend to be high consumers of health care services.[4] For example, people in the lowest quintile of income groups use about twice as much health care services as those in the highest quintile.[5]

Role of the Health Sector

The approach VCH is taking is to reduce health inequities is based on a wide foundation of research and reports on appropriate roles for the health sector in this realm.[6] These reports recommend that the health sector ensures that its programs and services are accessible and effective for disadvantaged groups, as well as cooperate with other sectors such as municipal governments and non-governmental organizations to create healthier physical, social and economic environments.

> "If you are in the top 20 per cent of income, you have 9.5 more years of healthy life expectancy."[7]
>
> Dr. Perry Kendall

That is, our role as a health authority is to improve our own practices and services; to mitigate the impact of issues (e.g., low income) outside of the health system that affect client health; and, to help to systemically address those issues in partnership with other organizations.

Action Areas

VCH's approach to reduce health inequities involves the following action areas:

1. **Equitable acute care**
2. **Accessible primary health care**
3. **Culturally appropriate Aboriginal health care**
4. **Food security**
5. **Public policies that promote child health**

The first three action areas are to improve health services, recognizing that the health system is itself an important determinant of health. This involves providing patient-centered services that are accessible to disadvantaged groups and building the capabilities of staff to work with patients as partners and to act on the social determinants of health that affect the health of their clients. The last two action areas take a "settings approach – improving the healthfulness of the settings (e.g., schools, neighbourhoods) where people lead their lives."[8] This includes reducing social inequalities through safe childhood environments and equal development opportunities, better economic equality and improved living conditions for the most disadvantaged populations.

A Targeted and Universal Approach

VCH serves a large geographic region with over a million people, thirteen municipalities and fourteen First Nations. To keep our strategy do-able, we will focus on two population groups who, as elsewhere in Canada, experience the most significant disparities in health: the Aboriginal population and people with low socioeconomic status.

Although these will be the populations of focus, it should be noted that the overall approach involves both targeted and universal programs and policies. The expectation is that the health of the whole population will improve through these efforts but the health of the priority populations will improve more and/or faster to narrow the gap.

Background

There is already a lot of good work being done at a local level by VCH staff to reduce health inequities. The purpose of the VCH strategy is to initiate an approach at a systems level that coordinates a formal organizational response to addressing health inequities throughout our region and across the continuum of care. Ultimately, the objective is to weave health equity into all of our operations and to view it as the norm of how we do business to fulfill our mandate.

To begin the process of developing the components to the strategy, a number of regional planning tables in VCH were asked to identify how they are helping to achieve the strategic objective of reducing health inequities. The specific initiatives that are outlined under each action area in the following sections of this report are ones that the regional tables selected to include in the strategy. A few of the initiatives are new, but many are existing initiatives that already had or will now involve an equity component. All of them are based on either concrete evidence of their effectiveness or on strong suggestive evidence that indicates a promising intervention.

Many of the initiatives will result in improvements in service planning and delivery that will directly benefit disadvantaged groups. Some will result in improved policies and environments that will over time benefit everyone, particularly disadvantaged groups.

VCH will monitor and report annually on one or two high-level indicators of health inequities. This will help to strengthen the profile of health inequities in VCH and increase organizational accountability in addressing the issue.

The Approach

Each of the following sections describes how the action area intersects with health inequities, our initiatives, the rationale behind them, and some of the expected outcomes.

Equitable Acute Care

Connection to Health Inequities

Population groups such as people with low socioeconomic status and Aboriginal peoples are high users of acute care, the result of a combination of poorer health status and lack of access to primary health care.[9]

When the quality of acute care is inequitable across diverse groups, it can lead to "potentially avoidable differences in health… and systematically place socially disadvantaged groups at further disadvantage in health."[10] Inequities in hospital care have also been linked to "increased medical errors, prolonged length of stay, avoidable hospitalizations and readmissions, as well as over and under utilization of procedures." [11]

Inequities in hospital care have also been linked to increased medical errors, prolonged length of stay, avoidable hospitalizations and readmissions, as well as over and under utilization of procedures.

Equity of care can be defined as the provision of care that does not differ by socioeconomic status, gender, ethnicity, and other patient characteristics. Ensuring equity of acute care is an important component of hospital performance and the quality improvement cycle and can help to improve equity in health outcomes.

Although a relatively new concept in Canada, equity in hospital care in the United States is woven into accreditation standards and is seen as one of the six pillars of quality health care, along with efficiency, effectiveness, safety, timeliness and patient-centredness.[12]

Addressing inequity in acute care may seem like a luxury when staff are coping with immediate crises and limited resources, but it is central to people-first care.

Equitable Acute Care

Key Initiatives

Measuring equity of acute care

Main teams involved: Programs and Service Integration Planning Leaders, Decision Support, Public Health Surveillance Unit

Key contacts: Jat Sandhu, Mark Chase, Donna Stanton

The main objective of this initiative is to track and report on indicators to measure equity of care in our hospitals and to highlight areas for quality improvement.

Based on a comprehensive report by St. Michael's Hospital in Toronto, we are exploring three of their indicators that show a link between low socioeconomic status and poor outcomes from acute care: Perforated Appendix Rate, Lower Extremity Amputations among Patients with Diabetes, and Rate of Death Within 30-days of Hospital Admission.[13]

Our first step is to determine if any of the St. Michael's indicators are significant in the VCH region by determining their magnitude and trend. If those indicators are not relevant for VCH, we will explore other indicators.[14]

Once the relevant data has been gathered, it will be used to raise awareness of inequities in hospital services, to stimulate discussion and to inform change.

The aim is to ensure that all patients are receiving the full set of recommended care for their condition, that consideration is given to different approaches to care for disadvantaged groups, that there is an understanding of the socioeconomic and cultural contexts into which a patient is being released, and that efforts are made to mitigate the risk factors that affect rehabilitation and increase the likelihood of readmission.

Collecting feedback from vulnerable patient populations

This initiative involves gaining a better understanding of which population groups are high users of Emergency Department services but under represented in Patient Satisfaction Surveys.

Main team involved:
Regional Emergency Services Council

Key contact: Eric Grafstein

Patient experience of treatment and care is a major indicator of quality. Patient Satisfaction Surveys can provide data to direct quality improvement in hospitals for outcomes important to diverse populations. Equity issues come into the picture when the data used is not representative of the patient population because socially disadvantaged groups may not be completing the surveys.

Ensuring that we are gathering feedback from these groups is important so that we can best meet the needs of marginalized patients, providing them with effective and equitable care to improve their health outcomes.

In VCH and in Providence Health Care, we know from reviewing survey data that disadvantaged groups – such as people who are homeless or who are disenfranchised in some other manner – make up a significant proportion of Emergency Department patients but do not to fill out satisfaction surveys.

Based on our identification and quantification of these population groups, our initiative will target:

1) People in unstable or low income housing
2) People with mental health and substance use issues
3) Older adults (75+ years of age)

Using St. Paul's Hospital as a pilot site, this project – also known as the SPEED study* – will be surveying the target patient populations in November and December 2011.[15] The surveyors will be asking questions about patient satisfaction, as well as exploring ideas for alternative methods by which these groups can express their satisfaction in order to impact hospital planning and service delivery.

* St. Paul's Equity in the Emergency Department

Equitable Acute Care

Expected Impact of our Key Initiatives

- Increased awareness of inequities in care in hospitals.
- Improved hospital care for disadvantaged groups.
- Improved health outcomes for disadvantaged groups who use hospital services.
- More efficient and effective use of acute care dollars.
- Increased understanding of and action on cross continuum and cross sector solutions to reduce health inequities.

Accessible Primary Health Care

Connection to Health Inequities

Primary health care moves beyond family medicine and includes health promotion, disease prevention, chronic disease management, rehabilitation and other services delivered by a mix of health care professionals such as nurses, nurse practitioners, dieticians, pharmacists, physicians and others.[16]

Primary health care has been associated with reduced costs related to hospital services and length of stay, reduced emergency department visits, reduced ambulatory episode-of-care expenditures, better health outcomes, improved equity and improved patient experience.[17]

Population groups such as people with low socioeconomic status and Aboriginal peoples have higher rates of chronic conditions and injuries and are more than twice as likely as other residents to be hospitalized for conditions that could be prevented or treated with primary health care.[18]

Primary health care moves beyond family medicine and includes health promotion and other services delivered by a mix of health care professionals.

In some cases, this is due to a lack of availability of services in general. In other cases, it is due to a lack of services that appropriately and effectively serve the needs of disadvantaged groups. To tackle health inequities, we need to look at "access" in the broad sense of the term, including removing socioeconomic and cultural barriers to quality care.[19]

Research suggests that we need to provide a different approach to primary health care for disadvantaged groups in order to achieve similar health outcomes to that of the rest of the population.[20]

Health care providers often focus on medication, diet and exercise and tend not to consider the context in which their patients live which not only affects patients' compliance with medical regimens but, more importantly, their overall health and well-being. Increasing evidence supports the view that chronic disease is primarily caused by material and social deprivation associated with poverty and marginalization rather than genetics and lifestyle behaviours and that the living conditions of patients are the primary factors that shape the management of these diseases.[21]

Primary health care services that do not conscientiously address social determinants can exacerbate health inequities by improving the health of the overall population without narrowing the gap in health status between diverse groups. As such we need to ensure that we are using an equity lens in prevention strategies and primary care planning and that we are taking into consideration the health literacy levels of our patients, the cultural competency of our staff, and the need to work in partnership with other sectors so that we do not ignore the broader factors that have a bigger impact on patient health.

Accessible Primary Health Care

Key Initiatives

Integrated Primary and Community Care

VCH is working with the Divisions of Family Practice and other organizations to develop Integrated Primary and Community Care (IPCC) across our region by 2015.

Main team involved:
Primary Care Council

Key contact: Carole Gillam

The vision is to have community-based health care delivered by a network of health care providers and community agencies to provide coordinated support to patients with complex health conditions. The IPCC initiative will move forward with an eye on weaving health equity into its development process and measuring its impact in terms of reducing health inequities in the community.

