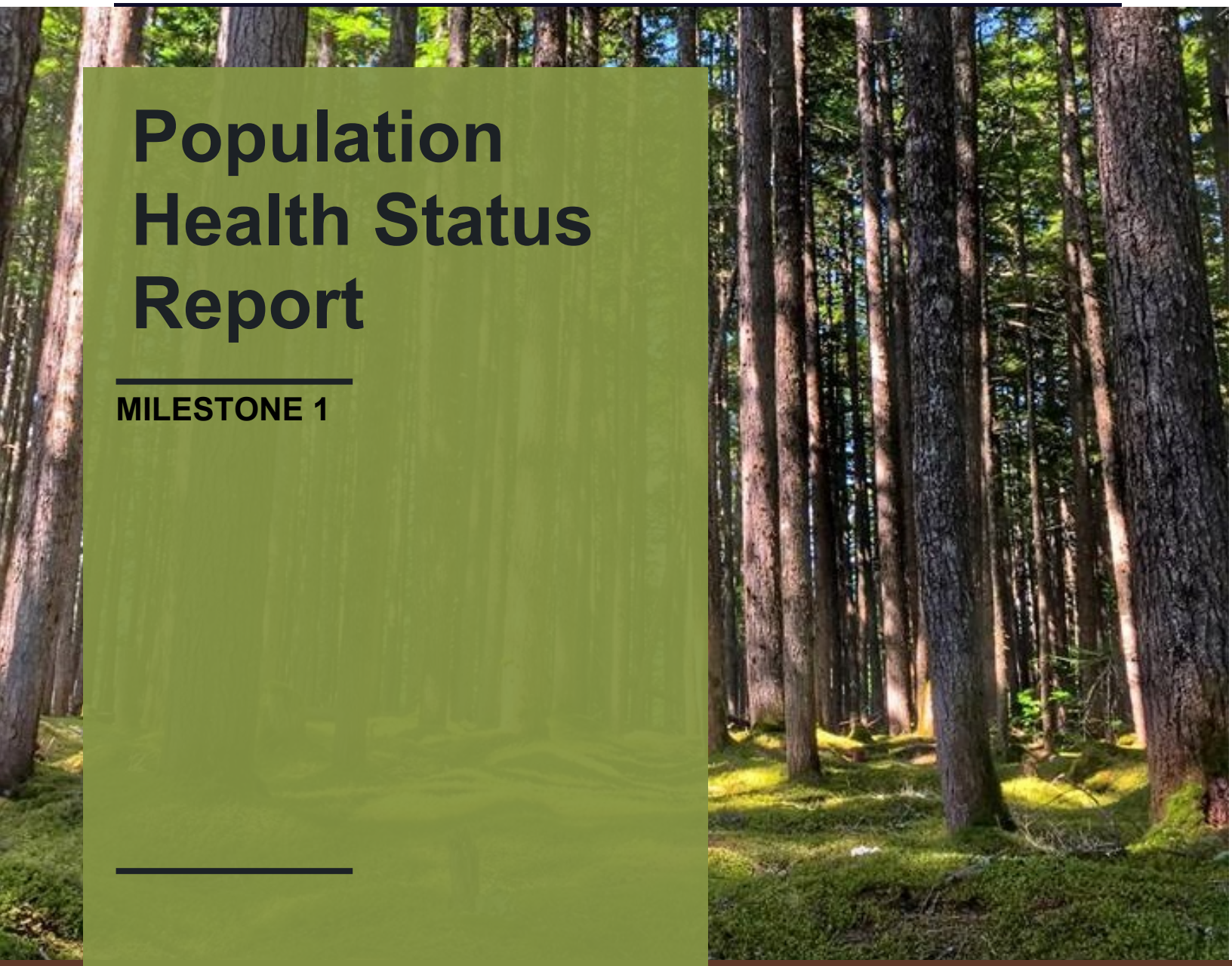

Population Health Status Report

MILESTONE 1

Population and Public Health

Acknowledgments

We respectfully acknowledge that Northern Health is collectively located on the traditional and ancestral territories of the 55 First Nations in Northern BC where we live, learn, collaborate, and work together. The regions served by Northern Health are also home to 11 Métis Chartered Communities represented by Métis Nation British Columbia. It is with humility that we continue to strengthen our relationships with First Nation, Métis, and Inuit peoples and communities across the North.

This report was prepared by

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Created: August 2022
Revised: September 2022

Table of Contents

List of Figures

Population Heath Status Report

Background

As northern British Columbia communities are recovering from the COVID pandemic, Northern Health (NH) is coming to the completion of its current strategic plan in 2023. In accordance with section 73(6) of the Public Health Act which requires a Medical Health Officer (MHO) to report on the health of the population. The Medical Health Officer should report regularly on the health of the population within their geographic area to inform and guide local public health issues. A Medical Health Officer (MHO) who makes a report under this authority may include in the report recommendations relevant to health promotion and health protection in the geographic area for which the health authority is responsible.

The intended audience of this independent report is to inform NH Executive and NH Board with completion required for the mid-October Board meeting. At the July 6, 2022 NH Executive Team meeting, there was discussion around the general plan for population health status reporting. It was proposed that the population health status reporting be staged, with the Milestone 1 report to including basic health status indicators and subsequent reports will focus on specific chosen areas which may include post-COVID-19 pandemic crisis areas. There was agreement from NH Executive to proceed with the Milestone 1 report for the NH Board in October 2022.

Population Health Status Reporting Overview

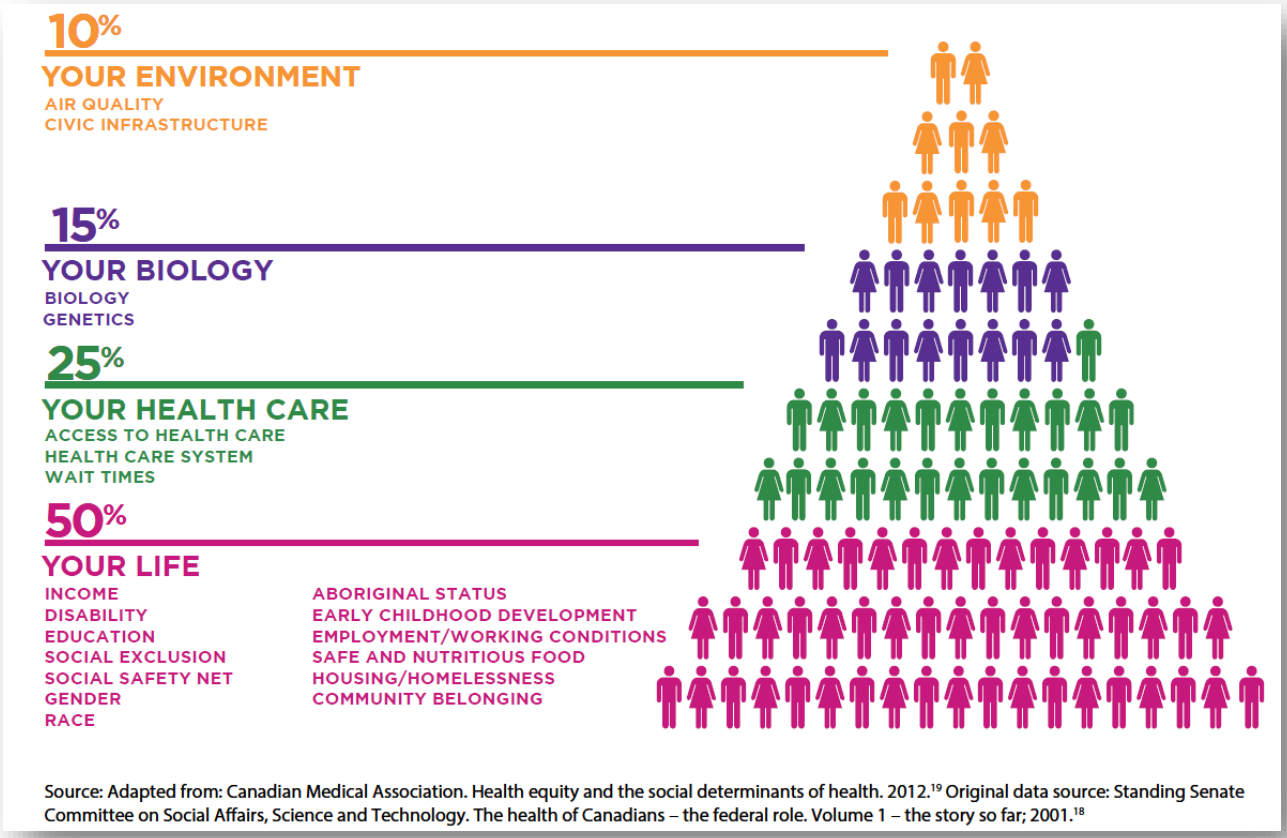
The World Health Organization defines health as "…a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition."[i] Good health depends on much more than health services and disease treatment; it includes but is not limited to having opportunities to make healthy choices, strong family, and community connections, living in healthy and safe environments. It is also essential to focus on improving the health of underserved populations such as Indigenous peoples.

According to BC's Guiding Framework for Public Health, population and public health programs that focus on improving these areas of health include health promotion, disease and injury prevention, health protection and public health emergency management [ii]. Health promotion refers to "…the process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions."[iii] Health protection refers to the development of legislation, regulation, and policy that aims to ensure the population has access to safe food and water, sanitation, and clean air, and is protected from environmental threats, injury, and infectious disease.[iv] Having a comprehensive health system that focuses on all areas of health not just health services and disease treatment allows for all individuals in the population to be healthy.

Determinants of Health

A population's or individual's health comes from a mix of social, environmental, economic, personal, and biological/genetic factors that work together or independently; these are commonly called the determinants of health[v]. Figure 1 shows the estimated percentages attributed to the various factors that make up the determinants of health. Access to health care accounts for 25% of an individual's health with personal factors such as sex, ethnicity, Indigenous status, access to housing and employment, and sense of community belonging, accounting for over 50% of an individual's health. The determinants of health can be addressed by population health and public health approaches. Population health focuses on improving the health of the population and reducing health disparities between groups by understanding and addressing the causes of the underlying inequities including the determinants of health. Public Health focuses on health promotion and upstream approaches, such as immunizations, drinking water protection, injury prevention, and management of diseases. The Ministry of Health provides direction and sets province wide goals, standards for the entire health system [vi].

Figure 1. Canada's Social Determinants of Healthvii

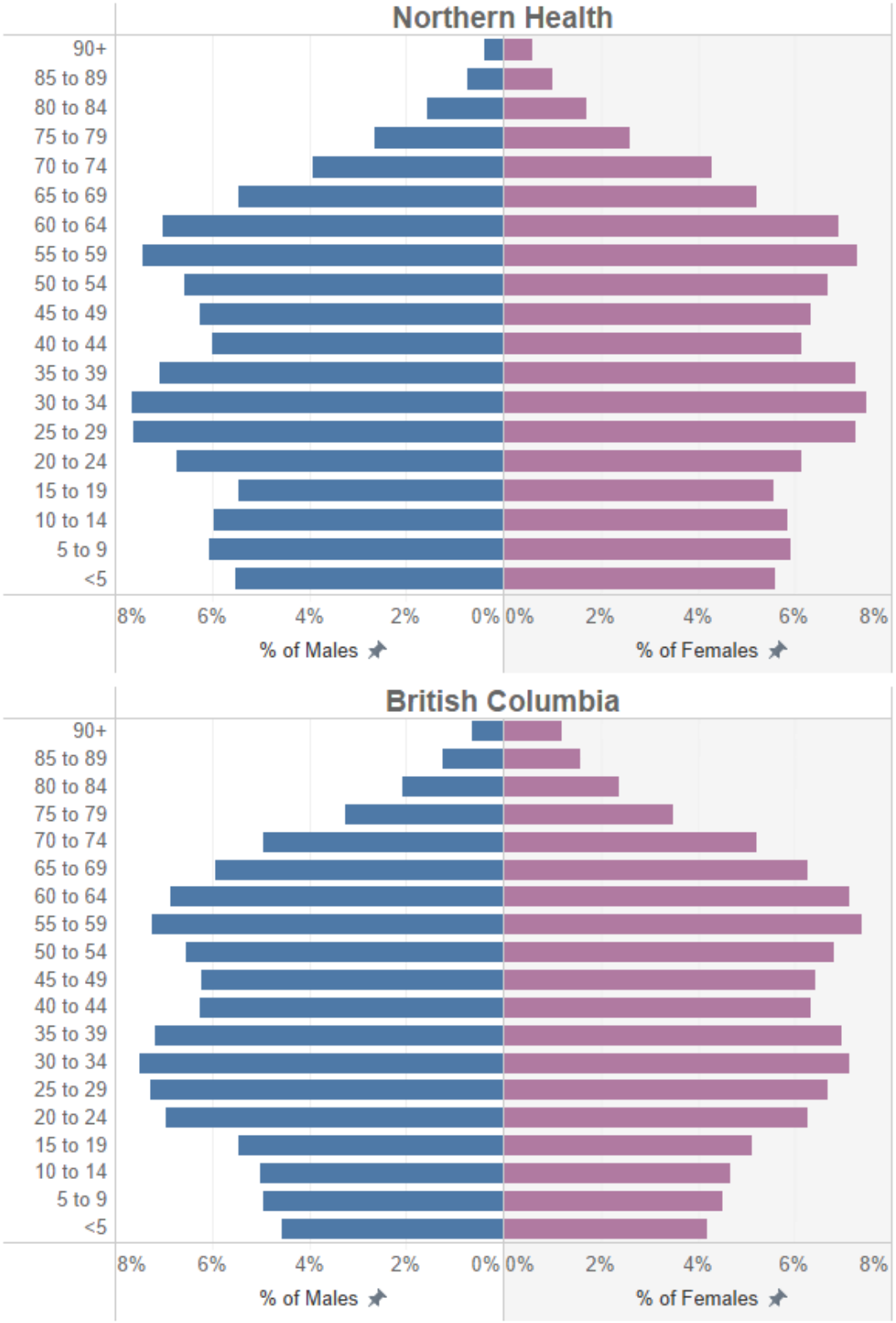


This report will focus on three main categories relating to the health of the population and its determinants: Community Resiliency; Morbidity and Mortality; and the Leading Causes of Mortality and Morbidity.

