

# Healthy Northern Communities 2013

Quesnel

Revised  
September 24, 2013



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

## What Determines Health?

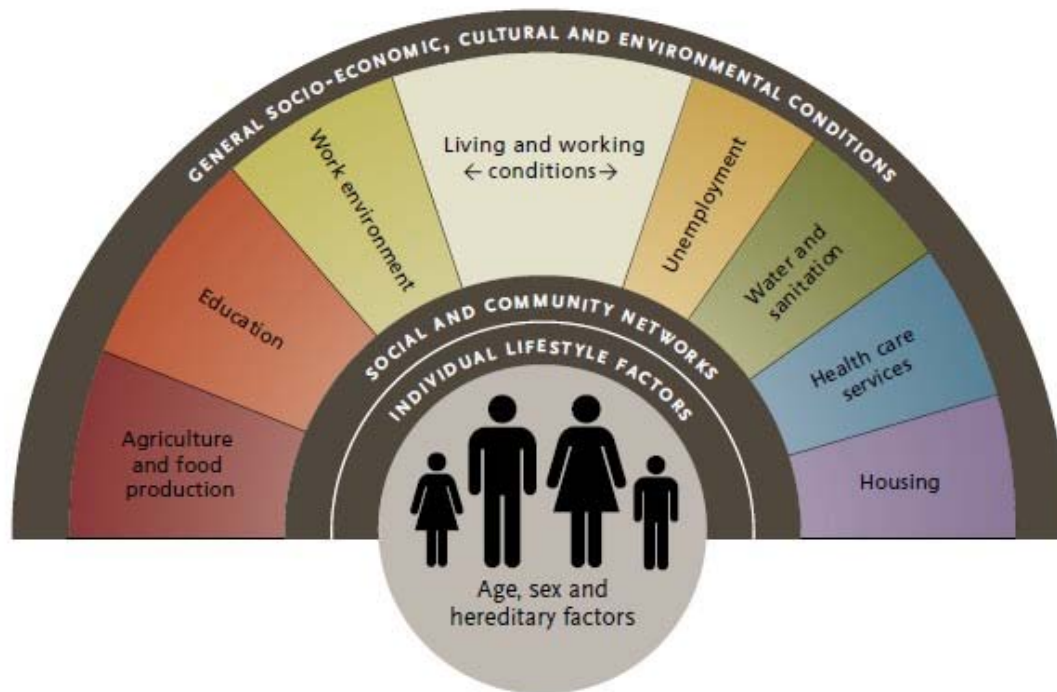


Figure: Health Council of Canada, 2010.

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.

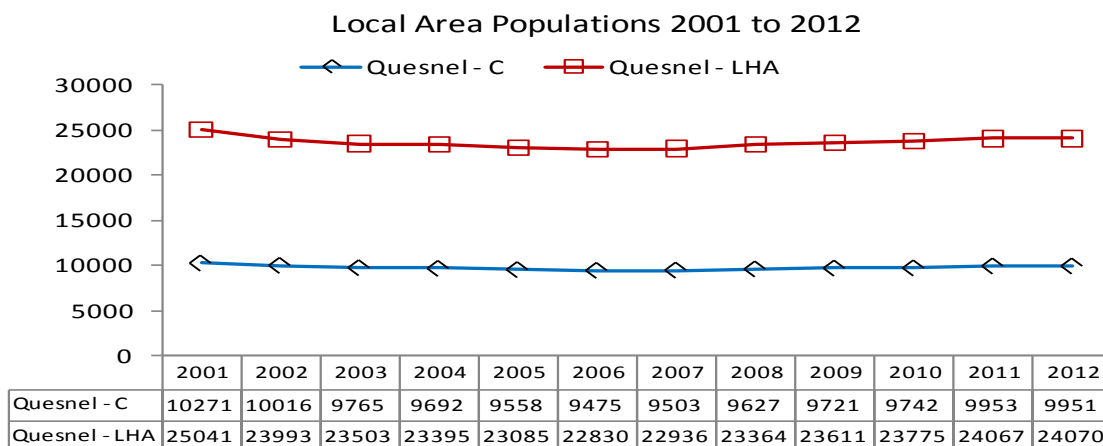
### **Additional Information** (text below is hyperlinked)

- [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 Quesnel Local Health Area (LHA 028) is located in north-central BC. It covers just over 22,365 square kilometers and is home to approximately 23,784 people. The City of Quesnel, which is within the Quesnel LHA, is home to approximately 9,746 persons.<sup>1, 2</sup>

Both the Quesnel LHA and the City of Quesnel are situated within the Cariboo Regional District and within the Northern Interior Health Service Delivery Area of Northern Health. Both the Quesnel LHA and the City of Quesnel are served by School District No. 28.

