

Healthy Northern Communities 2013

Dawson Creek

Revised
September 24, 2013



northern health
the northern way of caring

What Determines Health?

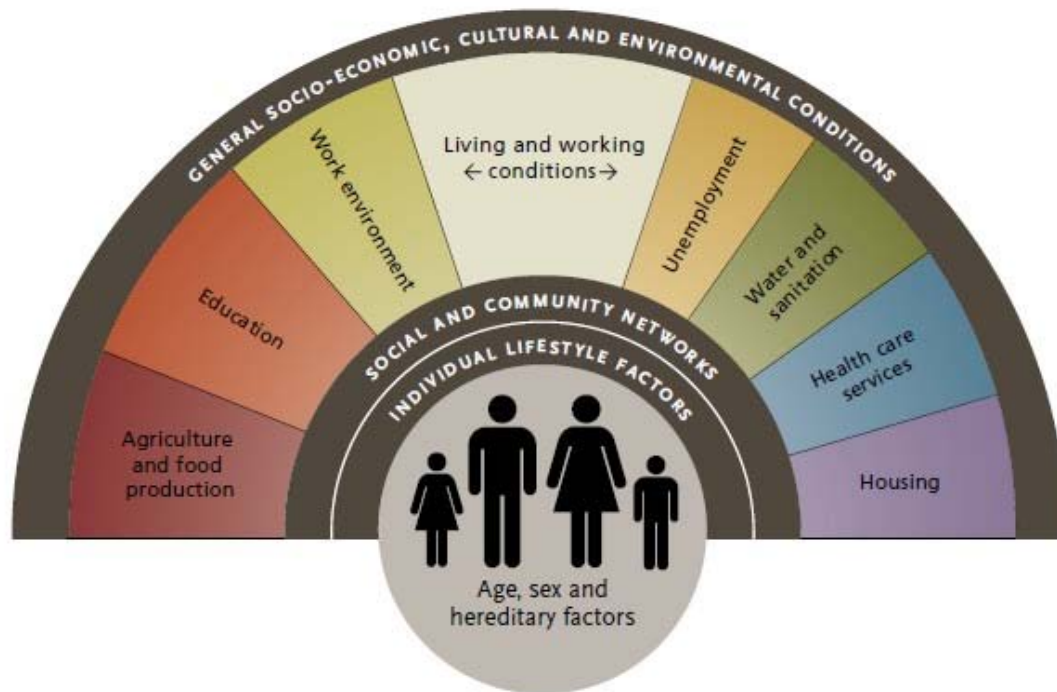


Figure: Health Council of Canada, 2010.

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.

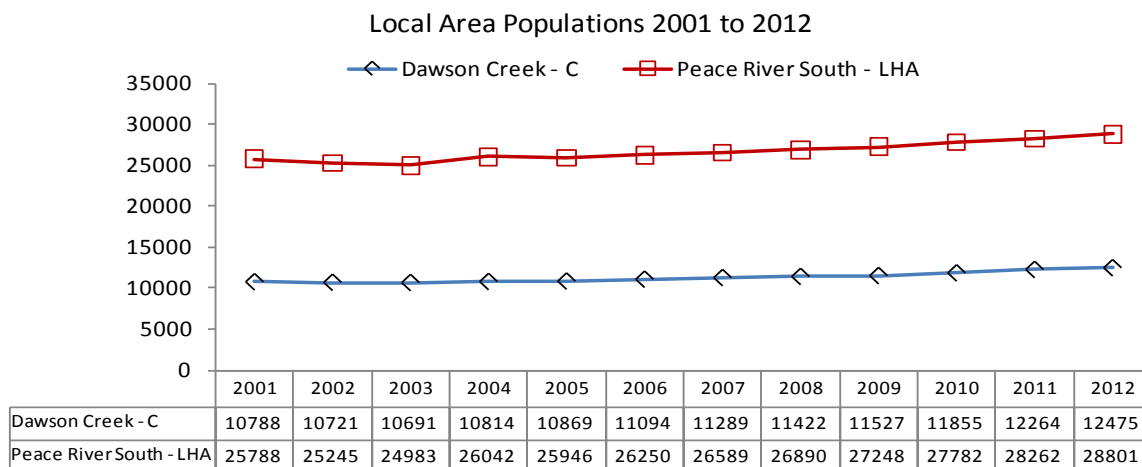
Additional Information (text below is hyperlinked)

- [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 Dawson Creek was incorporated in 1936. Dawson Creek is located 412 km northeast of Prince George and 73 km southeast of Fort St. John. ¹

Dawson Creek is also situated within the Peace River Regional District, within the Peace River South Local Health Area (LHA 059) and within the Northeast Health Service Delivery Area of Northern Health. The Dawson Creek area is served by School District No. 59.