Northern Health Population

Northern Health serves a population of over 290,000, spread out over almost two-thirds of British Columbia (BC) with nearly 20 per cent of the population being Indigenous, which is the highest proportion in BC. Due to the diverse geography and populations in NH, the health status and health needs differ substantially from the province and within NH, this makes health service planning and upstream interventions complex. Northern Health has a higher proportion of the population under the age of 40 compared to the rest of BC (Figure 2). This typically reflects a population with a high birth rate and death rate, which results in a slow growth in life expectancy.

Figure 2. Population Pyramid for Northern Health and BC, 2020



Data source: BC Stats. Population Estimates https://bcstats.shinyapps.io/popApp/

Data Sources

The most recent data available at the time of writing of the report. Whenever possible, analyses on health authority, health service delivery area are provided to identify disparities between the geographic areas. This can assist in targeting supports and interventions more effectively.

Data for this report were obtained from a variety of sources. These includes data from the Ministry of Health, BC Centre for Disease Control, BC Injury Research and Prevention Unit, BC Corners Service, Canadian Institute for Health Information (CIHI) and Statistics Canada.

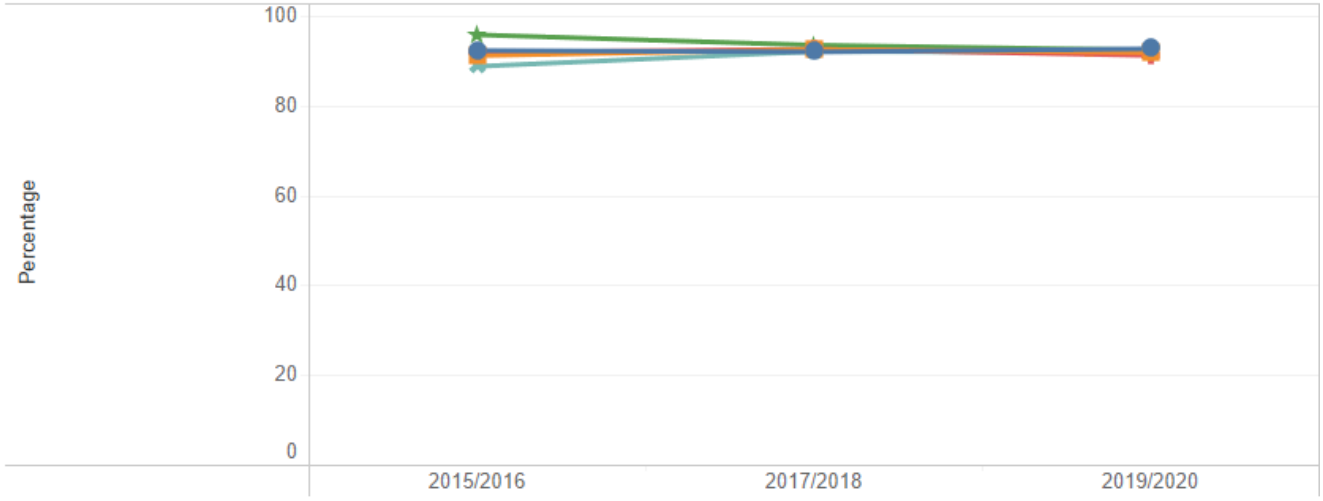
Community Resiliency

With the COVID-19 pandemic, focus has shifted from the individual to the community and how the community has been impacted by the pandemic. Community resiliency has many definitions but can be seen as the ability to utilize local resources and expertise to participate fully in community recovery from disasters. The key elements of community resilience include improving knowledge and educating the public; fostering social cohesion; maintain health of the community; having necessary resources and allocating them appropriately; valuing positive thoughts and mental attitudes[viii].

Life Satisfaction

Life satisfaction is a standard measure of well-being. Life satisfaction is subjective and can be determined by several different factors. It measures how people evaluate their life as a whole instead of how they currently feel.

Figure 3. Percentage of Population Age 12+ Who are Very Satisfied or Satisfied with Their Life, by BC, Northern Health, HSDA, 2015/16 – 2019/20



	2015/2016	2017/2018	2019/2020
BC	92.4	92.1	92.8
Northern	91.3	92.6	91.9
Northeast HSDA	92.0	92.7	91.3
Northern Interior HSDA	88.9	92.2	92.0
Northwest HSDA	95.9	93.6	92.5

Data Source: Statistics Canada. Table 13-10-0113-01 Health characteristics, two-year period estimates. Canadian Community Health Survey (CCHS). Extracted July 10, 2022.

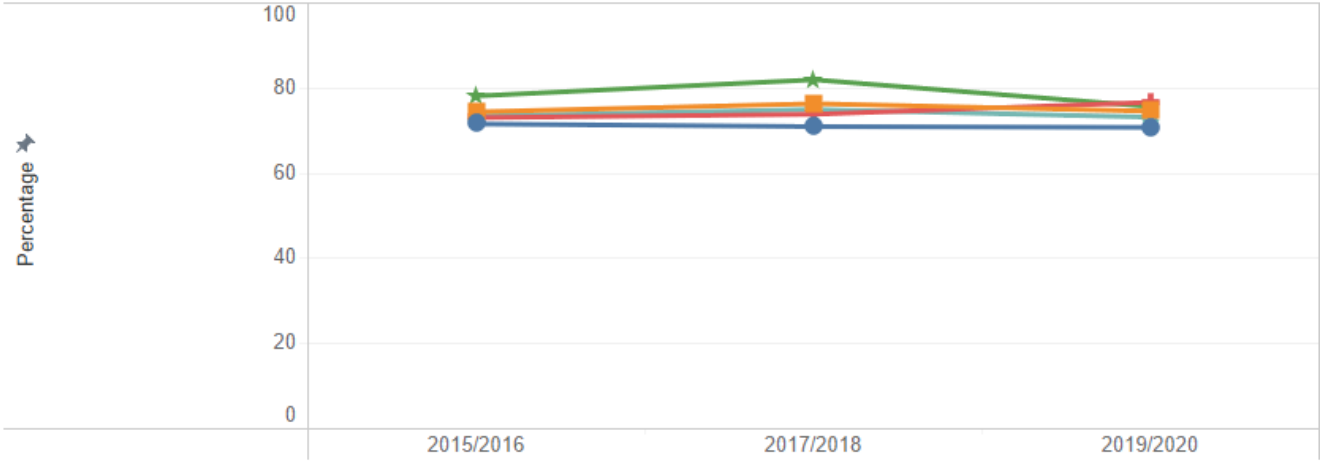
Figure 3 indicates that for the percentage of the population who report being very or satisfied with their lives. This figure shows that the majority of people in NH are satisfied with their life

although, it is lower than BC. The Northwest HSDA has seen a decline in life satisfaction since 2015/16.

Sense of Belonging

Sense of belonging is defined as the experience of personal involvement in a system or environment so that person feels themselves to be valued, needed, and/or accepted, and that their characteristics are an integral part of that system or environment.[ix] Having a strong sense of belonging is correlated with better physical, social, and psychological health[x]. It has also been shown to improve one's ability to cope with difficult/challenging situations.[xi] Figure 4 shows the percentage of the population whose sense of belonging to local community is very strong, somewhat strong. This indicates that there is a higher percentage of people who live in NH have a strong sense of belonging to their community compared to BC.

Figure 4. Percentage of the Population Whose Sense of Belonging to Local Community is Very Strong, Somewhat Strong, by BC, Northern Health, HSDA, 2015/16 – 2019/20



	2015/2016	2017/2018	2019/2020
BC	71.6	71.0	70.8
Northern	74.5	76.4	74.6
Northeast HSDA	73.1	73.9	76.7
Northern Interior HSDA	73.5	75.0	73.2
Northwest HSDA	78.2	82.0	75.7

Data Source: Statistics Canada. Table 13-10-0113-01 Health characteristics, two-year period estimates. Canadian Community Health Survey (CCHS). Extracted July 10, 2022.

Figure 5. Percentage of BC Residents Who Have a Strong Sense of Community Belonging, by HA, NH HSDA, for 2021

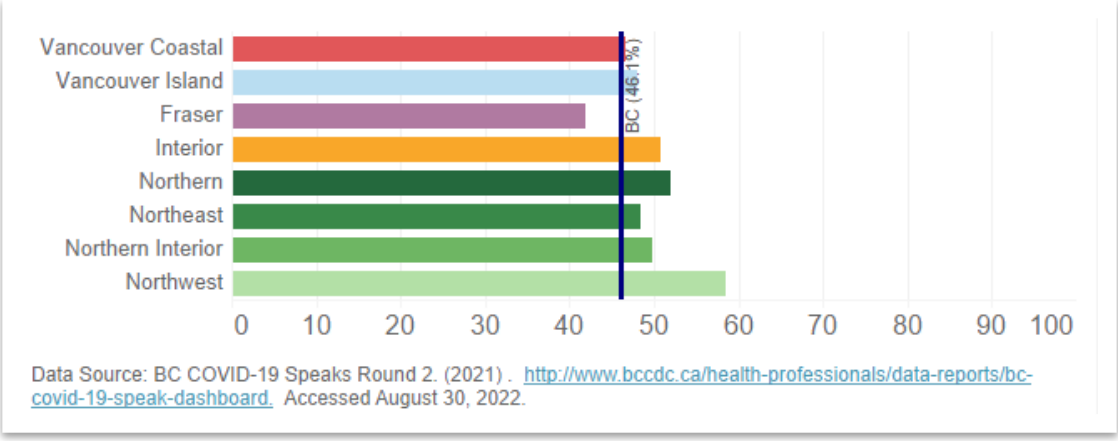


Figure 5 displays the percentage of people who indicated a strong sense of a community belonging in 2021 in BC. Northern health having the highest percentage in the province (51.9%) and the Northwest HSDA having the largest proportion (58.5%) indicating a strong sense of community.

