

# Healthy Northern Communities 2013

Fort St. John

Revised  
September 24, 2013



**northern health**  
*the northern way of caring*

## What Determines Health?

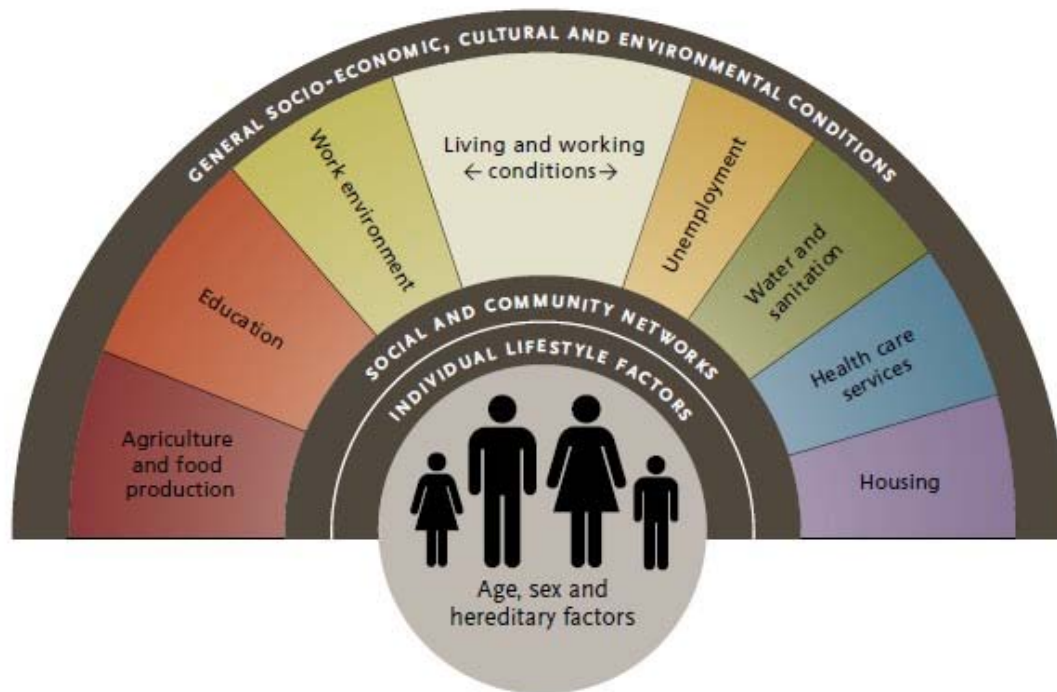


Figure: Health Council of Canada, 2010.

Broadly speaking: a good strong start in life; early and enriching experiences; educational opportunities; a sufficient and equitable distribution of employment, income, housing and food; water and sanitation; our interactions with the environment; our choices towards certain lifestyles and risks; our age and sex; genetics; as well as access to appropriate high quality health care are some of the many factors that are known to influence our health.

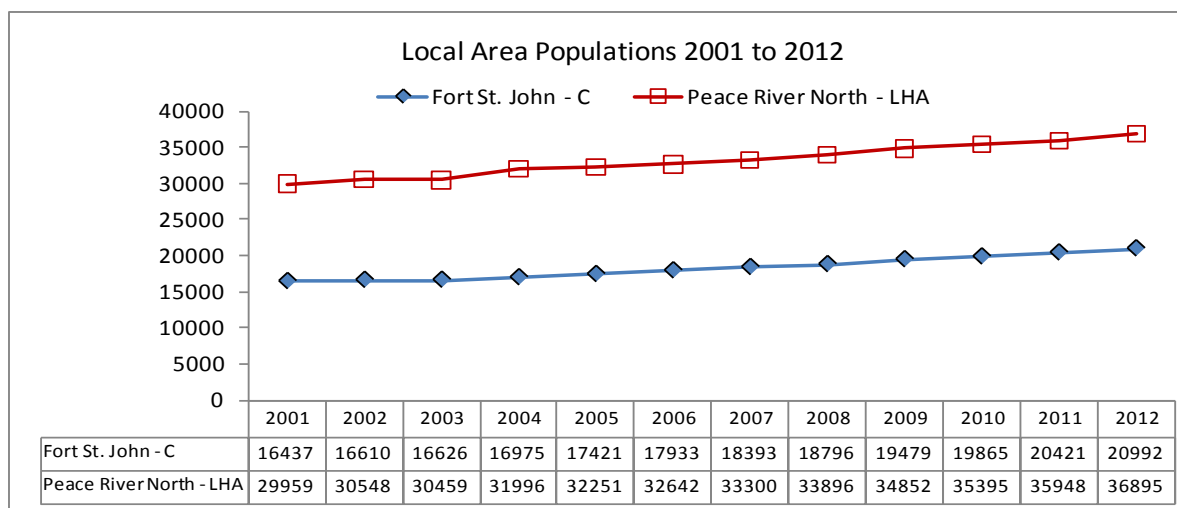
### **Additional Information** (text below is hyperlinked)

- [World Health Organization: Social Determinants of Health](#)
- [Public Health Agency of Canada: Best Practices Portal](#)
- [Canadian Institute for Health Information: Factors Affecting Health](#)
- [Canadian Institute for Health Information: Health System Performance](#)
- [Health Council of Canada: Stepping it Up to a Healthier Canada.](#)
- [National Collaborating Centre for Aboriginal Health: Social Determinants of Health](#)
- [Northern Health: Community Health Information Portal](#)

The City of Fort St. John was incorporated in 1947 and is located 464 km north of Prince George via Hudson's Hope, and 408 km south of Fort Nelson.<sup>1</sup>

Fort St. John is situated within the Peace River Regional District, within the Peace River North Local Health Area (LHA 060) and within the Northeast Health Service Delivery Area of Northern Health. The Fort St. John area is served by School District No. 60.

