



CHIEF MEDICAL HEALTH OFFICER'S
HEALTH STATUS REPORT ON

CHILD HEALTH



northern health
the northern way of caring



CONTENTS

| | |
|---------------------------------------------------------------------------------------|----|
| Message from the Chief Medical Health Officer | 4 |
| Executive Summary | 7 |
| Acknowledgments | 10 |
| Introduction | 12 |
| Defining Child Health | 15 |
| The Importance of Child Health in the North | 16 |
| The Dimensions of Child Health | 20 |
| The Ecology of Child Health | 25 |
| The Biology of Child Health | 31 |
| Health and Development | 32 |
| Summary and Recommendations | 36 |
| Northern Health Child Health Index | 38 |
| Appendix A – Child Health Indicator Framework | 40 |
| Appendix B – Community Conversations - Considerations for Children’s Health | 42 |

MESSAGE FROM THE CHIEF MEDICAL HEALTH OFFICER

As a public health physician, parent and resident of Northern BC, I am passionate about improving the health of children and families living in Northern BC communities. Life as a Northerner is a unique experience that comes with both challenges and opportunities for children and families. Northerners are resilient and resourceful, with an amazing capacity to thrive in remote, and sometimes harsh, settings.

Important to us all, is the richness and beauty of the Aboriginal people's cultural heritage and teachings which contribute greatly to the vibrancy of the North. Aboriginal history is valued in all aspects of Northern Health's work, whether providing health services, planning for the health system or reporting on health status. We have learned a great deal from First Nations partners around holistic health and the importance of having a wellness perspective on health.

Northerners are faced with many opportunities and challenges to maintain lifelong wellness. Transportation is a challenge with commercial centres being separated by great distances, which can impact access to a variety of amenities, including grocery stores, recreational facilities, and health services to name a few. Severe weather, remoteness and isolation are also factors. Persistent uncertainty

in many of the resource sectors spurs cyclic concern and speculation on local economies. Small northern communities have limited capacity to manage the fluctuations in undiversified economies, transient populations and the resultant pressures on services. Moreover, when industry moves away, family members often follow the work. While the true impact to families and children is not well known, many in the North have stories about family members working away from home.

Amidst all these factors, people in the North, including children, tend to be less healthy than others in the province. These unique circumstances and realities of the north contribute to health and wellness of children and families, but to what extent? We want all children in Northern BC to grow up to be healthy adults. So what do we need to know, and what do we need to do to realize this ambition?

We know that most of what influences health and wellness of children and families is outside of the conventional healthcare system. Lifelong health and wellness are strongly influenced by the contexts of people's lives: their families and communities, the resources available to them, a sense of connectedness with their peers, their family, and their community. The health services provided by

Northern Health cannot improve health for children and families in isolation. Support from communities, as well as local and provincial organizations, is needed to address the social determinants of health and improve health for children and families.

The goals of this report are to:

- Provide an overview of the current state of knowledge on healthy child development in Northern British Columbia,
- Make recommendations on how to improve the health of Northern BC children,
- Foster conversations and stimulate further ideas around how to improve the health of children, and
- Strengthen partnerships with key stakeholders playing a role in the health and well-being of Northern BC children and families.

This report is for the communities and families of Northern BC: parents and grandparents, caregivers and children, community leaders, decision-makers, advocates, researchers and partners. Together, we are responsible for supporting people to aspire to optimal health and well-being, to care for those who cannot care for themselves, and to provide the very best future for children. This starts with families and communities taking action to enrich health and well-being, family by family and community by community.

Investing in healthy children is investing in the future. This report is just the beginning. Over the coming year we will seek to hear from our partners about their perspectives on healthy children and healthy families in healthy communities.

Thank you for reading this report and joining me in taking action to improve the health of children in Northern BC.

DR. SANDRA ALLISON

MD MPH CCFP FRCPC DABPM
Northern Health
Chief Medical Health Officer





EXECUTIVE SUMMARY

Essential to lifelong wellness for every person in Northern BC is a healthy pregnancy and a healthy childhood. Everyone deserves a good start. This report attempts to explain some of the factors that may serve to compromise or protect children's health in the North. However, it is important to point out that there are limitations to data in rural and remote settings. Statistics for small populations can be hard to access and challenging to analyze and interpret.

Many things combine to affect both individual health and the health of our communities including income, education, biology, access to health services, the physical environment, as well as social support systems and connections to culture. People living in Northern BC share challenges and experiences with other Canadians living in remote and rural settings. Social, educational, and employment opportunities can be limited. These stresses can be complicated by other risk factors, like challenges in the family home, relationships, or finances, and can have an impact on a person's health. We know that having a good start in life sets up the trajectory for a healthier life. However, we also know that it is these and other determinants of health and the context of people's lives that

determines the health of individuals. Given people have little control over many of these factors, it is inappropriate to "blame" individuals for having poor health. Rather, a holistic approach involving all sectors of society must be taken. Together, we must look for solutions to address health inequities by identifying and implementing opportunities that will result in measurable, long term, and positive impacts on children living in northern communities.

This report gives an overview of the information we have about the vital beginning of a child's life, from pregnancy to age five. It seeks to identify and explain influences on the health of pregnant women and their children and offers recommendations for how we can work together to improve the health of children in Northern BC. The greatest strength of this report is in the opportunity it brings to have conversations in communities about what matters to every family and every community in order for their children to be healthy. Partnerships and collaborations in rural and remote communities have proven to be the solution to challenges in the past, and can be in the future.

EXECUTIVE SUMMARY

In preparation of this report, only provincial data sources were accessed due to the time and expense related to accessing other data sources external to the province of British Columbia. This limitation results in a picture that compares the population of Northern BC with other provincial groupings. However, it is not always informative to compare the health of people in the north with people living in large urban centres like Vancouver. There are certain inequities in the experiences of those living in remote and rural communities compared to their urban counterparts. When we compare the health outcomes found in Northern BC with other rural populations across Canada, who face similar challenges, we actually fare quite well. Our provincial data can provide us with a snapshot of our health status, but it doesn't tell the whole story of children, families and communities in the North. The strength and resilience of people living in these communities is also very important, although very hard to measure. To understand why rural children in BC are less healthy than urban children, we need to understand how "place" affects health. "Place" is a complex concept. It represents a geographic location and the unique features of its physical environment, but also includes the qualities (such as age, sex, and income) of the people living there as well as social, economic, cultural and behavioural elements of a community and its residents. (Public Health Agency of Canada, 2006). Healthy children are raised in healthy families and communities. Consider the elements of your community that contribute to making children more or less healthy.

How healthy are most pregnancies in the North?

Pregnancies in Northern BC, when compared to the rest of the province, are not as healthy as they could be.

- Northern BC has higher rates of teen pregnancies
- Women in Northern BC have the higher rates of alcohol and tobacco consumption during pregnancy
- Mental health concerns, such as depression and anxiety, are also prevalent in Northern BC women during pregnancy
- Rates of overweight and obese mothers are higher in Northern BC, which can lead to high birth weights of newborns

All of these conditions and exposures can lead to complications later in a child's life.

How healthy are children in the North?

When we compare the health of children in Northern BC to the rest of the province, the picture is concerning.

- Across most of Northern BC, one in five children in the North live in low income families.
- Women in Northern BC have the lowest rates of exclusive breastfeeding of their babies up to six months of age.
- Northern BC has higher rates of infant mortality (deaths occurring in the first year of life).
- About a third of our children are not emotionally or physically ready for the transition to enter school.
- Children in Northern BC have higher rates of poor oral health when compared to the rest of the province, including the highest rate of dental surgeries.

