

# Healthy Northern Communities 2013

Vanderhoof

Revised  
September 24, 2013



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

## What Determines Health?

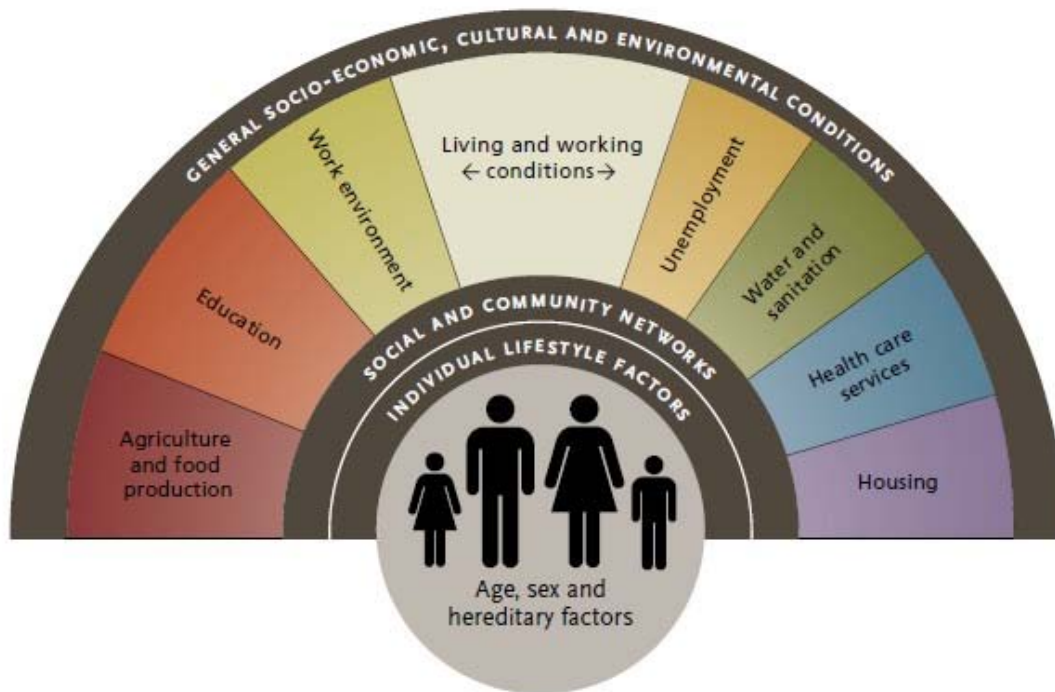


Figure: Health Council of Canada, 2010.

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.

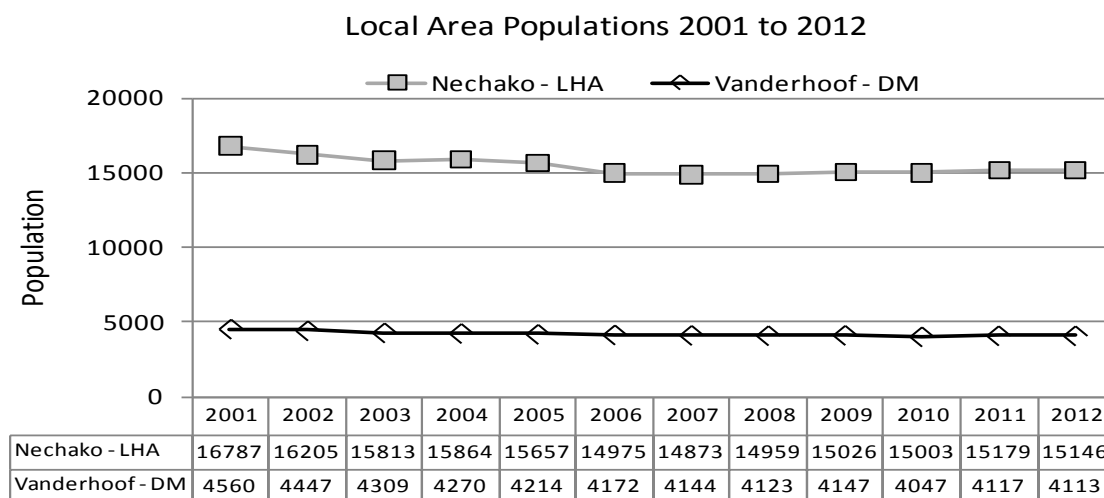
### **Additional Information** (text below is hyperlinked)

- [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 District Municipality of Vanderhoof was incorporated in 1926 and is located approximately 97 km west of Prince George and 129 km east of Burns Lake.<sup>1</sup>

Vanderhoof is situated within the Bulkley Nechako Regional District, within the Nechako Local Health Area (LHA 056) and within the Northern Interior Health Service Delivery Area of Northern Health. Vanderhoof is served by Nechako Lakes School District No. 91.