Several First Nations call this area home, including the Lhatko-Dene (Red Bluff), Nazko, Esdilagh (Alexandria), Lh'oosk'uz Dene (Kluskus) and the Ulkatchot'en (Ulkatcho).<sup>3, 4</sup>



The estimated 9,951 people residing within the City of Quesnel account for approximately 41 % of the Quesnel Local health area population (9,951 / 24,070 persons) and for 15% of the overall Cariboo Regional District population (9,951 / 65,759 persons).<sup>5, 6, 7</sup>

During the 2011 calendar year, there were 223 live births, 205 deaths and 97 marriages attributed to Quesnel Local Health Area residents. Of these, 120 live births, 115 deaths and 52 marriages could be attributed to residents of the City of Quesnel. The average life expectancy for both populations was 78.8 years; less than the British Columbia (BC) average of 82 years.<sup>8</sup>

## Additional Community Information

City of Quesnel: <http://www.quesnel.ca>

Quesnel and District Chamber of Commerce: <http://quesnelchamber.com/>

District of Wells (includes Barkerville): <http://www.district.wells.bc.ca/>

Cariboo Regional District: <http://www.cariboord.bc.ca/>

Carrier Chilcotin Tribal Council <http://www.carrierchilcotin.org>

Quesnel Museum Footprints in Stone:  
<http://www.quesnelmuseum.ca/FootprintsInStone/index.html>

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

## Selected Community Indicators

Demographics	Quesnel	LHA	BC
Percent of population who are 0 – 19 yrs old	25	23.6	21
Percent of population who are ages 65+	16.4	15	15
Percent of population who are Visible Minorities	9.0	4.6	24.5
Percent of population who are Aboriginal Identity	11.0	11.6	4.8
<b>Income</b>			
Percent of families earning < \$20,000 per year	9.0	8.1	8.0
Percent of families earning from \$20,000 - \$80,000 per year	51.2	54.7	53.8
Percent of families earning > \$80,000 per year	39.8	37.1	38.1
* Percent of population receiving Income Assistance > 1 yr.	nca	1.4	1.0
<b>Early Development and Educational Achievement</b>			
Percent of kindergarten children vulnerable: 1 or more EDI scales	28.9 – 32.1	32.3	28.6
† Percent of Grade 4 & 7 students below standard on FSA - Reading	nca	32.7	20.7
† Percent of Grade 4 & 7 students below standard on FSA - Writing	nca	44.3	17.9
† Percent of Grade 4 & 7 students below standard on FSA - Math	nca	42.9	23.4
† Percent of 18 yr olds who did not graduate	nca	29.5	29.0
Percent of persons ages 25 to 54: without high school completion	nca	19.4	11.1
Percent of persons ages 25 to 64: with university degree or above	13.3	9.8	24.1
<b>Housing</b>			
Percent of households that are renting	29.6	21.3	30.4
Percent of tenants paying 30 % or more of income towards housing	50.0	41.8	43.4
Percent of owners paying 30 % or more of income towards housing	9.0	11.1	22.7
<b>Children and Youth at Risk</b>			
* Children (ages <15) receiving Income Assistance > 1 year	nca	2.8	1.7
* Youth (ages 15 - 24) receiving Income Assistance > 1 yr	nca	1.5	0.9
Children in care rate per 1,000 population, ages 0 – 18	nca	11.6	9.2
Teen pregnancies per 1,000 women ages 15 – 19 (2007-2009)	nca	55.8	26.3
<b>Other Indicators</b>			
Alcohol sales per capita in 2010 (Dollars Spent)	nca	784	790
Alcohol sales per capita in 2010 (Litres Consumed)	nca	123	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>Quesnel Local Health Area: Population Projection</b>						Population Change 2015 - 2030	
Broad Age Groups	2010	2015	2020	2025	2030	number	%
<20	5,623	5,246	4,878	4,963	5,000	-246	-4.7
20-44	6,679	6,714	6,946	6,960	7,041	327	4.9
45-64	7,883	7,734	7,042	6,336	5,691	-2,043	-26.4
65+	3,585	4,514	5,578	6,420	7,092	2,578	57.1
Total Population	23,770	24,208	24,444	24,679	24,824	616	2.5
<b>Focus on Seniors</b>						number	%
65+	3585	4514	5578	6420	7092	2,578	57.1
75+	1495	1812	2224	2816	3452	1,640	90.5
85+	382	506	677	819	979	473	93.5
90+	112	193	285	365	426	233	120.7