This is the traditional territories of the Dane-zaa (Beaver), Cree and more recently, the Saulteau or Anishnaubemowin speaking peoples. The West Moberly First Nations and the Saulteau First Nations, as well as many people of Metis heritage, call this area home. ^{2, 3, 4}



The 12,475 people living in the City of Dawson Creek account for approximately 43 % of the Peace River South LHA population (12,475 / 28,801 persons) and 19 % of the Peace River Regional District population (12,475 / 66,167 persons). The magnitude of the population attributable to local industrial work camps is uncertain. ^{5, 6, 7}

During the 2011 calendar year, there were 346 live births, 216 deaths and 119 marriages to the residents of the Peace River South Local Health Area. Of these, 174 live births, 126 deaths and 48 marriages could be attributed to the residents of Dawson Creek. Average life expectancy for both populations was 78.8 years: less than the British Columbia (BC) average of 82 years. ⁸

Additional Community Information

City of Dawson Creek: <http://www.dawsoncreek.ca/home.asp>

City of Dawson Creek Official Community Plan: <http://dawsoncreek.ca/cityhall/bylaws/>

Dawson Creek & District Chamber of Commerce: <http://www.dawsoncreekchamber.ca/>

Saulteau First Nations: <http://www.saulteau.com/>

West Moberly First Nations: <http://www.treaty8.bc.ca/communities/westmoberly.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	Dawson Cr	LHA	BC
Percent of population who are 0 – 19 yrs old	25.6	26	21
Percent of population who are ages 65+	13.3	11.6	15
Percent of population who are Visible Minorities	3.0	2.0	24.5
Percent of population who are Aboriginal Identity	13.0	13.8	4.8
Income			
Percent of families earning < \$20,000 per year	5.5	5.0	8.0
Percent of families earning from \$20,000 - \$80,000 per year	55.3	53.9	53.8
Percent of families earning > \$80,000 per year	39.2	41.0	38.1
* Percent of population receiving Income Assistance > 1 yr.	nca	1.1	1.0
Early Development and Educational Achievement			
Percent of kindergarten children vulnerable: 1 or more EDI scales	38.2 – 43.4	33.9	28.6
† Percent of Grade 4 & 7 students below standard on FSA - Reading	nca	33.2	20.7
† Percent of Grade 4 & 7 students below standard on FSA - Writing	nca	28.6	17.9
† Percent of Grade 4 & 7 students below standard on FSA - Math	nca	42.0	23.4
† Percent of 18 yr olds who did not graduate	nca	41.9	29.0
Percent of persons ages 25 to 54: without high school completion	nca	20.0	11.1
Percent of persons ages 25 to 64: with university degree or above	13.3	9.4	24.1
Housing			
Percent of households that are renting	34.2	25.1	30.4
Percent of tenants paying 30 % or more of income towards housing	43	36.5	43.4
Percent of owners paying 30 % or more of income towards housing	15	11.1	22.7
Children and Youth at Risk			
* Children (ages <15) receiving Income Assistance > 1 year	nca	2.1	1.7
* Youth (ages 15 - 24) receiving Income Assistance > 1 yr	nca	0.8	0.9
Children in care rate per 1,000 population, ages 0 – 18	nca	8.7	9.2
Teen pregnancies per 1,000 women ages 15 – 19 (2007-2009)	nca	40.2	26.3
Other Indicators			
Alcohol sales per capita in 2010 (Dollars Spent)	nca	977	790
Alcohol sales per capita in 2010 (Litres Consumed)	nca	154	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.⁹

