# Position on Physical Activity and Sedentary Behaviour

## *An Integrated Population Health Approach*

**Version 2: April 2020**

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*"… Sometimes it feels like this. There I am standing by the shore of a swiftly flowing river, and I hear the cry of a drowning man. So I jump into the river, put my arms around him, pull him to shore and apply artificial respiration. Just when he begins to breathe, there is another cry for help. So I jump into the river, reach him, pull him to shore, apply artificial respiration, and then just as he begins to breathe, another cry for help. So back in the river again, reaching, pulling, applying, breathing and then another yell. Again and again, without end, goes the sequence. You know, I am so busy jumping in, pulling them to shore, applying artificial respiration, that I have no time to see who is upstream pushing them all in."*

*McKinlay, J.; 1979*

**For further information about this position statement, please contact:**


Gloria Fox, Regional Lead - Physical Activity
Healthy Living & Chronic Disease Prevention
Population Health
**Northern Health**
Telephone: 250-565-7455
Email: gloria.fox@northernhealth.ca

**Northern Health Corporate Office**
Suite 600, 299 Victoria Street,
Prince George, BC Canada V2L 5B8
General enquiries: 1-866-565-2999 or 250-565-2649
www.northernhealth.ca



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2012: Christine Glennie-Visser, Chelan Zirul, Kelsey Yarmish, Dr. Ronald Chapman and Marc Faktor.
2020: Gloria Fox, Dr. Jong Kim, Sabrina Dosanjh-Gantner, Population & Preventive Public Health Program Leads


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# 1.0 Introduction

This report outlines Northern Health's position regarding physical activity and sedentary behaviour. Physical inactivity is a major contributor to increased rates of preventable non-communicable disease (NCD) and the resulting burden on the health-care system.

Implementing a population health approach, we will engage with community partners and health service providers to improve the health, wellness and overall quality of life of those living, learning, working, and playing in northern BC. This will be accomplished by advocating and promoting a culture of decreased sedentary behaviour and increased physical activity utilizing a safe and graduated approach so as to avoid injury.

# 2.0 Background

## 2.1 Current Context & Impacts of Physical Inactivity & Sedentary Behaviour

Physical inactivity is one of the leading **modifiable** risk factors related to non-communicable disease in Canada. A Canadian study revealed 15-39% of seven chronic diseases (i.e. coronary artery disease, stroke, hypertension, colon cancer, breast cancer, type 2 diabetes, and osteoporosis) could be attributed to inactivity.[1] Globally, physical inactivity is the fourth leading cause of chronic disease mortality, contributing to over three million preventable deaths annually worldwide.[2]

The root causes and consequences of physical inactivity go beyond the individual. Physical activity levels are both influenced by and have an influence on society as a whole. Disease rates attributable to physical inactivity place extra burden on publicly funded health care systems; the costs are substantial and will continue to increase in the absence of sustainable change. The most recent provincial estimate from 2015 indicates direct and indirect costs adding to over $982 million annually; $68 million or 7% of which can be attributed to the Northern Health Authority.

Physical inactivity levels rise as countries become more developed; in essence, physical activity is being designed out of our lives in the name of progress.[3] According to the 2018 Canadian Health Measures Survey, just under two-thirds (64.7%) of British Columbian adults 18 years and older reported meeting the current physical activity recommendations (see Appendix A for a summary of recommendations for all age groups).[4] The same source shows that only 58% of BC youth aged 12-17 years are meeting – on average – the current physical activity recommendations for their age group. Due to the fact that these numbers are based on self-reported data, it is likely skewed to be more optimistic than actual reality. Approximately 35% of British Columbians and 37% Northern British Columbians are classified as inactive (i.e. not meeting physical activity guidelines).[5]. According to the latest ParticipACTION Report Card on Physical Activity for Children and Youth across Canada, related data for these age groups are also concerning:[6]

| Ages | Meet *minimum* physical activity recommendations *on average* | Meet *all* recommendations in the 24-Hour Movement Guidelines (physical activity, sedentary behaviour, and sleep) |
|---|---|---|
| 3-4 years | 62% | 13% |
| 5-17 years | 35% | 15% |