- The rates of injury related hospitalization of children are among the highest in the province.
- Rates of child abuse, neglect, and children in need of protection are also among the highest in the province.

Key recommendations for how we can work together to improve the health of children.

Communities and families can seek to strengthen the factors that promote child health and reduce or prevent the risk factors. Children's health happens in families and communities, in the settings in which children live, learn and play.

- 1) Within Northern Health, develop a program focused on children, youth and families within Northern BC.
- 2) Encourage, promote and highlight collaboration in communities.
- 3) Strive to achieve high levels of collaboration across sectors.
- 4) Strengthen the partnership between Northern Health and the First Nations Health Authority.
- 5) Support communities and families to provide the foundations for early childhood development.
- 6) Commit to ongoing monitoring of child health data and indicators.

“For me, it was a privilege to grow up in the north. There are so many different, affordable opportunities, good schools, good communities, cultural events, outdoor activities, and exposure to First Nations cultures and communities.”

ACKNOWLEDGMENTS

A sincere thank you to all those below who contributed to the collaborative effort that was this report. This following list is in no particular order, but this report would not have been possible without everyone's combined effort. Also, we thank those who told us their stories about child health in the north. Your voices are shared throughout the report. We look forward to hearing more stories from families in the North.

NORTHERN HEALTH – PUBLIC HEALTH

Lise Luppens
 Vitoria Carter
 Kirsten Thomson
 Dale Chen
 Vanessa Salmons
 Kari Harder
 Ardelle Bernardo
 Tanya Schilling
 Shirley Gray
 Brenda Matsen
 Christine Glennie-Visser
 Jenny Plouffe
 Jamie Hill
 Crystal Martin
 Melanie Martin
 Jill Walker
 Sarah Brown
 Nancy Viney
 Trenna Johnson
 Sandra Faulkner
 Dr. Raina Fumerton
 Carolyn Bouchard
 Debbie Banzer

Fiann Crane
 Denise Foucher
 Jennifer Tkachuk
 Lianne Matsuo
 Nicola Godfrey
 Sandra Sasaki
 Sabrina Dosanjh-Gantner
 Alan Torng
 Kelsey Yarmish
 Chelan Zirul
 Dr. William Osei
 Dr. Charl Badenhorst
 Theresa Healy

NORTHERN HEALTH

NH Board and Executive
 Cathy Ulrich
 Jennifer Begg
 Jane Ritchey
 Vince Terstappen
 Hilary McGregor
 David Loewen
 Jessie King
 James Haggerstone
 Bonnie Urquhart
 Steve Raper

EXTERNAL

Dr. Cindy Hardy
 Rebecca Collins
 Janna Olynick
 Kathryn Berry
 Kayla Serrato
 Dr. Gerry Kasten
 Mary Lou Walker
 Jennifer Scarr
 Dr. Monika Naus
 Diane Bremner
 Michelle Urbina-Beggs
 Sally McBride
 Margaret Coyle
 Lauren Irving
 Janet Walker
 Kate Thomas-Peter
 Beverly Barr
 Cindy Gabriel
 Kim Chartrand
 Shirley Reimer
 Lori Smart
 Nancy Poole
 Nicole Cross
 Adam King



INTRODUCTION

This report is provided to improve our understanding of the factors that make a difference to child health in Northern BC. We also want to engage communities and guide policy makers to make decisions that positively influence children’s health. It is expected that, through identifying areas for improvement in child health and in supporting families in northern communities, new resolve and actions will be sparked to undertake improvements. The hope is this report will set in motion further discussions about the characteristics of Northern communities in British Columbia that support children and families to be as healthy as they can be.

“In my experience living in northern B.C., there’s a much greater sense of community and kids often have access to community beyond their parents. They have a ‘family’ that isn’t their direct family. This is a huge asset for our kids.”





DEFINING CHILD HEALTH

For the purposes of this report, we define child health as a state of physical, mental, intellectual, social, and emotional well-being, and not merely the absence of disease or infirmity, focusing on both the immediate and future lives of children. Healthy children live in families, environments, and communities that provide them with the opportunity to reach their fullest developmental potential, satisfy their needs and successfully interact with their biological, social, cultural, and physical environments.

“The four seasons we have in northern B.C. provide us with opportunities that would not be possible elsewhere.”

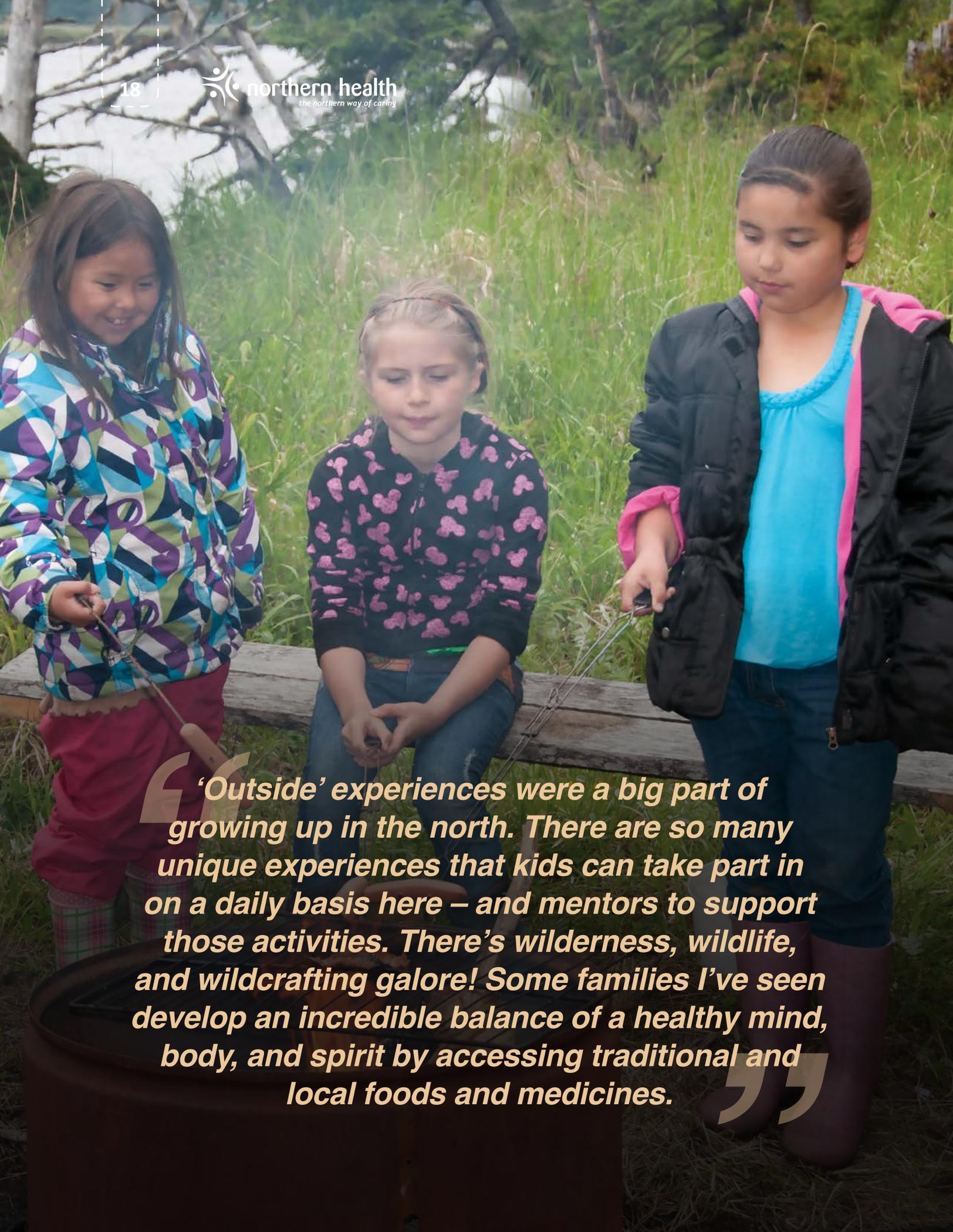
THE IMPORTANCE OF CHILD HEALTH IN THE NORTH