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

Peace River South Local Health Area: Population Projection						Population Change 2015 - 2030	
Broad Age Groups	2010	2015	2020	2025	2030	number	%
<20	7,152	7,158	7,401	7,355	7,287	129	1.8
20-44	9,389	10,483	11,064	11,006	10,845	362	3.5
45-64	8,016	8,386	8,395	7,989	8,022	-364	-4.3
65+	3,220	3,940	4,839	6,067	7,152	3,212	81.5
Total Population	27,777	29,967	31,699	32,417	33,306	3,339	11.1
Focus on Seniors	2010	2015	2020	2025	2030	number	%
65+	3220	3940	4839	6067	7152	3,212	81.5
75+	1289	1576	1929	2471	3066	1,490	94.5
85+	293	415	642	752	899	484	116.6
90+	92	165	235	351	399	234	141.8

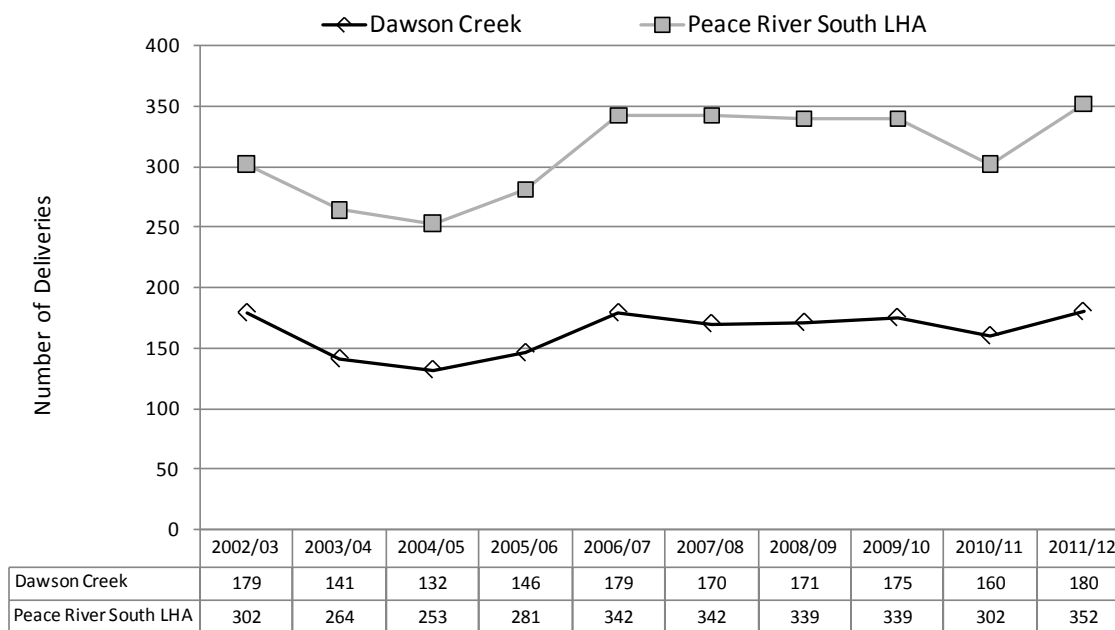
Northeast Health Service Delivery Area: Population Projection						Population Change 2015 - 2030	
Broad Age Groups	2010	2015	2020	2025	2030	number	%
<20	19,215	19,964	21,494	22,235	22,383	2,419	12.1
20-44	26,421	28,826	30,228	30,375	30,351	1,525	5.3
45-64	17,740	19,183	19,680	19,963	21,475	2,292	11.9
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 Dawson Creek and Peace River South Mothers ¹⁰