Figure 6. Percentage of Northern Health Residents Who Have a Strong Sense of Community Belonging, by Sex and HSDA for 2021

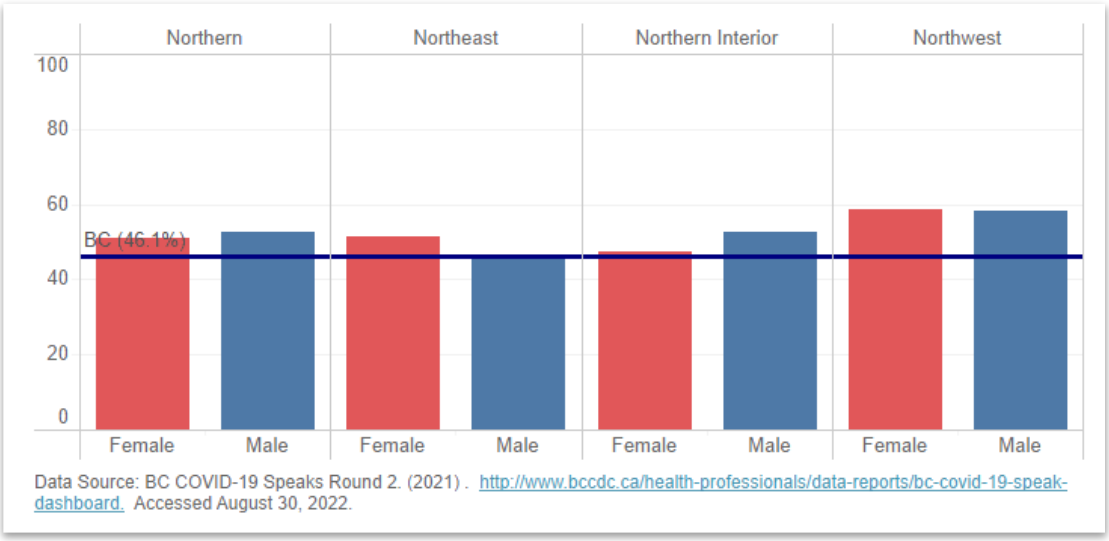
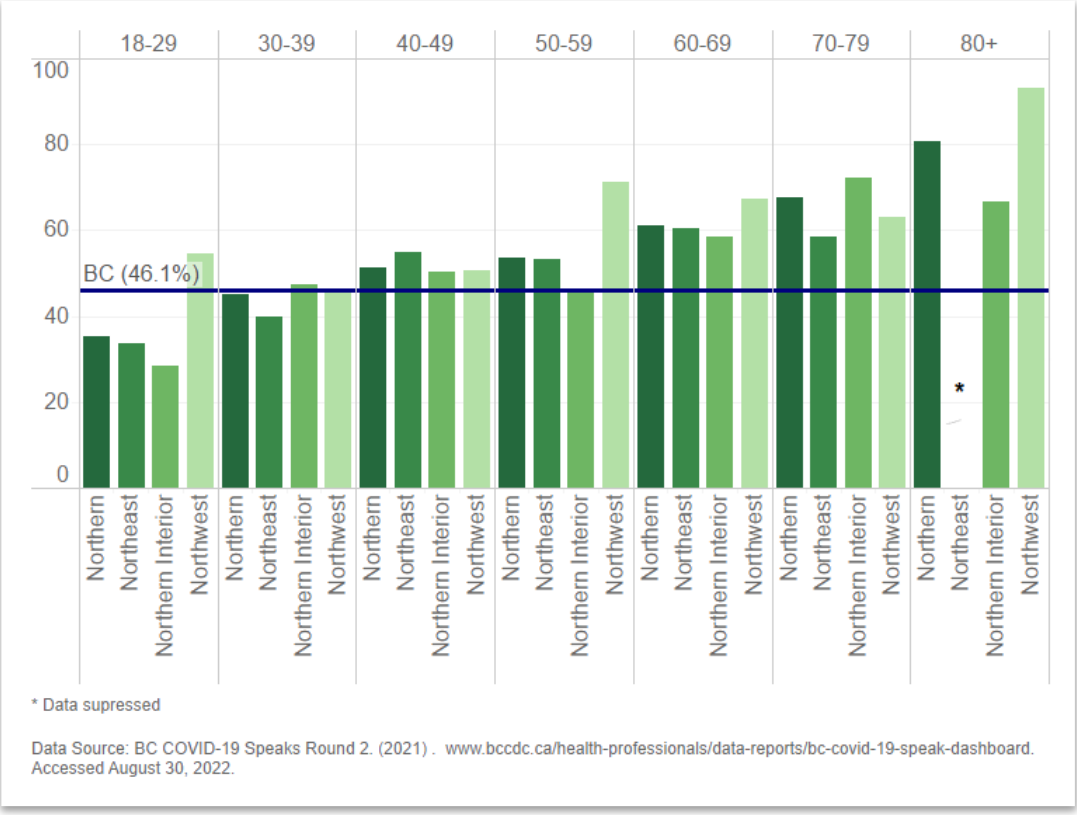


Figure 6 shows the sex breakdown for percentage of NH residence who have a strong sense of community belonging. For NH and the Northwest HSDA there are minimal difference between males and females. For the Northeast, females have a higher proportion of

individuals with a strong sense of community belonging; in the Northern Interior, males indicated a higher proportion a stronger sense of community belonging compared to females; the Northwest there was no sex difference.

Figure 7. Percentage of Northern Health Residents Who Have a Strong Sense of Community Belonging, by Age and HSDA for 2021



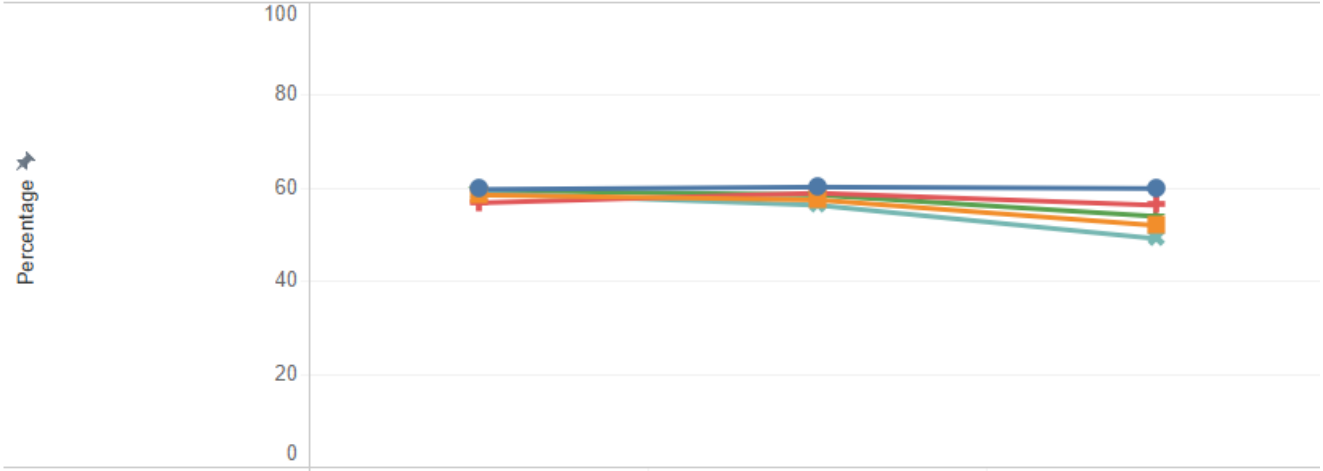
When looking at sense of community belonging by age in Northern Health, there is an overall trend that people in older age groups have a higher sense of belonging across all HSDAs; the youngest age group (18 – 29) have the lowest proportion of residences with a strong sense of community belonging in the Northeast and Northern Interior HSDA. In the Northwest the 30 – 39 age group has the lowest proportion of residences with a strong sense of community belonging (Figure 7).

Perceived Health

Perceived health is a subjective measure of overall health status. This self assessment may capture aspects of health that may not be reflected clinically, such as social functioning, disease severity, physiological and psychological reserves. Research has shown that perceived health can predict help-seeking behaviours and health service use.[xii]

Figure 8 shows the percentage of the population whose perceived health was very good or excellent. It highlights that in NH population has a lower proportion of people who perceive their health to be very good or excellent health. The proportion of population who perceive their health to be very good or excellent health has been declining since 2017/18, with the Northern Interior having a 17% decrease in perceived health from 2015/16 to 2019/20.

Figure 8. Percentage of the Population whose Perceived Health was 'Very Good' or 'Excellent', by BC, Northern Health, HSDA, 2015/16 – 2019/20



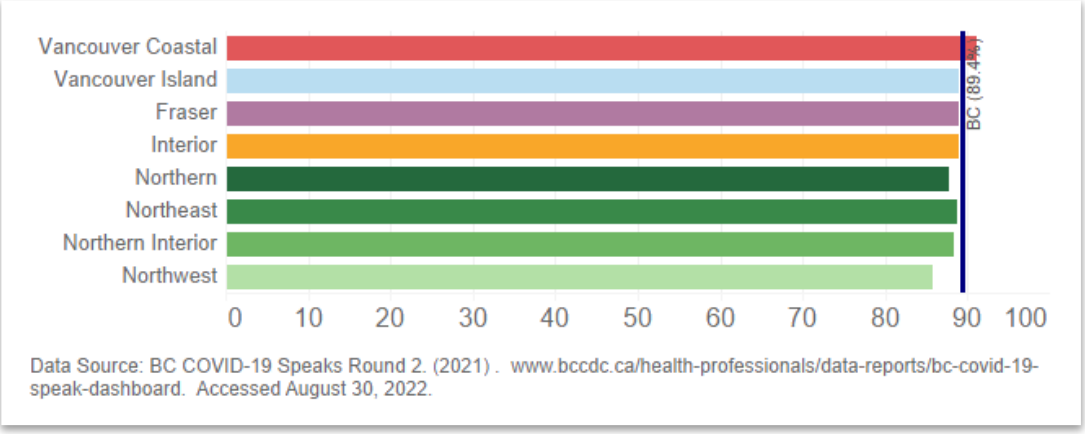
	2015/2016	2017/2018	2019/2020
BC	59.8	60.3	60.0
Northern	58.6	57.5	52.0
Northeast HSDA	56.9	59.0	56.4
Northern Interior HSDA	59.0	56.4	49.2
Northwest HSDA	59.6	58.6	54.0

Data Source: Statistics Canada. Table 13-10-0113-01 Health characteristics, two-year period estimates. Canadian Community Health Survey (CCHS). Extracted July 10, 2022.

When examining data from 2021, the percentage of NH residents that perceive their health as good is similar to the BC rate, with the Northwest having the lowest percentage at 86% of the population perceiving their health as good (Figure 9). The sex (Figure 10) and age group

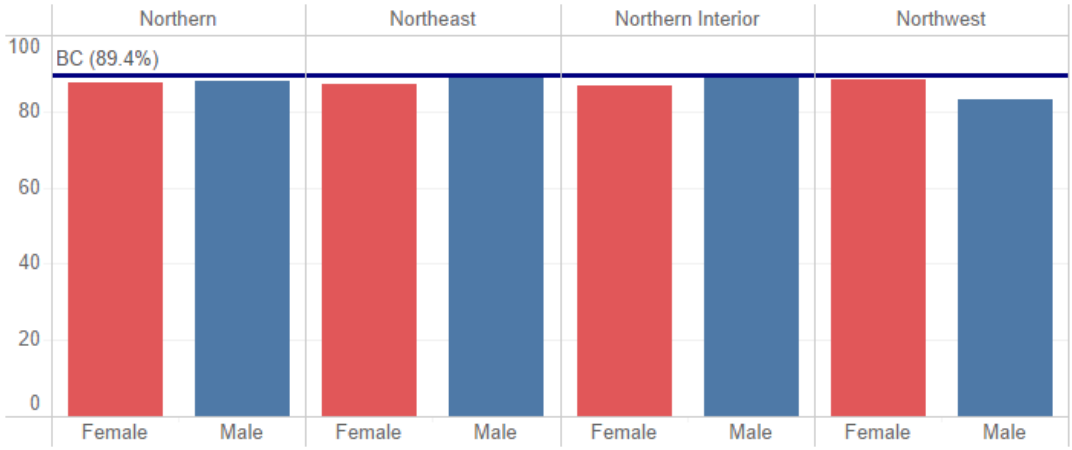
(Figure 11) indicate that in the Northwest, males in the 40-49 age group have the lowest proportion of residents who perceived their health as good.

Figure 9. Percentage of BC Residents Who Rate Perceived Health as 'Good', by HA, NH HSDA, for 2021



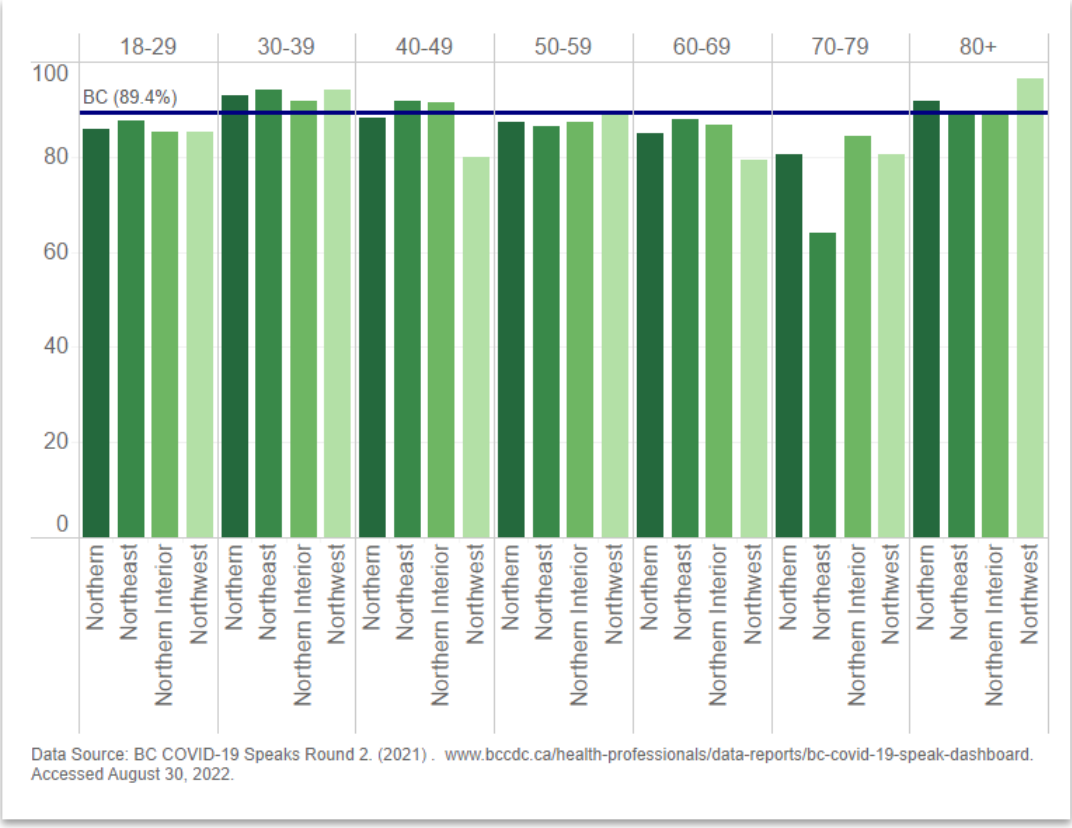
Data Source: BC COVID-19 Speaks Round 2. (2021) . www.bccdc.ca/health-professionals/data-reports/bc-covid-19-speak-dashboard. Accessed August 30, 2022.