In northern communities, a focus on early childhood, healthy brain development, and school readiness will pay off in good health for a lifetime. People's health is greatly influenced by the region in which they live, both positively and negatively. Living in the North presents both amazing opportunities and complex challenges for children and families. Northerners feel strong connections to "place" – the land, the environment, and the history, this is especially important to Aboriginal people. There are unique factors affecting child health in Northern BC, more so than in other parts of the province. Air and water quality varies considerably in the region due in part to infrastructure and in part to heavy industry in the region. The harsh and remote climate results in less outdoor activity combined with a higher and

rising cost of healthy food. In northern communities, there are higher rates of smoking, alcohol use and stress during pregnancy, as well as poor access to healthcare and other supports to address these issues. Factors such as racism, poverty, poor housing, and the impacts of residential schools are all important and complex issues in the north. All of these features affect the health of children and families and are very important to the people who live in Northern BC. Healthy children are everyone's priority. If we can work to improve the conditions that protect children in the vital first five years of their life and reduce the risks that bring them harm, we will be making a good investment.

“In the north, we see the impacts of the social determinants of health firsthand. We have more families and women who are suffering the ill effects of residential schools, unstable housing, and the rising cost of food. This impacts the health of our kids.”



A photograph of three children in a grassy field. On the left, a young girl with long brown hair is smiling and looking down at a wooden stick she is holding. In the center, a girl with blonde hair is sitting on a wooden log, looking down at her hands. On the right, a girl with dark hair is standing and looking down at a metal wire she is holding. They are all wearing jackets and appear to be engaged in an outdoor activity. The background is a lush green field with some trees in the distance.

“Outside’ experiences were a big part of growing up in the north. There are so many unique experiences that kids can take part in on a daily basis here – and mentors to support those activities. There’s wilderness, wildlife, and wildcrafting galore! Some families I’ve seen develop an incredible balance of a healthy mind, body, and spirit by accessing traditional and local foods and medicines.”

About Northern Health

Northern Health's region covers almost two-thirds of the province's land area, close to the size of France, yet the total population is less than 300,000, or about 7% of the province's total population. Northern BC is home to about 80 First Nations and Aboriginal communities. Of all of the regional health authorities in BC, Northern Health has the highest proportion of Aboriginal people, approximately 18% of the total population. Roughly 60% of the Aboriginal population in Northern BC live off-reserve in cities.

Living in the North presents both amazing opportunities and complex challenges. Northerners feel strong connections to "place" – the land, the environment, the history. With a sparse and remote population, access to jobs, training, education, and transportation, as well as cellular and digital internet services present considerable challenges. This is especially challenging for youth. Northern BC, ironically, has generated much of the province's wealth, and yet has the most vulnerable and least diversified economies in BC. Understanding rurality is a growing interest, for good reasons.

It appears that, even in strong rural Canadian communities, people's health is greatly influenced by the region in which they live. When looking at child health in particular, we know that there are some unique negative factors affecting children in Northern BC that don't play a role in other parts of the province. The effects of trauma within families and communities are greater.



Key influences that have an impact on child health include:

- A healthy pregnancy
- Income and education level of the parents
- Parenting style and the amount and type of stimulation a child gets in the first five years of life.
- The social and environmental characteristics of the community, i.e. is it safe, is it tight-knit.
- The access to services like good childcare and activities.
- Gender, race, and ethnicity.
- The physical and developmental features of the child.

THE DIMENSIONS OF CHILD HEALTH

Children's health is influenced by multiple factors. The framework used in this report includes three distinct but overlapping dimensions to describe and measure the major contributors to a child's long term health. Namely these are the Ecological, Biological, and Health and Developmental dimensions. (See Diagram - The Basic Science of Pediatrics)

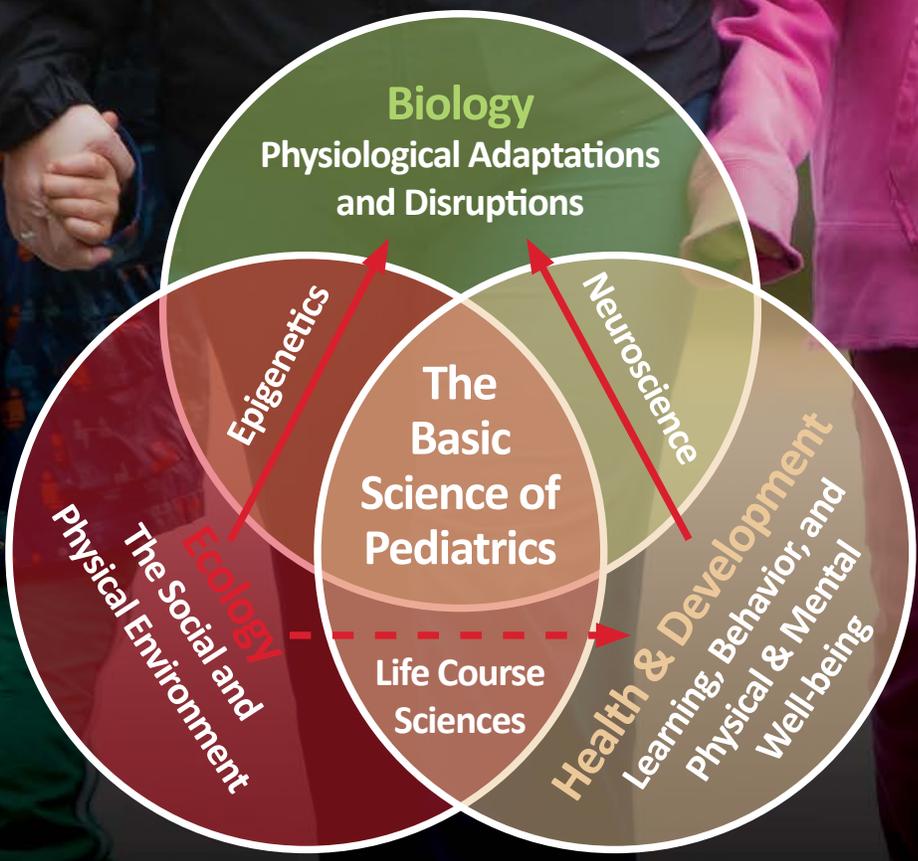
The Ecological Dimension characterizes the settings in which children grow up (i.e. a their social and physical environment). Experiences and exposures in the social and physical environments found in the home and community are strong influences in a healthy childhood. Healthy families, as a basic social unit, are important. Ideally, the community in which they live, work, learn and play is supportive and nurturing.