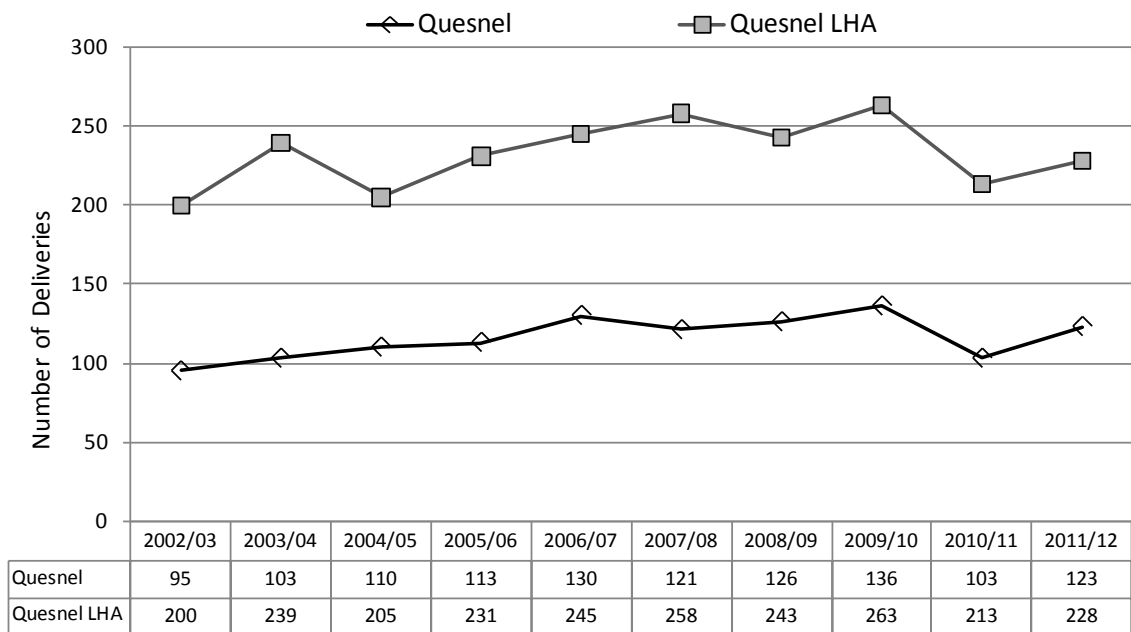
<b>Northern Interior HSDA: Population Projection</b>						Population Change 2015 - 2030	
Broad Age Groups	2010	2015	2020	2025	2030	number	%
<20	36,011	33,430	32,085	31,639	30,913	-2,517	-7.5
20-44	47,526	48,196	47,511	47,029	46,853	-1,343	-2.8
45-64	43,103	43,603	41,925	38,914	36,621	-6,982	-16.0
65+	17,065	21,723	27,375	32,656	37,062	15,339	70.6
Total Population	143,705	146,952	148,896	150,238	151,449	4,497	3.1
<b>Focus on Seniors</b>						number	%
65+	17,065	21,723	27,375	32,656	37,062	15,339	70.6
75+	6,720	8,303	10,451	13,468	17,007	8,704	104.8
85+	1,619	2,280	3,022	3,685	4,639	2,359	103.5
90+	534	850	1,220	1,572	1,883	1,033	121.5