These are the territories of the Dane-zaa (Beaver) and Cree peoples. Local First Nations include Halfway River (Choonache), Blueberry River and Doig River First Nations (Taahche Wadane). As well, there are many people of Metis heritage that call this area home.<sup>2, 3, 4</sup>



The estimated 20,992 people living in Fort St. John City account for approximately 57 % of the Peace River North LHA population (20,992 / 36,895 persons) and for 32 % of the overall Peace River Regional District population (20,992 / 66,167 persons). The local area population that is attributable to industrial work camps is uncertain but it is felt to have a significant impact.<sup>5, 6, 7</sup>

During the 2011 calendar year, there were 617 births, 147 deaths and 174 marriages to the residents of the Peace River North LHA. Of these, 388 births, 95 deaths and 75 marriages could be attributed to residents of Fort St John City. The average life expectancy for both populations was 78.9 years: less than the British Columbia (BC) average of 82 years.<sup>8</sup>

### Additional Community Information

City of Fort St. John: <http://www.fortstjohn.ca/>

City of Fort St. John, Official Community Plan: <http://www.fortstjohn.ca/bylaws>

Fort St John and District Chamber of Commerce: <http://fsjchamber.com/>

Doig River First Nation (Taahche Wadane): <http://www.doigriverfn.com/>

Halfway River First Nation: <http://www.treaty8.bc.ca/communities/halfway.php>

Blueberry River First Nation: <http://www.treaty8.bc.ca/communities/blueberry.php>

Peace River Regional District: <http://prrd.bc.ca/home.php>

Northern Health: Community Health Information Portal <http://chip.northernhealth.ca>

## Selected Community Indicators

Demographics	Ft St John	LHA	BC
Percent of population who are 0 – 19 yrs old	27.7	29	21
Percent of population who are ages 65+	6.5	7	15
Percent of population who are Visible Minorities	4.0	3.5	24.5
Percent of population who are Aboriginal Identity	10.0	22.1	4.8
<b>Income</b>			
Percent of families earning < \$20,000 per year	5.4	11.4	8.0
Percent of families earning from \$20,000 - \$80,000 per year	44.6	50.8	53.8
Percent of families earning > \$80,000 per year	49.6	37.7	38.1
* Percent of population receiving Income Assistance > 1 yr.	nca	0.4	1.0
<b>Early Development and Educational Achievement</b>			
Percent of kindergarten children vulnerable :1 or more EDI scales	27.1 - 46.6	32.3	28.6
† Percent of Grade 4 & 7 students below standard on FSA - Reading	nca	21.1	20.7
† Percent of Grade 4 & 7 students below standard on FSA - Writing	nca	12.5	17.9
† Percent of Grade 4 & 7 students below standard on FSA - Math	nca	27.6	23.4
† Percent of 18 yr olds who did not graduate	nca	40.1	29.0
Percent of persons ages 25 to 54: without high school completion	nca	21.2	11.1
Percent of persons ages 25 to 64: with university degree or above	12.3	10.9	24.1
<b>Housing</b>			
Percent of households that are renting	37	20.3	30.4
Percent of tenants paying 30 % or more of income towards housing	32	29.7	43.4
Percent of owners paying 30 % or more of income towards housing	16	12.1	22.7
<b>Children and Youth at Risk</b>			
* Children (ages <15) receiving Income Assistance > 1 year	nca	0.6	1.7
* Youth (ages 15 - 24) receiving Income Assistance > 1 yr	nca	0.4	0.9
Children in care rate per 1,000 population, ages 0 – 18	nca	4.9	9.2
Teen pregnancies per 1,000 women ages 15 – 19 (2007-2009)	nca	51.4	26.3
<b>Other Indicators</b>			
Alcohol sales per capita in 2010 (Dollars Spent)	nca	890	790
Alcohol sales per capita in 2010 (Litres Consumed)	nca	134	107
nca = means this level of data detail or data aggregation is "not currently available."			
* Income Assistance figures may be understated as they do not include Aboriginal people who are living on reserve.			

### Sources of the above information:

BC Stats Socio-economic Profiles

<http://www.bcstats.gov.bc.ca/StatisticsBySubject/SocialStatistics/SocioEconomicProfilesIndices.aspx>

Census 2011: Statistics Canada

<http://www12.statcan.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E>

BC Ministry of Education K -12 Reporting

<http://www.bced.gov.bc.ca/reporting/province.php>

Human Early Learning Partnership: Early Development Instrument

<http://earlylearning.ubc.ca/edi/>

## Population Forecasts (with a focus on seniors)

Although the percentage of seniors in northern BC is the smallest of all the health regions, this group is expected to grow quickly over the next 15 years. From 2015 to 2030, the 65+, 75+ and 85+ populations in northern BC are expected to grow by 78 %, 111 % and 106 % respectively: the highest overall seniors' growth rates in BC's health authorities.<sup>9</sup>

Below is a forecast of what we might expect at the local health service delivery levels.