The Biological Dimension describes the individual child's biological constitution and explores how developing brains are significantly affected at a physiological level by their early experiences. Biology contributes to the adaptations and disruptions that individuals develop in response to experiences and the environment. Early experiences "get under the skin".

Significant adversity can impact health through direct and indirect pathways. These changes can persist through to adulthood and impact both physical and mental health.

The Health and Developmental Dimension includes how and what a child learns, their behaviours, and their overall physical and mental health. A review of health and development reflects the cumulative learning, behavioural, physical and mental well-being of individuals.

Each of these dimensions will be explored in greater detail in the subsequent sections of this report. There is much value in exploring each of these dimensions separately, as we do in this report. However, it is also important to understand that there is much overlap between these intersecting concepts and that all three dimensions influence one another.



Adapted from <http://pediatrics.aappublications.org/content/129/1/e232.figures-only>

THE DIMENSIONS OF CHILD HEALTH

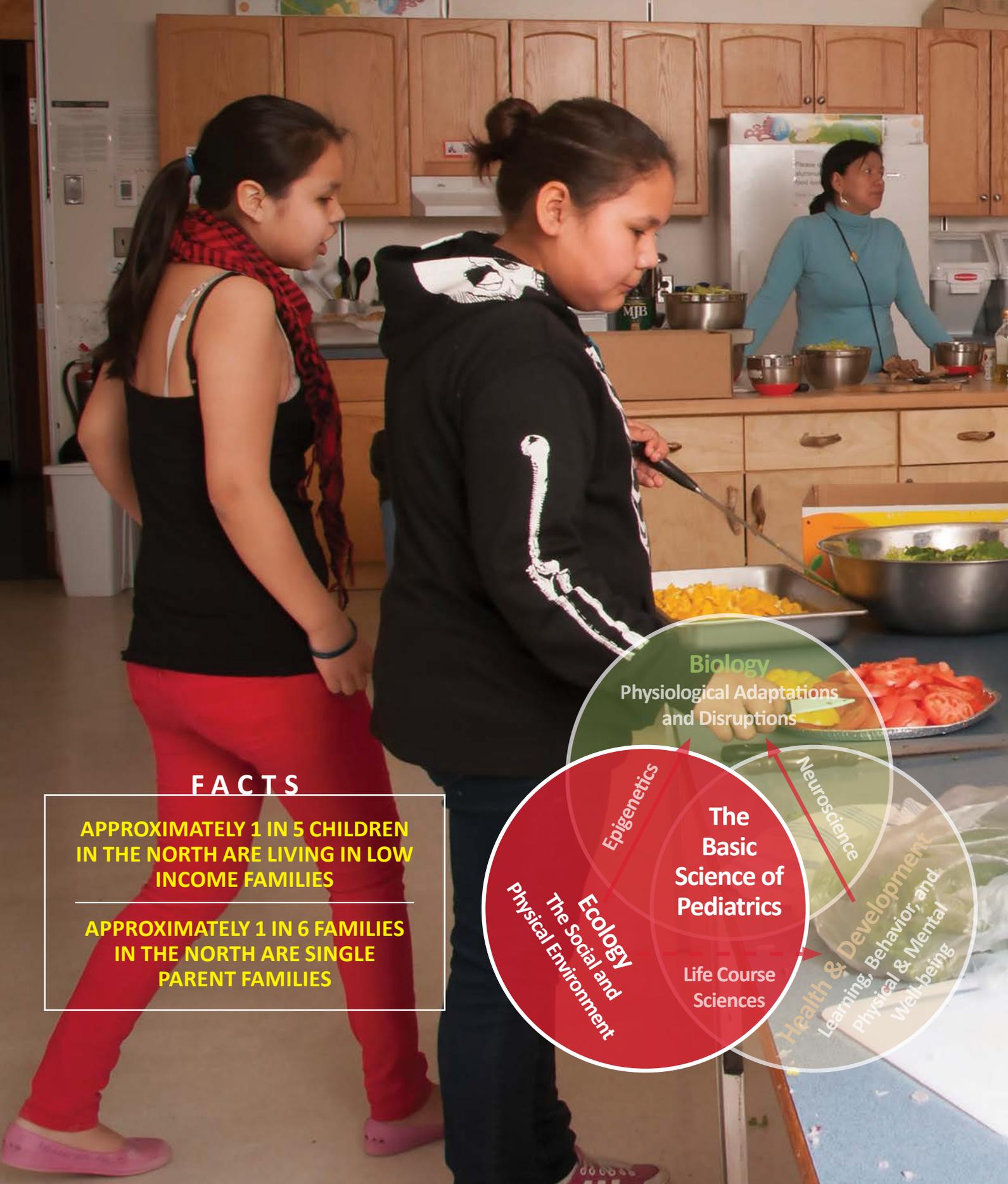
Community connectedness, belonging, and safety are characteristics of healthy communities. If we collectively address homelessness, lack of opportunity, transportation, and other realities of living in rural communities with limited social supports and services, we'll have an engaged and healthy community as well as healthier children. The legacy of residential schools continues today in the form of health disparities experienced firsthand by First Nations and Aboriginal people. The release of the Truth and Reconciliation report on December 15th, 2015 highlights important next steps toward efforts of reconciliation that will improve relationships in communities and benefit everyone. Education and awareness, encouragement and advocacy, partnerships, shared values, and goals are

all important factors in making gains. The important dimensions of child health are well beyond the scope of traditional healthcare. But the cost of ignoring the dimensions of child health is felt in all sectors including health, education, justice, and social services for generations.

Trying to "measure" what constitutes a healthy community is complex. However, some measures we can use to gauge the health of communities are to look at the level of engagement in preventive and proactive health screening services and the availability of safe, licensed childcare in the region. Other factors that should be considered include community connectedness, social capital, crime rates, poverty rates, and economic resiliency, to name a few.

“There’s a lot more independence for kids in northern B.C. I don’t get scared of my daughter playing by herself in the backyard. If she wanders off in public, a friend or neighbour will bring her back to me. There is more freedom to let kids explore their world.”





FACTS

**APPROXIMATELY 1 IN 5 CHILDREN
IN THE NORTH ARE LIVING IN LOW
INCOME FAMILIES**

**APPROXIMATELY 1 IN 6 FAMILIES
IN THE NORTH ARE SINGLE
PARENT FAMILIES**



THE ECOLOGY OF CHILD HEALTH

“To be healthy, from an Aboriginal perspective, is about being physically, mentally, emotionally, and spiritually healthy. It’s about well-being from birth to death. From an individual, family, or community basis, if individuals in the community are healthy, then we have a healthy setting for early childhood.”

Ecology refers to social and physical environments. There are many contexts within a child’s experience that include their own individual environment, that of their family and peer network, their school, their society and culture, and their community. They all present different opportunities and challenges, factors that enhance, but can also undermine health and wellbeing. Healthy children are found in the context of healthy families and communities (See Appendix A). It is vital for communities to understand the importance of healthy physical and social environments for the health of the people who live in them.

Healthy Families

Income security and food security are essential to meeting basic needs in families. Across most of Northern BC, a large proportion of children live in low income families. This creates specific challenges in child health and well-being. Children raised in poverty are more likely to struggle physically, mentally, emotionally and socially, leading to a more difficult adulthood. Family functioning is an important and complex contributor to healthy children and healthy communities. The use of single parent families as an indicator is a measure of how vulnerable families can be in these situations. Whether the second parent isn’t present at all, or has to leave home for long stretches of time to find work, the impact on children is considerable, though not well understood at present. We do know that it’s vital for children to have a strong bond with a stable reliable adult in order to navigate daily challenges, whether that’s a parent, an elder or another strong adult figure. In the presence of loving and supportive relationships, children flourish. Culture, tradition, and intergenerational connections enrich experiences.