The IPCC initiative will bring in a health equity lens through the following approaches:

- By considering health equity issues in the context of our collaborative work with family physicians as the IPCC develops in each community.
- By considering health equity in the planning and selection of community partner initiatives. For example, making community resources more accessible to patients with low socioeconomic status.
- By continuing to use a Patient Flexible Funding model to support patients who cannot afford self-management supports such as diabetic foot care.
- Through the *Patients as Partners* lens in IPCC, by considering how to better address health equity. For example, in October 2011, a forum with patients, VCH staff and family physicians explored how the IPCC could help to improve health literacy levels.[22]

> "Physicians can and should address poverty as a risk factor for ill health, in the same way we target other well-accepted health risks such as smoking and obesity."[23]
>
> Dr. Gary Block, et. al.
> *Ontario Medical Review*

Social Pediatrics

"Considerable evidence shows that children and families who are vulnerable because of their social and material circumstances shoulder a disproportionate burden of disease (delayed development and poor health) and are more likely to face social and structural challenges in accessing health care. Addressing these issues in children is particularly important as evidence has demonstrated that inequities in health are cumulative over the life course."[24]

Main team involved:
Paediatric Child and Youth Council

Key contacts: Patty Keith, Jennifer Scarr

Social Pediatrics is a health care intervention model that takes a broad approach to care, recognizing that environmental, socioeconomic, and family conditions contribute as much to childhood illness as do genes and germs. The model includes screening of the non-medical needs of children and families that may adversely impact on child health so that these can be taken into account when care plans are being developed.[25]

Social Pediatrics enhances traditional clinical practice approaches with a structural arrangement that facilitates access and the mobilization of resources needed to support families in fostering development and managing their child's health. At its operational core is a strong partnership between tertiary care, primary care, public health and community organizations that work together to develop a system of integrated services to support at-risk children and families to thrive.

Our initiative in VCH involves participating in the evaluation of the Provincial Health Services Authority's Social Pediatrics project which was recently piloted in Vancouver's Downtown Eastside. Our objective is to utilize the findings from the evaluation to inform programming elsewhere in VCH. To further this aim, we will participate in upcoming workshops hosted by Child Health BC that will focus on the feasibility of implementing the Social Pediatrics model in other areas across the province. Determining how to roll-out this model for vulnerable populations in the VCH region will continue to be one of our priorities in 2012.

Nurse Family Partnership

The Nurse Family Partnership (NFP) is an intensive nurse home visiting program for young, low-income, first-time mothers, beginning prenatally and continuing until children are two-years old. The nurse works collaboratively with the mother to improve pregnancy outcomes and child health and development, as well to improve the economic self-sufficiency of the family.

Main teams involved: Prevention Council, Perinatal Council, Paediatric Child and Youth Council, Mental Health and Addictions Council

Key contact: Joanne Wooldridge

NFP is part of Healthy Families BC, the Ministry of Health's overarching prevention and health promotion strategy.

NFP is a 30-year old public health program that has been found to have lasting benefits in diverse settings in the United States, United Kingdom and Australia – preventing child maltreatment, reducing child antisocial behaviour, and improving developmental outcomes for both children and mothers over the long-term. Studies also show that other program outcomes include reduced emergency room visits for accidents and increased maternal employment.[26]

For every dollar spent providing nurse visitors to high-risk families, $6 could be saved in welfare, juvenile-justice and health care costs.

A cost-benefit analysis of NFP showed a good return on investment based on the program's impact on societal outcomes such as crime, substance use, teen pregnancy and domestic violence.[27] A recent report by the Vancouver Board of Trade also found that for every dollar spent providing nurse visitors to high-risk families, the government could save $6 in welfare, juvenile-justice and health care costs.[28]

The VCH Healthy Start Project Team has determined the number of NFP Public Health Nurse and Coordinator roles, and will identify nurses who would like to participate in this program. Two training sessions for the NFP staff will take place in Vancouver in February and March 2012, and the program will start accepting clients in July 2012.

Accessible Primary Health Care

Expected Impact of our Key Initiatives

- Increased awareness of health inequities in communities.
- Increased access to primary health care for disadvantaged populations.
- More effective primary health care for disadvantaged populations.
- Increased collaboration between primary care teams and other health and social services to better serve disadvantaged populations.
- Reduced costs related to hospital services.

Culturally Appropriate Aboriginal Health Care

Connection to Health Inequities

Aboriginal peoples continue to be challenged by longstanding inequalities in health in comparison to non-Aboriginals.

"A long history of colonization, systemic discrimination, the degrading experience of residential schools, and other experiences have led to adverse, multigenerational health effects on Aboriginal families…. These experiences have been the root of inequities in the health and well-being of the Aboriginal population."[29]

"The experience of many Aboriginal People with the mainstream health care system has been negative, often due to cultural differences. Frequently, cultural differences and the inability of health providers to appropriately address these differences have contributed to high rates of noncompliance, reluctance to visit mainstream health facilities even when service is needed, and feelings of fear, disrespect and alienation."[30] Not only can this result in poor health status and increased risk for the Aboriginal patient, but the health system suffers as well with operational inefficiencies, low staff morale, patients returning with progressed illness and a diminished standard of care.

> "Colonization and cultural deprivation have created an environment that has negatively impacted the social structures, personal psychology and coping strategies of many in the Aboriginal population."[32]
>
> *Pathway to Health and Healing*
> *BC Provincial Health Officer's Annual Report 2007*

VCH's Aboriginal Health Strategic Initiatives Team has a mandate to improve health and reduce inequities in the Aboriginal population. To this end they have implemented many programs and strategies outlined in the VCH *Aboriginal Health and Wellness Plan*.[31]

Many components of the Aboriginal plan have been woven into the overall VCH strategy to reduce health inequities, with a spotlight here on increasing the cultural competency and responsiveness of VCH staff to Aboriginal clients' needs.

When culturally appropriate services are provided, patients are able to access what they need, respond better to care and achieve more desirable health outcomes.

Culturally Appropriate Aboriginal Health Care

Key Initiatives

Early childhood health screening

Main teams involved: Prevention Council, Paediatric Child and Youth Council, Aboriginal Health Strategic Initiatives Team

Key contacts: Patty Keith, Jennifer Scarr

The Aboriginal population has a higher birth rate and is younger than the overall VCH population. Not only are there proportionately more children but there are proportionately more children suffering from poor health.[33] Given that early childhood experiences shape health into adulthood, it is strategic to maximize the protective factors and minimize risk for children.

Early childhood caries is the most common chronic disease for children, and is more prevalent than asthma and diabetes. Dental health in the early years has been linked to health problems later on in childhood and into adulthood, including emotional development, diabetes, and heart disease.[34]

Aboriginal identity is a predictor of developing early childhood dental decay. A recent survey found that 28.5% of Aboriginal kindergarten-aged children in B.C. had untreated visible decay, compared to 16.2% for non-Aboriginal children.[35] Dental surgeries for Status Indian children under the age of 5 is also much higher than that of other children in our region, the rate being 31.6 per 1000 versus 9.2 per 1000, respectively.[36]

Some reasons why the Aboriginal population is not accessing child health prevention services are: a sense of mistrust of the government due to fear of their children being apprehended, a lack of transportation, and the need for public health staff to obtain required consent from young parents who may be uninformed and who may struggle with literacy issues.[37]

In VCH, our initiative will strive to identify and address access barriers to early childhood screening programs and services for Aboriginal families, with a focus on child oral health. Among our potential strategies are: staff cultural safety training, more outreach, culturally appropriate educational resources, and more partnerships with Aboriginal-serving community agencies.

Cultural competency training

Main teams involved: Mental Health and Addictions Council, Aboriginal Health Strategic Initiatives Team

Key contacts: Yasmin Jetha, Tonya Gomes

The more accurate and complete the information we have about our clients – including their cultural values and beliefs, the more likely we will be able to establish trust with them, work with them in partnership, provide patient-centred care and reduce health inequities.[38] Building a relationship with a client is difficult to do if there are communication barriers or a general lack of understanding of the effects of culture on health.

Culturally appropriate approaches to Aboriginal health care are strongly supported by experts in the field and have been included in recommendations by the First Nations and Inuit Regional Health Survey, the Royal Commission on Aboriginal Peoples and the Canadian Medical Association.[39]

Our initiative involves all VCH Mental Health and Addictions staff completing the Provincial Health Services Authority's (PHSA) *Indigenous Cultural Competency Training*.[40]

> "Individual healing is important, but strategies that will be most successful will promote both individual and collective healing."[42]
>
> J. Reading
> *A Life Course Approach to the Social Determinants of Health for Aboriginal Peoples*

The PHSA training module was developed in response to the *Transformative Change Accord First Nations Health Plan* and includes the following components: postcolonial understanding, improved communication, strengthened respect, acknowledgement of indigenous knowledge and inclusivity and increased awareness and insight of one's own cultural values and their impact on the patient encounter.[41]

Our objective is to strengthen our staff's cultural competencies, resulting in stronger partnerships, better access to services, improved understanding of the cultural factors that are influencing client health and better identification of the most appropriate course of action to address Aboriginal health needs.

Aboriginal Navigators Program

The Aboriginal Navigator Program was created as one of the central initiatives in the VCH *Aboriginal Health and Wellness Plan*.[43] It supports clients to manage complex health care experiences, works with the health care team to help them understand the unique needs of Aboriginal patients, and supports the incorporation of indigenous healing practices into patient care.

Main team involved:
Aboriginal Health Strategic Initiatives Team

Key contact: Ted Bruce

Patient navigators provide referral, advocacy and support to clients to ensure access to appropriate health care and community services. Their assistance ranges from helping a client to get prescription drug plan coverage to escorting clients to medical appointments to providing social support. The navigators also act as a resource for other VCH staff to help them to accommodate Aboriginal health practices and beliefs. This can include arranging for a spiritual healer or working with staff on culturally appropriate discharge plans.