This is the traditional territories of the Dakelh (Carrier) peoples. First Nations in this area include the Tl'azt'en, Nak'azdli, Yekooche, Nadleh Whut'en and Saik'uz Nations.<sup>2, 3</sup>



The estimated 4,113 people within the Vanderhoof DM account for approximately 27 % of the Nechako LHA population (4,113 / 15,146 persons) and for 10.4 % of the Bulkley Nechako Regional District population (4,113 / 39,319 persons).<sup>4, 5, 6</sup>

During the 2011 calendar year, there were 218 live births, 109 deaths and 81 marriages to the residents of the Nechako Local Health Area. Of these, 116 live births, 54 deaths and 39 marriages could be attributed to Vanderhoof area residents. Average life expectancy for both populations was 78 years: less than the BC average life expectancy of 82 years.<sup>7</sup>

### Additional Community Information

District of Vanderhoof: <http://www.vanderhoof.ca/>

Nak'azdli First Nation: <http://www.nakazdli.ca/>

Yekooche First Nation <http://www.yekooche.com/>

Tl'azt'en First Nation: <http://tlc.baremetal.com/index.htm>

Bulkley Nechako Regional District: <http://www.rdbn.bc.ca/>

Vanderhoof Chamber of Commerce: <http://www.vanderhoofchamber.com/>

First Nations Community Profiles: Indian Affairs and Northern Development Canada  
<http://pse5-esd5.ainc-inac.gc.ca/fnp/Main/Search/SearchFN.aspx?lang=eng>

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

## Selected Community Indicators

Demographics	Vanderhoof	LHA	BC
Percent of population who are 0 – 19 yrs old	30	28	21
Percent of population who are ages 65+	12	12	15
Percent of population who are Visible Minorities	6.0	3.5	24.5
Percent of population who are Aboriginal Identity	7.0	22.1	4.8
Income			
Percent of families earning < \$20,000 per year	9.1	11.4	8.0
Percent of families earning from \$20,000 - \$80,000 per year	51.1	50.8	53.8
Percent of families earning > \$80,000 per year	39.8	37.7	38.1
* Percent of population receiving Income Assistance > 1 yr.	nca	1.5	1.0
Early Development and Educational Achievement			
Percent of kindergarten children vulnerable: 1 or more EDI scales	25.7	32.3	28.6
† Percent of Grade 4 & 7 students below standard on FSA - Reading	nca	28.3	20.7
† Percent of Grade 4 & 7 students below standard on FSA - Writing	nca	27.8	17.9
† Percent of Grade 4 & 7 students below standard on FSA - Math	nca	35.0	23.4
† Percent of 18 yr olds who did not graduate	nca	25.1	29.0
Percent of persons ages 25 to 54: without high school completion	nca	24.7	11.1
Percent of persons ages 25 to 64: with university degree or above	16.8	10.2	24.1
Housing			
Percent of households that are renting	28.7	20.3	30.4
Percent of tenants paying 30 % or more of income towards housing	43.0	29.7	43.4
Percent of owners paying 30 % or more of income towards housing	11.0	12.1	22.7
Children and Youth at Risk			
* Children (ages <15) receiving Income Assistance > 1 year	nca	2.5	1.7
* Youth (ages 15 - 24) receiving Income Assistance > 1 yr	nca	2.0	0.9
Children in care rate per 1,000 population, ages 0 – 18	nca	19.5	9.2
Teen pregnancies per 1,000 women ages 15 – 19 (2007-2009)	nca	68.0	26.3
Other Indicators			
Alcohol sales per capita in 2010 (Dollars Spent)	nca	933	790
Alcohol sales per capita in 2010 (Litres Consumed)	nca	158	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>8</sup>