“Helping mom and dad in isolation of the child – or the child in isolation of the parents – doesn’t work.”

THE ECOLOGY OF CHILD HEALTH

Healthy Physical Environments

The natural environment in Northern BC is vast and impressive, and a source of natural resource economic development that supports the province's economy. With that come some environmental factors that may have a negative effect on the health of northern residents such as air and water quality. Vehicle emissions, wood burning and other emission sources such as heavy industry have a significant impact on the environment in Northern BC. Enjoyment of outdoor spaces, connectedness to the land, and environmental stewardship and sustainability are prominent characteristics of northern BC residents.

The built environments of rural communities also play a large role in determining health and wellbeing in northern communities. Communities could act by building public transportation systems and improving the physical infrastructure of roads, sidewalks, and bike paths to provide safer roadways, thereby encouraging more options for active transportation. Communities should also consider planning for accessible and affordable housing. These actions would greatly improve the quality of life in rural and remote communities.

“My favourite time during the Families in Motion program is seeing the diversity of the people who come to the program. At a recent event, we had people speaking three different languages in one room, all participating in the same activity together. In our transient, diverse town, it’s wonderful to see that we’re reaching dads, moms, grandmas, grandpas, aunts, and uncles of all races and backgrounds with different values and religions. They’re coming together to share in the importance of physical literacy for our children in order to give them the best chance at a healthy, happy childhood!”

FACTS

ON AVERAGE, NORTHERN BC'S INFANT MORTALITY RATE IS 20% HIGHER THAN THE PROVINCIAL AVERAGE

INFANT MORTALITY RATES FOR FIRST NATIONS POPULATIONS ARE SIGNIFICANTLY HIGHER THAN NON-FIRST NATIONS POPULATIONS

PEOPLE IN NORTHERN BC EXPERIENCE A PERSISTENTLY LOWER LIFE EXPECTANCY THAN OTHERS IN THE PROVINCE

Healthy Social Environments

Healthy social environments are found in families, groups, and communities where feelings of social connectedness are prominent. People feel valued and value others; they build relationships based on mutual respect. Health inequities for individuals and communities often arise when there is an unhealthy social environment. Imbalances in power relationships, discrimination, marginalization and the impacts of trauma in the family are prominent. Infant mortality rate, life expectancy, premature mortality rate, rates of tobacco use, physical activity, nutrition, and rates of mental health concerns are all measures that relate to equity.

Inequities carry a high price and have persisted over time. Communities that haven't addressed inequities may suffer consequences of ongoing conflict, mistrust and impact to health outcomes. Health equity matters to everyone.

Health Equity

The World Health Organization defines Health Equity as “the absence of unfair and avoidable or remediable differences in health interventions and outcomes among groups of people that are unfair”. This means that “all people can reach their full health potential and should not be disadvantaged from attaining it because of their race, ethnicity, religion, gender, age, social class, socioeconomic status or other socially determined circumstance.” Health equity also means that we must pay attention to the context of people's lives and how that context can impact, positively or negatively, their capacity to achieve optimum health. For example, in Canada, life expectancy rates vary greatly at the health region level from a low of 71 years to a high of 85 years. These rates can be explained by context. Health regions with lower life expectancy have higher levels of long term unemployment, rural and remote locations, larger populations of Aboriginal peoples and lower educational attainment rates. These differences can also be observed at neighbourhood levels, with some people living decades longer than others. Equity ensures that everyone has the means to achieve their potential.

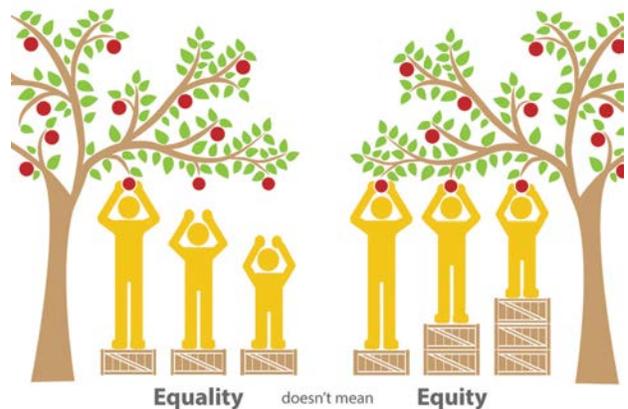


Image source: https://www.communityview.ca/infographic_SHR_health_equity.html

THE ECOLOGY OF CHILD HEALTH

Healthy Communities

For many people, community simply means a physical place with infrastructure, but a healthy community is so much more than that. BC Healthy Communities, an organization that supports community development across BC, provides the following definition of a healthy community: “Healthy lifestyles. A vibrant economy. Affordable housing. Protected parks & green space. Accessible community services. Thriving neighbourhoods. Clean air and water. A sustainable environment. Ethnic and cultural diversity. Healthy public policy. Engaged citizens. A healthy community is all of this, and more.”

In order to nurture healthy families in healthy communities we need:

- Training, education and employment opportunities.
- Safe and appropriate child care spaces.
- Income and social security for the family.
- Access to health and social services when required.
- Parenting support groups and other networking opportunities to build social support networks.
- Recreational and leisure opportunities that are adequate for the population that is served.
- Transportation infrastructure that allows citizens to move freely between communities without undue financial or physical compromise.

FACTS

A GROWING NUMBER OF PREGNANT WOMEN IN THE NORTH (ALMOST 50% OF BIRTHS) ARE CONNECTING WITH HEALTH CARE PROVIDERS EARLY IN THEIR PREGNANCY

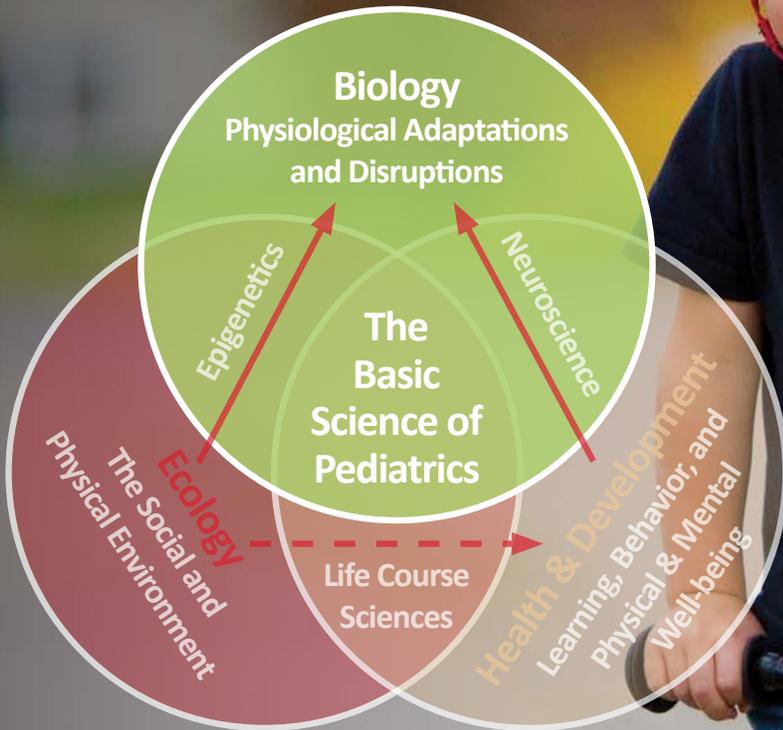
“Although many people say that the north is resource poor, there are actually many programs and opportunities here. Access and participation isn’t hindered by high fees and waiting lists.”