Figure 10. Percentage of Northern Health Residents Who Rate Perceived Health as 'Good', by sex, HA, HSDA, for 2021



Data Source: BC COVID-19 Speaks Round 2. (2021) . www.bccdc.ca/health-professionals/data-reports/bc-covid-19-speak-dashboard. Accessed August 30, 2022.

Figure 11. Percentage of Northern Health Residents Who Rate Perceived Health as 'Good', by Age Group, HA, HSDA, for 2021

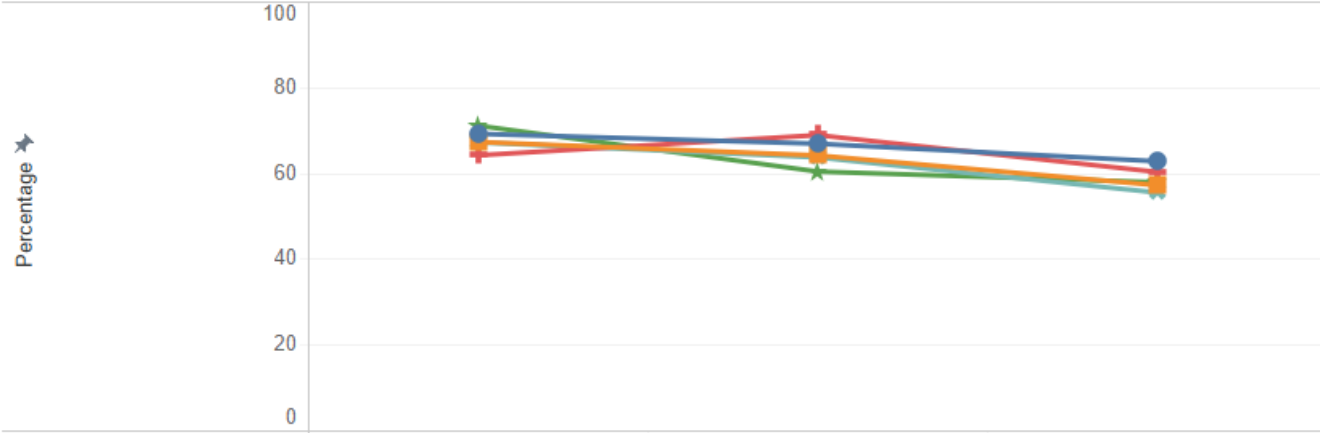


Data Source: BC COVID-19 Speaks Round 2. (2021) . www.bccdc.ca/health-professionals/data-reports/bc-covid-19-speak-dashboard. Accessed August 30, 2022.

Perceived Mental Health

The World Health Organization defines mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community".[xiii] Perceived mental health is a subjective measure of overall mental health status, it does not correspond to diagnosed mental disorders.[xiv]

Figure 12. Percentage of the Population whose Perceived Mental Health was 'Very Good' or 'Excellent', by BC, Northern Health, HSDA, 2015/16 – 2019/20

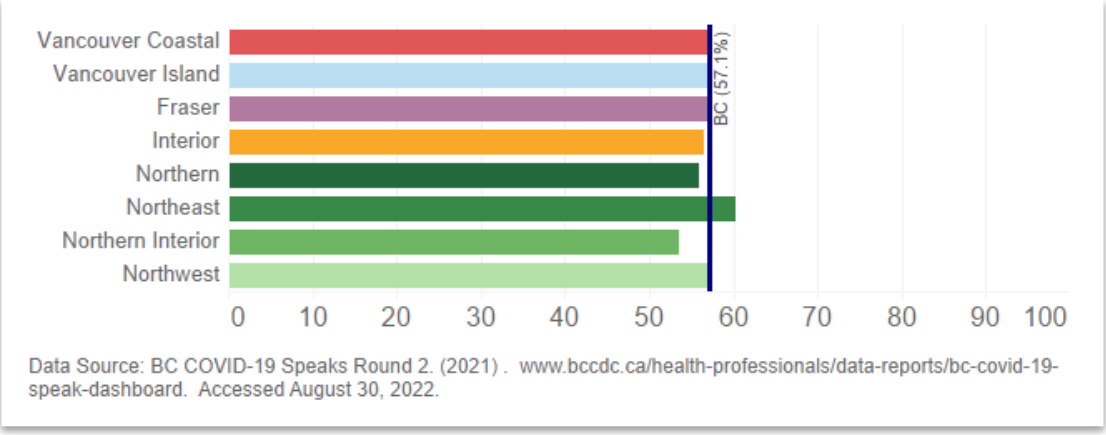


	2015/2016	2017/2018	2019/2020
BC	69.3	67.0	62.9
Northern	67.4	64.3	57.3
Northeast HSDA	64.3	69.0	60.4
Northern Interior HSDA	67.3	63.8	55.6
Northwest HSDA	71.2	60.5	58.0

Data Source: Statistics Canada. Table 13-10-0113-01 Health characteristics, two-year period estimates. Canadian Community Health Survey (CCHS). Extracted July 10, 2022.

Figure 12 shows the percentage of the population whose perceived mental health was very good or excellent. It highlights that in NH population has a lower proportion of people who perceive their mental health to be very good or excellent health. The proportion of population who perceive their mental health to be very good or excellent health has been declining since 2017/18, with the Northwest having a 19% decrease in perceived mental health from 2015/16 to 2019/20.

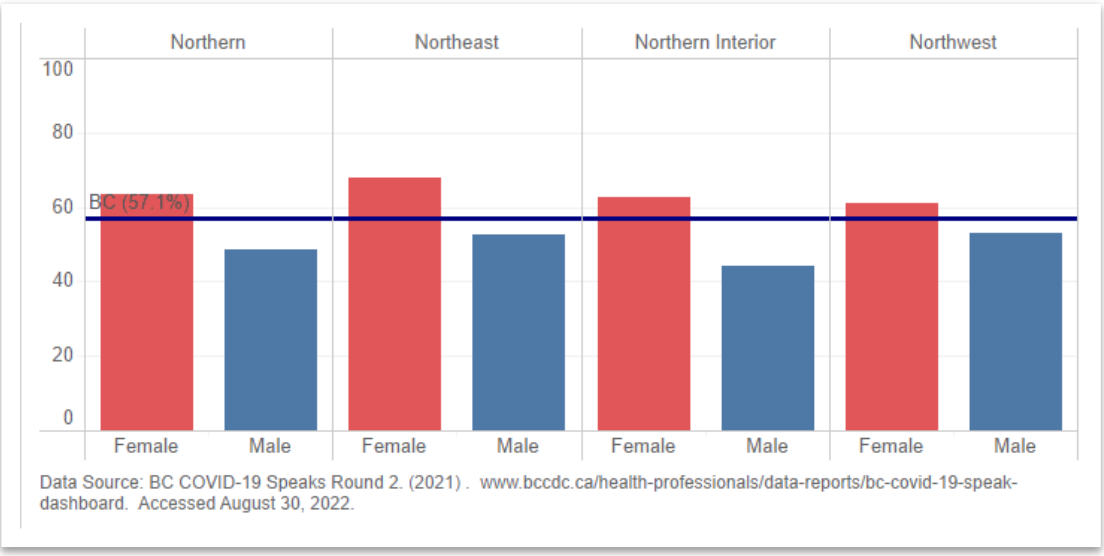
Figure 13. Percentage of BC Residents Who Rate Perceived Mental Health as 'Worsening, by HA, NH HSDA, for 2021



Data Source: BC COVID-19 Speaks Round 2. (2021) . www.bccdc.ca/health-professionals/data-reports/bc-covid-19-speak-dashboard. Accessed August 30, 2022.

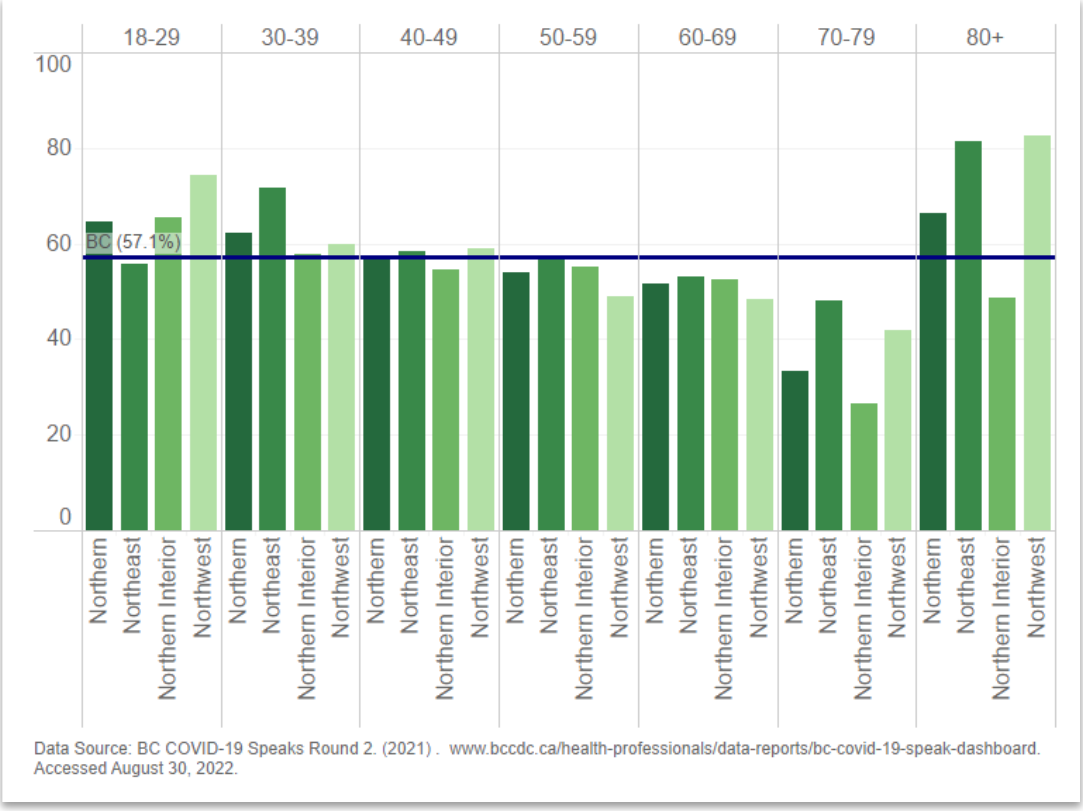
When examining data from 2021, the percentage of NH residents that perceive their mental health as worsening is similar to the BC rate, with the Northeast having the highest percentage of people who perceived their mental health as worsening (Figure 13). The sex (Figure 14) and age group (Figure 15) indicate that females and the 18-39 and 80+ age groups perceive their mental health as worsening.

Figure 14. Percentage of BC Residents Who Rate Perceived Mental Health as 'Worsening, by HA, NH HSDA, for 2021



Data Source: BC COVID-19 Speaks Round 2. (2021) . www.bccdc.ca/health-professionals/data-reports/bc-covid-19-speak-dashboard. Accessed August 30, 2022.