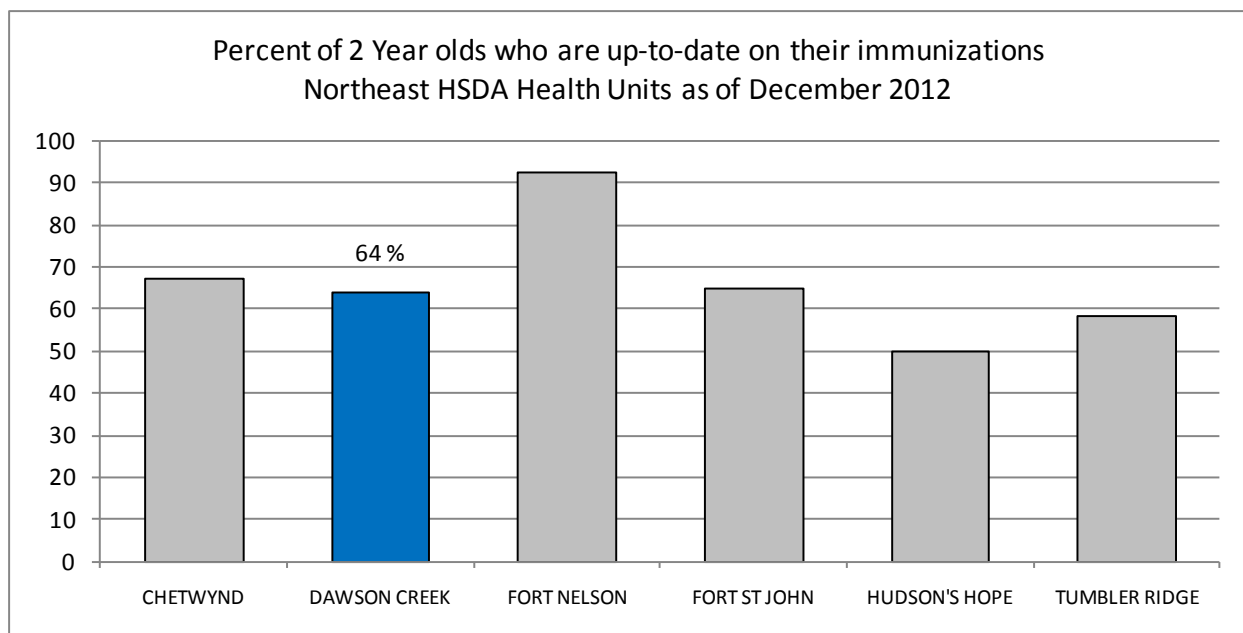
Delivery locations for Dawson Creek mothers (five year summary).

Mom's Home Community	Delivery Location: 2007/08 – 2011/12						Total Deliveries
	Dawson Creek	Fort St. John	Chetwynd	Other NH	Other BC Location	Alberta ¹¹	
Dawson Creek	829	6	0	10	11	6	862
Chetwynd	266	23	24	8	9	7	337
Peace River (D)	131	28	0	3	2	0	164
Peace River (E)	79	9	5	0	0	0	93
Pouce Coupe	73	0	0	2	1	0	76
Tumbler Ridge	135	6	0	10	4	4	159
Total Deliveries	1,513	72	29	33	27	17	1,691

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. ^{12, 13}

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 Dawson Creek area, who are up-to-date with their immunizations, is 64%. ¹⁴



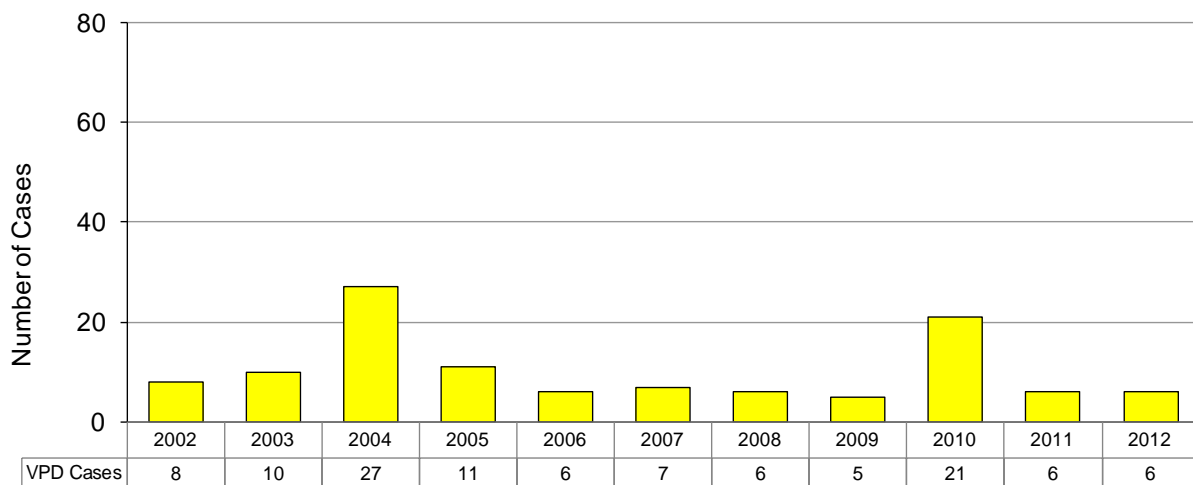
The above graph represents children who were born during the year 2010 and who were two years of age as of Dec 31st, 2012. To be considered as up-to-date for their age, two year old children must have completed the following immunizations by their second birthday:

- 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



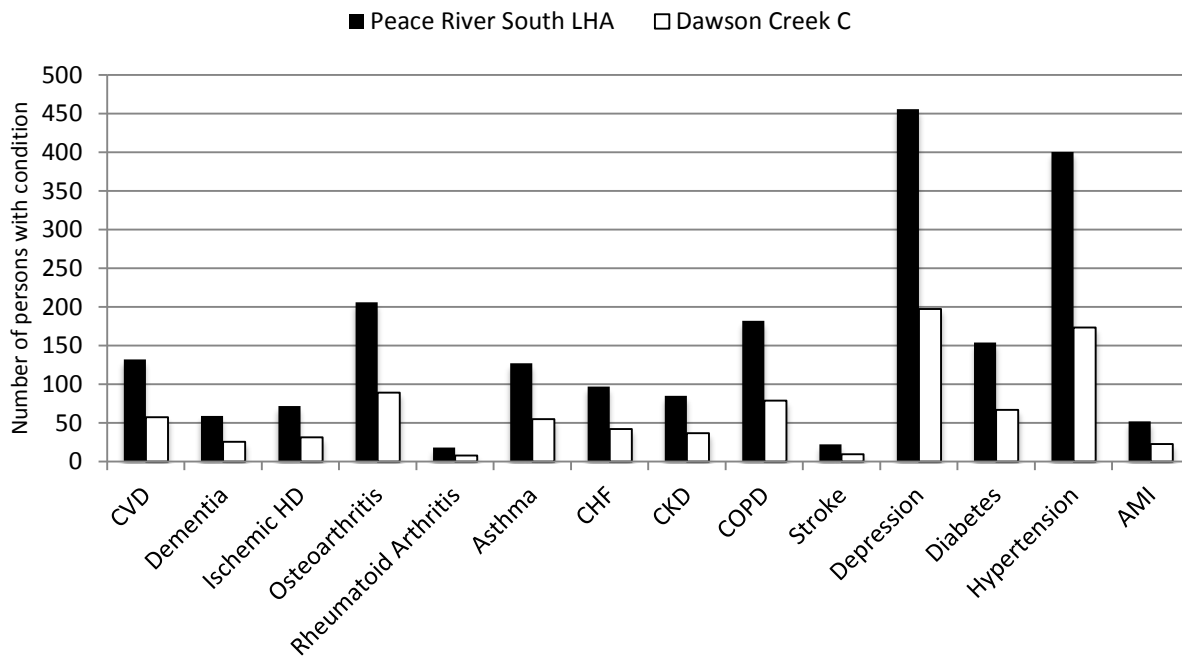
VPD in Northeast BC: Cases by Community 2002 - 2012 ¹⁵												
Community	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Chetwynd	2	1	2	1	1	0	1	1	3	0	0	12
Dawson Creek	3	2	21	3	1	3	2	1	3	1	3	43
Fort Nelson	1	0	1	1	0	3	0	2	7	0	0	15
Ft St John	1	7	3	5	4	1	2	1	8	5	3	40
Hudson's Hope	1	0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

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. ^{16, 17, 18, 19}

Estimated numbers of new cases of selected chronic conditions
Peace River South LHA and Dawson Creek C residents: 2010-2011