FACTS

NEWBORN HEARING SCREENING PROGRAMS ARE REACHING NEARLY 90% OF CHILDREN IN THE NORTH

ALMOST 7000 LICENSED CHILDCARE SPACES ARE SUPPORTED THROUGHOUT OVER 350 CHILDCARE FACILITIES



FACTS

1 IN 7 NORTHERN BC WOMEN SMOKE DURING PREGNANCY – DOUBLE THE PROVINCIAL RATE

5 IN 100 NORTHERN WOMEN REPORTED THEY CONSUMED ALCOHOL IN PREGNANCY – FIVE TIMES THE PROVINCIAL RATE

THE BIOLOGY OF CHILD HEALTH

We know that building a healthy brain early in life results in a more successful childhood, and consequently, a more successful healthy adulthood. Extreme stressors in the first five years of life have a tremendous impact and can lead to lifelong impairment both physically and mentally. As such, it is critical to invest in preventing early childhood extreme stress to avoid chronic stress-related diseases later in life.

Healthy Individuals - Biology

“A healthy lifestyle, body, mind, and spirit support a healthy pregnancy. And for this you need a continuity of care providers who can reinforce similar healthful values and practices.”

To assess the biological influences on child health and well-being, factors such as fetal exposure to tobacco smoke, alcohol, unhealthy maternal weights, as well as rates of breastfeeding and unhealthy birth weights should be considered. Healthy and nurturing pregnancies and childhoods are the foundations to lifelong health. Frequent exposures to adverse environments or experiences such as alcohol, tobacco, trauma, extreme stress, and poor environmental conditions matter significantly to lifelong wellbeing. Exposure to these stressors during pregnancy and early childhood can have a significant impact on families and communities, both socially and economically.

“Early experiences ‘get under the skin’.”

- Dr Clyde Hertzman

FACTS

HALF OF ALL NORTHERN WOMEN START OUT THEIR PREGNANCY WITH A HIGH BODY MASS INDEX – DOUBLE THE PROVINCIAL RATE

7 IN 10 NORTHERN BABIES INITIATE BREASTFEEDING BEFORE DISCHARGE FROM THE HOSPITAL

BY SIX MONTHS OF AGE, LESS THAN 3 OUT OF 10 BABIES ARE EXCLUSIVELY BREASTFED

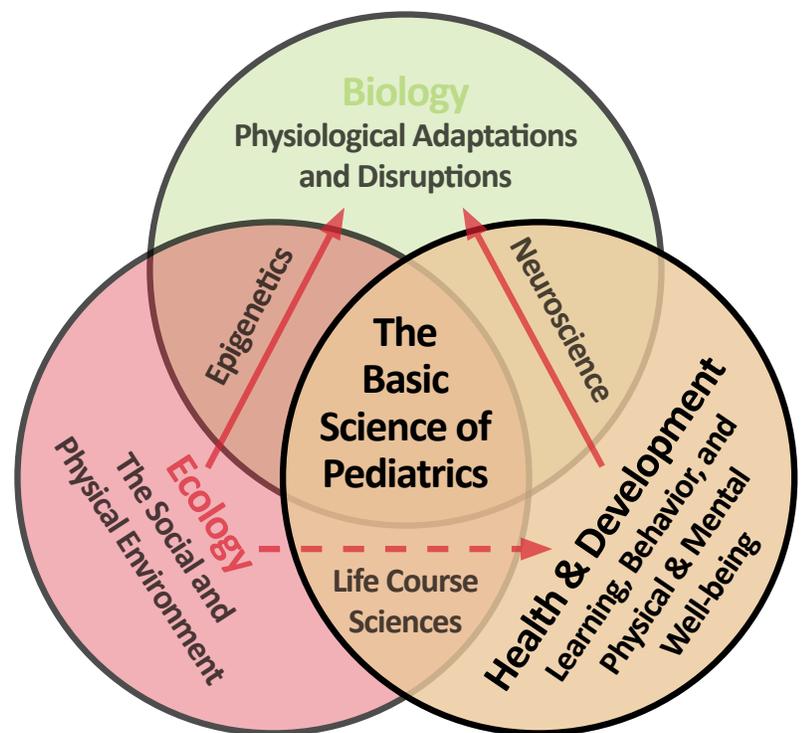
NORTHERN BC HAS LOWER RATES OF LOW BIRTH WEIGHT BABIES HOWEVER WE HAVE HIGHER RATES OF HIGH BIRTH WEIGHT BABIES

HEALTH AND DEVELOPMENT

Lifelong wellbeing is dependent upon the conditions previously mentioned and upon personal skills for coping and taking care of oneself. While it is not entirely appropriate to blame individuals for participating in destructive health behaviours, we do seek to build individual resiliency and skills to make appropriate choices; at the same time, we also work with policy makers to ensure that healthy choices are the easiest to make.

The foundations of healthy development are influenced by three key areas:

- Stable and responsive environment of relationships which provide young children with consistent, nurturing and protective interactions with adults.
- Safe and supportive physical, chemical and built environments which provide physical and emotional spaces that are free from toxins and fear, allowing active exploration without significant risk of harm, and offer support for young families raising young children.
- Sound and appropriate nutrition, which includes healthy food intake and habits, beginning with the future mother's preconception nutritional status.



FACTS

IMMUNIZATION COVERAGE RATES FOR TWO-YEAR-OLD CHILDREN IN NORTHERN BC ARE AMONG THE BEST IN THE PROVINCE. IT IS NOT CLEAR HOW LONG THIS IMPRESSIVE IMMUNIZATION TRACK RECORD WILL LAST - OF GREAT CONCERN IS A TREND IN THE NORTH TOWARDS CHILDREN NOT BEING VACCINATED

DENTAL CARIES RATES ARE AMONG THE HIGHEST IN THE PROVINCE WITH NEARLY 1 IN 5 CHILDREN SHOWING VISIBLE DENTAL DECAY

CHILDREN IN SOME AREAS OF NORTHERN BC UNDERGO DENTAL SURGERY AT A RATE THREE TIMES GREATER THAN THE PROVINCIAL RATE

IN NORTHERN BC THE RATE OF HOSPITALIZATION FOR CHILDREN AGED 0- 4 IS 1.5 TIMES HIGHER THAN THE PROVINCIAL RATE

CHILDREN FIVE YEARS OLD AND UNDER ARE MOST COMMONLY HOSPITALIZED BECAUSE OF RESPIRATORY AND NEONATAL CONCERNS

NORTHERN BC HAS THE HIGHEST RATES OF INJURY-RELATED HOSPITALIZATIONS FOR CHILDREN – MOTOR VEHICLE ACCIDENTS, FALLS, DROWNING, BURNS AND BEING STRUCK BY AN OBJECT ACCOUNT FOR THE MAJORITY OF INJURIES

TWICE AS MANY CHILDREN ARE IN GOVERNMENT CARE IN SOME PARTS OF NORTHERN BC THAN ELSEWHERE IN THE PROVINCE

NORTHERN BC HAS THE HIGHEST RATES OF CHILD ABUSE AND NEGLECT - TWICE THE PROVINCIAL RATE

HEALTH AND DEVELOPMENT

Healthy Individuals – Physical Health

Important aspects of children’s physical health include immunization rates, oral health, hospitalization, injury rates, as well as childhood abuse and neglect. Health inequities play a significant role in many of these concerning health trends. Disabilities and chronic diseases pose significant challenges to families in the north, yet are seemingly invisible. Access to health care, home support and family support services are very important to families. Significant travel implications compound many of these challenges.