Figure 15. Percentage of BC Residents Who Rate Perceived Mental Health as 'Worsening, by HA, NH HSDA, for 2021

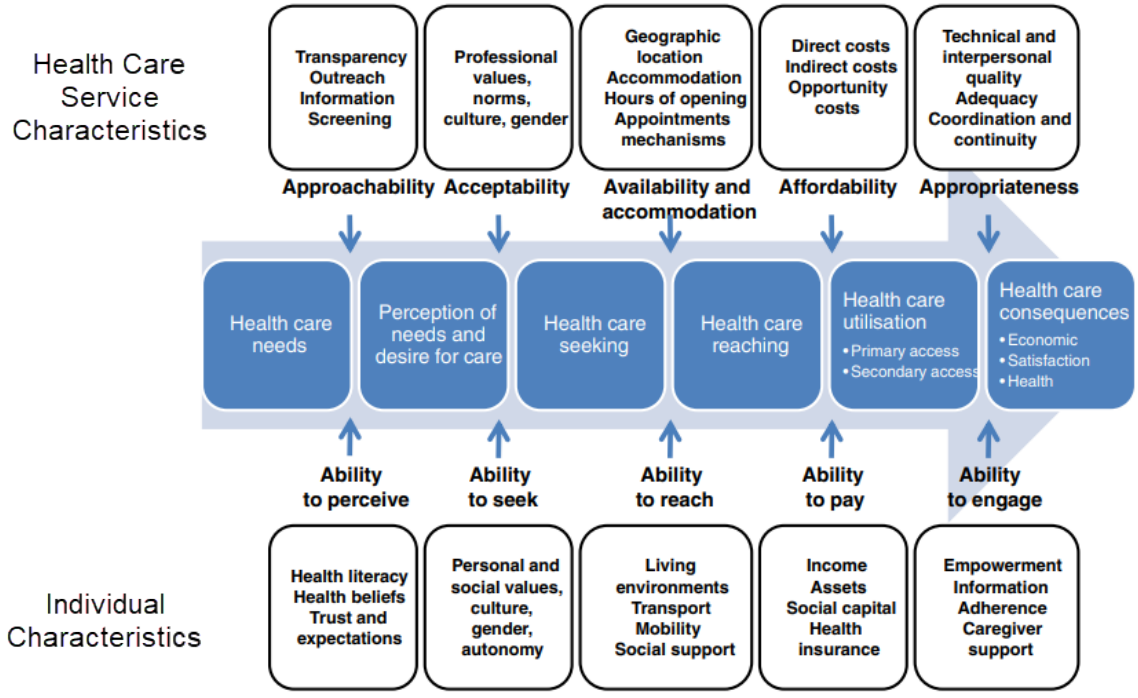


Data Source: BC COVID-19 Speaks Round 2. (2021) . www.bccdc.ca/health-professionals/data-reports/bc-covid-19-speak-dashboard. Accessed August 30, 2022.

Access To Health Care

Having access to high quality health care services (primary, secondary, and tertiary) impacts an individual's health. It is seen as a social determinant of health and a basic human right. Canada has a universal health care system that provides every citizen the right to health care services; however not all Canadian citizens have equitable access to health care. When considering what access to health care encompasses, one must look at other characteristics that may impact people's ability to access health care services. One proposed framework considers both the health care service characteristics and the individual's ability to interact with the health care services (Figure 16). This framework takes into consideration not only availability of services but the individual's ability to access them and the process in which the patient needs to go through to access them.

Figure 16. Framework for Accessible Health Carexv.

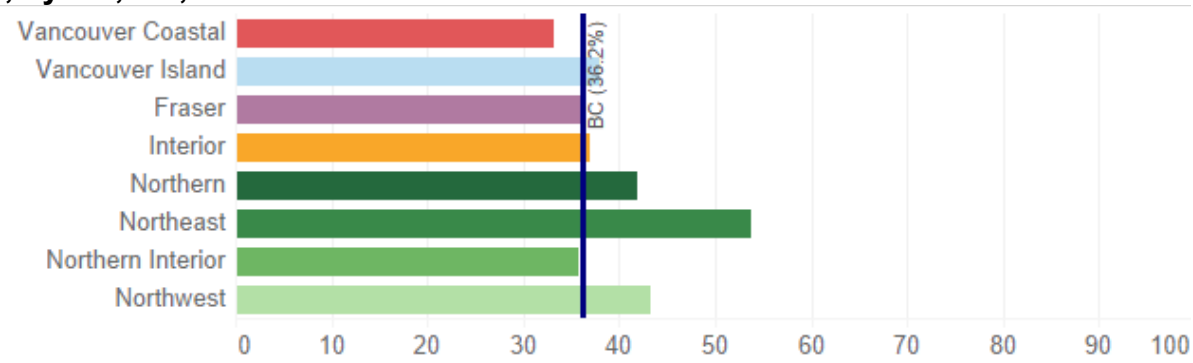


Adapted from: **Levesque, JF., Harris, M.F. & Russell, G. (2013)**

Although everyone has access to health care services this access is not equitable across NH and BC; with people living in more rural areas of the province with having to travel to gain access to needed health care.[xvi] Northern Health has the highest percentage of residents

indicating their access to health care is worsening, with 54% of residents in the Northeast HSDA indicating worsening access to health care (Figure 17).

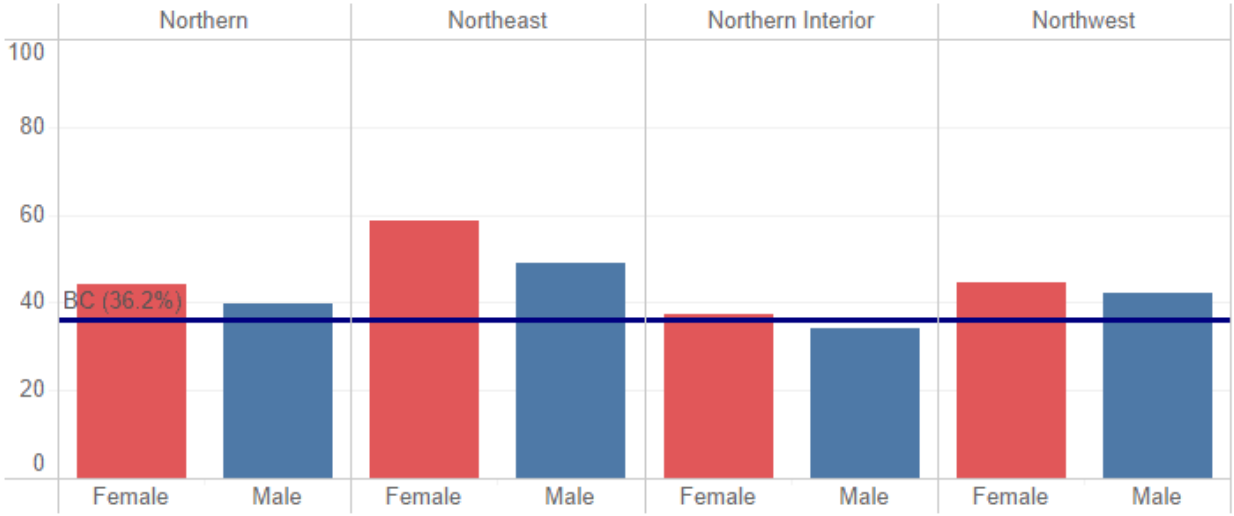
Figure 17. Percentage of BC Residents Who Indicated Worsening Access to Health Care, by BC, HA, NH HSDA for 2021



Data Source: BC COVID-19 Speaks Round 2. (2021) . www.bccdc.ca/health-professionals/data-reports/bc-covid-19-speak-dashboard. Accessed August 30, 2022.

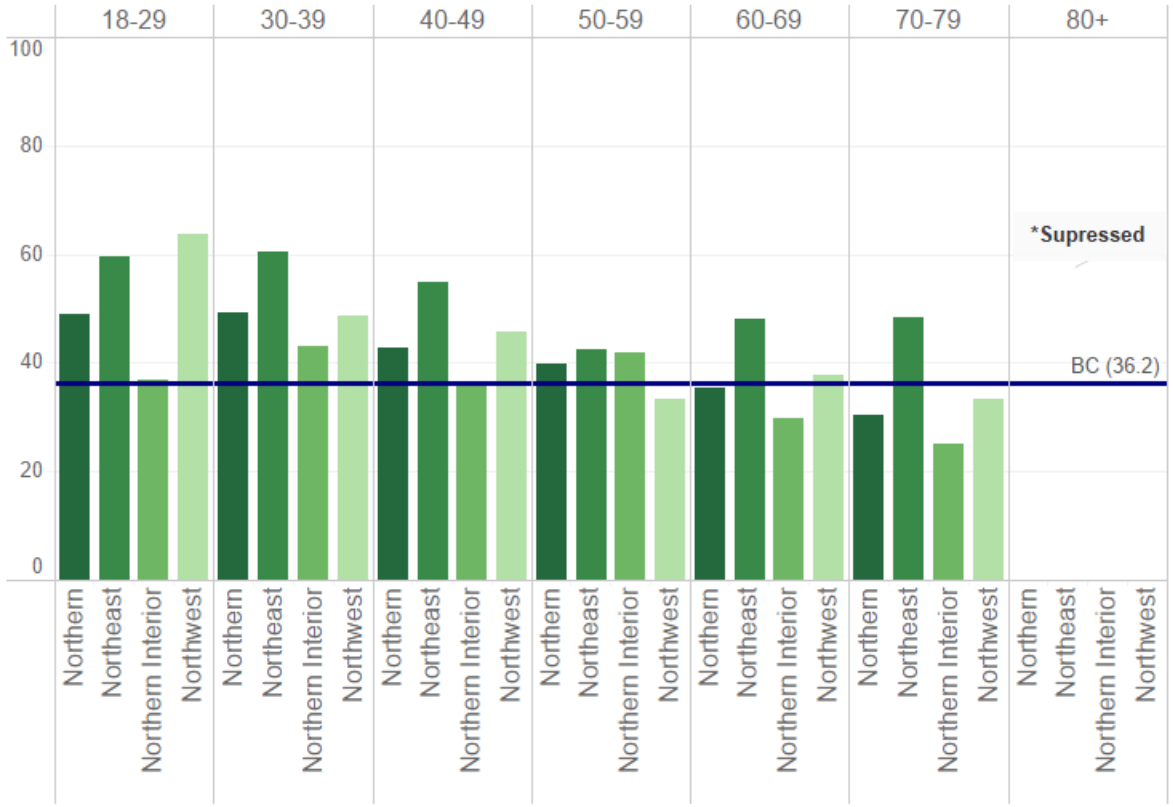
A higher percentage of females in NH in all HSDAs indicating access to health care is worsening compared to males (Figure 18). When examining age groups in NH, the proportion of residents to indicate worsening access to health care shows a decreasing trend as people are aging with the 18–29 age group having the highest percentage (Figure 19).

Figure 18. Percentage of BC Residents Who Indicated Worsening Access to Health Care, by NH, HSDA, Sex for 2021



Data Source: BC COVID-19 Speaks Round 2. (2021) . www.bccdc.ca/health-professionals/data-reports/bc-covid-19-speak-dashboard. Accessed August 30, 2022.

Figure 19. Percentage of BC Residents Who Indicated Worsening Access to Health Care, by NH, HSDA, Age Group for 2021



Data Source: BC COVID-19 Speaks Round 2. (2021) . www.bccdc.ca/health-professionals/data-reports/bc-covid-19-speak-dashboard. Accessed August 30, 2022.

Morbidity and Mortality Measures

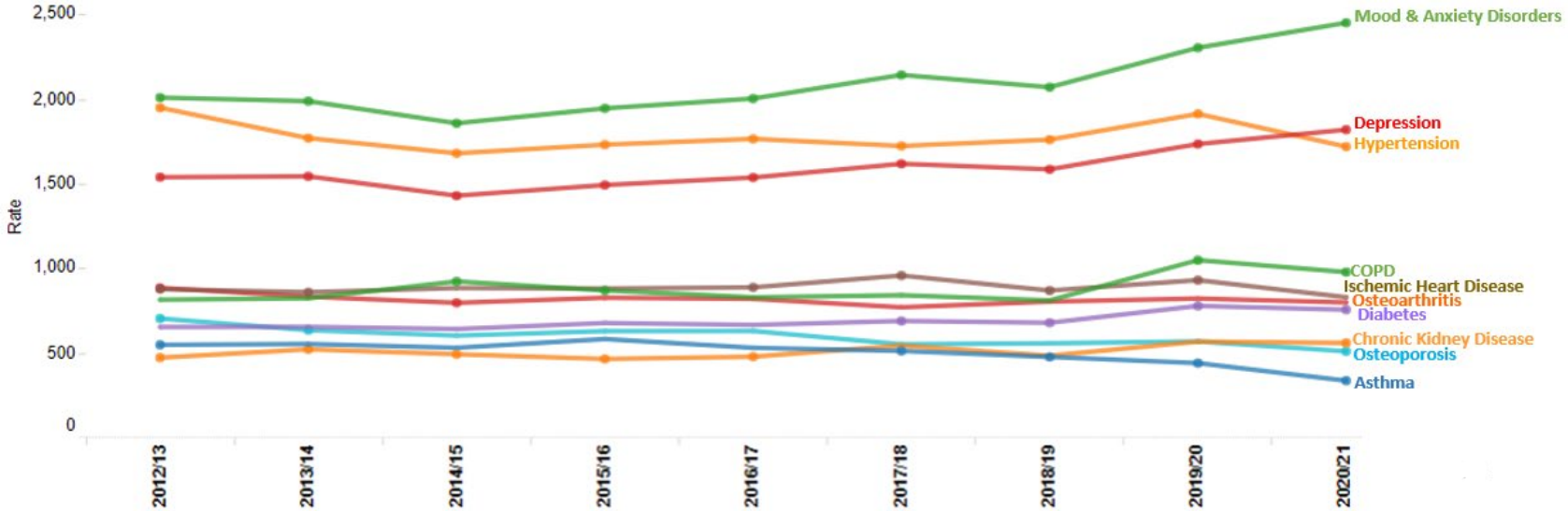
Chronic Disease

When examining the health of the population and the provision of health care services we use morbidity and mortality measures. Morbidity looks at what is making people sick within the population, mortality is what people are dying from within the population[xvii]. When examining the incidence of chronic diseases in NH (Figure 20), mood and anxiety disorders, hypertension and COPD have the highest prevalence and incidence rates. The high incidence of mood and anxiety disorders among women in the 20 – 34 age group and hypertension among men in the 50 - 79 age groups contributed the most to the incidence and prevalence of these conditions.