Chronic Disease Estimates for Dawson Creek City and Peace River South LHA: 2010 - 11					
Chronic Conditions	Existing or treated cases		New cases / yr		Cost per patient / year
	Dawson Creek C	LHA	Dawson Creek C	LHA	
Cardiovascular Disease (CVD)	560	1,294	57	132	\$7,804
Dementia	114	264	26	59	\$11,036
Ischemic Heart Diseases (IHD)	388	895	31	72	\$7,007
Osteoarthritis	874	2,018	89	206	\$4,346
Rheumatoid Arthritis	111	257	8	18	\$4,726
Asthma	849	1,961	55	127	\$1,147
Congestive Heart Failure (CHF)	288	665	42	97	\$10,746
Chronic Kidney Disease (CKD)	167	385	37	85	\$12,028
COPD	346	800	79	182	\$7,425
Stroke	83	192	10	22	\$11,859
Depression	3,435	7,933	197	456	\$2,505
Diabetes	914	2,112	67	154	\$4,601
Hypertension	2,256	5,210	174	401	\$3,923
AMI	202	466	23	52	\$8,367

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.²⁰

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

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

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.

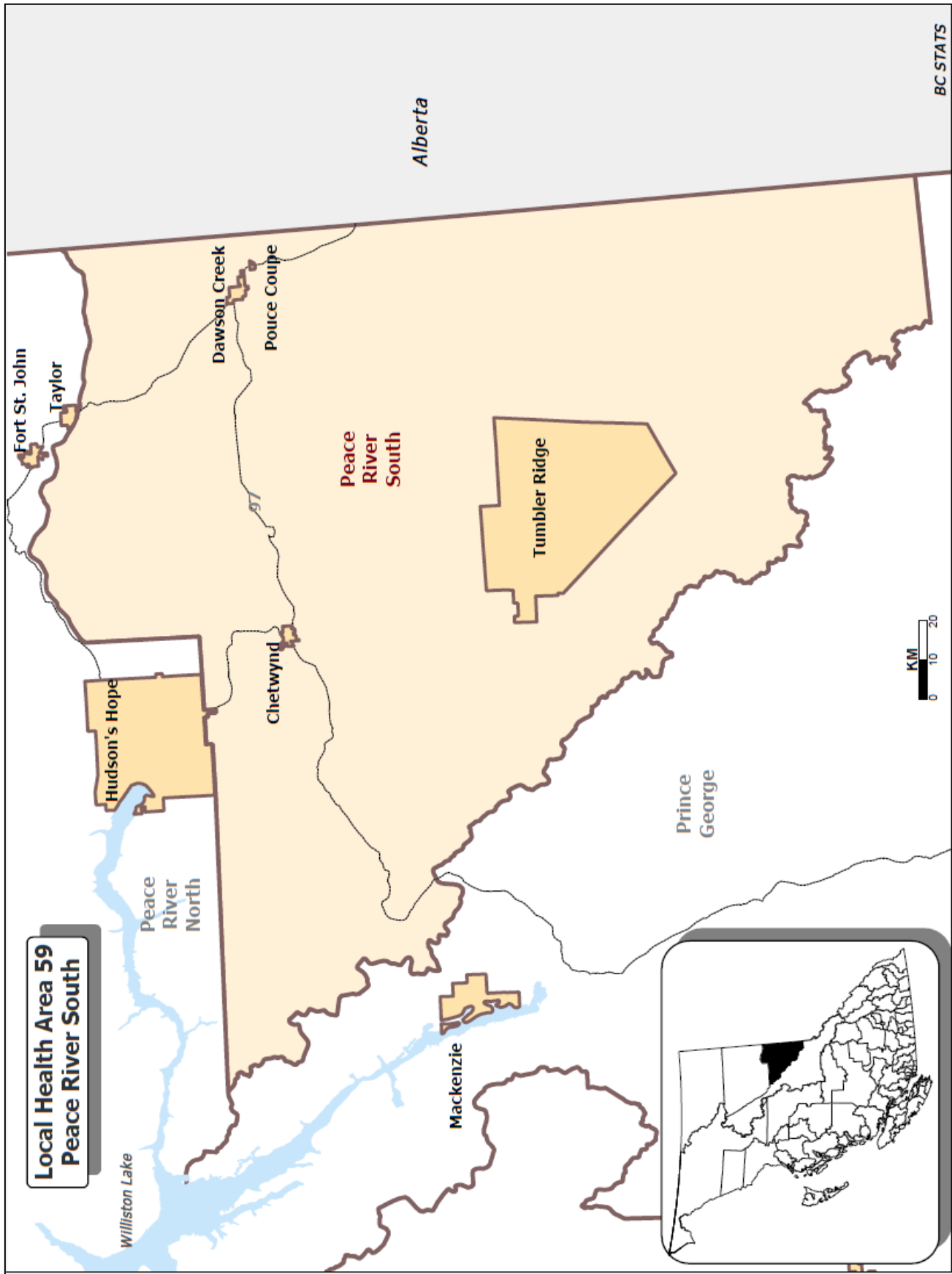
Location where inpatient hospital services were received: ²²