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

<b>Nechako Local Health Area: Population Projection</b>						Population Change 2015 - 2030	
Broad Age Groups	2010	2015	2020	2025	2030	number	%
<20	4,207	4,016	3,906	3,821	3,738	-278	-6.9
20-44	4,452	4,561	4,549	4,479	4,474	-87	-1.9
45-64	4,508	4,635	4,376	4,003	3,602	-1,033	-22.3
65+	1,831	2,243	2,812	3,399	3,900	1,657	73.9
Total Population	14,998	15,455	15,643	15,702	15,714	259	1.7
<b>Focus on Seniors</b>						number	%
65+	1,831	2,243	2,812	3,399	3900	1,657	73.9
75+	735	907	1,115	1,414	1784	877	96.7
85+	178	269	361	443	535	266	98.9
90+	75	95	154	191	235	140	147.4

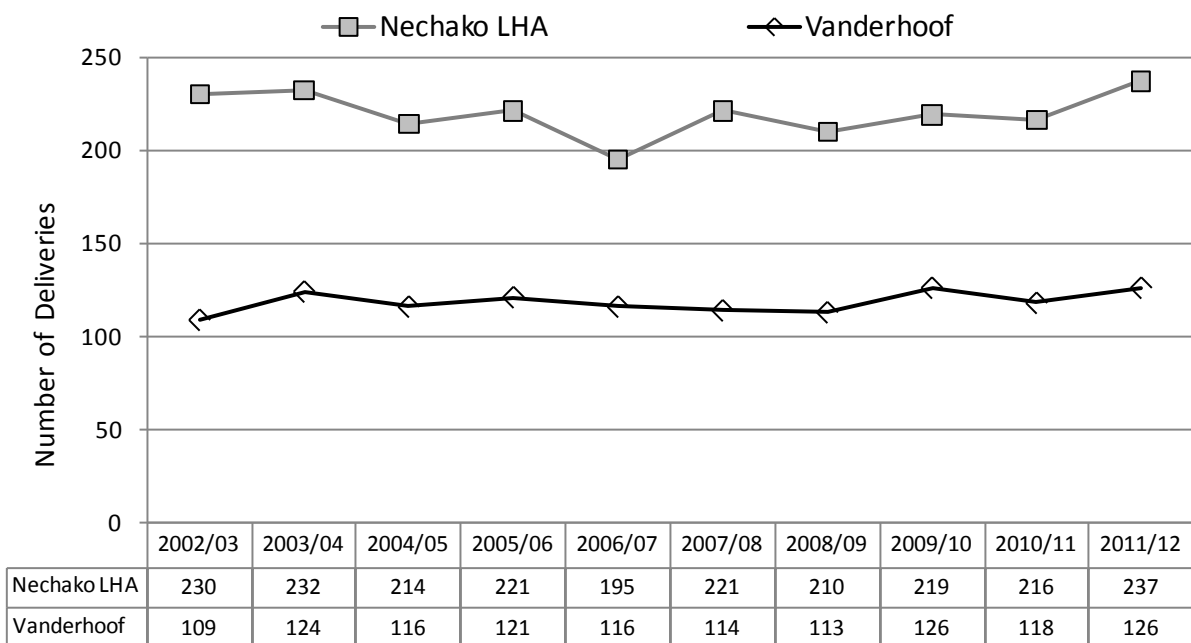
<b>Northern Interior HSDA: Population Projection</b>						Population Change 2015 - 2030	
Broad Age Groups	2010	2015	2020	2025	2030	number	%
<20	36,011	33,430	32,085	31,639	30,913	-2,517	-7.5
20-44	47,526	48,196	47,511	47,029	46,853	-1,343	-2.8
45-64	43,103	43,603	41,925	38,914	36,621	-6,982	-16.0
65+	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 Vanderhoof & Nechako LHA mothers: <sup>9</sup>