Evaluations of Aboriginal patient navigator programs have shown an increase in patient satisfaction, better continuity of care, strengthened patient knowledge, and improved communication between patients and health care providers.[44]

The VCH program contributes directly to improved health outcomes for Aboriginal people by bridging the gap between healthcare providers and the Aboriginal clients they serve. The underlying notion for developing the program was to improve Aboriginal health status through better access to services, improved follow-up care, and more culturally sensitive service delivery.

Because the demand for the program is growing, VCH led a process to identify areas for quality and efficiency improvements. Arising from this process, a new intake form and database will be introduced to manage workload and administrative reporting. In 2012 there will also be workshops with community members to build a stronger client perspective into the program and to improve the “patient” journey in mainstream health care settings.

Culturally Appropriate Aboriginal Health Care

Expected Impact of our Key Initiatives

- Increased awareness of Aboriginal health issues.
- More culturally appropriate health care services.
- Increased access to health services for Aboriginal peoples.
- More effective health services for Aboriginal peoples.
- Enhanced relationships with the Aboriginal community.

Food Security

Connection to Health Inequities

Although often described as a personal behaviour, one's ability to obtain a healthy diet is affected by many other factors such as income, skills, equipment and neighbourhood food resources that are available to an individual or family.

There are many population groups that are vulnerable to being food insecure, but the underlying unifying feature that they share is low socioeconomic status, with lone-parent families, Aboriginal peoples and marginally housed and homeless people with the highest risk.[45]

10.4% of BC households report being food insecure, with great disparity between the highest income group at less than 2% of households and the lowest income group at 36.5%.[46]

Food security is a fundamental determinant of good health and an important component of treatment and rehabilitation.

> Food insecurity exists when the availability of nutritionally adequate and safe foods or the ability to acquire such food in socially acceptable ways is limited or uncertain.

Food insecurity is a precursor to many health problems, including diabetes, heart disease, depression, sub-optimal child development, and higher rates of morbidity and mortality.[47] Obesity is also more prevalent in people who are food insecure as cheaper, easily stored and easily accessed foods tend to be energy-dense and nutrient poor.[48]

To address food security VCH strives to work across sectors to build community capacity and to develop policies and supportive social and physical environments that facilitate access for everyone to affordable, nutritious food.

Food Security

Key Initiatives

Food security in social housing

Population groups that are vulnerable to homelessness and inadequate housing are also at greater risk for food insecurity.[49] As such, social housing strategies require a comprehensive approach that includes more than just shelter and integrates multiple determinants of health such as access to food.

Main teams involved: Population Health team, Mental Health and Addictions Council

Key contact: Claire Gram

VCH is striving to inform these strategies as government agencies and non-profit organizations update and replace affordable housing stock. Specifically, our initiative involves research and advocacy to build a business case for the inclusion of food in social housing policy, addressing three domains: proximity to neighbourhood food resources such as community gardens and grocery stores; the built form such as access to food storage; and programming such as community kitchens.

Working in collaboration with non-profit housing agencies, food providers and academics, this initiative started several years ago with a review of current practices and research on food security and housing. This was followed by a pilot study of the hard-to-house population in Vancouver's Downtown Eastside, surveying residents to determine the factors contributing to their food insecurity. In mid-2009 we organized a forum to present these and other findings, and subsequently developed a committee to look at food security and housing research and policy to advance the agenda.

The current phase of the initiative is to study how the neighbourhood food environment around social housing sites enables and constrains healthy eating for tenants. We are also developing the cost case for including food security within social housing and identifying promising practices for food security for different social housing populations such as seniors, immigrant families and people with concurrent disorders.

Community Food Action Initiative

Main team involved:
Population Health team,

Key contacts: Claire Gram, Lezlie Wagman

Launched in 2005, the Community Food Action Initiative (CFAI) is a health promotion strategy that supports community-led solutions to improve food security, particularly for people living on limited incomes. The regional health authorities implement CFAI in collaboration with the Ministry of Health and the Provincial Health Services Authority.

The purpose of CFAI is not only to increase individuals' ability to obtain a nutritious diet, but also to help create sustainable food systems that maximize healthy choices, community self-reliance and equal access for everyone.

A 2011 evaluation of VCH's program found that CFAI increased direct access to healthy food for community members through initiatives such as bulk buying clubs, community kitchens and strengthening people's food knowledge and skills. The program has also proven effective at building community capacity with awareness raising events, school projects and educational resources like local farm maps. In addition, CFAI has shown to help advancements in policy development such as through the addition of food security goals in Official Community Plans and the creation of food security charters[50]

VCH's CFAI is currently focused on funding community food security networks (CFSNs) with the priority of supporting people with low socioeconomic status. CFSNs are a means of connecting a variety of neighbourhood food resources (e.g., grocery stores, food banks, providers of meals programs) to increase their impact.

> "CFAI has spurred innovative approaches to bridging the immediate food needs of vulnerable populations to longer-term capacity building projects that support dignified access to healthy food."[51]
>
> *VCH CFAI Evaluation 2011 Report*

CFSNs are an effective and efficient way of implementing community-based food security initiatives, ranging from meeting people's immediate food needs to building skills to improving local food resources.

Food Security

Expected Impact of our Key Initiatives

- Increased food security for disadvantaged groups.
- Reduced nutrition-related health problems for disadvantaged groups.
- Increased community capacity to address food security issues.
- Stronger partnerships to address food security for disadvantaged populations.
- Improved public polices to support food security.
- Improved infrastructure to support food security.

Public Policies that Promote Child Health

Connection to Health Inequities

The early years of a child's life are a crucial determinant of child and adult health outcomes.

"We now know that adversity early in life can disrupt brain circuits that can affect the development of the cardiovascular system and metabolic regulatory systems, and lead to not only more problems learning in school but also greater risk for diabetes, hypertension, heart disease, cancer, depression and substance abuse."[52]

> "The correlations between adverse childhood experiences and negative adult outcomes were so powerful that they stunned us."[55]
>
> Dr. Robert Anda
> *Centers for Disease Control*

Numerous studies show that inequalities in child health strongly follow a linear socioeconomic gradient. Children in low income households experience a higher risk of physical and mental health problems, injuries due to accidents, chronic conditions and hospitalizations throughout their lifespan, independent of their later socioeconomic status.[53]

Not only does poverty adversely and directly affect child growth and development, it has also been linked to involvement with child welfare and youth justice systems, becoming teen parents, and unemployment – factors which in themselves also contribute to negative health outcomes – translating into increased costs and decreased productivity and growth for society as a whole.[54]

While people with poor health status may as a result of that, have a lower socioeconomic status, the majority of research concludes that the main direction of influence is from poverty to poor health.[56]

In 2009, 51,900 children under the age of six were living in poverty in British Columbia.[59]

From 2008 to 2009, the child poverty rate in B.C. rose from 14.5% to 16.4% as indicated by the Low Income Cut-Off, Before Tax measure. Using the Low-Income Cut-Off, After Tax measure, the poverty rate rose from 10.4% to 12%. It was the eighth year in a row that B.C. had the worst child poverty rate after tax of any province and was well above the national rate of 9.5%.[57]

As a health system, we pay a lot of attention to and spend a lot of money on measuring, monitoring, and lowering risk factors such as high blood pressure and cholesterol because of their association with health problems. If poor childhood conditions also significantly increase one's chances of experiencing ill health as both a child and as an adult, logic would follow that we should also be paying attention to reducing the risks of that if we want to see significant gains in population health and a reduction in health inequities.

"By one estimate, as much as 60% of the variation in population health outcomes can be explained by socioeconomic and environmental factors."[58] Early intervention services may be of limited impact if the broader environments in which children live are not improved.

Improving child health outcomes requires more than addressing any one health problem. Creating safe and healthy environments, providing equal development opportunities and ensuring access to social and economic resources would play a major role in reducing health inequities throughout the life course.

"Our efforts to prevent and treat illness are doomed to failure unless we are going to make an equal or greater effort to tackle poverty, poor housing and inequality and bolster education and create healthier environments."[60]

Andre Picard
Globe and Mail

Public Policies that Promote Child Health

Key Initiatives

Healthy socioeconomic environments

Main teams involved: Regional Public Health team, Senior Executive Team, VCH Board

Key contacts: Ted Bruce, Brian O'Connor, Lianne Carley

Much of the solution to health disparities lies in macro social and economic policy. As such, good public policy can make a significant difference to child health.

This is a timely topic given the current climate of strong public support for increased government spending on disadvantaged children combined with the provincial government's *Families First* agenda and *Healthy Families BC* health promotion initiative.[61]

Our main objective in this initiative is for VCH to take a leadership role in engaging the executives and boards of other health authorities in the province to facilitate joint advocacy on smart family policy and equity in child health.

We would focus on encouraging the BC government to implement an "opportunity package" to strengthen social supports around early learning and care, affordable housing, education, minimum wage, social assistance and job re-entry programs.[62]

> "It is estimated that $1 invested in the early years saves between $3 and $9 in future spending on the health, criminal justice and social assistance systems." [64]
>
> R. Grunewald and A. Rolnick
> *A Proposal for Achieving High Returns on Early Childhood Development*

Taking their cue from recent reports by the BC Provincial Health Officer, the BC Progress Board and others on how to boost prosperity and population health, the health authorities would use a health equity lens to collectively develop some clear and consistent messaging around needed systems' improvements if gains in child health – and thus adult health – are to be realized.[63]

Healthy built environments

The built environment – the human-made surroundings in which we live, work and play – can mitigate or exacerbate factors that influence child health, disease and people's life chances.[65]

Main team involved:
Regional Public Health team

Key contact: Claire Gram

Local government planning decisions can create environments that facilitate child-friendly public spaces, social connections, clean air, active transportation and a more even distribution of public amenities that affect health and reduce health inequities. For example, improving the safety and walkability of a neighbourhood has been shown to decrease childhood injury rates and mental health issues – both of which have higher rates among children of lower socioeconomic status – while increasing levels of children's physical activity and community social cohesion.[66]

"Evidence suggests that neighbourhood dimensions may independently influence health status."[68]

Lisa Oliver
Statistics Canada study on neighbourhood material and social deprivation and mortality

VCH helps local governments to consider the broad health benefits when they make decisions about investments in or the design of spaces and infrastructure in their communities. To this end, we play a key role in national, provincial and regional coalitions, developing the knowledge platform for public health involvement in land use planning. We have also developed partnerships with municipalities and regional governments, participating in their planning processes to ensure a health lens is included. For example, we prepared an evidence-based summary of the built environment factors that affect health and health equity which will be used in community planning.