Physical inactivity and sedentary behaviour are often assumed to be the same thing; however, this is not the case (see Glossary of Terms for definitions). It is possible to be physically active (meet physical activity recommendations) and sedentary (spending large parts of the day sitting) simultaneously. It is also possible to be physically inactive (not meet recommendations) and non-sedentary (i.e. job requires standing or moving most of the time). Because "too much sedentary time can [negatively] impact someone's health, regardless of how active they are,"[7] it is not enough to focus solely on one factor or the other; rather we must focus on **both** increasing physical activity and reducing sedentary behaviours.

## 2.2 Health Benefits of Increased Physical Activity & Decreased Sedentary Behaviour

Regular physical activity is a well-established protective factor for the prevention and treatment of NCD.[8] Contrary to popular belief, physical activity is not purely a leisure pursuit to be done at a designated time and location.[9] There are many different types of physical activity, all of which "can provide health benefits if undertaken regularly and of sufficient duration and intensity."[10] As such, it is desirable to integrate more activity into day-to-day routines through which we live, learn, work, and play (i.e. physically active jobs, active transportation, cleaning, yard work, etc.).[11] The benefits of regular physical activity extend beyond improved health outcomes and longevity, improved mental health and well-being, cognitive function, and social connectedness, to include benefits to the environment and economy.[12]

However, it is important to note that not everyone has equal opportunity to make healthy choices such as choosing to be physically active; participation is not determined by individual motivation alone, but is greatly affected by a number of external factors such as societal and cultural values and traditions, gender, ability, socioeconomic status, and physical environments, to name a few. In order to make progress towards increasing population levels of health through physical activity, interventions will require a combined focus: firstly on these external, 'upstream' determinants of physical activity (prioritizing the reduction of systemic inequities in order to improve equitable access to physical activity), and secondly a simultaneous focus on 'downstream' individually-centred (education and awareness) activities and interventions.[13, 14]

# 3.0 Canadian Guidelines

The Canadian Society for Exercise Physiology has provided evidence-informed national guidelines outlining physical activity recommendations for all age groups, as well as sleep and sedentary behaviour recommendations for ages 0-17. Developed to help Canadians realize improved health outcomes through increased physical activity and decreased sedentary behaviours, these guidelines increase awareness and understanding of the health benefits and risks associated with these respective activities. It is important to note that the physical activity recommendations provide a suggested minimum target; however, any and all physical activity is beneficial. Generally, within reason, more physical activity provides greater health benefits. Conversely, the sedentary behavior guidelines set maximum targets, with less being better. For more information, see Appendix A.

## 3.1 24-Hour Movement Guidelines for the Early Years (0-4 years)

2017 brought the release of national guidelines for ages 0-4 integrating physical activity, sleep, and sedentary behaviour, demonstrating the interrelationship and importance of all three behaviours as related to healthy early childhood development. The guidelines list the three behaviours of a healthy 24 hours as "Move, Sleep, and Sit." Recognizing children go through significant changes between the ages of 0 and 4, they have been further broken down into the following age groups: Infants (less than 1 year), Toddlers (1-2 years), and Preschoolers (3-4 years). Of note, sedentary screen time is not recommended for toddlers under 2 years of age, and it is recommended to be limited to a maximum of 1 hour (preferably less) for children 2 years and older.[15]

## 3.2 24-Hour Movement Guidelines for Children and Youth (5-17 years)

The 24-Hour Movement Guidelines for Children and Youth were released in 2016, and were the first evidence-based guidelines in the world to recognize the importance of the whole day, rather than solely focusing on physical activity and/or sedentary behaviour. These guidelines outline what a healthy 24 hours looks like with the optimal balance of the four speeds of childhood: "Sweat, Step, Sleep, and Sit." The preservation of good quality, sufficient sleep is emphasized as a protective factor for health. The recreational screen time recommendation is 2 hours maximum daily – preferably less – recognizing that there may be additional educational screen time taking place within the school environment.[16]