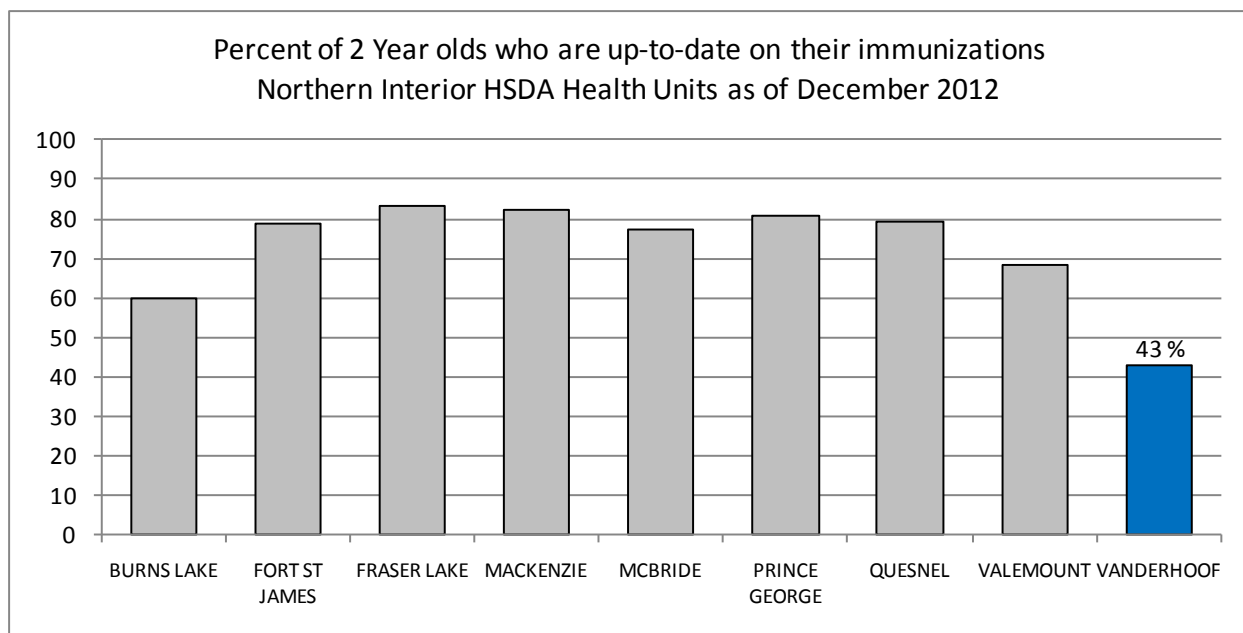


**Delivery locations** for Vanderhoof mothers (five year summary).

Mom's Home Community	Delivery Location: 2007/08 – 2011/12						
	St. John Hospital	UHNBC	Stuart Lake Hospital	Home Births	Other NH	Other BC Location	Total Deliveries
Bulk-Nechako RD (D)	5	1	0	0	0	0	6
Bulk-Nechako RD (C)	3	7	0	0	0	0	10
Fraser Lake (VL)	93	21	0	0	2	1	117
Fort Fraser (Nautley)	42	7	0	1	0	2	52
Ft St James (DM)	146	78	84	0	1	12	321
Vanderhoof (DM)	538	53	0	2	0	4	597
Total Deliveries	827	167	84	3	3	19	1,103

**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>10, 11</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 Vanderhoof area, who are up-to-date with their immunizations, is 43 %. <sup>12</sup>



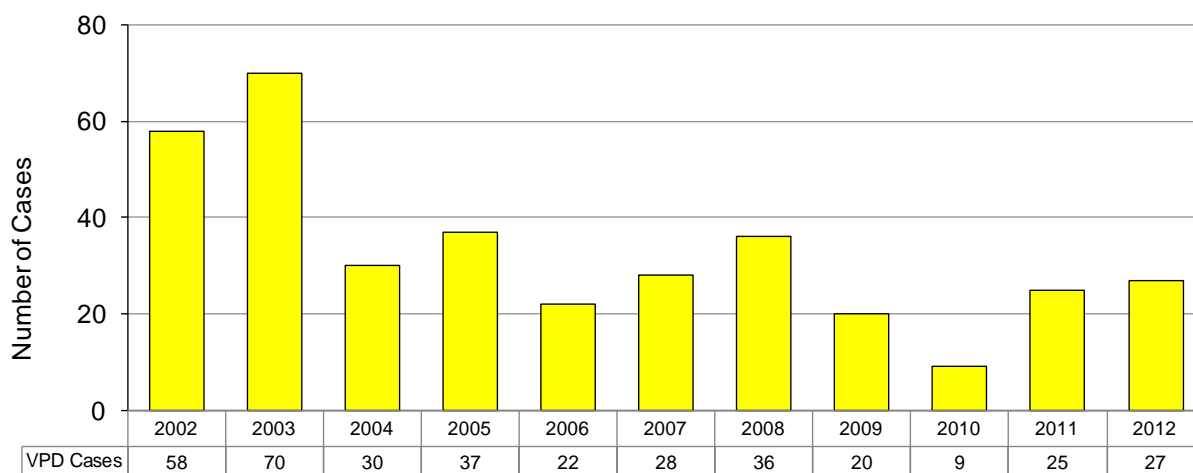
The above graph represents children who were born during the year 2010 and who were two years of age as of Dec 31<sup>st</sup>, 2012. To be considered as up-to-date for their age, two year old children must have completed the following immunizations by their second birthday:

- 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>13</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>

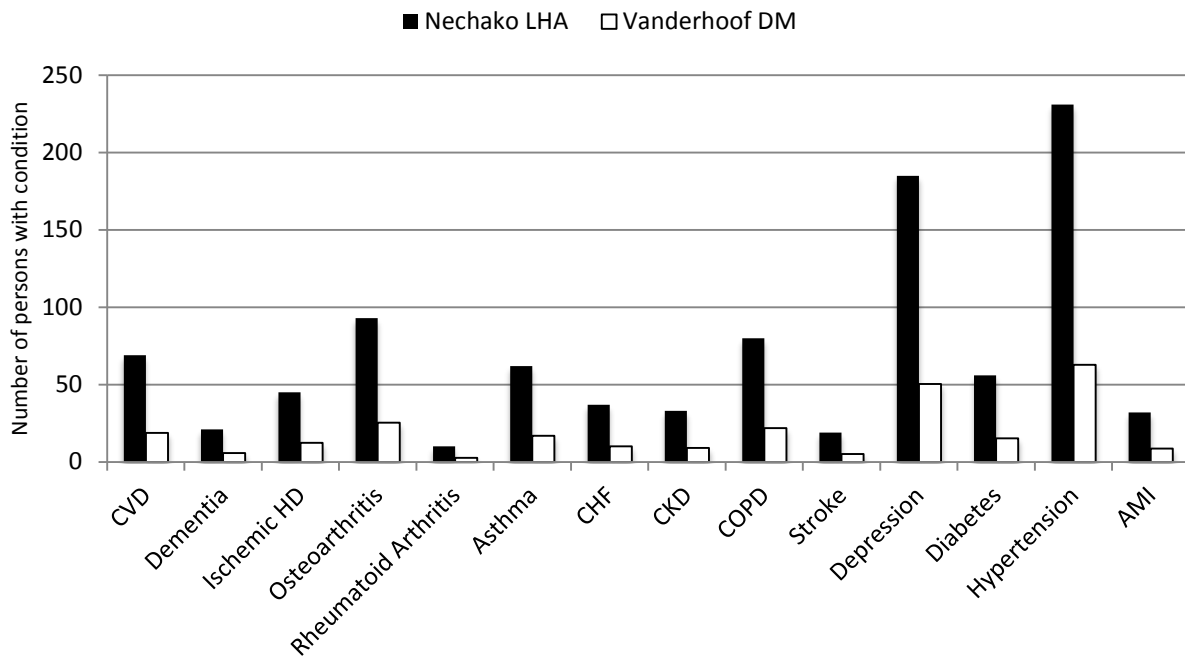
From 2002 to 2012, the most frequently reported VPDs in the Northern Interior HSDA were:

- 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>14, 15, 16, 17</sup>

Estimated numbers of new cases of selected chronic conditions Nechako LHA and Vanderhoof DM residents: 2010-2011



Chronic Disease Estimates for Nechako LHA and Vanderhoof DM: 2010 - 11					
Chronic Conditions	Existing or treated cases		New cases / yr		Cost per patient / year
	Vanderhoof DM	LHA	Vanderhoof DM	LHA	
Cardiovascular Disease (CVD)	212	779	19	69	\$7,272
Dementia	40	146	6	21	\$12,155
Ischemic Heart Diseases (IHD)	149	546	12	45	\$7,419
Osteoarthritis	373	1,371	25	93	\$4,579
Rheumatoid Arthritis	64	235	3	10	\$4,953
Asthma	315	1,158	17	62	\$1,784
Congestive Heart Failure (CHF)	107	395	10	37	\$8,969
Chronic Kidney Disease (CKD)	72	264	9	33	\$12,128
COPD	114	419	22	80	\$7,978
Stroke	38	139	5	19	\$14,061
Depression	905	3,326	50	185	\$2,688
Diabetes	290	1,066	15	56	\$4,982
Hypertension	789	2,900	63	231	\$4,249
AMI	62	228	9	32	\$10,029