**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 Quesnel Mothers** <sup>10</sup>

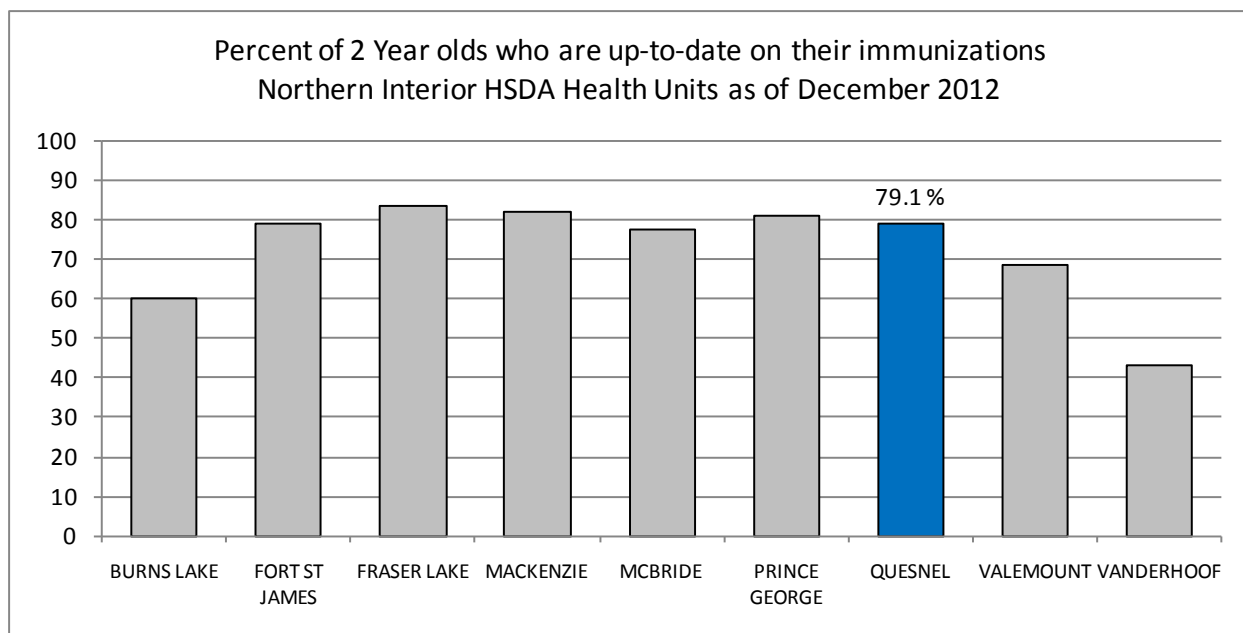


**Delivery locations** for Quesnel mothers (five year summary).

Mom's Home Community	Delivery Location: 2007/08 – 2011/12				Total Deliveries
	G.R. Baker Memorial	UHNBC	Home Births	Other BC Location	
Cariboo R/D (A)	279	17	1	14	311
Cariboo R/D (B)	134	15	1	8	158
Cariboo R/D (C)	40	3	0	4	47
Cariboo R/D (D)	1	0	0	1	2
Cariboo R/D (I)	48	4	2	5	59
Quesnel (City)	531	49	0	29	609
Wells (DM)	12	1	1	1	15
<b>Total Deliveries</b>	<b>1,045</b>	<b>89</b>	<b>5</b>	<b>62</b>	<b>1,201</b>

**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>11, 12</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 Quesnel area, who are up-to-date with their immunizations, is 79.1 %. <sup>13</sup>



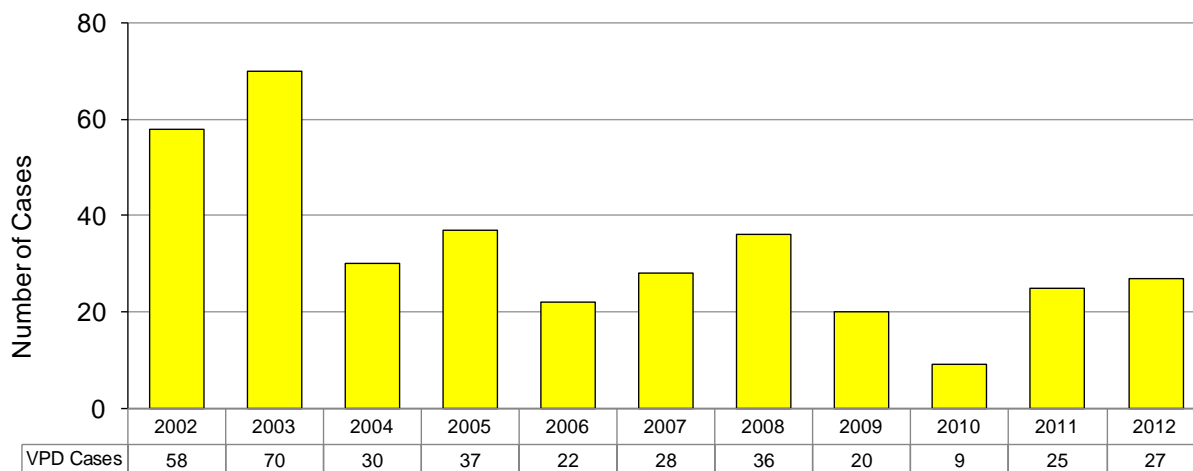
The above graph represents children who were born during the year 2010 and who were two years of age as of Dec 31<sup>st</sup>, 2012. To be considered as up-to-date for their age, two year old children must have completed the following immunizations by their second birthday:

- 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 Northern Interior Health Service Delivery Area.