## 3.3 Canadian Physical Activity Guidelines for Adults (18-64 years) and Older Adults (65+)

Current physical activity guidelines for adults and older adults include recommended amounts of aerobic, muscle, and bone strengthening activities. Older adult guidelines include the addition of balance activities to help maintain or enhance mobility and prevent falls.[17] Individuals who are just beginning their journey towards being more active are encouraged to start small and gradually increase duration, frequency and intensity of activity to avoid injury and experience optimal health benefits.[18] The current

guidelines for adults and older adults do not refer specifically to sedentary behavior maximum targets; however, time spent being sedentary increases with age,[19] and comes with risks to health as well as mobility and independence.[20] It is best practice to limit or break up extended periods of time sitting as much possible for optimal health. Development of 24-Hour Movement Guidelines for Adults and Older Adults inclusive of sedentary time and sleep recommendations is currently underway.

# 4.0 A Graduated, Individualized Approach

While the guidelines above highlight targets for activity and sedentary behaviour, what happens between current levels and achieving those targets should be individualized. Blanket recommendations of "getting more exercise" are generally ineffective.[21] Not only must individual factors such as personal motivations, values, and interests be leveraged, but also the root causes of inactivity (i.e. financial, social, geographical barriers, etc.) must be identified and addressed in order to allow for positive, sustainable change.[22, 23] Once barriers to being active are addressed, individuals may begin a graduated approach starting with any level and type of activity that they find valuable and enjoyable. A graduated approach allows individuals to recognize progression (i.e. "how far they've come"), enhancing self-efficacy and providing encouragement to continue with healthy lifestyle behaviour changes.

# 5.0 Provincial, National, and International Frameworks

The topics of physical activity, inactivity, and sedentary behaviour have been garnering more attention as we increase our understanding of the connection and impact these behaviours have on our health. As a result, we have provincial, national, and global frameworks to help guide NH recommendations. See Appendix B for a visual summary of these frameworks and their areas of overlap.

## 5.1 Aboriginal Sport, Recreation and Physical Activity Strategy

Prepared by what is now known as the Indigenous Sport, Physical Activity, and Recreation Council (ISPARC), the intent of this strategy is to facilitate greater health among Indigenous peoples and communities through the prioritization of sport, recreation, and physical activity opportunities for youth. The strategy is made up of five pillars for action:

- Active Communities – Increasing access and participation within First Nations and urban communities
- Leadership and Capacity
- Excellence – Increasing the number of programs and Aboriginal representation, and supporting athlete development

- System Development – Addressing issues of equity and access
- Sustainability

## 5.2 Active People, Active Places: British Columbia Physical Activity Strategy

British Columbia's physical activity strategy was released in 2015, consisting of two parts; a framework for action (see Appendix B) looking at a long-term approach, and an accompanying action plan outlining strategic investments in two priority areas: active people and active places. The framework outlines the following elements as key to increasing physical activity: a life course approach, an equity lens, supportive environments, partnerships, and mechanisms through which to implement action. Within the action plan, "Active People" target populations include children and youth, older adults, and Indigenous Peoples; "Active Places" targets the creation of active communities, or community environments that are supportive of physical activity.[24]

## 5.3 A Common Vision for Increasing Physical Activity and Reducing Sedentary Living in Canada: Let's Get Moving

Released in 2018, this is Canada's first policy document focusing on physical activity while simultaneously addressing the issue of sedentary living. The vision – to see all Canadians move more and sit less, more often – is based on five foundational principles: enhancing physical literacy; promoting increased physical activity across the life course; applying a population approach; being both evidence-based and emergent-focused (i.e. utilizing established best practices while also exploring emerging and innovative knowledge); and leveraging motivations for being active. Six areas of focus for policy action are outlined:

- Cultural Norms
- Spaces and Places
- Public Engagement
- Partnerships
- Leadership and Learning
- Progress

The document articulates that the complexities involved in increasing rates of physical inactivity and sedentary behaviour in Canada require coordinated and collaborative action across sectors if any progress is to be made towards our "Common Vision."[25]

## 5.4 Global Action Plan on Physical Activity 2018-2030: More Active People for a Healthier World

The Global Action Plan (GAPPA) presents an overarching target of a 15% relative reduction in global rates of physical inactivity in adults and adolescents by 2030, using 2016 data as a baseline. This target builds on the previous target, set in 2013, of a 10% reduction in physical inactivity rates by 2025. Negligible progress has been made to date,

indicating that unless drastic changes are made, neither target will be met. In order to move towards this target, GAPPA lists four strategic objectives along with twenty universally applicable and scalable policy actions. The four strategic objectives are:

- Create Active Societies – Social Norms and Attitudes
- Create Active Environments – Spaces and Places
- Create Active People – Programs and Opportunities
- Create Active Systems – Governance and Policy Enablers

There is an emphasis on the many co-benefits related to increasing physical activity, and its connection to a number of the 2030 Sustainable Development Goals (SDGs). [26] The need for a collaborative, systems-based approach is clear; there is no single solution to increasing population-based physical activity levels.[27] Additionally, we must recognize and intentionally leverage the interactions and ripple effects that action in one area may have on another in an effort to expand reach and enhance sustainability.

> *Failure to act to increase levels of physical activity will see related costs continue to rise, with negative impacts on health systems, the environment, economic development, community well-being and quality of life.*
>
> *- GAPPA, 2018*

## 6.0 Alignment with Northern Health Strategic Plan

Not surprisingly, the above frameworks share a number of commonalities. Additionally, many of the key concepts align with Northern Health's strategic priorities,[28] and are therefore highly relevant to work being done to advance physical activity in the north.

Progress can be made towards Northern Health's first strategic priority – Healthy People in Healthy Communities – by:

- Applying an **equity lens** to physical activity policies and initiatives, ensuring that supports are provided proportionate to need in order to address inequities and improve health outcomes.
- **Engaging and partnering** with members of community, especially those who risk being underrepresented, to ensure services and programs are relevant, realistic, culturally appropriate, and safe.
- Recognizing that "strengthening patient counseling on physical activity has been identified as a cost-effective intervention,"[29] enhancing and leveraging **key settings** (e.g., primary care) as environments that are supportive of physical activity.

The second priority listed in the strategic plan – Coordinated and Accessible Services – can be supported through:

- Establishing a **life course** approach, recognizing the value of becoming more active at any age.
- Improving **access**: Increasing the number and types of opportunities to be active for **all**, regardless of age, ability, culture, gender, socioeconomic status, etc., by:
    - Establishing a network of services from which to draw. For example, moving beyond simply raising awareness and sharing information to providing linkages to accessible community-based programs and services.[30, 31]
    - Leveraging technology and innovations to assist in expanding reach.

Finally, the third priority – Quality – is something that can be improved through:

- **Building capacity** at the front-line service delivery level; ensuring staff are given the space, knowledge, and skills to confidently and consistently support patients in their pursuit of improved health through physical activity.
- In the spirit of continuous quality improvement, **strengthening data** collection and surveillance methods in an effort to establish consistent progress reporting and sharing of successes, learnings, and best practices.

## 7.0 Northern Health Position

Northern Health aims to improve health and wellness and enhance quality of life by promoting increased physical activity and decreased sedentary behaviour. Central to this work and foundational to any population-level improvements in physical activity levels are the overarching guiding principles of **equity** and **cultural safety**. In other words, supporting groups that have fewer opportunities to engage in physical activity by striving to reduce, remove, and/or overcome existing barriers, while ensuring that interventions and opportunities are provided in a way that acknowledges, supports, and respects cultural diversity and values.