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>18</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 %

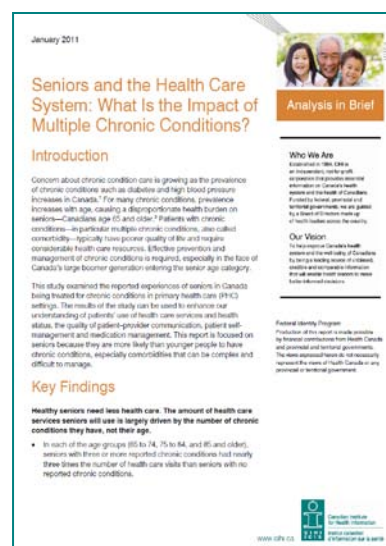
## How do we compare to the rest of Canada?

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>19</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.

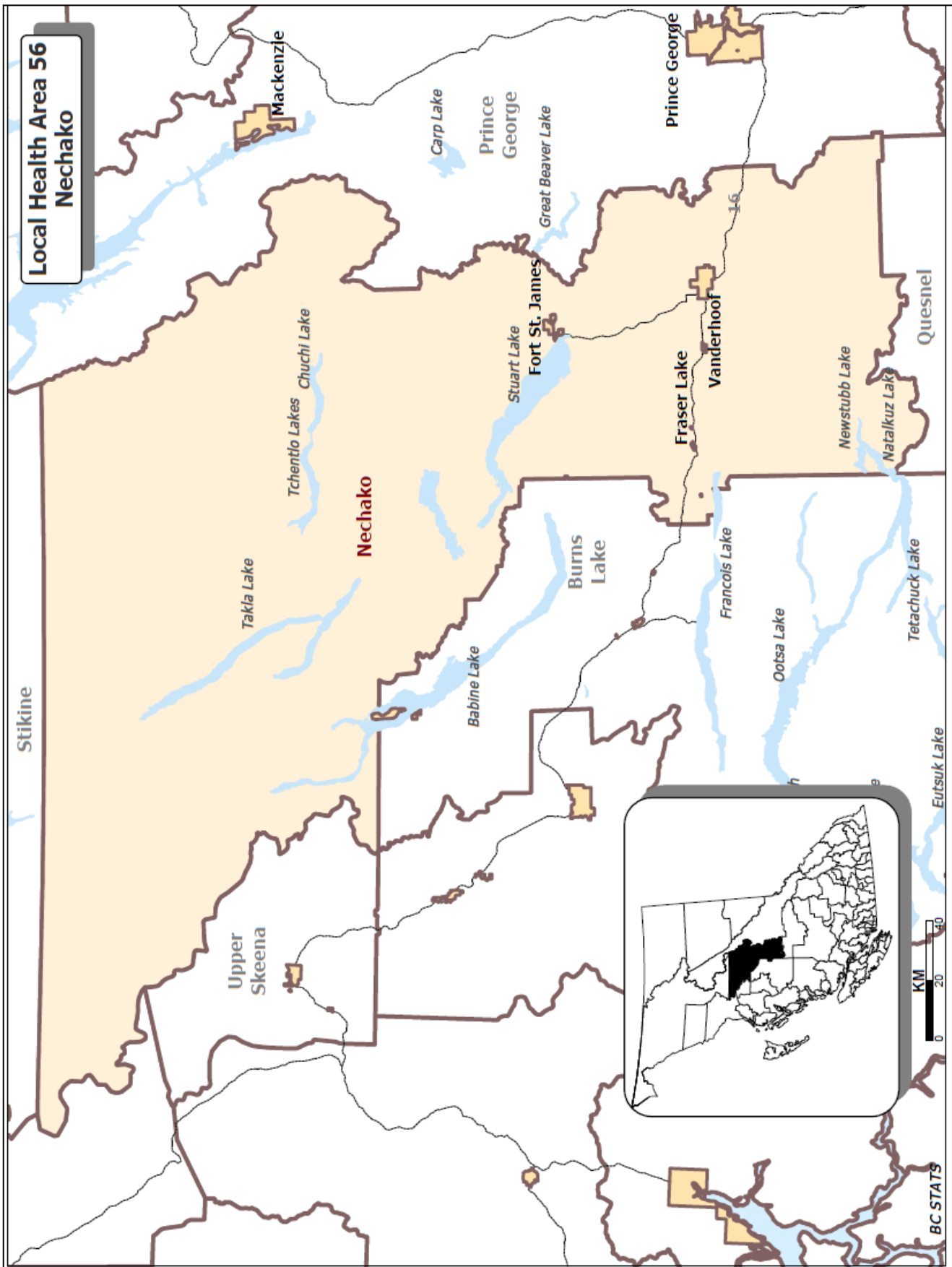
**Location where inpatient hospital services were received:**<sup>20</sup>