For Dawson Creek residents during the five year period: 2008/09 – 2012/13.							
Number of Cases and Days	Location of Hospital Care						
	Dawson Creek	Fort St. John	Chetwynd	Other NH	Other BC	OOP	Total
Cases	5,820	141	15	279	536	924	7,715
Days	32,855	638	42	2,101	4,724	6,182	46,542

- 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.²³
- 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.

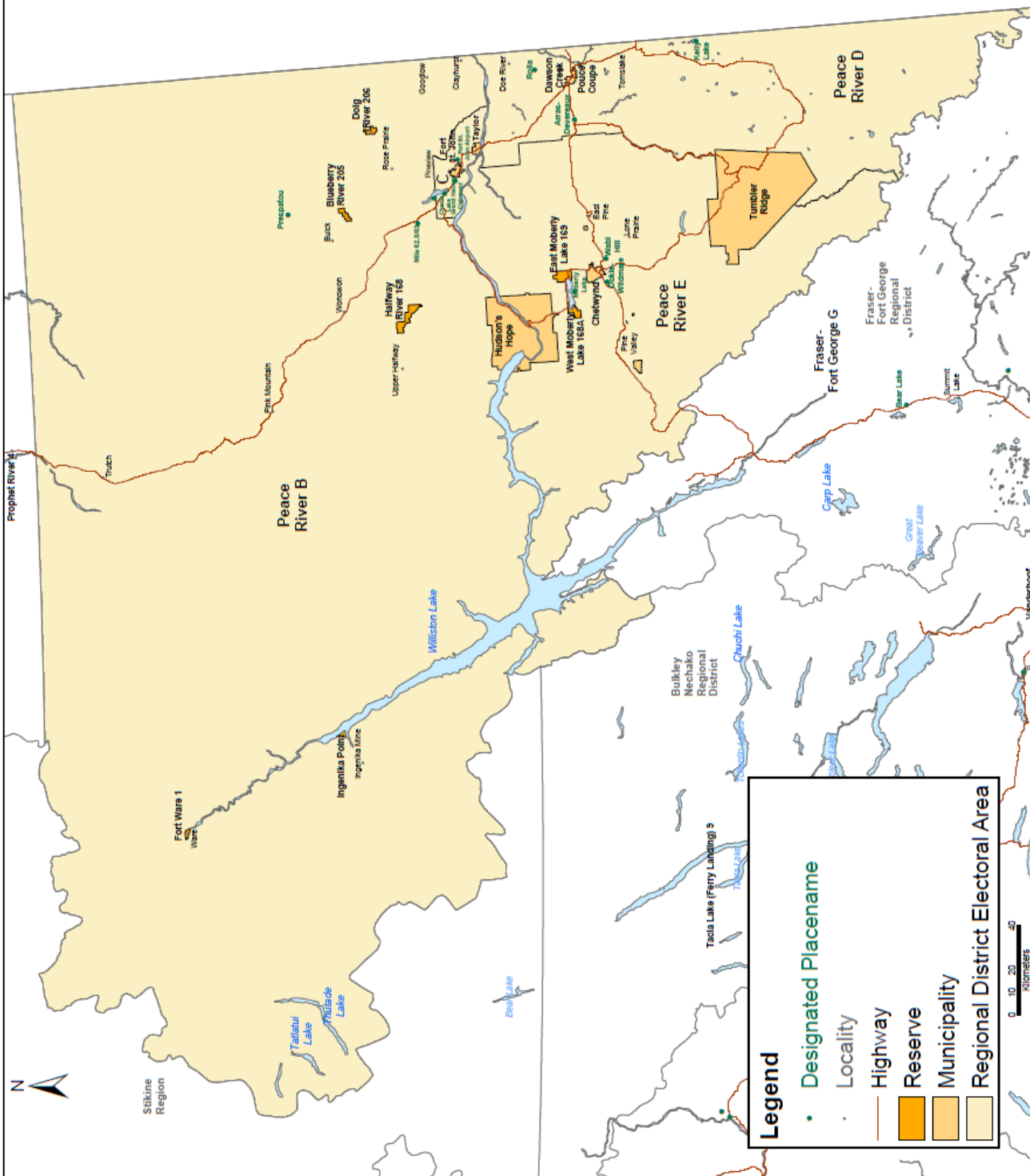
Facility Activities (selected measures).²⁴