At the individual level, Northern Health will strive to increase awareness regarding the many benefits and risks associated with physical activity and sedentary behaviour respectively. Supporting key messages that will be consistently promoted when working with individuals and community partners include:

- **All forms** of regular physical activity provide health benefits, at any age.

- Increase incidental activity and integrate physical activity into day-to-day routines – **every move counts**!
- It is **vital** to try different activities and find something that is meaningful and enjoyable on an individual level; this will significantly increase the chances of maintaining involvement.
- Use a graduated and individualized approach when increasing activity levels to **meet and/or exceed** the levels recommended by the Canadian Physical Activity Guidelines, prioritizing safety and injury prevention while aiming to improve overall function.
- Physical inactivity and sedentary behaviour are not the same thing. It is possible to meet physical activity recommendations while still exhibiting high sedentary behaviour levels, which can negatively impact health. [32, 33, 34]
- Reduce overall sedentary behaviours, and break up extended periods of sedentary time with movement.

At the systems level, Northern Health will support efforts to improve equitable access to diverse opportunities to be active for all, including:

- Promoting the importance and establishment of supportive environments for physical activity.
- Supporting healthy public policy development, implementation and evaluation.
- Representing and advocating for northern assets, needs, and interests.
- Building and strengthening multi-sector partnerships to have a greater impact on our society as a whole.

In addition, Northern Health as an organization will embody a culture where being physically active is not only accepted, but is expected, supported, and celebrated.

> *A community valuing movement is the bridge to physical and health literacy for all.*
>
> *- International Physical Literacy Conference, 2019*

## 8.0 Strategies to Achieve this Position

The Ottawa Charter for Health Promotion is an international resolution of the World Health Organization. Signed in Canada in 1986, this global agreement calls for health promotion action through five strategic avenues. These strategies are complementary and can create a comprehensive approach to addressing risk factors such as physical inactivity and sedentary behaviour.

This section presents evidence-based examples that align with the five strategic action areas outlined in the Ottawa Charter, and will support the achievement of increased physical activity and decreased sedentary behaviour.

## 8.1 Build Healthy Public Policy

Healthy public policy, simply put, helps make the healthier choice the easier choice. A broad range of local, regional, provincial, and federal organizations have a role in building healthy public policy. Organizations that address planning, transportation, education, recreation and leisure can be key contributors to building healthy, "active" public policy. Some examples include:

- Strive to ensure the basic needs of all residents are met **first**, which improves equity and allows for freedom to pursue **better health**, beyond simply the absence of disease.[35]
- Apply affordable price structures for physical activity programs and facilities which improve access for all; ensure equitable access for those faced with systemic barriers, such as Indigenous persons, women, persons with disabilities, and low income households (i.e. Leisure Access Programs of Kitimat or Prince George).
- Promote Clean BC's Active Transportation Strategy widely, in order to advance recommendations and secure investments aimed at increasing opportunities for safe active transportation for all.
- "Accelerate implementation of policy actions…in accordance with the safe systems approach to road safety"[36] to enhance the safety of vulnerable road users and increase the use of active and/or public transit, where available (i.e. dedicated bike lanes, Complete Streets for Prince Rupert).
- Remove stigma related to allowing for outdoor, unstructured active play by reviewing policies and standards that have previously acted as barriers to such activities,[37] as well as through the promotion of the Canadian Public Health Association's (CPHA) Unstructured Play Toolkit.
- Implement child-care licensing regulations with specific language regarding both provision of opportunities for active play and limiting or excluding screen time,[38] promoting the usage of resources such as Appetite to Play.
- Apply an equity lens to all policy decisions, identifying and addressing intentional or unintentional effects (positive or negative) any new policy may have on a particular population (i.e. CPHA's Health Equity Impact Assessment Tool).
- Secure sustained investments in actions that promote increased physical activity and reduced sedentary behaviour.[39]
- Mandate consistent and accurate methods of data collection and surveillance in an effort to measure impact of implemented policy actions and programs.