Vaccine Preventable Disease Cases in Northern Interior BC: 2002 - 2012



VPD in Northern Interior BC: Cases by Community 2002 - 2012 <sup>14</sup>												
Community	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Burns Lake	26	1	0	4	0	0	1	2	0	0	3	37
Ft. St. James	2	0	0	1	3	2	2	0	0	2	3	15
Fraser Lake	0	5	0	1	0	0	1	0	0	0	0	7
Mackenzie	0	1	0	0	1	0	0	1	1	0	0	4
McBride	0	0	0	0	0	0	0	0	0	0	0	0
Prince George	26	52	26	22	17	19	31	13	7	20	15	248
Quesnel	1	5	4	9	1	4	1	4	1	1	3	34
Valemount	0	4	0	0	0	0	0	0	0	0	1	5
Vanderhoof	3	2	0	0	0	3	0	0	0	2	2	12
<b>Total</b>	<b>58</b>	<b>70</b>	<b>30</b>	<b>37</b>	<b>22</b>	<b>28</b>	<b>36</b>	<b>20</b>	<b>9</b>	<b>25</b>	<b>27</b>	<b>362</b>

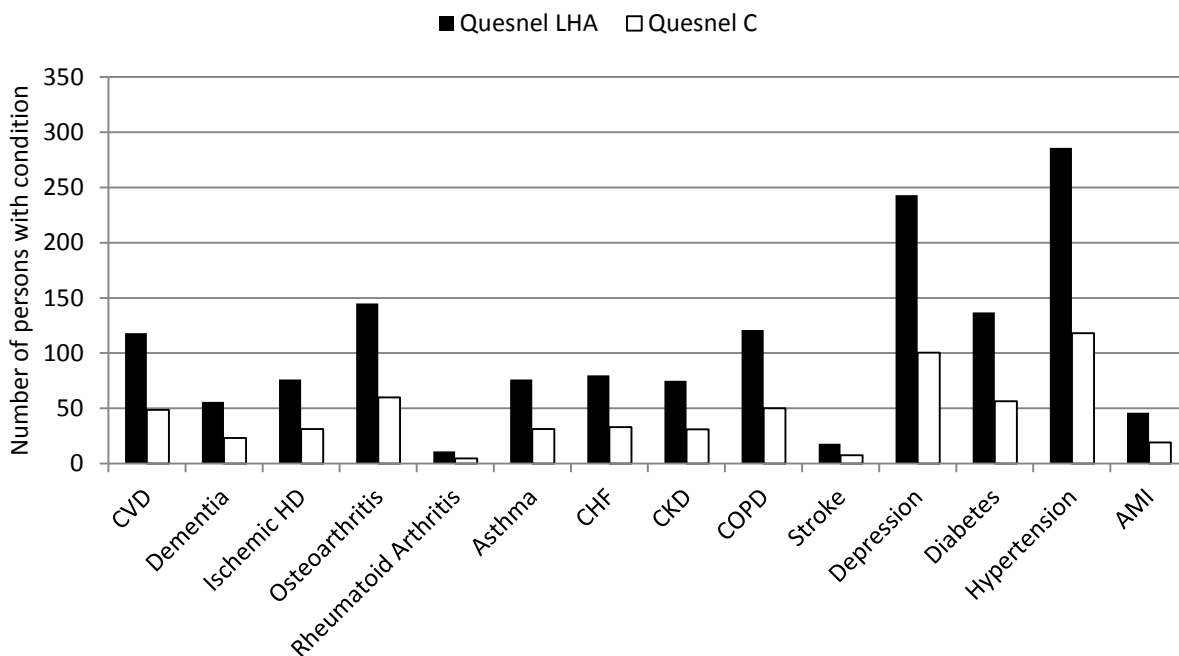
From 2002 to 2012, the most frequently reported VPDs in the Northern Interior HSDA were:

- Invasive Pneumococcal Disease - 167 cases
- Pertussis (whooping cough) - 109 cases
- Hepatitis B - 60 cases
- Invasive Meningococcal Disease - 16 cases
- Haemophilus Influenza B – 5 cases.