Mood and anxiety disorders, and COPD have been increasing significantly since 2018/19, with Northern Health having the highest incidence rate of COPD in BC (Figure 21). Northern Health is also showing an increasing rate of COPD while the other HAs are showing a decreasing trend. The highest COPD incident rate is found in the Northern Interior with 1,057 persons per 100,000; Peace River South LHA has the highest rate (1,242 persons per 100,000) followed by Prince George LHA (1,169 persons per 100,000). When looking at mood and anxiety disorders, Northern Health's incident rate is comparable to the province (Figure 22). The highest mood and anxiety rate is found in the Northern Interior with 2,653 persons per 100,000 and in the Kitimat LHA with an incidence rate of 2,988 persons per 100,000.

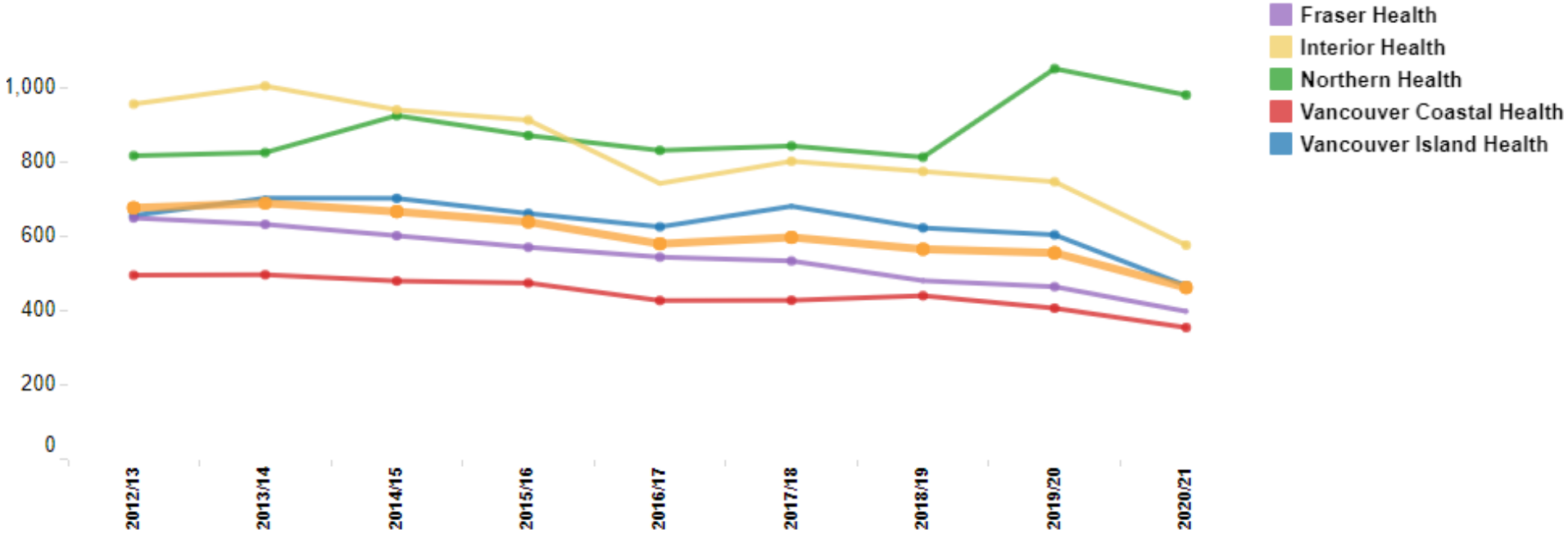
When comparing 2020/21 chronic conditions to 2019/20 there has been a notable change was observed in the incidence rate of COPD, hypertension, diabetes, chronic kidney disease, and ischemic heart disease; before 2019/20 their incidence rates were stable or on a descending trend however there was an uptick in 2019/20. In 2020/21 their incidence rate went back to the level of before 2019/20. One reason may be explained by pandemic restrictions and therefore delay in diagnosis although future data are needed to better understand the changes in the incidence rates.

Figure 20. Northern Health Age-standardized Incidence Rates for Select Chronic Conditions, 2012/13 to 2020/21



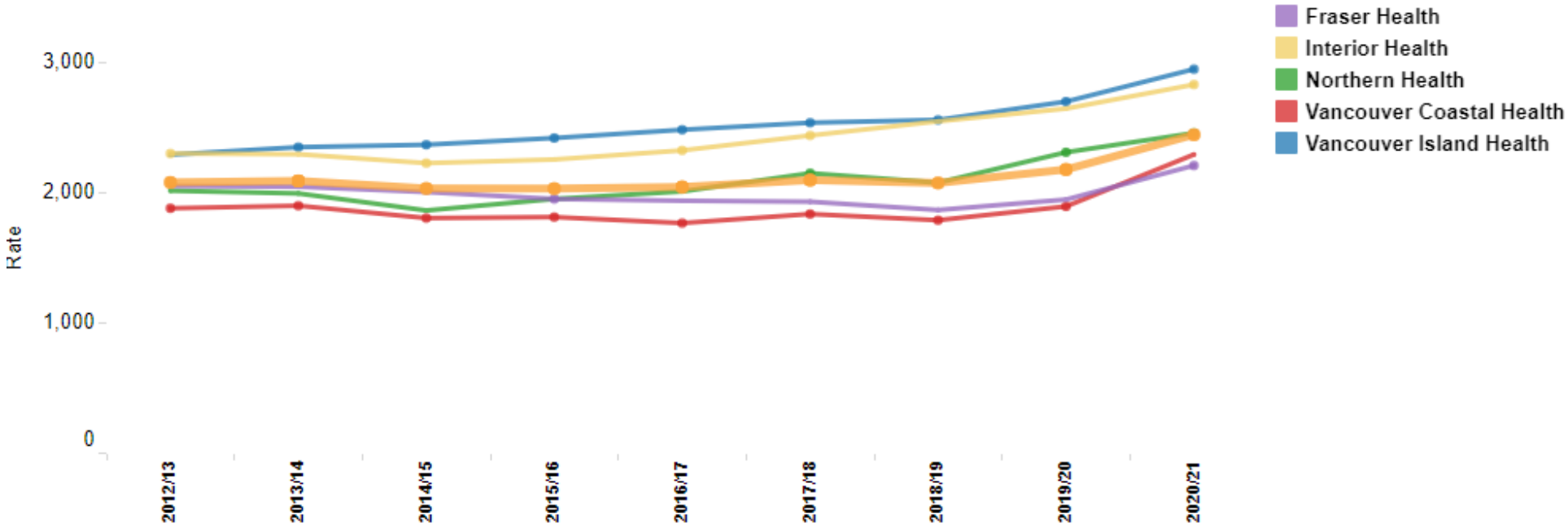
Data Source: BCCDC Chronic Disease Dashboard: http://www.bccdc.ca/health-professionals/data-reports/chronic-disease-dashboard

Figure 21. Chronic Obstructive Pulmonary Disease 45+ Age Standardized Incidence (per 100,000) by Health Authority



Data Source: BCCDC Chronic Disease Dashboard: http://www.bccdc.ca/health-professionals/data-reports/chronic-disease-dashboard

Figure 22. Mood & Anxiety Disorder 1+ Age Standardized Incidence (per 100,000) by Health Authority



Data Source: BCCDC Chronic Disease Dashboard: http://www.bccdc.ca/health-professionals/data-reports/chronic-disease-dashboard

Reasons for Hospitalization

When examining the top reasons for hospitalizations in NH, the three top reasons residents of NH were admitted to hospital in 2020/21 were substance abuse with other state[1], heart failure without coronary angiogram, and COPD; these are reflected in the top 10 reasons for hospitalizations for all NH LHAs (Figure 23). The top three reasons for admission for all of BC in 2020/21 were unilateral knee replacement, heart failure without coronary angiogram and substance abuse with other state.

Hospitalizations for substance abuse reflects the current situation in BC with the illicit drug toxicity crisis; however, in NH it is the top reason for hospitalization which may reflect the lack of services available in community to address the current needs of this population. COPD and heart failure are both considered ambulatory care sensitive conditions. Ambulatory care sensitive conditions are considered measures of access to appropriate primary health care, it is assumed that appropriate care could prevent admission to hospital, although not all admissions are avoidable.[xviii]

[1] This includes diagnoses related to Mental and behavioural disorders due to use of a variety of substances including but not limited to alcohol, cocaine, cannabis, methamphetamines, and opioids

Figure 23. Top 10 Reasons for Hospitalization by Case Mix Group Plus (CMG+) Rate Per 100,000 by Northern Health LHA, 2020/21

	Northeast			Northern Interior				Northwest					
Case Mix Group+	Fort Nelson	Peace River North	Peace River South	Burns Lake	Nechako	Prince George	Quesnel	Haida Gwaii	Kitimat	Prince Rupert	Smithers	Terrace	Upper Skeena
Substance Abuse with Other State	**425** (17)	**111** (39)	**232** (58)	**81** (5)	**239** (33)	**266** (270)	**152** (37)	**492** (22)	**444** (40)	**392** (54)	**228** (41)	**388** (81)	**1,253** (54)
Heart Failure without Coronary Angiogram	**125** (5)	**148** (52)	**140** (35)	**228** (14)	**109** (15)	**217** (221)	**239** (58)	**224** (10)	**189** (17)	**262** (36)	**150** (27)	**269** (56)	**232** (10)
Chronic Obstructive Pulmonary Disease	**225** (9)	**190** (67)	**196** (49)	**114** (7)	**181** (25)	**175** (178)	**185** (45)	**179** (8)	**100** (9)	**138** (19)	**72** (13)	**168** (35)	**116** (5)
General Symptom/Sign	**175** (7)	**97** (34)	**124** (31)	**309** (19)	**152** (21)	**147** (149)	**45** (11)	**380** (17)	**255** (23)	**392** (54)	**134** (24)	**86** (18)	**348** (15)
Symptom/Sign of Digestive System	**125** (5)	**80** (28)	**68** (17)	**130** (8)	**181** (25)	**166** (169)	**33** (8)	**425** (19)	**344** (31)	**109** (15)	**95** (17)	**129** (27)	**162** (7)
Schizophrenia/Schizoaffective Disorder	**0** (0)	**20** (7)	**168** (42)	**81** (5)	**58** (8)	**148** (150)	**152** (37)	**112** (5)	**55** (5)	**254** (35)	**89** (16)	**283** (59)	**0** (0)
Viral/Unspecified Pneumonia	**150** (6)	**82** (29)	**108** (27)	**114** (7)	**94** (13)	**131** (133)	**99** (24)	**134** (6)	**100** (9)	**131** (18)	**150** (27)	**158** (33)	**162** (7)
Unilateral Knee Replacement	**0** (0)	**0** (0)	**236** (59)	**0** (0)	**0** (0)	**136** (138)	**0** (0)	**0** (0)	**787** (71)	**349** (48)	**0** (0)	**0** (0)	**0** (0)
Lower Urinary Tract Infection	**125** (5)	**34** (12)	**140** (35)	**179** (11)	**116** (16)	**113** (115)	**66** (16)	**112** (5)	**155** (14)	**109** (15)	**45** (8)	**182** (38)	**116** (5)
Unilateral Hip Replacement	**0** (0)	**0** (0)	**136** (34)	**0** (0)	**0** (0)	**116** (118)	**0** (0)	**0** (0)	**322** (29)	**153** (21)	**0** (0)	**0** (0)	**0** (0)

Rate Per 100,000 (Cases)

Data Notes: Excludes CMG+ groupings related to uncomplicated vaginal births, or caesarian sections.

Data Source: Health*Ideas*, Hospital Workload by Governance Authority Summary Reports. CMG+, BC Residents and BC Hosptials Only, Acute Care and Rehabilitation.

Standardized Mortality Ratio

The standardized mortality ratio (SMR) shows whether a specific population are more or less likely to die compared to a standard population, such as the province. Standardizing the rates accounts for differences between in age and sex between the population groups that are being compared. Figure 24 displays the five-year SMR by Health Authority with NH HSDAs. Northern Health and all the NH HSDAs are above expected number of deaths. When examining the SMR time trend, Northern Health's SMR has been increasing since 2014 (Figure 25).