<b>Peace River North Local Health Area: Population Projection</b>						Population Change 2015 - 2030	
Broad Age Groups	2010	2015	2020	2025	2030	number	%
<20	10,324	11,102	12,368	13,152	13,437	2,335	21.0
20-44	14,396	15,741	16,691	16,968	17,076	1,335	8.5
45-64	8,110	8,932	9,329	10,064	11,440	2,508	28.1
65+	2,561	3,304	4,399	5,739	7,039	3,735	113.0
Total Population	35,391	39,079	42,787	45,923	48,992	9,913	25.4
Focus on Seniors	2010	2015	2020	2025	2030	number	%
65+	2,561	3,304	4,399	5,739	7,039	3,735	113.0
75+	1,025	1,260	1,693	2,218	2,979	1,719	136.4
85+	242	371	550	658	887	516	139.1
90+	81	150	221	321	370	220	146.7

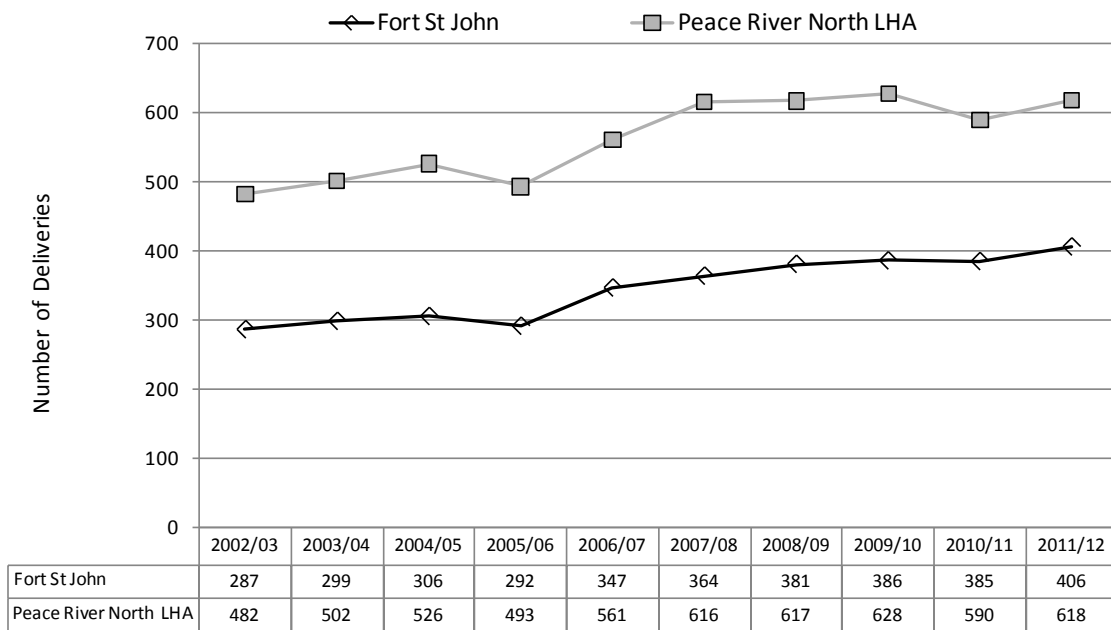
<b>Northeast Health Service Delivery Area: Population Projection</b>						Population Change 2015 - 2030	
Broad Age Groups	2010	2015	2020	2025	2030	number	%
<20	19,215	19,964	21,494	22,235	22,383	2,419	12.1
20-44	26,421	28,826	30,228	30,375	30,351	1,525	5.3
45-64	17,740	19,183	19,680	19,963	21,475	2,292	11.9
65+	6,105	7,718	9,944	12,849	15,494	7,776	100.8
Total Population	69,481	75,691	81,346	85,422	89,703	14,012	18.5
Focus on Seniors	2010	2015	2020	2025	2030	number	%
65+	6,105	7,718	9,944	12,849	15,494	7,776	100.8
75+	2,452	3,006	3,822	5,007	6,523	3,517	117.0
85+	579	846	1,270	1,504	1,900	1,054	124.6
90+	193	345	491	728	828	483	140.0

**About these Population Forecasts:** These projections incorporate the known trends in terms of births, deaths, migration, fertility, age-group (cohort) survival etc. The extra populations that "might" result from the many anticipated projects in the north are not yet explicitly considered. At best, these projections reflect a base-case of what our future population might look like if currently known trends continue into the future. For methodological reasons, these forecasts are not produced at the community level.

**A Good Strong Start in Life** is more likely if infants, children and all family members are as healthy as possible. In thinking about this we consider many factors including trends in the number of mothers delivering babies and the locations where the infants are delivered.

This type of information informs services such as prenatal education, parenting skills programs, post delivery follow-ups for moms, immunizations, and the many childhood screening services that are intended to detect and address vision, hearing and dental health concerns.