**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>15, 16, 17, 18</sup>

Estimated numbers of new cases of selected chronic conditions  
Quesnel LHA and Quesnel C residents: 2010-2011



Chronic Disease Estimates for Quesnel City and Quesnel LHA 2010 - 11					
Chronic Conditions	Existing or treated cases		New cases / yr		Cost per patient / year
	Quesnel C	LHA	Quesnel C	LHA	
Cardiovascular Disease (CVD)	589	1,426	49	118	\$7,796
Dementia	114	275	23	56	\$12,242
Ischemic Heart Diseases (IHD)	441	1,068	31	76	\$6,826
Osteoarthritis	1,096	2,653	60	145	\$4,414
Rheumatoid Arthritis	111	269	5	11	\$5,653
Asthma	649	1,572	31	76	\$1,939
Congestive Heart Failure (CHF)	270	654	33	80	\$10,364
Chronic Kidney Disease (CKD)	208	504	31	75	\$10,538
COPD	418	1,011	50	121	\$6,004
Stroke	77	186	7	18	\$7,767
Depression	2,850	6,900	100	243	\$2,878
Diabetes	873	2,114	57	137	\$4,914
Hypertension	2,281	5,523	118	286	\$3,938
AMI	203	492	19	46	\$7,536

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 917 northern interior residents receiving long-term home-support services. Here is an abbreviated profile of these residents.<sup>19</sup>

<b>Male</b>	37 %	<b>Married</b>	28 %	<b>Aged 75+</b>	71 %
<b>Female</b>	63 %	<b>Widowed</b>	44 %	<b>Aboriginal</b>	9 %
<b>Frequently Noted Health Conditions</b>					
Hypertension	58 %	Diabetes	23 %	Any Psychiatric Diagnosis	21 %
Arthritis	44%	Osteoporosis	22%		
<b>Clients with Multiple Health Conditions</b>					
≤ 3 Conditions	28.5 %	3 - 5 Conditions	39.8 %	≥5 Conditions	31.7 %
<b>Clients with Cognitive Impairment (Cognitive Performance Score)</b>					
No impairment	38 %	Borderline /mild	45 %	Moderate	10 %
<b>Clients with independence difficulty in 1- 3 daily activities (IADL Difficulty Scale)</b>					
No difficulty	29.7 %	Some difficulty	23.7 %	Great difficulty	46.7 %

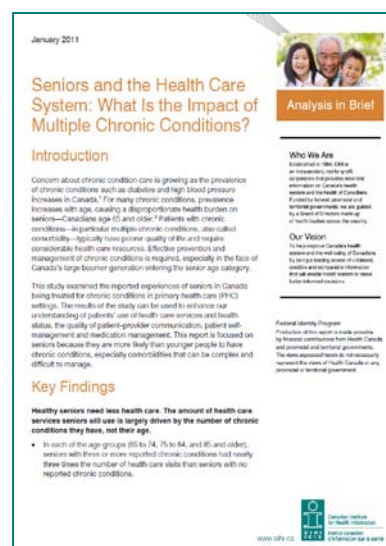
## How do we compare to the rest of Canada?

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>20</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.