For Vanderhoof residents during the five year period: 2008/09 – 2012/13.							
Number of Cases and Days	Location of Hospital Care						Total
	Vanderhoof	Prince George	Fort St James	Other NH	Other BC	OOP	
Cases	3,862	1,457	1	28	442	33	5,823
Days	15,367	8,279	15	123	3,254	117	27,155

- 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>21</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>22</sup>

No. 702 - St. John Hospital (Vanderhoof)					
Selected Measures	2008/09	2009/10	2010/11	2011/12	2012/13
Acute discharges/deaths total	1,284	1,281	1,242	1,336	1,263
Acute in-patient admissions total	1,300	1,284	1,292	1,278	1,242
Acute in-patient days (excl. ALC)	4,812	4,585	4,276	4,650	5,291
ALC days total	1,003	1,569	1,750	1,898	1,740
Psychiatry/addiction admissions	n/a	n/a	n/a	n/a	n/a
Ambulatory visits (excl. E/R).	2,128	2,463	3,155	1,855	1,829
Emergency visits (excl. Ambul)	11,426	12,170	12,772	14,014	12,091
In-patient surgical cases total	151	183	169	127	33
Surgical day care cases total	1,821	1,729	1,170	1,159	1,435
Lab Tests (excludes respiratory)	151,124	157,802	172,277	156,976	202,318
Medical Imaging Tests	5,071	4,858	4,945	5,915	6,474



# Bulkley-Nechako Regional District



## References

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- <sup>1</sup> BC Stats, Community Fact Sheets: <http://www.bcstats.gov.bc.ca/data/dd/facsheet/facsheet.asp>
- <sup>2</sup> BC Treaty Commission Statement of Intent Maps: GEO BC. <http://archive.ilmb.gov.bc.ca/cis/initiatives/treaty/index.html>
- <sup>3</sup> BC Ministry of Aboriginal Relations & Reconciliation: First Nations by Region. <http://www.gov.bc.ca/arr/treaty/regional.html>
- <sup>4</sup> BC Stats: Population Estimates for Local Health Areas: PEOPLE 2013. <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>
- <sup>5</sup> Population Estimates for Municipalities: BC Stats; 1996-2006, 2006-2012. <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> 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>8</sup> BC Stats: Population Projections: PEOPLE 2013: Published August 2013.
- <sup>9</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>10</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>11</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>12</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>13</sup> Vaccine Preventable Disease: Northern Health-Public Health Internal Files: August 2013..
- <sup>14</sup> Population Patterns of Chronic Health Conditions in Canada: Health Council of Canada. <http://healthcouncilcanada.ca>
- <sup>15</sup> The Cost of Chronic Disease in Canada: GPI Atlantic. 2004. <http://gpiatlantic.org/pdf/health/chroniccanada.pdf>
- <sup>16</sup> Prevention: British Columbia Cancer Agency. 2009. <http://www.bccancer.bc.ca/PPI/Prevention/default.htm>
- <sup>17</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>18</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>19</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>20</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>21</sup> Alternate Level of Care in Canada: CIHI. <https://secure.cihi.ca/estore/productSeries.htm?pc=PCC456>
- <sup>22</sup> Northern Facility Activity Summaries from Northern Health Finance: Extracted August 206, 2013.