**Deliveries per year by Fort St John and Peace River North mothers:** <sup>10</sup>



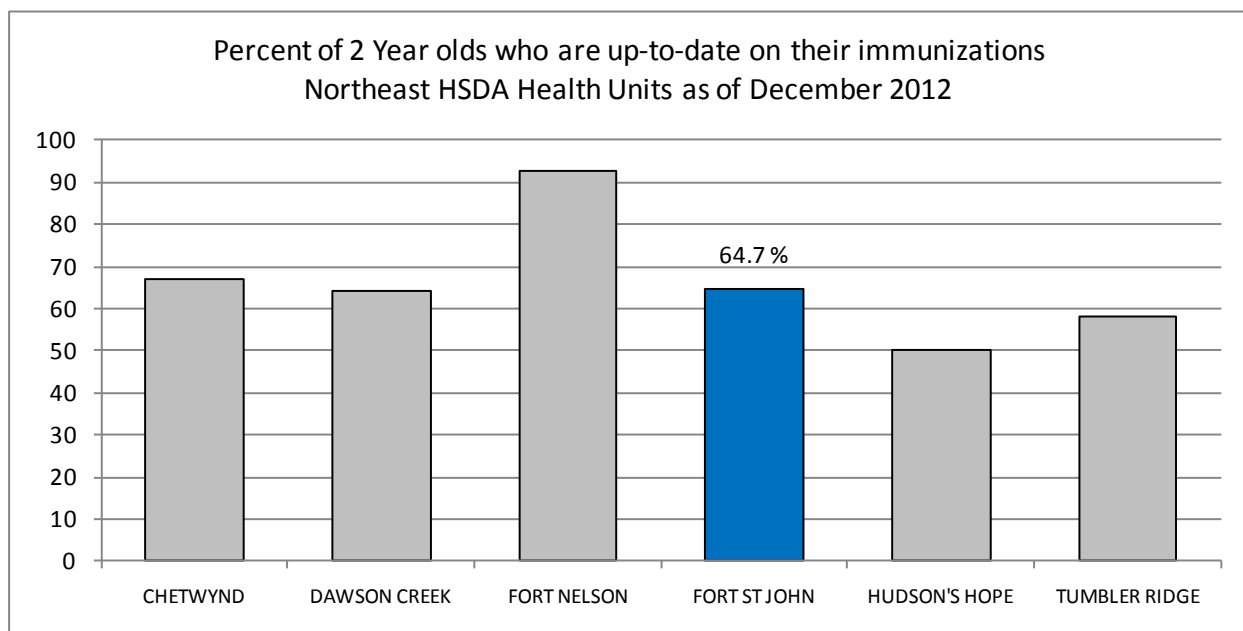
**Delivery locations for Fort St John mothers (five year summary).**

Mom's Home Community	Delivery Location: 2007/08 – 2011/12						Total
	Fort St. John	Dawson Creek	UHNBC	Other NH	Other BC Location	Alberta <sup>11</sup>	
Ft St John (City)	1,840	24	20	1	37	5	1,927
Hudson's Hope (DM)	41	1	2	0	0	0	44
Peace River R/D (B)	347	6	5	1	7	0	366
Peace River R/D (C)	524	6	6	1	10	0	547
Taylor (DM)	164	7	0	0	2	0	173
<b>Total Deliveries</b>	<b>2,916</b>	<b>44</b>	<b>33</b>	<b>3</b>	<b>56</b>	<b>5</b>	<b>3,057</b>

Deliveries in Alberta are reported annually to Northern Health by the Alberta Perinatal Health Program

**Immunizations** are some of the best health investments that we can make. Along with better sanitation and clean drinking water, immunizations have been responsible for the huge increases in life expectancy that we have seen around the world. <sup>12, 13</sup>

Because immunizations are such a good investment and the protection they provide to individuals and communities as a whole is so important, we actively monitor whether certain target populations are fully immunized. For example, we know that the percent of 2 year old children in the Fort St. John area, who are up-to-date with their immunizations, is 64.7%. <sup>14</sup>



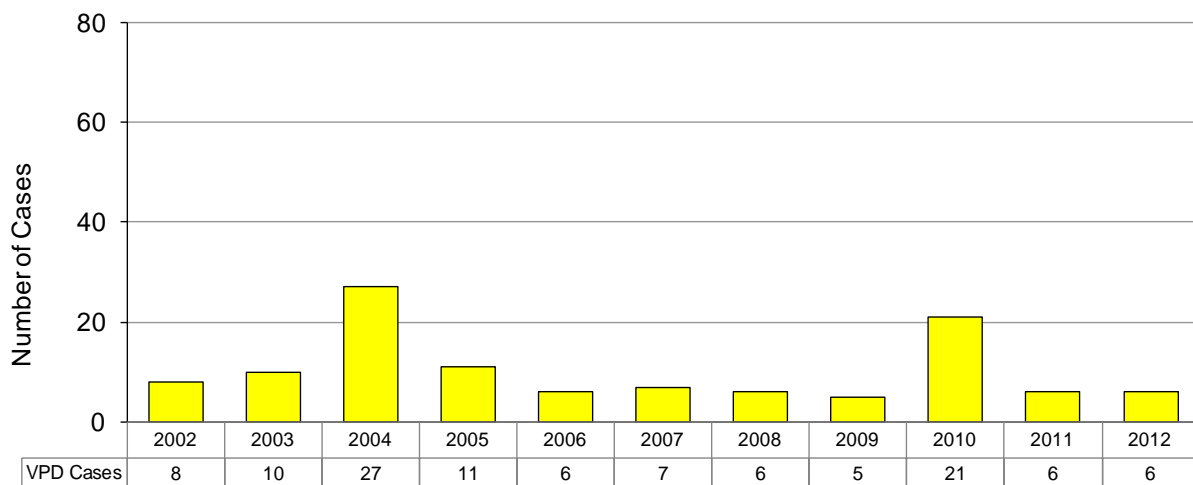
The above graph represents children who were born during the year 2010 and who were two years of age as of Dec 31<sup>st</sup>, 2012. To be considered as up-to-date for their age, two year old children must have completed the following immunizations by their second birthday:

- 4 doses of DTP vaccine
- 3 doses of Polio vaccine
- 3 doses of Hepatitis B vaccine
- 1 dose each of Measles, Mumps and Rubella vaccines
- at least 2 doses of Pneumococcal conjugate vaccine
- at least 1 dose of Meningococcal conjugate vaccine
- at least 1 dose of Haemophilus Influenza B vaccine after month 15
- 1 dose of Varicella (chicken-pox) vaccine or past disease by the 2nd birthday.
  