For this initiative, we are working with municipalities across the region to develop healthy Official Community Plans – policy frameworks for local governments that provide guidance for economic, social, environmental, and physical design and development.[67]
The communities we are currently working with are: Richmond, Vancouver, the District of North Vancouver, City of North Vancouver, Sunshine Coast Regional District and Powell River.

Public Policies that Promote Child Health

Expected Impact of our Key Initiatives

- Improved infrastructure that promotes child health.
- More public policies that promote child health.
- Neighbourhood and municipal designs that promote health and reduce health inequities.
- Increased collaboration across public sectors to reduce health inequities.
- Reduced child vulnerability.

Summary

Vancouver Coastal Health (VCH) has identified the reduction of health inequities as an organizational strategic objective.

Complementing the health equity work that is occurring in VCH at a local level and in specific program areas, the approach outlined in this report focuses on taking action at a systems level throughout the region and across the continuum of care.

The VCH approach includes:

- **Equitable acute care**
- **Accessible primary health care**
- **Culturally appropriate Aboriginal health care**
- **Food security**
- **Public policies that promote child health**

We see our role as a health authority as improving our own practices and services, mitigating the impact of issues outside of the health system that affect health, and helping to systematically address these issues in collaboration with other sectors.

The VCH strategy mostly includes existing initiatives in areas that evidence suggests are strongly significant to health equity. As equity gains a higher profile with the health authority, it is expected that more existing and emerging initiatives will be identified as part of the organizational plan of action.

> "Inequalities in health cannot be divorced from inequalities in society."[69]
>
> Kevin Horrigan
> *Vancouver Sun*

Ultimately, the aim is to weave health equity into all VCH operations and to view it as the norm of how we do business to achieve our vision of healthy lives in healthy communities.

For more information

If you have questions or would like more information on specific initiatives, please contact:

Lianne Carley
Population Health
Office of the Chief Medical Health Officer
Vancouver Coastal Health
Suite 721 – 601 West Broadway Avenue, Vancouver, BC, Canada
Ph: 604-875-5600 x66710
Email: lianne.carley@vch.ca

Notes and References

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   - *Health Inequities in British Columbia: Discussion Paper*. Health Officers' Council of British Columbia. November 2008.
   - Kendall, P. *Investing in Prevention: Improving Health and Creating Sustainability*. Office of the Provincial Health Officer. Victoria, September 2010.
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   - *Reducing Health Disparities: Roles of the Health Sector. A Discussion Paper*. Health Disparities Task Group of the Federal/Provincial/Territorial Advisory Committee on Population Health and Health Security. December 2004.
   - *Stepping it Up: Moving the Focus from Health Care in Canada to a Healthier Canada*. Health Council of Canada. Toronto, December 2010.
   - *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2008: Addressing Health Inequalities*. Public Health Agency of Canada. Ottawa, 2008.

2. This is comparing men and women from the lowest income group to those in the highest income group as reported in the 2007-2008 Canadian Community Health Survey. Source: Kendall, P. *Investing in Prevention: Improving Health and Creating Sustainability*. Office of the Provincial Health Officer. Victoria, 2010.

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   - Kendall, P. (2010), *Op. cit.*
   - Lemstra, M. and C. Neudorf. *Health Disparity in Saskatoon: Analysis to Intervention*. Saskatoon Health Region. Saskatoon, 2008.
   - Lightman, E. *Poverty is Making Us Sick: A Comprehensive Survey of Income and Health in Canada*. Wellesley Institute. Toronto, 2008.
   - Milliden, O. et. al. *The Direct Economic Burden of Socioeconomic Inequalities in Health in Canada.* Preliminary findings. Public Health Agency of Canada, 2011.
   - *Reducing Health Disparities: Roles of the Health Sector* (2004), *Op. cit.*

   Anatoliy Skripnitchenko (Senior Economist, BC Ministry of Health) and Carnel Lencar (Health Information Analyst, BC Ministry of Health) had similar findings in their 2011 preliminary report *Effects of Income Distribution on Health Care Costs and Health Status of People in British Columbia*. That is, they found that overall per capita health care cost in BC decreases with income and per capita costs of major health care expense categories (Medical Service Plan, Hospital Care, Drugs and Home and Community Care) also generally decline as income rises.

5. *Reducing Health Disparities: Roles of the Health Sector* (2004), *Op. cit.*

6. See note 1.

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11. St. Michael's Hospital. *Measuring Equity of Care in Hospital Settings: from Concepts to Indicators*. Centre for Research on Inner City Health. Toronto, 2009.

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    - *National Voluntary Consensus Standards for Ambulatory Care – Measuring Healthcare Disparities. A Consensus Report.* National Quality Forum. Washington, D.C., 2008.
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15. When the idea for this project was first conceived it was explored as a region-wide project. Due to resource constraints and the complexity of different data collection systems, it was decided to focus on St. Paul's as a pilot site. It was done with the understanding that the results from the project could help to affect change at other VCH and PHC hospital sites.

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    - Forrest, C.B. and B. Starfield. "The effect of first-contact care with primary care clinicians on ambulatory health care expenditures." *Journal of Family Practice*. 43(1). 1996: 40-49.
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19. Issues of access are not limited to the lack of availability of services. People's decisions about where to go for health care are not simply a matter of choice. They are shaped by a number of factors including how patients anticipate that they will be treated in community clinics or physician offices; the assumptions that patients feel will be leveled toward them when they seek care elsewhere; and the extent to which patients worry that their health concerns will be dismissed because of these assumptions. These findings have implications for how primary health care services can be designed to be more responsive to the complexities of access.
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30. *Cultural Competency and Safety: A Guide for Health Care Administrators, Providers and Educators*. National Aboriginal Health Organization. Ottawa, July 2008.

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recent changes to the MBM severely distorted the housing component of the basket in B.C and, as such, First Call recommended that the MBM not be used until the methodology on housing costs has been corrected.
One further note: a 2006 report by the BC Progress Board explained the three main ways that poverty can be measured and concluded that "The critical point is that the data from all three sources point in the same direction: they all reveal a BC-Canada gap in low income." (Banting, K. *The Social Condition in British Columbia.* BC Progress Board. Vancouver, December 2006.)

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Healthy Families BC. http://www.healthyfamiliesbc.ca/
Note: In 2010, the YWCA conducted a province-wide poll which showed strong public support for increased spending on family policy. The most popular policy options were: 1) increasing affordable quality child care services; 2) additional income supports for low income parents; 3) additional government spending to ensure families and children get the help needed to succeed. http://www.ywcavan.org/content/BC_wide_poll_shows_strong_support_for_increased_spending_on_family_policy/1206
Other recent public opinion polls on this topic were done by:
Environics Institute for Survey Research (*Focus Canada 2010*) which found that 78% of Canadians believe the federal government should spend more to fight child poverty; and by the Canadian Centre for Policy Alternatives (*Ready for Leadership: Canadian's Perceptions of Poverty*, 2008) which found that 87% of BC respondents thought the prime minister and premier should set concrete targets and timelines for reducing poverty.

62. Many advocates are calling for a "Poverty Reduction Strategy" for the province, others are calling for an "Opportunity Package" (Banting, K. (2006), *Op. cit*).— regardless of the term used, advocates are mostly calling for the same policy changes to improve socioeconomic environments to help disadvantaged populations.

63. Anne Golden, president and CEO of the Conference Board of Canada recently commented "Considering how wealthy this country is, these rates of poverty are unacceptable. Not only are we not making progress, we are losing ground." http://www.tonymartin.ca/post/canadas-poverty-ranking-among-leading-countries-indicts-government-inaction
Some examples of reports and studies that outline how to boost prosperity, reduce poverty and improve population health include:
    - Banting, K. *From Welfare to Work in Ontario: Still the Road Less Travelled* TD Bank Financial Group. Toronto, 2005.
    - Decter, A. *Educated, Employed and Equal: The Economic Prosperity Case for National Child Care*. YWCA Canada. Toronto, 2011.

- Doherty, G., et. al. *You bet I care! A Canada-Wide Study on Wages, Working Conditions, and Practices in Child Care Centres*. Centre for Families, Work and Well-Being, Department of Family Relations and Applied Nutrition, University of Guelph. Guelph, 2000.
- *Education Report.* BC Progress Board, Vancouver 2006.
- Goelman, H., et. al. "Towards a predictive model of quality in Canadian child care centres." *Early Childhood Research Quarterly*. 21. 2006: 280-295.
- Grunewald, R. and A. Rolnick. *A Proposal for Achieving High Returns on Early Childhood Development*. 2006. Prepared for Building the Economic Case for Investments in Preschool, Washington, D.C. convened by the Committee for Economic Development, with support from The Pew Charitable Trusts and PNC Financial Services Group.
- Kershaw, P., et. al. *15 by 15: A Comprehensive Policy Framework for Human Capital Investment in BC.* Prepared for the Business Council of British Columbia. Vancouver, 2009.
- McCain, M.N., et. al. *Early Years Study 2: Putting Science into Action*. Council for Early Child Development. Toronto, 2007.
- *Productivity Report*. BC Progress Board. Vancouver, 2006.

Note: a key source document for VCH in this initiative is the above listed *15 by 15: a Comprehensive Policy Framework for Early Human Capital Investment in BC* which outlines the essential areas for government investing in the early years.
In his report *Investing in Prevention: Improving Health and Creating Sustainability* (2010), the BC Provincial Health Officer advocates for the implementation of *15 by 15.*

64. Grunewald, R. and A. Rolnick. *A Proposal for Achieving High Returns on Early Childhood Development*, 2006. Prepared for "Building the Economic Case for Investments in Preschool," Washington, D.C., December 3, 2004. Convened by the Committee for Economic Development, with support from The Pew Charitable Trusts and PNC Financial Services Group.