Figure 24. Standardized Mortality Ratio for 2019 by Health Authority, NH Health Service Delivery Area

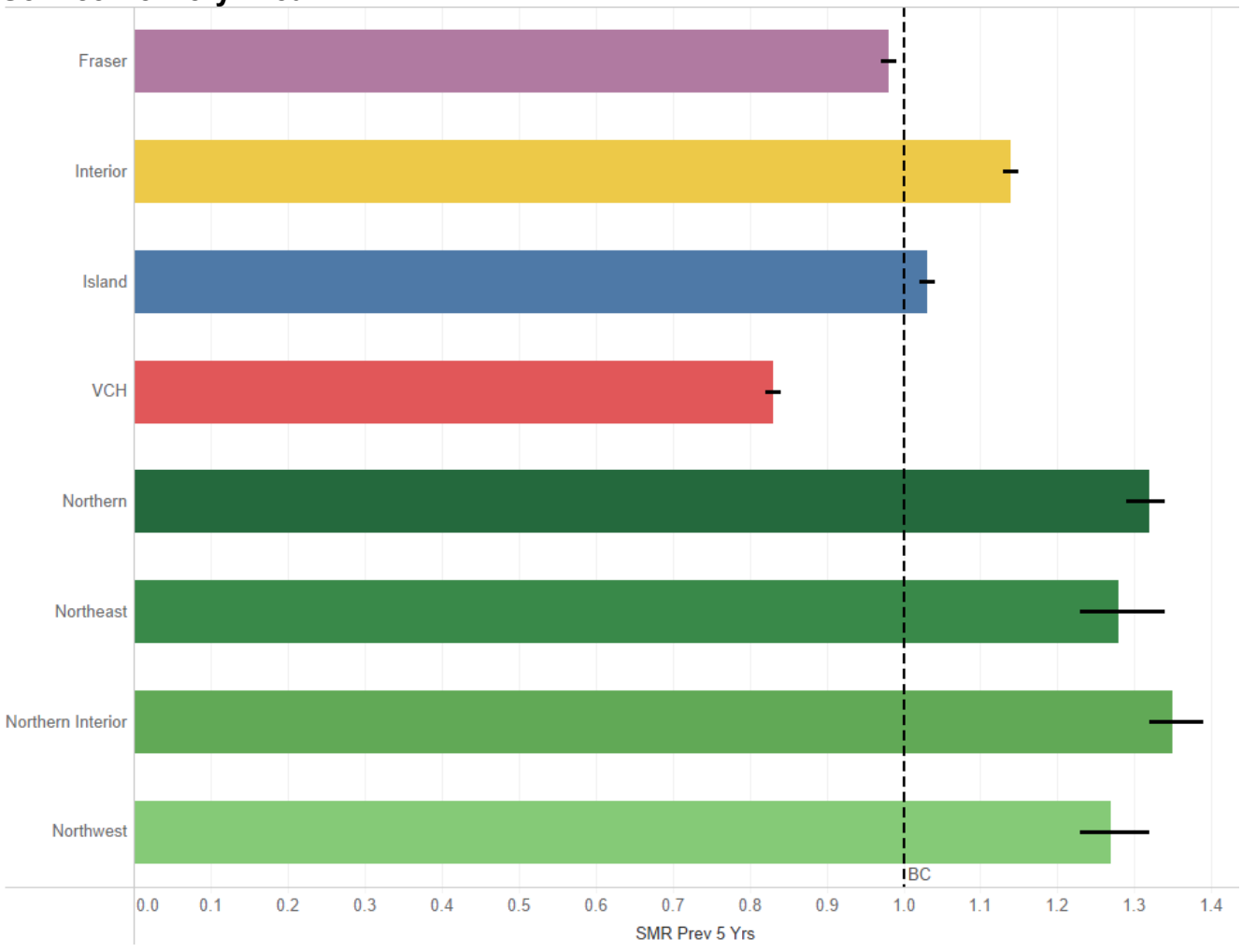
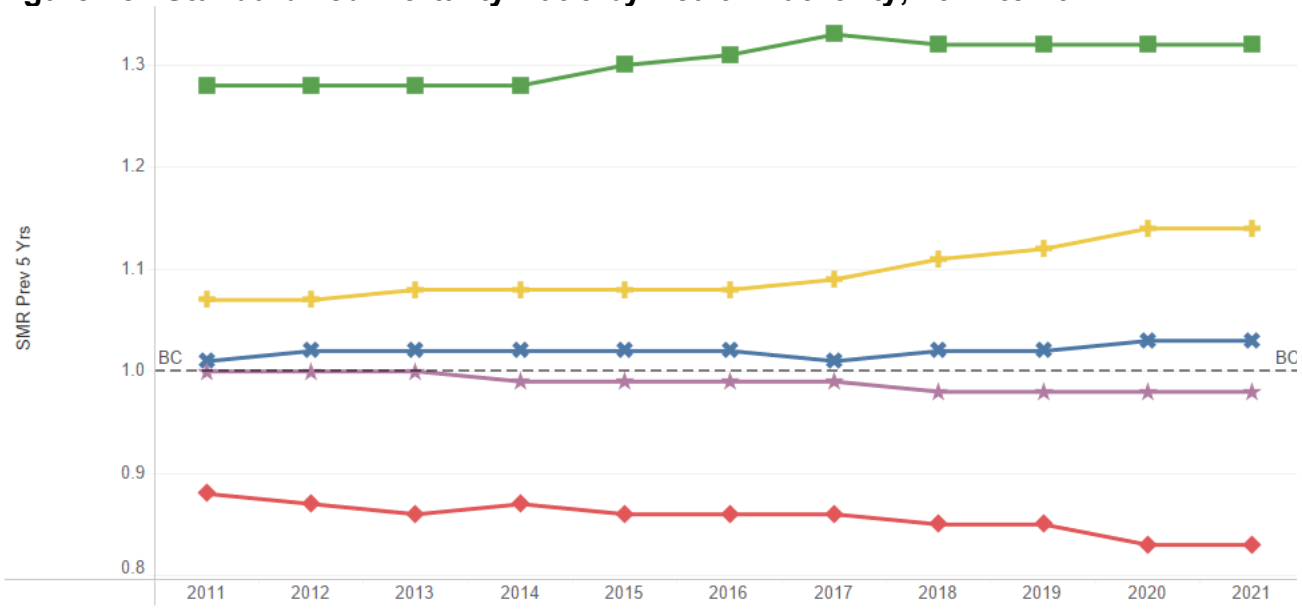


Figure 25. Standardized Mortality Ratio by Health Authority, 2011 to 2021



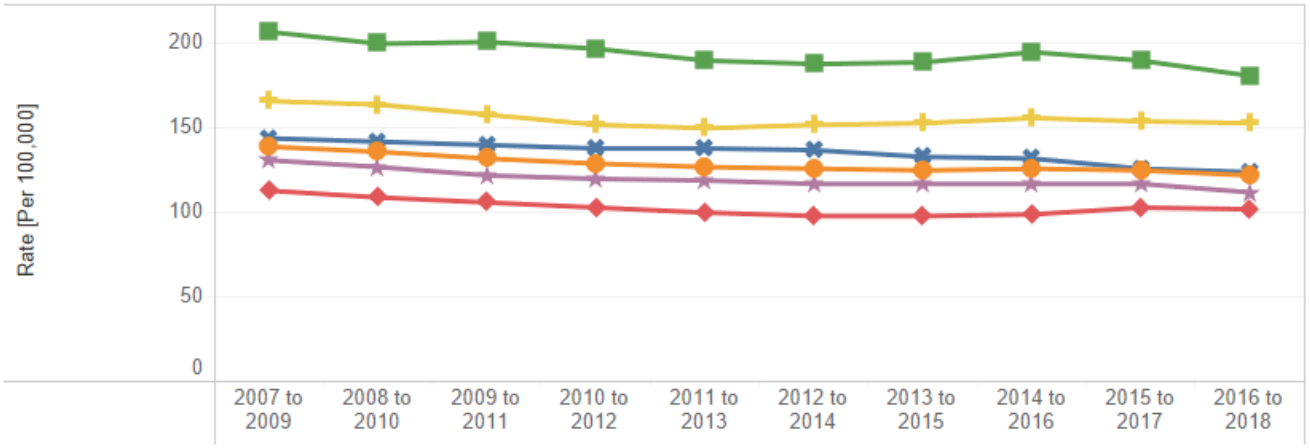
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Northern	1.28	1.28	1.28	1.28	1.30	1.31	1.33	1.32	1.32	1.32	1.32
Fraser	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.98	0.98	0.98	0.98
Interior	1.07	1.07	1.08	1.08	1.08	1.08	1.09	1.11	1.12	1.14	1.14
Island	1.01	1.02	1.02	1.02	1.02	1.02	1.01	1.02	1.02	1.03	1.03
VCH	0.88	0.87	0.86	0.87	0.86	0.86	0.86	0.85	0.85	0.83	0.83

Data source: Vital Events, Microstrategy, SMR Datacube
Extracted: Sept 29, 2022

Mortality Due to Preventable Causes

Examining indicators of avoidable mortality provides a starting point to assess the effectiveness of the population and public health and health care system at reducing premature death from diseases and injuries that are considered preventable or treatable. Preventable mortality is death that can be mainly avoided through effective population and public health and/or primary care prevention interventions, such as health promotion and disease prevention policies.[xix] Figure 26 indicates that NH has the highest rate of mortality from preventable causes in BC, although the rate has been decreasing since 2007-09; however, this decrease is not significantly different from previous years. This decrease may be due to improvement in vaccinations, lifestyle choices, or injury prevention; however, more work needs to be done to bring NH's rate down to match the provincial rate.

Figure 26. Age-Standardized Rate of Avoidable Deaths from Preventable Causes (per 100,000) in British Columbia, by HA



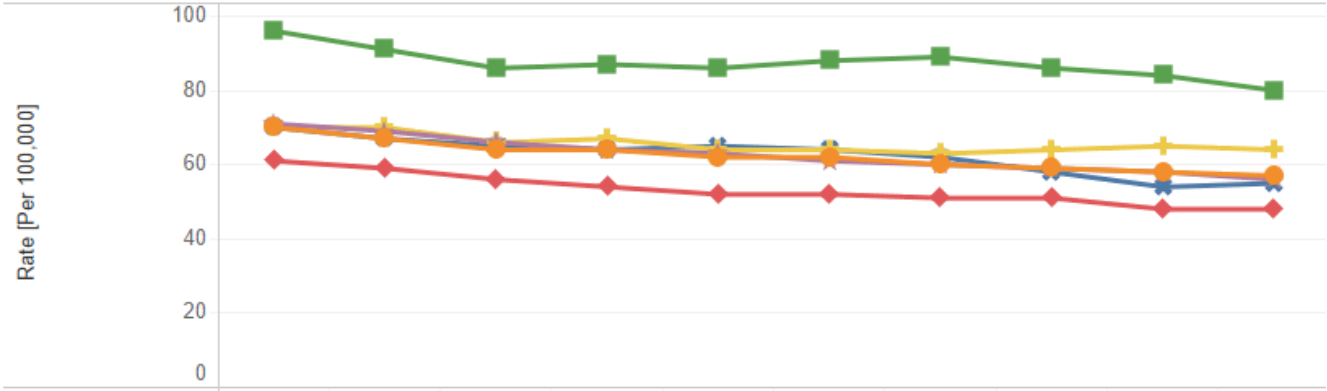
	2007 to 2009	2008 to 2010	2009 to 2011	2010 to 2012	2011 to 2013	2012 to 2014	2013 to 2015	2014 to 2016	2015 to 2017	2016 to 2018
BC	139	136	132	129	127	126	125	126	125	122
Northern	207	200	201	197	190	188	189	195	190	181
Fraser	131	127	122	120	119	117	117	117	117	112
Interior	166	164	158	152	150	152	153	156	154	153
Island	144	142	140	138	138	137	133	132	126	124
VCH	113	109	106	103	100	98	98	99	103	102

Data source: CIHI - Your Health System, https://yourhealthsystem.cihi.ca/ , July 11, 2022

Mortality Due to Treatable Causes

Mortality due to treatable causes are deaths that could have been mainly avoided through timely and effective health care interventions, such as early detection through effective screening and treatment of disease. Figure 27 indicates that NH has the highest rate of mortality from treatable causes in BC, although the rate has been decreasing since 2007-09. This decrease, although not significantly different from previous years, may be due to improvement in screening programs or treatment options; however, more work needs to be done to bring NH's rate down to match the provincial rate.