Healthy Individuals - Social, Mental and Cognitive Health

Mental wellness and the ability to deal with stress are key to reducing health risks related to stress in life. Women in Northern BC have higher rates of mental health concerns and this seems to be on an upward trend. This is a concern for bonding and attachment as well as social and family connectedness.

Healthy social, emotional, intellectual, and cognitive development is reliant on having safe stimulating environments. This is especially important in the formative years of early childhood and adolescence, and in remote communities where the access to resources can be limited.

Here, we’re able to be creative and think outside of the box. If a mom isn’t showing up for programs, nurses will go out to assess and reduce whatever barriers to participation the mom might be facing. There’s a willingness to stretch and think of new ways to do things.

FACTS

RATES OF VULNERABILITY FOR NORTHERN CHILDREN IN VARIOUS ASPECTS OF SCHOOL READINESS ARE HIGHER THAN PROVINCIAL RATES; NEARLY ONE IN THREE NORTHERN CHILDREN IS NOT READY FOR SCHOOL IN ANY VULNERABILITY AREA

FACTS

PERINATAL DEPRESSION RATES IN NORTHERN BC ARE SIMILAR TO RATES SEEN ELSEWHERE. HOWEVER RATES APPEAR TO BE INCREASING OVER THE PAST FIVE YEARS

TEEN BIRTH RATES IN NORTHERN BC ARE AS MUCH AS DOUBLE THE PROVINCIAL AVERAGE

SUMMARY AND RECOMMENDATIONS

While we are able to measure some aspects of individual child and community health, it is vital that we consider all the aspects of communities that are not measured. The overwhelming majority of health data currently available is illness focused. In the future, having access to health data that is wellness focused would be extremely valuable and informative. Given the limitations of current health data, we must balance the objective data we were able to gather for this report with the factors we know are important to child health and wellbeing, but aren't easily measured. We know that childhood adversity is considered a root cause for many chronic diseases and health behaviours across a lifespan. We also know that resilience can counteract adverse childhood experiences. It is expected that through education, partnerships and common values, we

will build a sustainable quality system of services for northern communities. In collaboration with partner organizations, we seek to strengthen the supports for northern communities and families. Together, we are responsible to care for those who cannot care for themselves, to support children and families in obtaining optimal health and to provide them with the very best possible future (See Appendix B). This starts with understanding northern children, families and communities by committing to:

- Measure things that matter to children in the community,
- Partner for better approaches to understanding community health, and
- Create action plans to address those factors we can change.

Recommendations:

- 1) Within Northern Health, develop a program focused on children, youth and families within Northern BC based on the following principles:
 - Built on the primary health care model,
 - Including a spectrum of services from prevention of disease and injury to tertiary care, and
 - Integrating electronic health records, telehealth, outreach, and transportation solutions into services to address the challenges of rural and remote settings.
- 2) Encourage, promote and highlight collaboration in communities:
 - Utilizing community partnerships and community development,
 - Building on community strengths, resiliencies and successes, and
 - Using data for communities to prompt action.
- 3) Strive to achieve high levels of collaboration across sectors including:
 - Development of cross sector partnerships,
 - Working toward a common vision, and
 - Encouraging open lines of communication.
- 4) Strengthen the partnership between Northern Health and the First Nations Health Authority:
 - Informed by community based health service planning and supported by evidence,
 - Through promotion of cultural safety and cultural humility training, and
 - Based on a foundation of individual, family and community wellness.
- 5) Support communities and families to provide the foundations for early childhood development by educating about and advocating for:
 - Access to appropriate and sound nutrition for infants and children,
 - Provision of safe and supportive environments in families and in the home, and
 - Fostering stable and responsive family relationships.
- 6) Commit to ongoing monitoring of child health data and indicators through:
 - Surveillance and ongoing data collection, analysis and reporting, and
 - Design of regional child health indicators.

NORTHERN HEALTH CHILD HEALTH INDEX

When considering plans for improving child health, equity should be a priority.

Universal programs are needed to support all children and families in the north. Special focus and targeted programs are needed to help families that need a little extra help.

It is difficult to understand where to focus efforts and attention when attempting to address a broad issue such as Child Health. To assist with prioritizing areas of effort, the performance on the selected indicators (See Appendix A) was ranked for each Local Health Area, and as could be anticipated some Local Health Areas are doing better than others. While this is helpful, there are limitations to the use of this index and some caution is advised. The index was prepared as an aggregate performance measure that is not weighted for the importance of any indicator over others.

Local Health Areas are ranked by Child Health Index from doing better to worse.

Child Health Index Better ↑

| |
|-----------------------------------|
| Kitimat |
| Peace River South |
| Smithers |
| Fort Nelson |
| Peace River North |
| Quesnel |
| Prince George |
| Terrace |
| Snow Country |
| Nisga'a |
| Nechako |
| Queen Charlotte |
| Burns Lake |
| Prince Rupert |
| Stikine |
| Telegraph Creek |
| Upper Skeena |
| Child Health Index Worse ↓ |



APPENDIX A – CHILD HEALTH

| DIMENSIONS Child Health Domains and Aspects Healthy Individuals in Healthy Families in Healthy Physical and Social Environments in Healthy Communities | NH Child Health Status Report Prenatal and Child to Age 5 Indicator Set What was measured <i>Also think about:</i> <i>Additional aspects that matter but couldn't be measured in this report.</i> | DIMENSIONS Child Health Domains and Aspects Healthy Individuals in Healthy Families in Healthy Physical and Social Environments in Healthy Communities | NH Child Health Status Report Prenatal and Child to Age 5 Indicator Set What was measured <i>Also think about:</i> <i>Additional aspects that matter but couldn't be measured in this report.</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ECOLOGICAL Healthy Families - food security and other basic needs - income and socioeconomic status - attachment and bonding - parenting and interpersonal skills - family support and expectations - family violence - culture and tradition - wisdom and respect | 23. Low Income families 24. Single Parent Families <i>Also think about:</i> <i>Family connectedness</i> <i>Parenting skill building</i> <i>Time and commitment</i> <i>Parental or Adult support</i> <i>Food security and income security</i> <i>Safety in the home</i> <i>Culture and tradition in the home</i> <i>Intergenerational connectedness, and</i> <i>Wisdom and respect.</i> | Healthy Individuals Biological - Genetic predisposition and vulnerability - Immune function and environmental influences - Neurochemistry, stress and resilience - Medication effects, physiology and pharmacogenomics | 2. Smoking in pregnancy 3. Binge drinking in females 15-44 4. High BMI Pregnancy 5. Low BMI Pregnancy 6. Mental Health concerns in pregnancy 8. Breastfeeding at birth 10. Low Birth weight 11. High Birth weight <i>Also think about:</i> <i>Triggers for genetic predispositions and vulnerabilities</i> <i>Rates of congenital or acquired disabilities</i> <i>Rates of stress and adverse experiences</i> <i>Environmental influences on health</i> |
| Healthy Physical Environments - relationships with land and the environment - access to outdoors, green space, nature - environmental stewardship and sustainability - housing and built environments - active transportation - healthy and safe natural and built environments | <i>Also think about:</i> <i>Water Quality and Watersheds</i> <i>Air Quality and Airsheds</i> <i>Green and Blue Space Access</i> <i>Healthy Built Rural Communities</i> <i>Adequate housing</i> <i>Outdoor time for 0-5 year-olds</i> <i>Cultural teachings about the land and</i> <i>Connectedness to the land</i> <i>Ecological Determinants of Health</i> | Healthy Individuals Physical health - Physical wellness and disease across the lifespan - Health behaviours, including tobacco, diet, activity - Gender and health | 12. Immunizations 13. Vaccine Preventable diseases 14. Leading cause of Hospitalizations 15. Dental caries rates 16. Dental surgeries 19. Childhood injuries 20. Infant and Child abuse rates 21. Children in care and protection <i>Also think about:</i> <i>Rates of self-reported health</i> <i>Rates of chronic disease in children</i> <i>Rates of congenital or acquired disabilities</i> |