65. Examples of studies include:
    - Hynes, H.P. and R. Lopez. *Urban Health: Readings in the Social, Built and Physical Environments of U.S. Cities*. Jones and Bartlett. Massachusetts, 2009.
    - Jackson, L.E. "The relationship of urban design to human health and condition." *Landscape Urban Plan*. 64. 2003: 191-200.
    - Jackson, R.J. and C. Kochitzky. *Creating a Healthy Environment: The Impact of the Built Environment on Public Health*. Sprawl Watch Clearinghouse. Washington, 2001.
    - Perdue, W.C., et. al. "Public health and the built environment: historical, empirical, and theoretical foundations for an expanded role." *Journal of Law and Medical Ethics*. 31. 2003: 557-566.
    - Shonkoff, J. and D. Phillips (eds.). *From Neurons to Neighbourhoods: The Science of Early Childhood Development*. Institute of Medicine. National Academy Press. Washington, D.C., 2000.
    - Srinivasan, S. et. al. "Creating healthy communities, healthy homes, healthy people: initiating a research agenda on the built environment and public health." *American Journal of Public Health*. 93(9). 2003: 1446-1450.
    - Vlahov, D., et. al. "Urban as a determinant of health." *Journal of Urban Health*. 84(1). 2007: i16-i26.

66. Berkman, L.F. and T. Glass. "Social integration, social networks, social support and health." In Berkman, L.F. and I. Kawachi (eds.). *Social Epidemiology*. Oxford University Press. New York, 2000: 137-173.
Evans, G.W. "The built environment and mental health." *Journal of Urban Health*. 80(4). 2003: 536-555.
Weich, S., et. al. "Mental health and the built environment: cross-sectional survey of individual and contextual risk factors for depression." *British Journal of Psychiatry*. 180. 2002: 428-433.

Note: Social networks are affected by the broader environment and zoning policy has a social impact. A lack of neighbourhood cohesion, for example, has been linked to higher levels of conduct disorder, hyperactivity and emotional disorder in children. (Curtis, L.J., et. al. "Child well-being and neighbourhood quality: evidence from the Canadian National Longitudinal Survey of Children and Youth." *Social Sciences and Medicine*. 58(10). 2004: 1917-1927.)

67. *Healthy Families BC* is the Ministry of Health's (MoH) new, overarching prevention and health promotion strategy. One component of this strategy is called *Healthy Communities* which will require health authorities to work with local governments to create healthy communities to reduce chronic disease and obesity. The MoH is currently consulting with the Union of BC Municipalities to determine the best course of action for this. Our work at VCH that is outlined in the section "Healthy built environments" will likely tie into the MoH's plans for their *Healthy Communities* initiative.

68. Oliver, L. *The Contribution of Individual Income and Neighbourhood Material and Social Deprivation to Mortality: A 22-year Follow-Up (1982-2004) of More than 500,000 Ontario Residents*. Preliminary report. Statistics Canada, 2011.

69. Quote from the Whitehall Studies from the *Vancouver Sun* article "Don't work your peers to death" by Kevin Horrigan, August 25, 2011.

Appendix - Data

This section will provide a snapshot of health status in the Vancouver Coastal Health (VCH) region with regards to the two populations of interest: Aboriginal peoples and people with low socioeconomic status.

VCH Region

VCH is one of six health authorities in British Columbia and is responsible for providing a wide range of health care services, including public health and prevention programs, community-based care such as home support, mental health and addictions services and hospital treatment.

In 2010, 1, 140,892 people lived in VCH.

Life Expectancy

Life expectancy at birth is used around the world as a basic indicator of the extent to which a population is healthy and has adequate access to the basic determinants of health. Although life expectancy measures quantity rather than quality of life, it remains a widely used summary measure of population health.

Lower life expectancy is strongly connected to lower socioeconomic status. This effect is known as the social gradient in health, whereby life expectancy is longer as you go up the social ladder and shorter the further down you go.

Income may be the most powerful determinant of health, but it should be noted that socioeconomic status encompasses more than that. A comprehensive report by Statistics Canada (2008) documented how mortality rates were highest among people with less than a high school education, who were unemployed or not in the labour force or in unskilled jobs and who had the lowest incomes. These socioeconomic characteristics are interconnected and can result in social exclusion, high stress, and difficult living conditions – all of which have an impact on life expectancy.

Aboriginal status is also connected to lower life expectancy – though it should be noted that life expectancy for Status Indians has been improving over the past decade.

VCH OVERALL

Life expectancy at birth (2006-2010 combined), VCH: 83.3 years
Data source: BC Stats, Demographic Analysis Section, Vital Measures

SOCIO-ECONOMIC - INCOME

Life expectancy at birth (2006-2010 combined) versus average household income after-tax in 2005, by local health area – *see graph next page*
Life Expectancy Low/High: Central Coast **$35,986/71.9 yrs** vs Richmond **$57,302/85.3 yrs**
Income Low/High: Van-Downtown Eastside **$34,572/78.6 yrs** vs West Van-Bowen Island **$102,583/85.0 yrs**

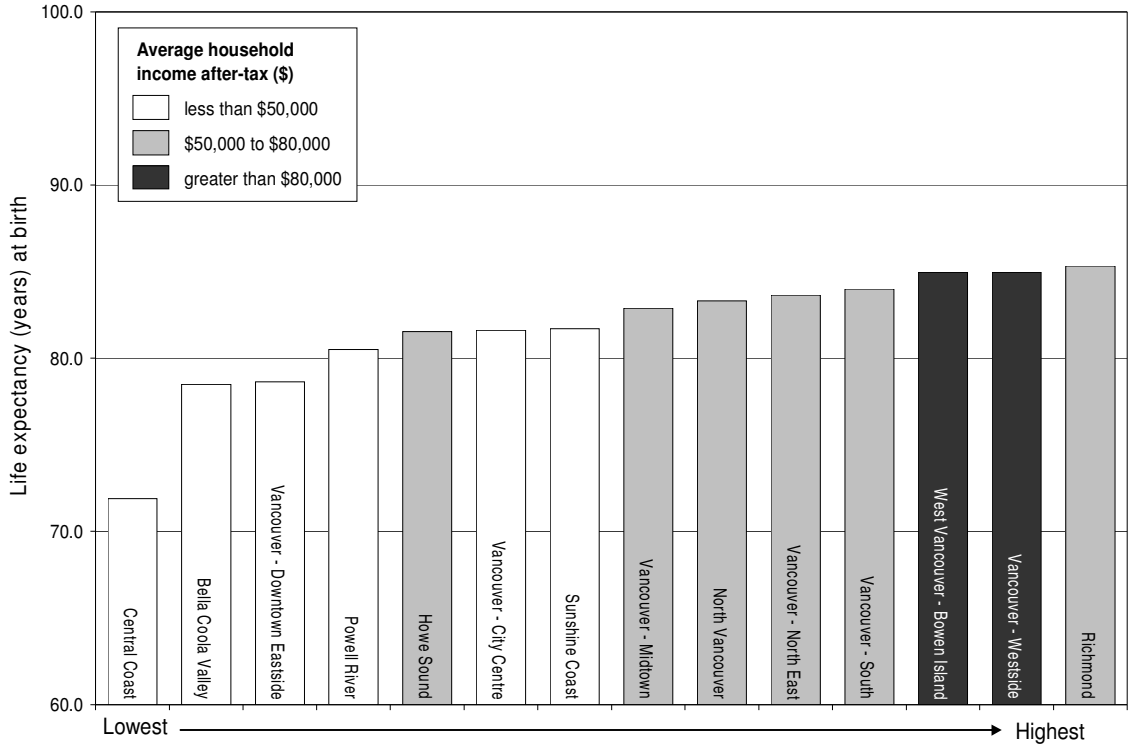
ABORIGINAL

Life expectancy at birth (2002-2006 combined) for Status Indians, VCH: 73.7 years
Life expectancy at birth (2002-2006 combined) for Other Residents, VCH: 81.5 years
Data source: BC Vital Statistics, from *Pathways to Health and Healing*. (2009).

- Eng, K. and D. Feeny. "Comparing the health of low income and less well educated groups in the United States and Canada." *Population Health Metrics*. 5(10). October 2007.
- Kosteniuk, J. and D. Dickinson. "Tracing the social gradient in the health of Canadians: primary and secondary determinants." *Social Sciences and Medicine*. 57(2). July 2003: 263-276.
- *Pathways to Health and Healing: 2nd Annual report on the Health and Well-Being of Aboriginal People in British Columbia. Provincial Health Officer's Annual Report 2007*. Ministry of Healthy Living and Sport. Victoria, 2009.
- Statistics Canada. 2008. *Annual Demographic Estimates: Canada, Provinces and Territories.*
- Wilkins, R., et. al. "Trends in mortality by neighbourhood income in urban Canada from 1971 to 1996." *Health Reports 2002*. 13 (Supplement). Statistics Canada: 1-27.

Life Expectancy - SOCIOECONOMIC – INCOME – from page 46

Life expectancy (years) at birth, 2006-2010 combined vs. average household income after-tax in 2005, by local health area.



Data source: 1. BC Statistical Agency, Demographic Analysis Section, Vital Measures, January 2012.
2. Statistics Canada, 2006 Census, via BC Statistical Agency Sharepoint site.

Potential Years of Life Lost

Potential years of life lost (PYLL) for total mortality is the number of years of life "lost" when a person dies "prematurely" from any cause – before age 75. A person dying at age 25, for example, has lost 50 years of life. Like life expectancy, PYLL is affected by socioeconomic status and Aboriginal status.