Figure 27. Age-Standardized Rate of Avoidable Deaths from Treatable Causes (per 100,000) in British Columbia, by HA



	2007 to 2009	2008 to 2010	2009 to 2011	2010 to 2012	2011 to 2013	2012 to 2014	2013 to 2015	2014 to 2016	2015 to 2017	2016 to 2018
BC	70	67	64	64	62	62	60	59	58	57
Northern	96	91	86	87	86	88	89	86	84	80
Fraser	71	69	66	64	63	61	60	59	58	56
Interior	70	70	66	67	64	64	63	64	65	64
Island	70	67	65	64	65	64	62	58	54	55
VCH	61	59	56	54	52	52	51	51	48	48

Data source: CIHI - Your Health System, https://yourhealthsystem.cihi.ca/ , July 11, 2022

Leading Cause of Death

The top two leading causes of death for NH in 2021 were malignant cancer, and heart disease (Figure 28), which are the same as the leading causes of death for BC (Figure 29). The leading causes of death that resulted in the greatest potential years of life lost for NH in 2021, were malignant cancer and illicit drug toxicity. When examining the leading causes of death by age group (Figure 30) deaths from illicit drug toxicity is in the top three causes for the youngest age groups, <19 to 59 years, which is similar to the leading causes of death for BC. What is unique to NH is that deaths from suicide is in the top three for the 19 to 39 years age group. Northern Health has a higher percentage of potential years of life lost due to accidents compared to BC.

Figure 28. Top 15 Causes of Death for Northern Health in 2021

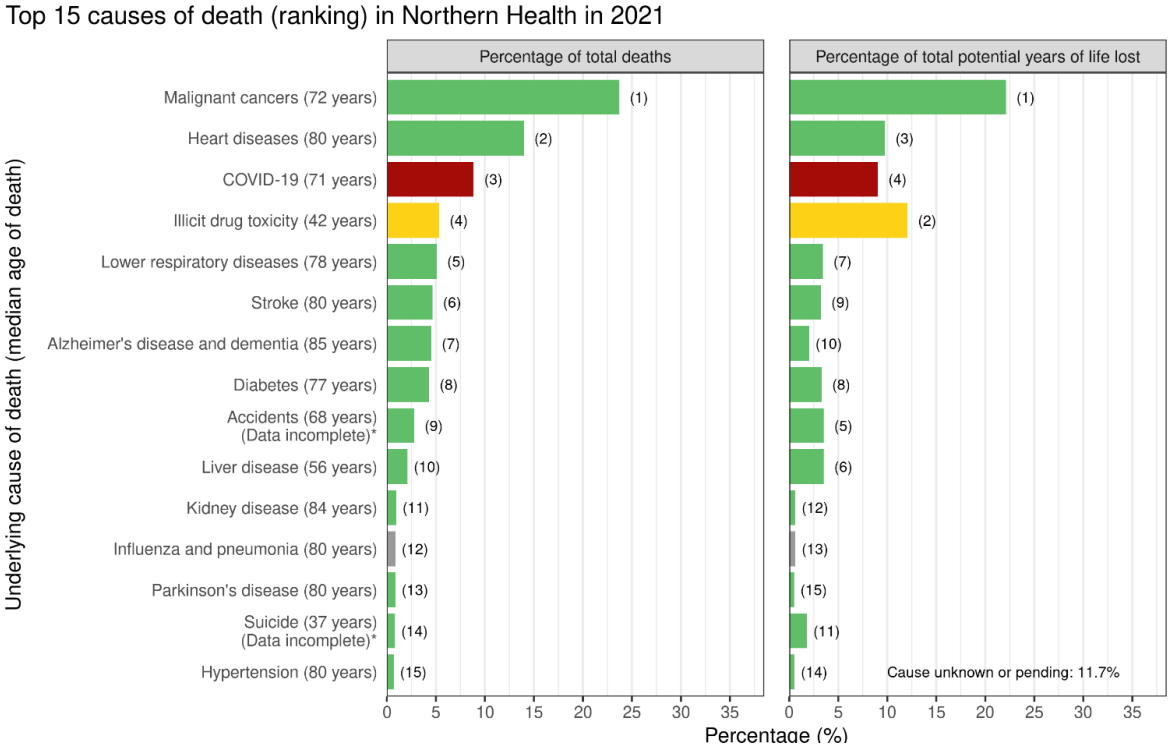
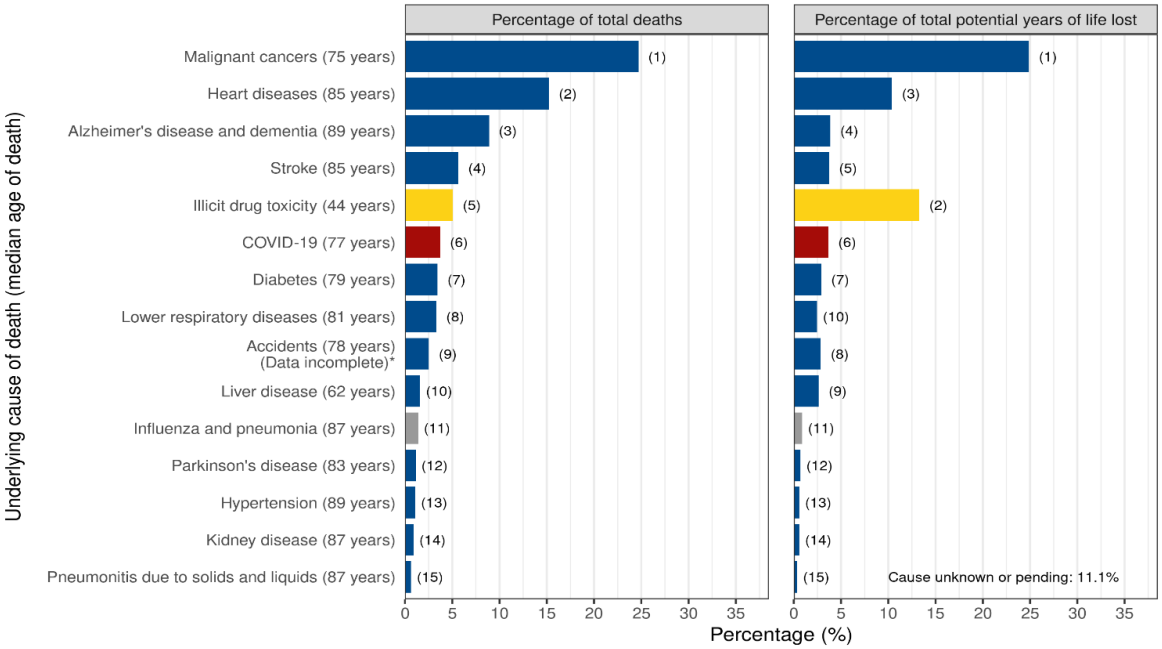


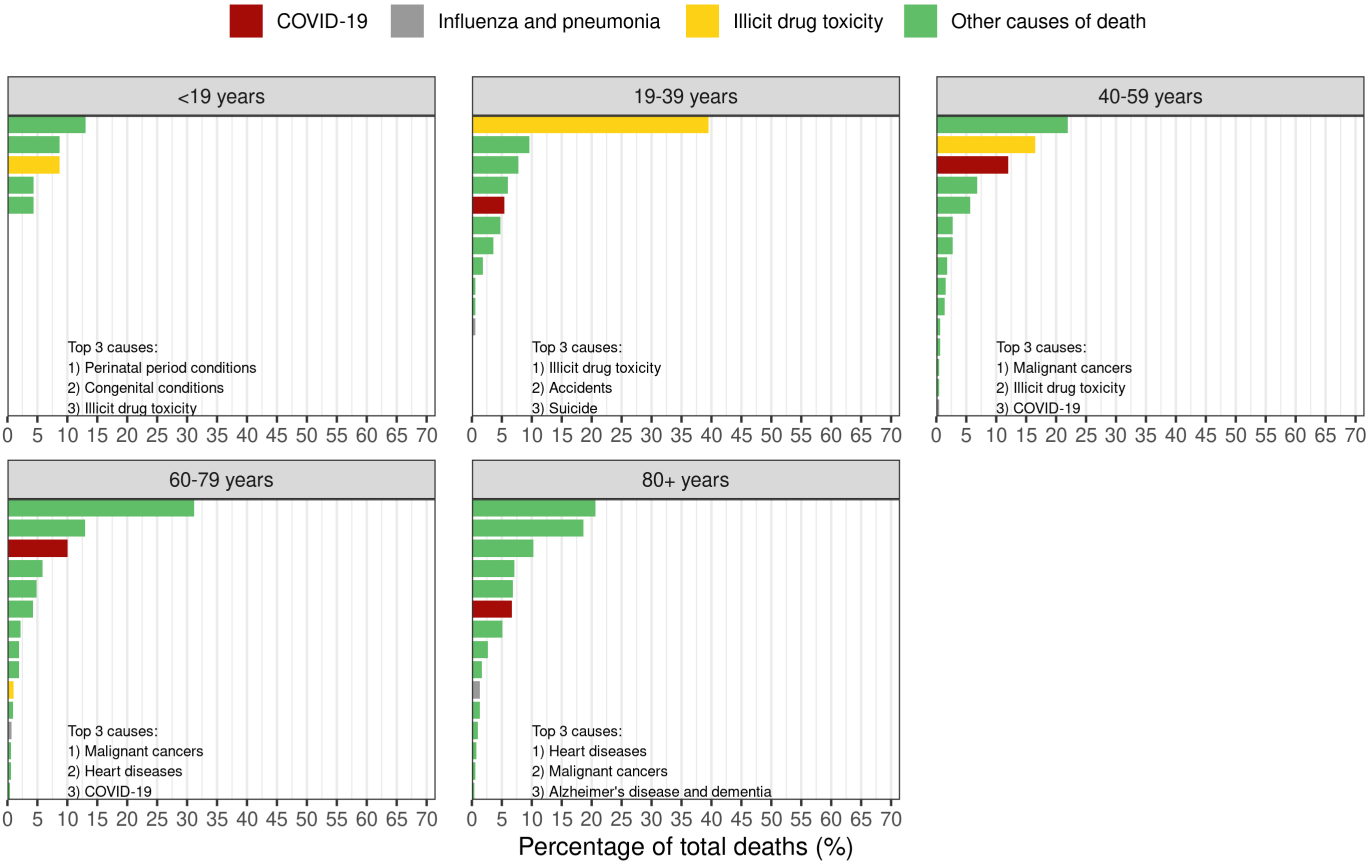
Figure 29. Top 15 Causes of Death for BC in 2021

Top 15 causes of death (ranking) in BC in 2021



*External causes of death (other than illicit drug toxicity) incomplete due to reporting delay and may rise in ranking as cause of death data become complete.
Data sources: 1) BC Vital Statistics; 2) Data on illicit drug toxicity deaths provided to BCCDC by BC Coroners Service; 3) Statistics Canada Table 13-10-0114-01 Life expectancy and other elements of the life table, Canada, reference period 2017-2019.

Figure 30. Top 15 Causes of Death by Age Group for Northern Health in 2021



Cause unknown or pending: 11.7%. This figure may change as cause of death data become more complete.
Data sources: 1) BC Vital Statistics; 2) Data on illicit drug toxicity deaths provided to BCCDC by BC Coroners Service.

Summary

The above report has shown some high-level indicators of population and public health status for NH residents. Northern Health ranks poorly for many of these indicators, with NH residents having lower perceived health, mental health, and higher rates of morbidity and mortality compared to the rest of BC. Although, NH has a stronger sense of community belonging compared to the rest of BC, and a high level of life satisfaction, this suggests that there may be a high level of community resiliency that may be valuable to move population and public health priorities to try and improve the health of the population.

When examining what is driving the negative outcomes in NH: cancer, heart disease, substance use, and COVID-19 were the primary drivers of both hospitalizations and deaths in 2021. However, the leading causes of death were different for the younger age groups compared to the general population, with younger age groups mortality resulting from illicit drug toxicity, accidents, and suicide. To improve health outcomes for NH residents, a focus on prevention, screening, and treatment of heart diseases, and cancer is needed. Northern Health would also benefit from heightened focus on mental wellness and prevention of substance use harms. With the illicit drug toxicity crisis in BC, there has been an increased interest in harm reduction services, however, little attention has been given to the prevention of substance use and promotion of mental wellness.

There is also a need to highlight the need to improve access to health services. Northern Health residents have historically had limited access to health services, due to the rural and remote nature of NH geography. With the COVID-19 pandemic, residents in NH have indicated that there has been a decrease in their ability to access health services. With limited access to health care services, it will be difficult to improve the health of the NH population because delay of care increases mortality and disability from treatable illnesses.[xxxxi] We acknowledge that there has been an increase in vacancies across all jurisdictions in health care and this issue is not unique to NH.

Prior to the pandemic, NH's health status was worse than the rest of BC, including mortality, access to health care and other health indicators. The COVID-19 pandemic and toxic drug crisis has contributed significantly to an increase in deaths, and a decrease in mental health

and community resilience. NH’s next steps in the recovery from the pandemic will be important for the health of its population and community.

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