- Note: DTP = Diphtheria, Tetanus and Pertussis (whooping cough).

**Vaccine Preventable Diseases (VPD)** are illnesses that may have been avoided if individuals and communities were sufficiently immunized.

This page presents a summary of the most frequently reported Vaccine Preventable Diseases for the Northeast Health Service Delivery Area.

Vaccine Preventable Disease Cases in Northeast BC: 2002 - 2012



VPD in Northeast BC: Cases by Community 2002 - 2012 <sup>15</sup>												
Community	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Chetwynd	2	1	2	1	1	0	1	1	3	0	0	12
Dawson Creek	3	2	21	3	1	3	2	1	3	1	3	43
Fort Nelson	1	0	1	1	0	3	0	2	7	0	0	15
Ft St John	1	7	3	5	4	1	2	1	8	5	3	40
Hudson's Hope	1	0	0	0	0	0	1	0	0	0	0	2
Tumbler Ridge	0	0	0	1	0	0	0	0	0	0	0	1
<b>Total</b>	<b>8</b>	<b>10</b>	<b>27</b>	<b>11</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>21</b>	<b>6</b>	<b>6</b>	<b>113</b>

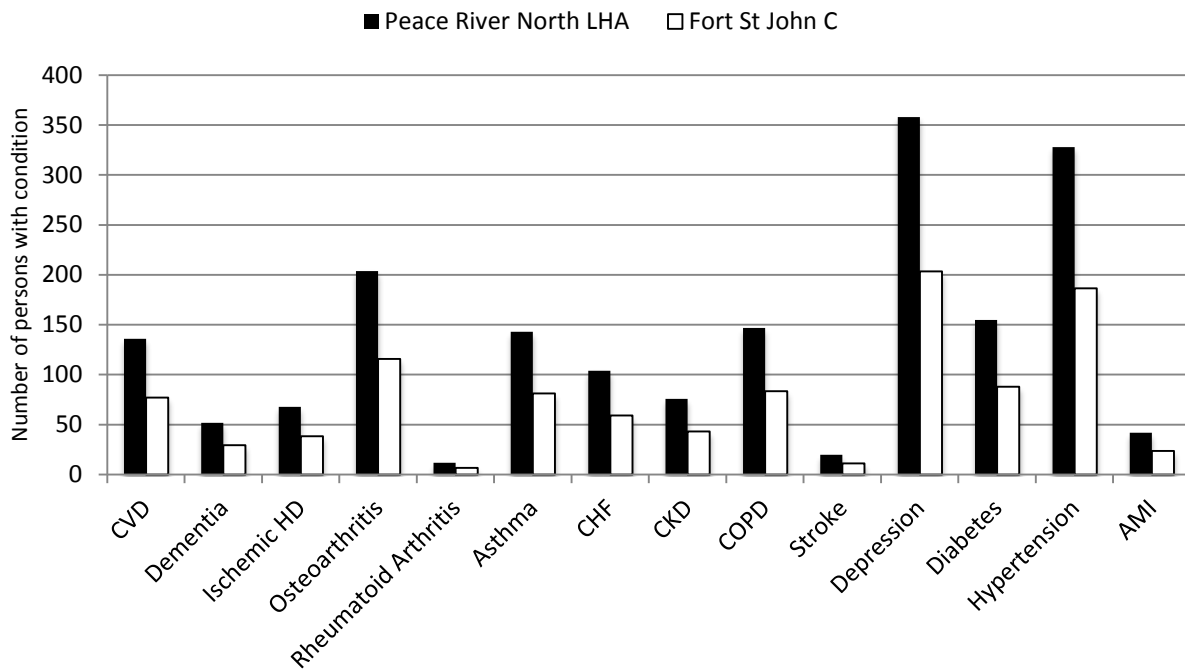
From 2002 to 2012, the most frequently reported VPDs in the Northeast HSDA were:

- Hepatitis B - 40 cases
- Pertussis (whooping cough) - 33 cases
- Measles -18 cases
- Invasive Pneumococcal Disease - 16 cases
- Invasive Meningococcal Disease and Mumps - 2 cases of each VPD.



**Chronic Diseases** tend to accumulate with age and limit our independence. Our personal choices towards a handful of well known risk factors: tobacco use; physical inactivity; poor dietary choices; obesity; inappropriate alcohol and drug use; certain sexual activities; and, excessive sun exposure can greatly determine how we age and whether we remain free from certain types of cancers and chronic illnesses. <sup>16, 17, 18, 19</sup>

Estimated numbers of new cases of selected chronic conditions  
Peace River North LHA and Fort St John C residents: 2010-2011



Chronic Disease Estimates for Fort St John City and Peace River North LHA: 2010 - 11					
Chronic Conditions	Existing or treated cases		New cases / yr		Cost per patient / year
	Fort St John C	LHA	Fort St John C	LHA	
Cardiovascular Disease (CVD)	650	1,143	77	136	\$7,258
Dementia	113	199	30	52	\$12,685
Ischemic Heart Diseases (IHD)	446	784	39	68	\$6,081
Osteoarthritis	1,000	1,758	116	204	\$4,058
Rheumatoid Arthritis	235	413	7	12	\$4,855
Asthma	1,413	2,483	81	143	\$1,255
Congestive Heart Failure (CHF)	323	568	59	104	\$10,737
Chronic Kidney Disease (CKD)	230	405	43	76	\$9,595
COPD	478	840	84	147	\$7,909
Stroke	92	161	11	20	\$10,409
Depression	3,802	6,682	204	358	\$2,155
Diabetes	1,036	1,820	88	155	\$4,118
Hypertension	2,553	4,486	187	328	\$3,743
AMI	258	454	24	42	\$7,054

Community level estimates are based upon each community's relative share of the total Local Health Area (LHA) population and reflect what "might be expected" at the community level.