No. 704 - Dawson Creek and District Hospital					
Selected Measures	2008/09	2009/10	2010/11	2011/12	2012/13
Acute discharges/deaths total	2,256	2,034	2,087	2,377	2,456
Acute in-patient admissions total	2,195	1,729	2,088	2,377	2,445
Acute in-patient days (excl. ALC)	12,235	10,780	11,759	12,586	12,324
ALC days total	3,804	3,426	3,704	3,907	4,179
Psychiatry/addiction admissions	244	191	214	179	167
Ambulatory visits (excl. E/R).	9,061	9,078	8,147	9,113	9,409
Emergency visits (excl. Ambul)	25,777	26,200	26,740	26,682	22,706
In-patient surgical cases total	667	658	635	869	733
Surgical day care cases total	2,081	1,866	2,014	2,238	2,790
Lab Tests (excludes respiratory)	575,859	419,541	446,698	471,253	395,515
Medical Imaging Tests	23,690	21,584	20,501	22,323	21,421



Peace River Regional District

Prepared by BC Stats
Source: 2006 Census
Statistics Canada



References

- ¹ BC Stats, Community Fact Sheets: <http://www.bcstats.gov.bc.ca/StatisticsBySubject/SocialStatistics/CommunityFacts.aspx>
- ² BC Treaty Commission Statement of Intent Maps: GEO BC. <http://archive.ilmb.gov.bc.ca/cis/initiatives/treaty/index.html>
- ³ BC Ministry of Aboriginal Relations & Reconciliation: First Nations by Region. <http://www.gov.bc.ca/arr/treaty/regional.html>
- ⁴ Metis Nation: BC Metis Places. http://document.bcmetsicitizen.ca/manage_metisplace_display.php
- ⁵ BC Stats: Population Estimates for Local Health Areas: PEOPLE 2013. <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>
- ⁶ Population Estimates for Municipalities: BC Stats; 1996-2006, 2006-2012. <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>
- ⁷ BC Stats: Population Estimates for Regional Districts: PEOPLE 2013. <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>
- ⁸ 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.
- ⁹ BC Stats: Population Projections: PEOPLE 2013: Published August 2013.
- ¹⁰ 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.
- ¹¹ Alberta Perinatal Health Program, update for Northern Health: March 2013.
- ¹² 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>
- ¹³ 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>
- ¹⁴ 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.
- ¹⁵ Vaccine Preventable Disease: Northern Health-Public Health Internal Files: August 2013.
- ¹⁶ Population Patterns of Chronic Health Conditions in Canada: Health Council of Canada. <http://healthcouncilcanada.ca>
- ¹⁷ The Cost of Chronic Disease in Canada: GPI Atlantic. 2004. <http://gpiatlantic.org/pdf/health/chroniccanada.pdf>
- ¹⁸ Prevention: British Columbia Cancer Agency. 2009. <http://www.bccancer.bc.ca/PPI/Prevention/default.htm>
- ¹⁹ 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>
- ²⁰ Inter-RAI Client Assessment Summary: Northern Health. Summary as of March 31, 2013. Data extracted July, 2013. Northern Health: Home and Community Care Services.
- ²¹ 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>
- ²² 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.
- ²³ Alternate Level of Care in Canada: CIHI. <https://secure.cihi.ca/estore/productSeries.htm?pc=PCC456>
- ²⁴ Northern Facility Activity Summaries from Northern Health Finance: Extracted August 206, 2013.