VCH OVERALL

PYLL Standardized rate per 1000 population (2009), VCH: 32.8
PYLL Standardized rate per 1000 population (2005-2009 combined), VCH: 36.6

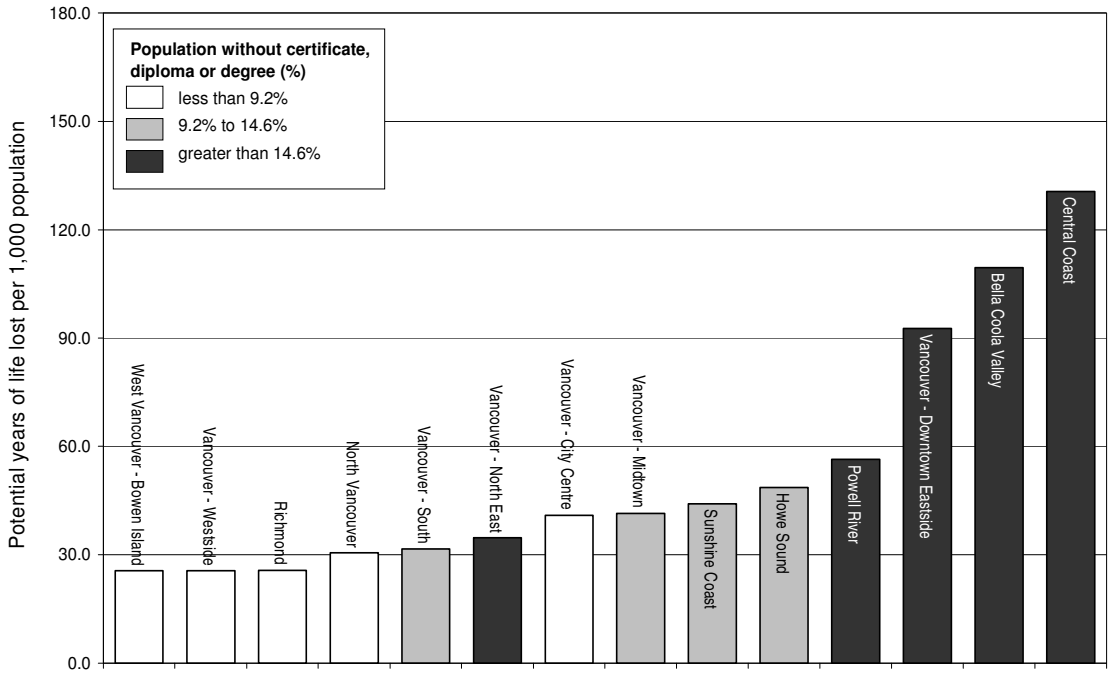
SOCIOECONOMIC - EDUCATION

PYLL Standardized rate per 1000 population (2005-2009 combined) and population without certificate, diploma or degree (25-64 years of age) (%) (2006), by local health area – *see graph below*

PYLL Low/High: West Van-Bowen Island **25.6** and Richmond **25.6** vs Central Coast **130.6**

Education Level Low/High: Central Coast **50.6%** vs West Van-Bowen Island **2.8%** and Van-West Side **2.8%**

Potential years of life lost standardized rate (per 1,000 population) 2005-2009 combined vs. population without certificate, diploma or degree (aged 25-64 years) 2006, by local health area.



Data source: 1. BC Vital Statistics Agency (August 2010) via Vancouver Coastal Health Authority Knowledge Base.
2. Statistics Canada (2006 Census) via BC Statistical Agency Sharepoint site.

ABORIGINAL

PYLL Standardized rate per 1000 population, Status Indians (2006), BC: 97.0

PYLL Standardized rate per 1000 population, Other Residents (2006), BC: 41.5

No regional health authority data was available; however the provincial report *Pathways to Health and Healing* (2009) mentions that "Aggregate regional data for 2002-2006 show that a significant gap exists between the Status Indian population and other residents in all health authorities, ranging from 3.2 times in Vancouver Coastal Health Authority to 1.7 times in Northern Health Authority."

Data source: BC Vital Statistics, from *Pathways to Health and Healing*. (2009).

INFANT MORTALITY

Infant mortality refers to the deaths of infants less than one year of age. The infant mortality rate is a long-established measure, not only of child health, but also of the well-being of population groups.

There is a clear and pronounced inverse association between income status and infant mortality. Aboriginal status is also significantly connected to high a rate of infant mortality.

VCH OVERALL

Infant mortality rate per 1000 live births by year, VCH (2005 to 2009):

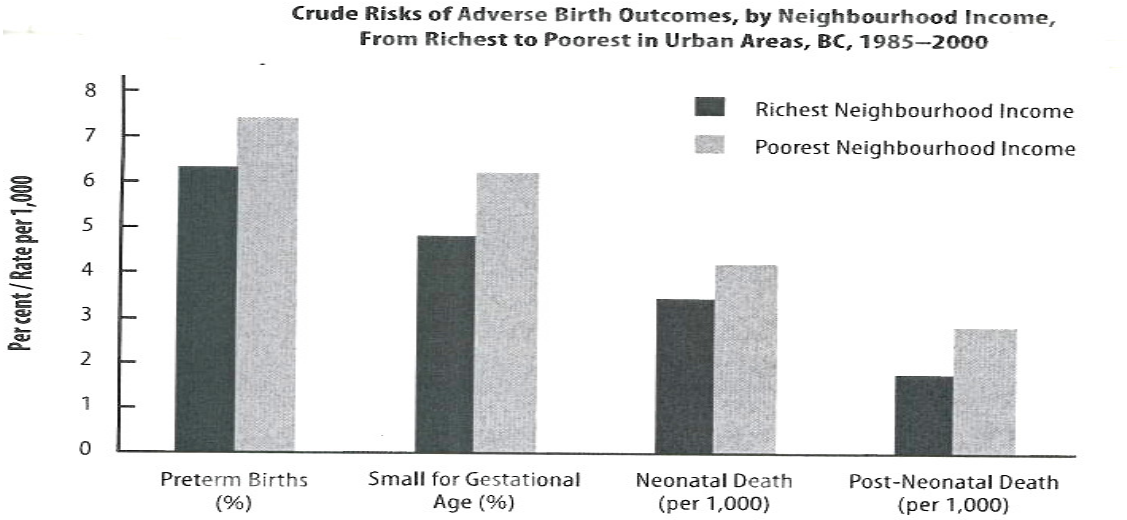
2005: **3.6** 2006: **6.0** 2007: **3.9** 2008: **3.7** 2009: **3.6**

Data source: BC Vital Stats (VISTA), June 2010.

SOCIOECONOMIC - INCOME

There is currently no VCH data for infant mortality by socioeconomic status. However, ample research indicates that a disparity exists on this dimension. For example, a study by Wilkins et. al. (2002) found that the infant mortality rate in Canada was 60% higher in the poorest income quintile than in the richest quintile areas.

The graph below from *Pathways to Health and Healing* (2009) illustrates the relationship between neighbourhood income and adverse birth outcomes in urban areas in BC.



Source: Luo, Kierans, Wilkins, Liston, Uh, et al., 2004; prepared by the Office of the Provincial Health Officer, Ministry of Healthy Living and Sport, 2008.

ABORIGINAL

Infant mortality rate per 1000 live births, Status Indians, VCH (1993 to 2006): 9.4

Infant mortality rate per 1000 live births, Other Residents, VCH (1993 to 2006): 3.9

Data source: BC Vital Statistics, from *Pathways to Health and Healing*. (2009).

- Luo, Z.C., et. al. "Disparities in birth outcomes by neighborhood income: temporal trends in rural and urban areas, British Columbia." *Epidemiology*. 15(6). 2004: 679-686.
- Luo, Z.C., et. al. "Neighbourhood socioeconomic characteristics, birth outcomes and infant mortality among First Nations and Non-First Nations in Manitoba, Canada." *The Open Women's Health Journal*. 4. 2010: 55-61.
- *Pathways to Health and Healing: 2nd Annual report on the Health and Well-Being of Aboriginal People in British Columbia*. *Provincial Health Officer's Annual Report 2007*. Ministry of Healthy Living and Sport. Victoria, 2009.
- Raphael, D. "The health of Canada's children. Part 1: Canadian children's health in comparative perspective." *Paediatric Child Health*. 15(1). January 2010: 23-29.
- Raphael D. *Poverty and Policy in Canada: Implications for Health and Quality of Life*. Canadian Scholars' Press. Toronto, 2007.
- Seguin, L., et. al. "Effects of low income on infant health." *Canadian Medical Association Journal*. 168(12). June 10, 2003: 1533-1538.
- Smylie, J., et. al. "A review of Aboriginal infant mortality rates in Canada: striking and persistent Aboriginal/non-Aboriginal inequities." *Canadian Journal of Public Health*. 101(2). March-April 2010: 143-148.
- Wilkins, R. et. al. "Trends in mortality by neighbourhood income in urban Canada from 1971 to 1996." *Health Reports*. Statistics Canada. 13 (Supplement). 2002: 1-28.

Low Birth Weight

Low birth weight refers to newborns who weigh less than 2,500 grams. Low birth weight infants have a greater risk of death in the first year of life and long-term diseases and disabilities, as well as learning, behavioural and emotional difficulties.

Unfavourable birth outcomes such as low birth weight are clearly graded by income, with poorer outcomes in each successively lower neighbourhood income quintile. There is also a higher incidence of low birth weights among Aboriginals in comparison to non-Aboriginals.

VCH OVERALL

Low birth weight births (2005-2009) per 1000 live births, VCH: 57.65

Data source: BC Vital Stats (VISTA), June 2010.

SOCIOECONOMIC

There is currently no VCH data for low birth weight births by socioeconomic status. However, ample research indicates that a disparity exists on this dimension. For example, a population-based study by Luo, et. al. (2006) that analysed over 825,000 births found that lower levels of maternal education and neighbourhood income were associated with elevated crude risks of preterm birth, small-for-gestational-age (SGA)* birth, still-birth and neo-natal and postneonatal death. The effects of maternal education were stronger than, and independent of, those of neighbourhood income. (See also graph from *Pathways to Health and Healing* under the Infant Mortality section on page 49).

* According to Luo, et. al., SGA is a better fetal growth indicator.