**Healthy and independent seniors** are what we want to see when we look around the communities in northern BC. The population however, is aging and with that often comes an accumulation of chronic health conditions that inhibit our independence.

Home support and other services provided by Northern Health intend to keep people healthy and independent. As of March 2013, there were 521 northeast BC residents receiving long-term home-support services. Here is an abbreviated profile of these residents.<sup>20</sup>

<b>Male</b>	37 %	<b>Married</b>	32 %	<b>Aged 75+</b>	71 %
<b>Female</b>	63 %	<b>Widowed</b>	44 %	<b>Aboriginal</b>	7 %
<b>Frequently Noted Health Conditions</b>					
Hypertension	57 %	Diabetes	26 %	COPD - Asthma and Emphysema	22%
Arthritis	50 %	C. Heart Failure	24 %		
<b>Clients with Multiple Health Conditions</b>					
≤ 3 Conditions	27 %	3 - 5 Conditions	39 %	≥5 Conditions	34 %
<b>Clients with Cognitive Impairment (Cognitive Performance Score)</b>					
No impairment	38 %	Borderline /mild	49 %	Moderate	7 %
<b>Clients with independence difficulty in 1- 3 daily activities (IADL Difficulty Scale)</b>					
No difficulty	36 %	Some difficulty	21 %	Great difficulty	43 %

## How do we compare to the rest of Canada?

The most frequently reported chronic conditions affecting Canadian seniors overall are:

- Hypertension (47%)
- Arthritis (27%)
- Hypertension and arthritis (14%)
- Hypertension and heart disease (12%)
- Hypertension and diabetes (11%)

The amount of health care that Canadian seniors need as they age is largely driven by the number of chronic conditions that they have, not their age.<sup>21</sup>

These are just a few of the many findings contained in the report: *Seniors and the Health Care System: What is the Impact of Multiple Chronic Conditions?*



This publication is available from the Canadian Institute for Health Information: [https://secure.cihi.ca/free\\_products/air-chronic\\_disease\\_aib\\_en.pdf](https://secure.cihi.ca/free_products/air-chronic_disease_aib_en.pdf)

**Acute care (hospital)** services are an important part of the health care services continuum. This page provides a 5 year snap-shot of where residents received acute care services and a glimpse into the activities occurring at local facilities.

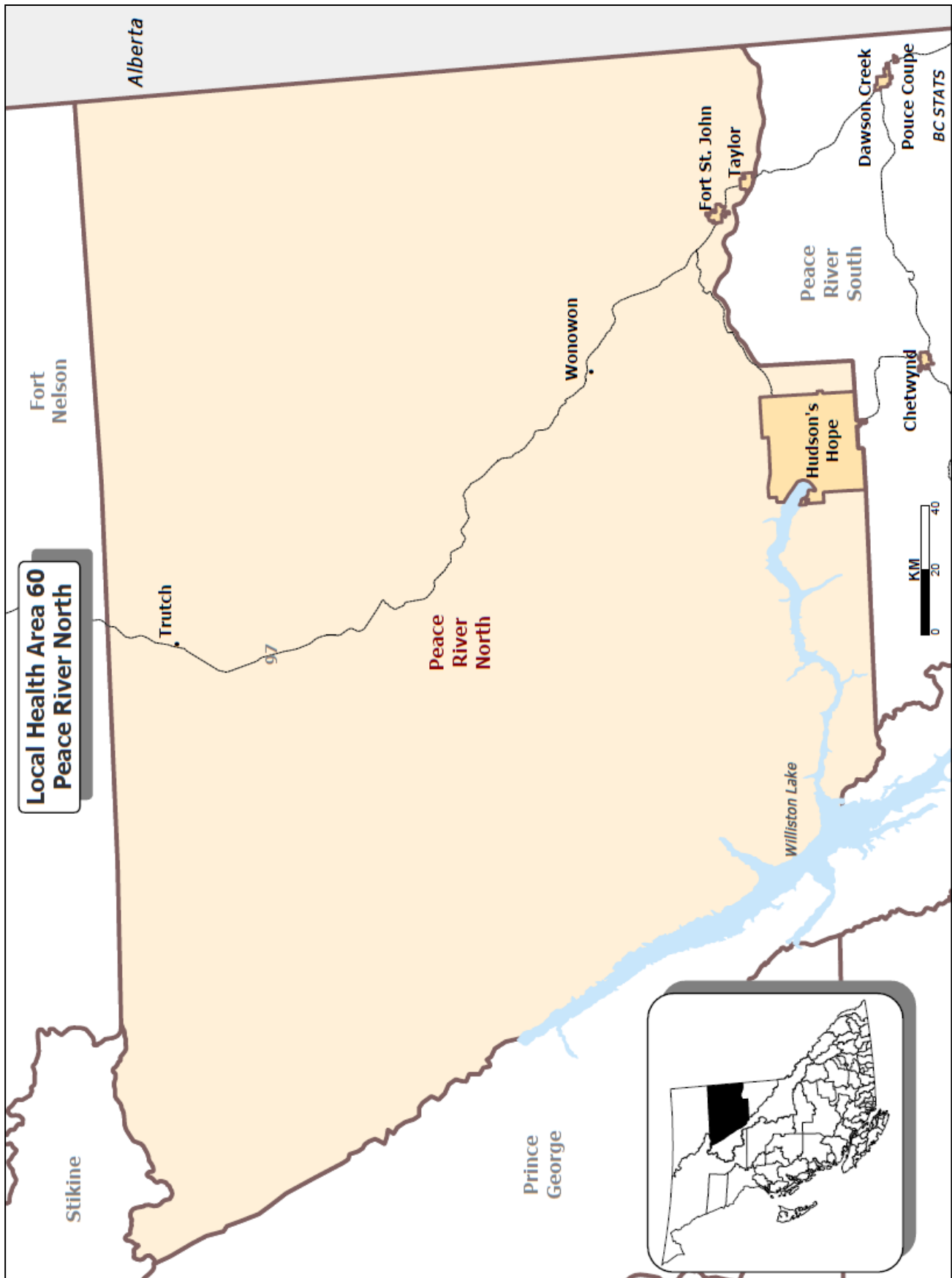
**Location where inpatient hospital services were received:** <sup>22</sup>