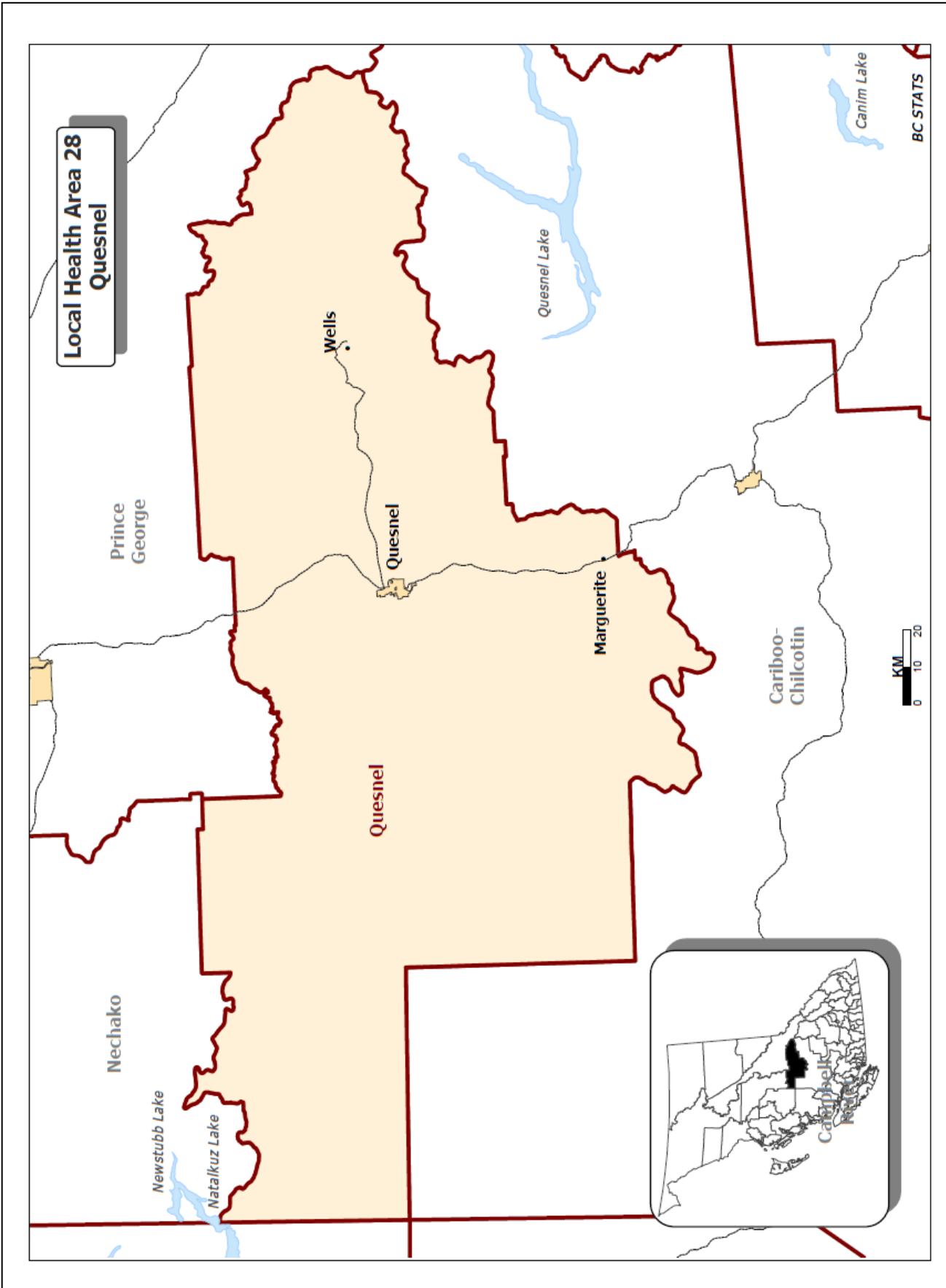
**Location where inpatient hospital services were received:** <sup>21</sup>

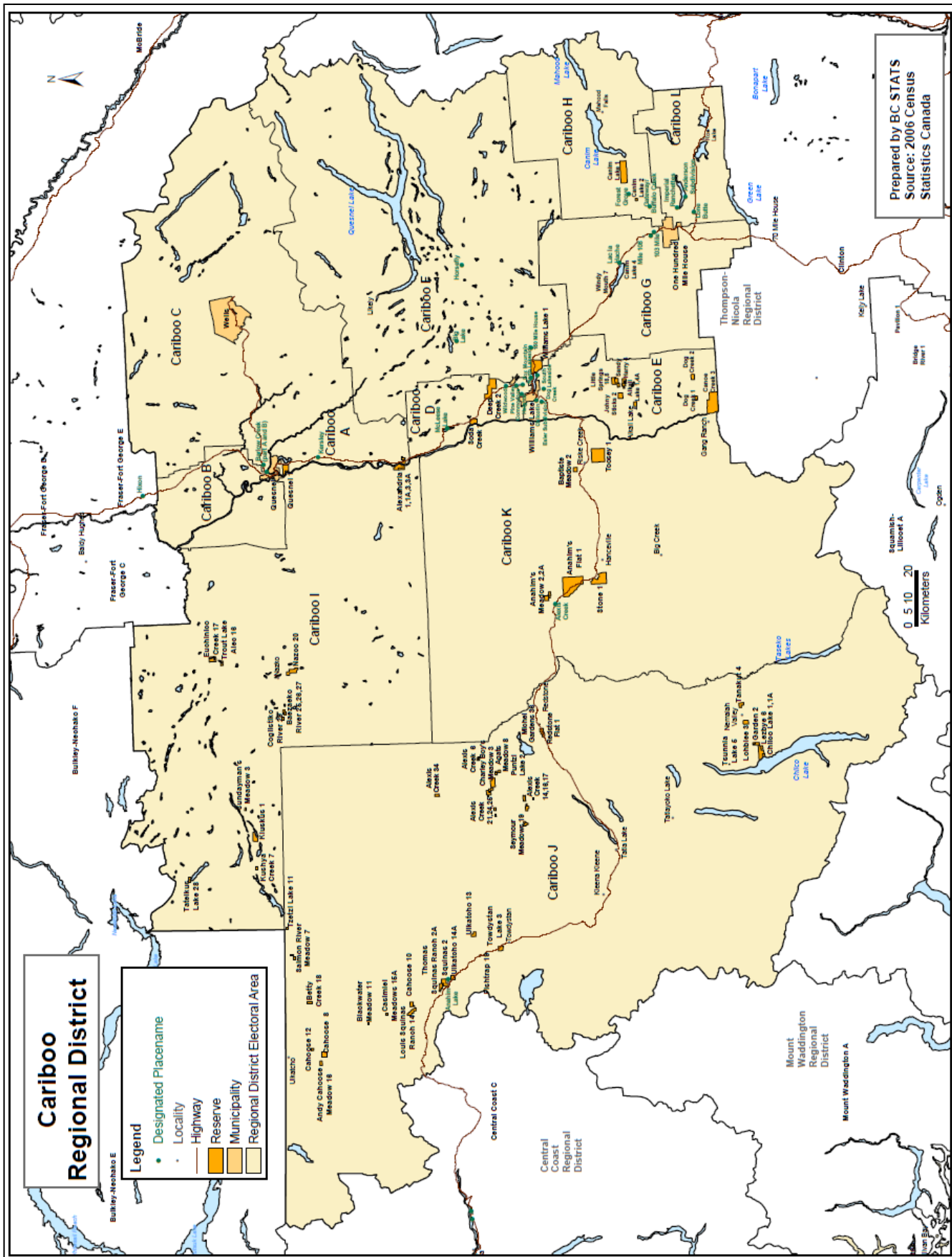
For Quesnel LHA residents during the five year period: 2008/09 – 2012/13.						
Number of Cases and Days	Location of Inpatient Hospital Care					
	Quesnel	Prince George	Other NH	Other BC	OOP	Total
Cases	9,989	2,003	82	2,339	101	14,514
Days	49,761	12,598	238	14,896	524	78,017