ABORIGINAL

Low birth weight births (2002-2006) per 1000 live births, Status Indians, VCH: 80.0

Low birth weight births (2002-2006) per 1000 live births, Other Residents, VCH: 55.0

Data source: BC Vital Statistics, from *Pathways to Health and Healing*. (2009).

- Luo, Zhong-Chen, et. al. "Effect of neighbourhood income and maternal education on birth outcomes: a population-based study." *Canadian Medical Association Journal*. 174(10). May 9, 2006: 1415-1421.
- *Pathways to Health and Healing: 2nd Annual report on the Health and Well-Being of Aboriginal People in British Columbia*. *Provincial Health Officer's Annual Report 2007*. Ministry of Healthy Living and Sport. Victoria, 2009.
- *Reproductive Health*. Standards, Programs and Community Development Branch, Ministry of Health Promotion. Toronto, May 2010.
- Seguin, L., et. al. "Effects of low income on infant health." *Canadian Medical Association Journal*. 168(12). June 10, 2003: 1533-1538.
- Urquia, F. and M. Glazier. "Birth outcomes by neighbourhood income and recent immigration in Toronto". *Health Reports*. 18(4). November 2007:1-10.
- Valero De, B.J., et. al. "Risk factors for low birth weight: a review." *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 116(1). 2004: 3-15.

Teenage Pregnancy

The teen pregnancy rate refers to women under the age of 20 who give birth and is considered an indicator of community wellness. Teenage pregnancies are associated with a higher risk of infant mortality, low birth weight and the associated health problems for children. There are also health risks for the teenage mother such as anemia, renal disease and depressive disorders. Other negative outcomes for the teenager include a disrupted education, reduced employment prospects, and a low household income, all of which affect both the health of the mother and the child.

VCH OVERALL

See Aboriginal sub header below which compares "Status Indians" to "Other Residents" (which are people who are not "Status Indians").

SOCIOECONOMIC

There is currently no VCH data for low birth weight births by socioeconomic status. However, there are many studies showing that adolescent pregnancy is related to poor educational attainment, low economic status and lack of employment.

ABORIGINAL

Aboriginal status is also significantly connected to a higher teen pregnancy rate than that of other residents.

Pregnancy rate (2006), Age 12-19 years, per 100 population, Status Indians, VCH: 5.8

Pregnancy rate (2006), Age 12-19 years, per 100 population, Other Residents, VCH: 1.1

Data source: BC Vital Statistics, from *Pathways to Health and Healing*. (2009).

- Anderson, K. *Tenuous Connections: Urban Aboriginal Youth Sexual Health and Pregnancy*. Ontario Federation of Indian Friendship Centres. Toronto, 2002.
- Al-Sahab, B., et. al. "Prevalence and characteristics of teen motherhood in Canada." *Maternal and Child Health Journal.* February 6, 2011.
- Devries, K.M., et. al. "Factors associated with pregnancy and STI among Aboriginal students in British Columbia." *Canadian Journal of Public Health*. 100(3). May-June 2009: 226-230.Dryburgh, H. "Teenage pregnancy." *Health Reports*. 12(1). Statistics Canada, 2000.
- *Growing Up in B.C.* Representative for Children and Youth and the Office of the Provincial Health Officer. Victoria, 2010.
- Hardwick, D. and D. Patychuk. "Geographic mapping demonstrates the association between social inequality, teenage births and STDs." *The Canadian Journal of Human Sexuality*. 8(22). 1999: 77-90.
- *Pathways to Health and Healing: 2nd Annual report on the Health and Well-Being of Aboriginal People in British Columbia*. *Provincial Health Officer's Annual Report 2007*. Ministry of Healthy Living and Sport. Victoria, 2009.
- Rottermann, M. "Second or subsequent births to teenagers." *Health Report., 18(1). 2007:* 39-42.
- Singh, S. "Socioeconomic disadvantage and adolescent women's sexual and reproductive behavior: the case of five developed countries." *Family Planning Perspectives*. 33(6). November/December 2001.
- Turner, K.M. "Young women's views on teenage motherhood: a possible explanation for the relationship between socio-economic background and pregnancy outcome?" *Journal of Youth Studies*. 7(2). 2004: 221-238.
- *Urban Aboriginal Youth: An Action Plan for Change*. The Standing Senate Committee on Aboriginal Peoples. Ottawa, October 2003.

DIABETES

Several factors contribute to a person's risk of developing diabetes such as excess weight, advanced age and high blood pressure. People with low income are at higher risk of developing diabetes than those in the highest income groups. Aboriginal peoples are also at higher risk than non-Aboriginals.

VCH OVERALL

Diabetes Incidence rate per 100,000 population (2005/06-2009/10 combined), VCH: 640.2

Data source: BC Primary Health Care (Diabetes Registry, November 2010) via VCH Knowledge Base.

SOCIOECONOMIC - EDUCATION

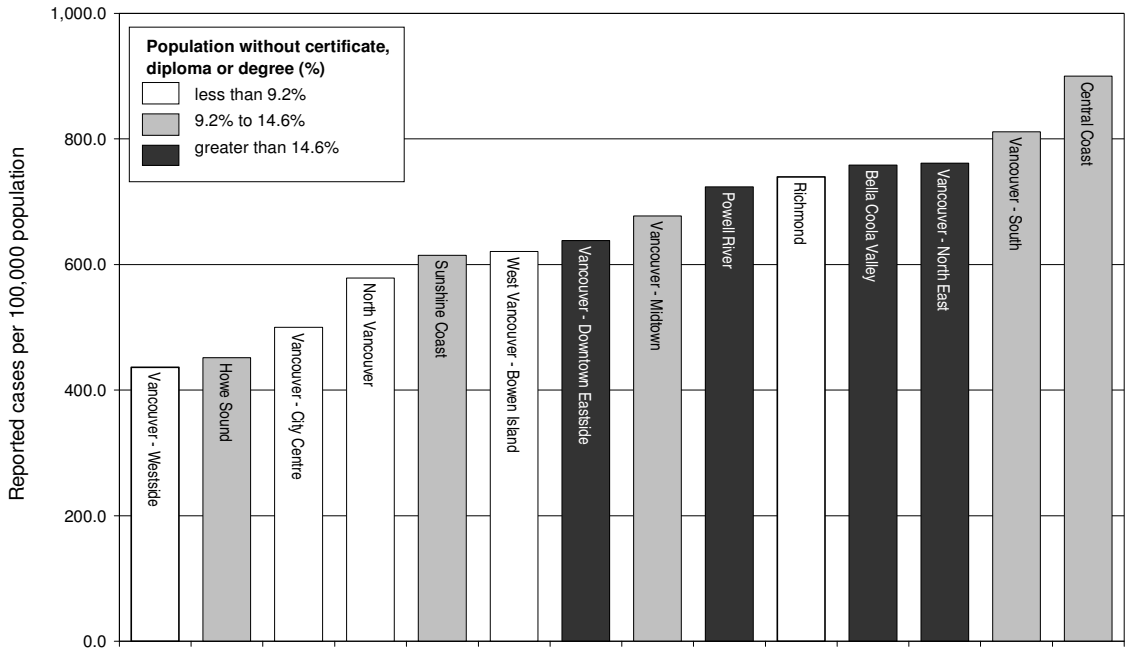
Diabetes Disease rate per 100,000 population (2005/06-2009/10 combined) and population without certificate, diploma or degree (25-64 years of age) (%) (2006) by local health area – *see graph next page*

Diabetes Low/High: Van-West Side **436.4** (**2.8%** without education degree) vs Central Coast **899.8** (with **50.6%** without education degree)

Education Low/High: Central Coast **50.6%** without education degree (Diabetes rate: **899.8**) vs Van-West Side **2.8%** without education degree (Diabetes rate: **436.43**) and West Van-Bowen Island **2.8%** without education degree (Diabetes rate: **620.6**)

Diabetes - SOCIOECONOMIC – EDUCATION – from page 51

Diabetes disease rate (per 100,000 population) 2005/06-2009/10 combined vs. population without certificate, diploma or degree (aged 25-64 years) 2006, by local health area.



Data source: 1. BC Primary Health Care (Diabetes Registry, November 2010) via Vancouver Coastal Health Authority Knowledge Base.
2. Statistics Canada (2006 Census) via BC Statistical Agency Sharepoint site.

ABORIGINAL

Diabetes prevalence rate per 100,000 population (2005-2006), Status Indians, VCH: 687

Data source: *Aboriginal Health Status Profile*. (2009).

- *Aboriginal Health Status Profile*. Vancouver Coastal Health. Vancouver, August 2009.
- *Why Health Care Renewal Matters: Lessons from Diabetes*. Health Council of Canada. Toronto, 2007.
- Manuel, D.G. and S.E. Schulz. "Diabetes health status and risk factors." in Hux, J., et. al. (eds.) *Diabetes in Ontario: An ICES Practice Atlas*. Institute for Clinical Evaluative Sciences in Ontario. Toronto, 2003: 84-86.
- *Pathways to Health and Healing: 2nd Annual report on the Health and Well-Being of Aboriginal People in British Columbia*. *Provincial Health Officer's Annual Report 2007*. Ministry of Healthy Living and Sport. Victoria, 2009.

HEART DISEASE

Cardiovascular diseases are still the leading cause of death for adults in VCH, but the mortality rate has been generally declining due to a reduction in risk factors, as well as to better treatment. Cardiovascular disease has been noted to have the largest economic burden of any illness on Canada's health care.

There is a social gradient in the prevalence of heart disease with people with low levels of education and low incomes experiencing higher rates than other population groups. National trends also show that from 1994 to 2005, heart disease increased by 27% in the lowest income category but by only 6% in the highest (Lee, et. al., 2009).