For Fort St. John residents during the five year period: 2008/09 – 2012/13.							
Number of Cases and Days	Location of Hospital Care						Total
	Fort St. John	Dawson Creek	Chetwynd	Other NH	Other BC	OOP	
Cases	9,196	784	14	526	905	1,062	12,487
Days	32,949	6,354	131	4,091	8,433	6,502	58,460

- ALC            Alternate Level of Care. Clients who no longer need acute services and who are waiting to be discharged to a setting more appropriate to their needs.<sup>23</sup>
- Cases         These are inpatient cases - client was admitted to the facility.
- Days          These are inpatient days - does not include days attributable to ALC.
- Other NH      Care was received at a Northern Health facility other than those shown.
- Other BC      Care was received at a non Northern Health facility in BC.
- OOP          Care was received Out of Province – in most cases this means Alberta.

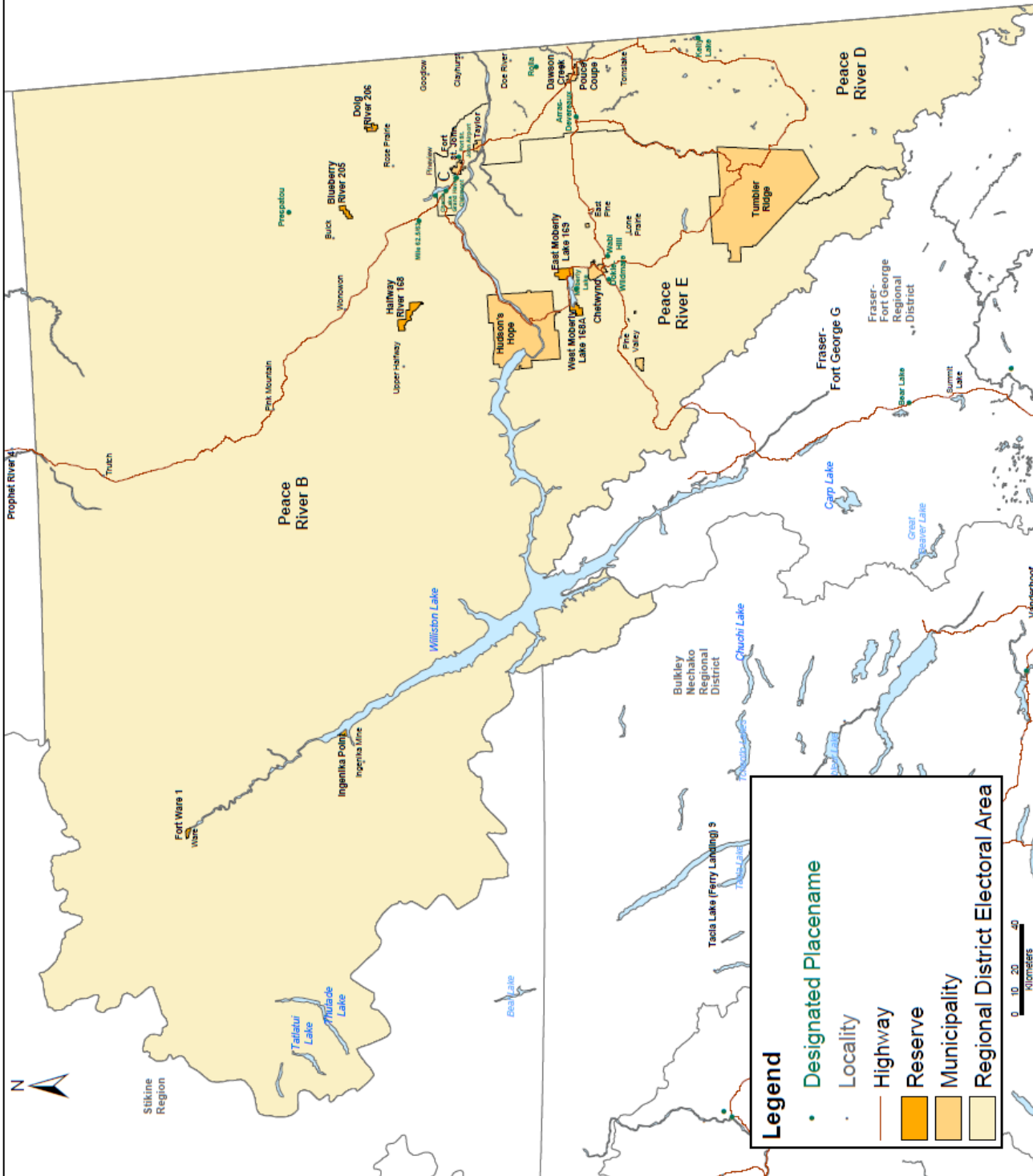
**Facility Activities (selected measures).**<sup>24</sup>