- 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>22</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 Activity (selected measures).** <sup>23</sup>

No. 705 - G.R. Baker Hospital (Quesnel)					
Selected Measures	2008/09	2009/10	2010/11	2011/12	2012/13
Acute discharges/deaths total	2,664	2,449	2,200	2,071	1,963
Acute in-patient admissions total	2,588	2,353	2,120	2,070	1,959
Acute in-patient days (excl. ALC)	11,905	11,439	10,168	10,490	10,287
ALC days total	4,185	3,165	2,706	3,455	2,494
Psychiatry/addiction admissions	277	263	164	131	79
Ambulatory visits (excl. E/R).	9,117	8,333	8,496	8,507	8,741
Emergency visits (excl. Ambul)	15,347	15,089	14,860	15,955	17,442
In-patient surgical cases total	415	319	295	320	237
Surgical day care cases total	1,952	1,992	2,131	2,052	1,675
Lab Tests (excludes respiratory)	590,687	647,218	515,128	558,486	561,470
Medical Imaging Tests	28,344	27,709	29,135	32,775	28,596





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> BC Stats: Population Estimates for Local Health Areas: PEOPLE 2013. <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>
- <sup>3</sup> Carrier Chilcotin Tribal Council: <http://www.carrierchilcotin.org/index.html>
- <sup>4</sup> BC Treaty Commission Statement of Intent Maps: GEO BC. <http://archive.ilmb.gov.bc.ca/cis/initiatives/treaty/index.html>
- <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> BC Stats: Population Estimates for Regional Districts: PEOPLE 2013. <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>
- <sup>7</sup> Population Estimates for Municipalities: BC Stats; 1996-2006, 2006-2012. <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> 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>12</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>13</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>14</sup> Vaccine Preventable Disease: Northern Health-Public Health Internal Files: August 2013..
- <sup>15</sup> Population Patterns of Chronic Health Conditions in Canada: Health Council of Canada. <http://healthcouncilcanada.ca>
- <sup>16</sup> The Cost of Chronic Disease in Canada: GPI Atlantic. 2004. <http://gpiatlantic.org/pdf/health/chroniccanada.pdf>
- <sup>17</sup> Prevention: British Columbia Cancer Agency. 2009. <http://www.bccancer.bc.ca/PPI/Prevention/default.htm>
- <sup>18</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>19</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>20</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>21</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>22</sup> Alternate Level of Care in Canada: CIHI. <https://secure.cihi.ca/estore/productSeries.htm?pc=PCC456>
- <sup>23</sup> Northern Facility Activity Summaries from Northern Health Finance: Extracted August 20, 2013.