INDICATOR FRAMEWORK

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>Rates of fruits and vegetable consumption</i> <i>Rates of physical activity for under 5</i> <i>Exposure to second hand smoke in the home</i></p> | <p>6. Perinatal mental health conditions</p> <p><i>Also think about:</i> <i>Self-reported rates of mental wellness</i> <i>High school completion for teen moms</i> <i>Accessible high school for teen parents</i> <i>Early childhood interactions—reading</i> <i>Early childhood interactions - talking</i></p> | <p>7. Teen birth rates 17. EDI measures</p> <p><i>Also think about:</i> <i>Healthy Early Childhood Development</i> <i>Rates of discrimination and bullying</i> <i>Childhood attachment and nurturing relationships</i> <i>Social Connectedness and Belonging</i> <i>Empathy and Emotional Intelligence</i> <i>Prosocial behaviour</i> <i>Community volunteerism</i> <i>Enterprise and Social capital</i> <i>Conflict Resolution</i></p> |
| | <p>Mental, intellectual, cognitive health</p> <ul style="list-style-type: none"> - Education and literacy - Memory and learning - Cognitive capacity, intelligence and style - Education systems, mental wellness - Commitment to learning | <p>Social emotional health</p> <ul style="list-style-type: none"> -Attitudes, beliefs, past trauma, bullying - Personality, behaviours, emotions, early childhood impacts - Coping skills and health behaviours - Physical, emotional, spiritual health, cultural safety and humility, racism and discrimination, exclusion and connectedness - Language, culture and heritage - Self-concept, self-control, prosocial behaviours, positive views of oneself - Empowerment, responsibility, motivation, grit, value, worth and purpose |
| | <p>9. Infant Mortality Rate</p> <p><i>Also think about:</i> <i>Life expectancy</i> <i>Peer connectedness</i> <i>Supportive adult to confide in</i> <i>Discrimination by gender, race or other</i> <i>Colonization and decolonizing actions</i> <i>Comprehensive equity indicators</i> <i>Racial and systemic discrimination</i> <i>Social connectedness and social capital</i> <i>Culture and diversity</i> <i>Involvement in Arts, Sports or Music</i></p> | <p>1. Prenatal registry and place of birth 18. Hearing screening 22. Licensed Childcare Spaces</p> <p><i>Also think about:</i> <i>School safety and Community safety</i> <i>Healthy Public Policy</i> <i>Impacts of residential school system on community</i> <i>Reconciliation</i> <i>Unemployment rates</i> <i>Poverty rates and homelessness</i> <i>Crime rates</i> <i>Civic participation</i> <i>Community connectedness</i> <i>Recreational, educational and other civic infrastructure</i> <i>Accessible transportation and</i> <i>Access to health and social services</i></p> |
| <p>Healthy Social Environments</p> <ul style="list-style-type: none"> - healthy relationships in the family, community and school - peers, family, connections to caring adults - gender, race, body shape discrimination - social justice, equity and services for those that need them, when they need them - cultural safety - colonization and colonial interfaces - social support networks | | <p>Healthy Communities</p> <ul style="list-style-type: none"> - safe schools and communities - accessible services and community infrastructure - the history of residential schools and relationships with education systems - community cohesiveness, belonging and inclusiveness - opportunities and poverty - location and geography - transportation and social connectedness |

APPENDIX B Community Conversations - Considerations for Children's Health

Improving children's health starts with gaining an understanding of the contexts of where children and their families live, work, learn and play. Achieving improved child health is possible by committing to and planning for improved conditions community by community and family by family.

It is important for community members to explore the elements of a healthy childhood in their community, and to find the local partners to work with to plan for and improve child health.

ECOLOGICAL

- What is the environment of the community? Of the home? Of the school?
- Is there access to primary health care, dental care? Is transportation a barrier?
- Are there training opportunities for healthcare providers to provide culturally safe, person and family-centred care? Are there inequities in health outcomes?
- Is there safe and adequate housing? Are there housing standards? Is housing over-crowded?
- Is there access to safe and adequate food? What needs to be done about food security? Is emergency food available?
- Are licensed daycare spaces available for working families?
- What is known about the natural and built environment?
- What ecological services do we rely on? Watersheds and airsheds?
- Is there clean water? Is the water supply from a Community Water System?
- Is there clean air?
- Is there opportunity to be outdoors? Are there areas where children can play safely (playgrounds, parks, school yards)? Is the community built to support active transportation through biking or walking design?
- Is the community a safe place – are there some areas with more crime?
- Is there space in your community for safe socialization for both children and parents?
- What is the social environment in the community? In the home? In the school?
- Are there appropriate supports and encouragement for curiosity, expression, and individuality?
- Is it a culturally safe place? Do people feel accepted, connected, like they belong?
- How do people spend time? Are there cultural and leisure opportunities available?
- Are parental training and employment opportunities close to home?
- Do people have access to the technology, data, information they need?

BIOLOGICAL

- What are the personal behaviours commonly found in the family, home and community?
- Is there exposure to second-hand or third-hand smoke in the home? In the community? In vehicles?
- Is there a high rate of tobacco use or other substances in the community?
- Are pregnant women using tobacco or alcohol during their pregnancy? Are pregnant women and parents supported to not use tobacco or alcohol? What supports are needed?
- Is mental wellness being nurtured? What are the common health concerns?
- Are there disease outbreaks? What are the vaccination coverage rates in the community?
- Are there appropriate building blocks available for growth and development, such as adequate nutrition, safe environments, and responsive relationships?
- Are children exposed to extreme stress, such as interpersonal violence, in the home or community?

DEVELOPMENTAL

- What are we doing to support the growth and development of infants?
- Are parenting skills, and conflict resolution skills, taught to families?
- Do children have one or more stable adults for secure attachments?
- What are we doing to support the growth and development of children and adolescents?
- Do adolescents have a reliable adult they can confide in?
- What personal health practices are children learning, what is being modelled for them?
- Are children being taught life skills necessary to make healthy choices?
- Are children being taught refusal skills regarding tobacco, alcohol and other substances?
- What else can be done to prevent the initiation of tobacco, alcohol, and other substances?
- Individually, within the family, within the community?
- Are there things we could do now to decrease the mental health concerns of teenagers?
- Is screen time limited? Monitored? Are kids getting enough sleep?





northern health
the northern way of caring

www.northernhealth.ca