> *Healthy public policy is coordinated action that leads to health, income, and social policies that foster greater equity. It combines diverse but complimentary approaches including legislation, fiscal measures, taxation, and organizational change.*
>
> *- The Ottawa Charter, 1986*

## 8.2 Create Supportive Environments

People interact with a variety of settings in daily life. The spaces in which we live, learn, work, and play should all be taken into consideration when seeking to create supportive environments. Active ways of life can be supported in each of these environments:

### *8.2.1 Home ("Live")*

- Explore climate-appropriate activities (e.g., ice skating, snowball fights, snow shoeing, camping, hunting, fishing, etc.).
- Home-based (or technology-based) activities and programs (e.g., day-to-day activities such as house cleaning, snow moving, and gardening; bodyweight exercises rather than those requiring equipment; accessing free online exercise programs and active games; etc.).
- Active family time (e.g. family bike rides, living room dance parties, playing catch, hikes, walks, etc.).
- Track and/or aim to reduce screen time for all ages.

### *8.2.2 School ("Learn")*

- Provide quality physical education focused on building physical literacy for students of all abilities, in a supportive and inclusive atmosphere to facilitate a positive experience of and attitude toward physical activity in the future (i.e. Physical Literacy for Communities Initiative, BC's Physical and Health Education Curriculum).
- Provide increased opportunities for students and staff alike to move and be active before, during, and after school (i.e. active classrooms & hallways, movement embedded in learning, initiatives such as Doctors of BC's Be Active Every Day, GoByBike Weeks, HASTe BC's Active and Safe Routes to School, etc.).
- Create safe and accessible environments that facilitate participation in structured and unstructured, traditional and non-traditional forms of physical activity (i.e. parks for multiple activities such as skateboarding, walking, wheeling, climbing, team or individual sport and recreation).
- Reduce screen time (i.e. Screen Smart Elementary Schools).
- Develop and implement school-wide policies protecting active and/or outdoor time (i.e. will not be withheld from students as a form of punishment).

### *8.2.3 Workplace ("Work")*

- Explore the use of incentives to promote active transportation to work, getting active outside of work, etc. (e.g. subsidies or reimbursements for equipment, passes, etc.).

- Embody a culture that supports and promotes activity during work (e.g. provision of sit-stand stations in offices; flexible schedules to allow for physical activity during the day; promoting standing and/or walking meetings, frequent movement breaks, etc.).
- Provide facilities that make active transportation an easier and more convenient choice (i.e. change/shower rooms, bike storage, lockers, etc.).
- Workplace programs and initiatives that encourage and support employees and their families to lead active lifestyles (e.g. ParticipACTION's UPnGO program, PowerPlay Men's Health at Work, GoByBike Weeks, workplace challenges, etc.).

### *8.2.4 Leisure/Community ("Play")*

- Provide culturally diverse, safe, and appropriate activities (e.g. Sport for Life's Indigenous Communities: Active for Life, Sport for Life for all Newcomers to Canada, etc.).
- Emphasize development of social connectedness and support in team-based or group activities (e.g. Foundry Prince George, walking programs such as Walk BC, Choose to Move, etc.).
- Assess and improve accessibility of recreation facilities and/or programs (e.g., Steadward Centre's "What Can You Do Today to Improve the Accessibility of Your Facility?", ViaSport's Accessibility Sport Hub (ASH), Rick Hansen Foundation's Accessibility Resources, etc.).
- Consider the features of the natural and built environment that are supportive to being active when updating Official Community Plans; advocate for the preservation, creation, and/or enhancement of those features (e.g. PHSA's Healthy Built Environment Linkages Toolkit).
- Examine barriers to and potential facilitators of participating in physical activities currently faced by specific population groups (e.g. shift workers and provision of childcare services, rural communities and provision of free or low-cost transportation, etc.).
- Increase access to publically available, safe spaces in which to engage in regular physical activity (i.e. parks, walking/cycling paths, dedicated bike lanes, outdoor fitness equipment, indoor walking facilities, etc.).
- Implement community-wide events and opportunities to be active for all community members regardless of age, ability, and/or economic status.
- Increase facilities and infrastructure to be more conducive to active transportation (i.e. bike racks, benches for resting, well-maintained and lit walkways, etc.).
- Improve transportation options for those living in rural/remote settings to access physical activity facilities and programs (e.g. rideshares, community bussing such as Village of Fraser Lake Community Bus, etc.).
- Promote and/or enhance education and awareness regarding safe road sharing practices for drivers as well as vulnerable road users (e.g. ICBC's Cycling Safety and Pedestrian Safety tips for sharing the road).