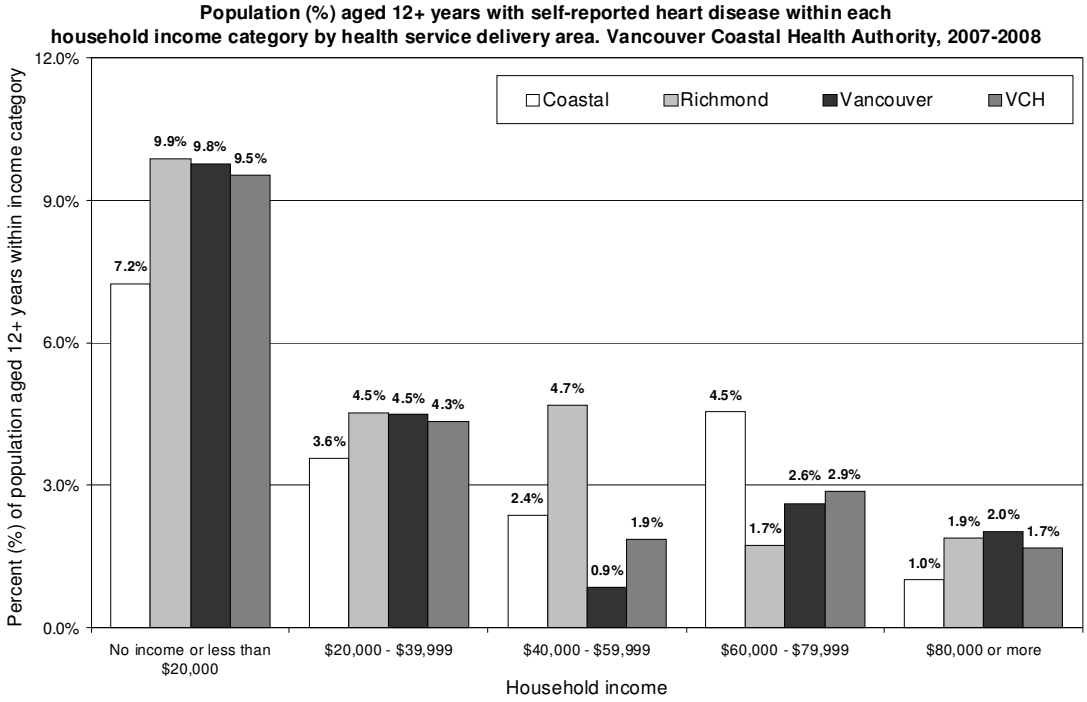
VCH OVERALL

Congestive Heart Failure rate per 100,000 population (2009/10), VCH: 253.5

Data source: BC Primary Health Care (Congestive Heart Failure Registry, November 2010) via VCH Knowledge Base.

SOCIOECONOMIC – INCOME

Note: it is not clear what kind of "heart disease" is being self-reported in the graph below – it is likely a combination of categories.



Data source: Statistics Canada, Canadian Community Health Survey, Annual Component, 2007-2008.

ABORIGINAL

Congestive Heart Failure Age-Standardized rate per 100,000 population (2005/2006), Status Indians, BC: 220

Congestive Heart Failure Age-Standardized rate per 100,000 population (2005/2006), Other Residents, BC: 130

No regional health authority data was available.

Data source: Population Health Surveillance and Epidemiology, Ministry of Healthy Living and Sport, from *Pathways to Health and Healing*. (2009).

- Fiscella, K. and D. Tancredi. "Socio-economic status and coronary heart disease risk prediction." *Journal of the American Medical Association*. 300(22). December 2008: 2666-2668.
- Lee, D., et. al. "Trends in risk factors for cardiovascular disease in Canada: temporal, socio-demographic and geographic factors." *Canadian Medical Association Journal*. Special Report. July 2009: 1-12.
- Loucks, E., et. al. "Life-course socio-economic position and incidence of coronary heart disease." *American Journal of Epidemiology*. 169(7). 2009: 829-836.
- *Pathways to Health and Healing: 2nd Annual report on the Health and Well-Being of Aboriginal People in British Columbia. Provincial Health Officer's Annual Report 2007*. Ministry of Healthy Living and Sport. Victoria, 2009.
- Reading, J. *The Crisis of Chronic Disease among Aboriginal Peoples: A Challenge for Public Health, Population Health and Social Policy*. University of Victoria. Victoria, 2010.
- Steptoe, A. and M. Marmot. "Socioeconomic status and coronary heart disease: a psychobiological perspective." *Aging, Health and Public Policy: Demographic and Economic Perspectives*. Supplement to Vol. 30. Population Council. New York, 2004.

- Tanuseputro, P., et. al. "Risk factors for cardiovascular disease in Canada." *Canadian Journal of Cardiology.* 19(11). October 2003: 1249-1259.

MENTAL HEALTH – SUICIDE RATE

Suicide rates are used as a proxy for the prevalence of mental health disorders, as well as a measure of the well-being of a population and an indicator of the deterioration of the social context in which individuals live.

There is a strong negative correlation between mental illness and socioeconomic status. The poorer one's socioeconomic conditions, the higher one's risk is for mental illness. There is also still a large gap between the suicide rates of the general population versus that of the Aboriginal population.

VCH OVERALL

Suicide deaths per 100,000 population (2005-2009 combined), VCH: 9.7
Data source: BC Vital Statistics

SOCIOECONOMIC

There is currently no VCH data for suicide rates by socioeconomic status. However, research suggests that a disparity exists on a mental health dimension. See the next sub header "Mental Health – Acute Care Utilization" for an indication of this.

ABORIGINAL

Suicide deaths per 100,000 population (2002-2006), Status Indians, VCH: 19
Suicide deaths per 100,000 population (2002-2006), Other Residents, VCH: 9.0
Data source: BC Vital Statistics, from *Pathways to Health and Healing*. (2009).

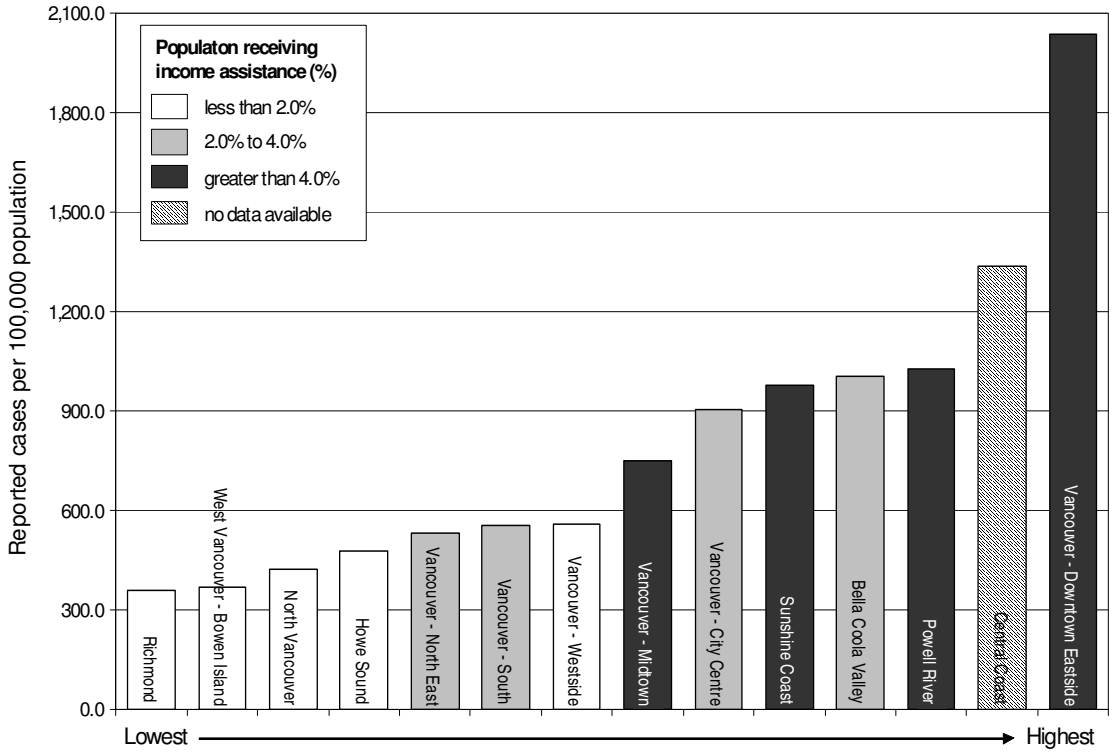
- Hudson, C.G. "Socio economic status and mental illness: tests of the social causation and selection hypotheses." *American Journal of Orthopsychiatry*. 75(1). 2005: 3-18.
- Kirmayer, L., et. al. *Suicide Among Aboriginal People in Canada*. The Aboriginal Healing Foundation. Ottawa, 2007.
- *Pathways to Health and Healing: 2nd Annual report on the Health and Well-Being of Aboriginal People in British Columbia*. *Provincial Health Officer's Annual Report 2007*. Ministry of Healthy Living and Sport. Victoria, 2009.
- Rehkopk, D.H. and S.L. Buka. "The association between suicide and the socioeconomic characteristics of geographic areas: a systematic review." *Psychological Medicine*. 35(2). 2006: 145-57.
- *Society at a Glance: OECD Social Indicators – 2006 Edition*. Organization for Economic Cooperation and Development. Paris, 2006.

MENTAL HEALTH – ACUTE CARE UTILIZATION

The poorer one's socioeconomic conditions, the higher one's risk is for psychiatric hospitalization (Hudson, 2005).

SOCIOECONOMIC – INCOME

Mental health acute care service utilization (per 100,000 population) 2004/05-2006/07 combined vs. population (%) receiving income assistance (aged 0-64 years) in September 2007, by local health area.



Data source: 1. BC Ministry of Health, Health System Planning Division, Discharge Abstract Database, April 2008, via Vancouver Coastal Health Authority Knowledge Base.
2. BC Ministry of Housing and Social Development, October 2008, via BC Statistical Agency, Socio-Economic Profiles.

ABORIGINAL

Hospitalization Rates – Suicide/Attempted Suicide – Rate per 100,000 (2006/2007), Status Indians, VCH: 85.5

Hospitalization Rates – Suicide/Attempted Suicide – Rate per 100,000 (2006/2007), Other Residents, VCH: 20.3

Data source: Discharge Abstract Database, Ministry of Health Services, from *Pathways to Health and Healing*. (2009).

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