No. 701 - Fort St John Hospital and Health Centre					
Selected Measures	2008/09	2009/10	2010/11	2011/12	2012/13
Acute discharges/deaths total	3,601	3,025	2,854	2,843	2,759
Acute in-patient admissions total	3,585	3,010	2,851	2,831	2,754
Acute in-patient days (excl. ALC)	10,672	10,292	10,090	10,401	10,179
ALC days total	4,272	4,090	3,436	4,065	5,665
Psychiatry/addiction admissions	n/a	n/a	n/a	n/a	n/a
Ambulatory visits (excl. E/R).	12,819	13,609	13,558	16,464	13,064
Emergency visits (excl. Ambul)	24,787	21,458	22,860	24,924	24,880
In-patient surgical cases total	535	518	452	691	350
Surgical day care cases total	2,860	2,468	2,633	2,506	2,782
Lab Tests (excludes respiratory)	552,465	561,959	610,141	576,221	657,969
Medical Imaging Tests	28,654	28,982	30,232	27,759	26,600



# Peace River Regional District

Prepared by BC Stats  
Source: 2006 Census  
Statistics Canada



## References

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- <sup>1</sup> BC Stats, Community Fact Sheets: <http://www.bcstats.gov.bc.ca/StatisticsBySubject/SocialStatistics/CommunityFacts.aspx>
- <sup>2</sup> University of Alberta Libraries: The Making of Treaty 8. <http://www.albertasource.ca/treaty8/eng/default.htm>
- <sup>3</sup> BC Treaty Commission Statement of Intent Maps: GEO BC. <http://archive.ilmb.gov.bc.ca/cis/initiatives/treaty/index.html>
- <sup>4</sup> Metis Nation: BC Metis Places. [http://document.bcmetsiscitizen.ca/manage\\_metisplace\\_display.php](http://document.bcmetsiscitizen.ca/manage_metisplace_display.php)
- <sup>5</sup> BC Stats: Population Estimates for Local Health Areas: PEOPLE 2013. <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>
- <sup>6</sup> Population Estimates for Municipalities: BC Stats; 1996-2006, 2006-2012. <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>
- <sup>7</sup> BC Stats: Population Estimates for Regional Districts: PEOPLE 2013. <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>
- <sup>8</sup> BC Vital Statistics Annual Report: 2011. <http://www.vs.gov.bc.ca/stats/annual/index.html>  
This is calendar year data (Jan - Dec). There will be a small mismatch with fiscal year data of Perinatal-Services-BC.
- <sup>9</sup> BC Stats: Population Projections: PEOPLE 2013: Published August 2013.
- <sup>10</sup> Northern Health Resident Mothers that Delivered a Baby in British Columbia, by Resident Municipality. Prepared for Northern Health by Perinatal Services BC. Request 211051: April 24, 2013.
- <sup>11</sup> Alberta Perinatal Health Program, update for Northern Health: March 2013.
- <sup>12</sup> Immunization: A Report on the Health and Wellbeing of British Columbian. BC Provincial Health Officer, 1998. <http://www.health.gov.bc.ca/pho/pdf/phoannual1998.pdf>
- <sup>13</sup> Small Area Populations Projections (P.E.O.P.L.E.): Technical Paper. BC Stats, July 2009.( mortality: page 10) <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/TechnicalPapers.aspx>
- <sup>14</sup> 2010 Cohort (2 year olds) Date of Birth Jan 01, 2010 to Dec 30, 2010. Up-to-date for age: (2010 definition). Data extracted Jan 15, 2013: Prepared by CM for JMH / MMP: Northern Health Public Health: August 2013.
- <sup>15</sup> Vaccine Preventable Disease: Northern Health-Public Health Internal Files: August 2013.
- <sup>16</sup> Population Patterns of Chronic Health Conditions in Canada: Health Council of Canada. <http://healthcouncilcanada.ca>
- <sup>17</sup> The Cost of Chronic Disease in Canada: GPI Atlantic. 2004. <http://gpiatlantic.org/pdf/health/chroniccanada.pdf>
- <sup>18</sup> Prevention: British Columbia Cancer Agency. 2009. <http://www.bccancer.bc.ca/PPI/Prevention/default.htm>
- <sup>19</sup> Hospitalizations: Counts and Rates Attributable to Alcohol, Tobacco, and Illicit Drugs for BC Health Authorities. BC Centre for Addictions Research: AOD project. March 2010. <http://carbc.ca/AODMonitoring/tabid/541/Default.aspx>
- <sup>20</sup> Inter-RAI Client Assessment Summary: Northern Health. Summary as of March 31, 2013. Data extracted July, 2013. Northern Health: Home and Community Care Services.
- <sup>21</sup> Seniors and the Health Care System: What is the Impact of Multiple Chronic Conditions? CIHI, January 2011. <https://secure.cihi.ca/estore/productFamily.htm?locale=en&pf=PFC1575>
- <sup>22</sup> Hospitalizations by patient's home community 2003/ 04 to 2012/13: Special Analysis by the BC Ministry of Health for Northern Health. Project No. 2013\_00828. Revised and Updated: September 2013.
- <sup>23</sup> Alternate Level of Care in Canada: CIHI. <https://secure.cihi.ca/estore/productSeries.htm?pc=PCC456>
- <sup>24</sup> Northern Facility Activity Summaries from Northern Health Finance: Extracted August 20, 2013.