> *Designing the built environment for healthy living is about **supporting social connection** and seamlessly **providing access** to features that promote physical activity, healthy eating and mental wellness.*
>
> *- Designing Healthy Living, 2017*

## 8.3 Strengthen Community Action

Successful actions aimed at increasing population-wide participation in physical activity are planned and implemented through multifaceted partnerships and collaborations. Public, private, and non-governmental organizations can be involved at the local, regional, provincial, and federal level. Examples of partnerships and actions that will build community capacity and support the promotion of physical activity include:

- Use of technology, social media, etc., to promote active lifestyles and reduced sedentary behaviour individually and/or through the development of supportive social networks for enhanced enjoyment, accountability and sustainability (i.e. health and wellness online meetups, online challenge groups, etc.).
- Promote positive and inclusive messaging for physical activity through media.
- Promote IMAGINE and other grants aimed at supporting grassroots community engagement and action to address modifiable risk factors while improving health and wellness.
- Support the formation of coalitions of non-governmental organizations to advocate for government investments in the promotion of physical activity.
- Promote partnerships with both service providers and recipients of organizations that support those faced with systemic barriers (i.e. Indigenous persons, women, persons with disabilities, low income households, etc.) to ensure programs, initiatives, and services are helpful, accessible, inclusive, and relevant.
- Link communication and awareness campaigns promoting increased physical activity and decreased sedentary behaviour to existing, accessible (i.e. low or no cost) community-based programs.
- Engage and partner with members of Indigenous and newcomer groups to enhance cultural awareness and connection, and ensure culturally diverse, safe, and appropriate programming in schools and communities.[40]
- Support the creation of partnerships that foster positive intergenerational connections and opportunities for activity (i.e. childcare facilities, schools, seniors' centres and housing, residential care, etc.).
- Coordinate with relevant sectors and levels to create collaborative working groups of stakeholders.
- Engage community groups to gain a better understanding of community contexts, needs, and assets; consider the use of "evidence-based checklists and…tools to help assess physical activity opportunities and barriers in neighbourhoods."[41] (e.g.

PHAC's Age-Friendly Communities Evaluation Guide, PHSA's Healthy Built Environment Linkages Toolkit, etc).

- Advocate for safe and accessible routes for active transportation and recreation that make the decision to participate in these activities easier (i.e. use of signage, lighting, dedicated bike lanes); link active transportation routes to each other and a variety of destinations.
- Promote partnerships between schools, community organizations, public facilities, places of worship, etc., to improve access to and availability of space and equipment that facilitate physical activity.
- Partner with underrepresented groups (i.e. persons with diverse abilities, experiencing mental health concerns, etc.) to identify and address barriers to physical activity.[42]

> ***Health promotion works through concrete and effective community action*** *in setting priorities, making decisions, planning strategies, and implementing them to achieve better health. At the heart of this process is the empowerment of communities – their ownership and control of their own endeavours and destinies.*
>
> *- The Ottawa Charter, 1986*

## 8.4 Develop Personal Skills

Realities of northern living bring about a number of assets (e.g. relatively easy access to nature/outdoors, small community connectedness, etc.) as well as challenges (e.g. cold temperatures, limited infrastructure, danger related to wildlife, etc.) when it comes to pursuing physical activity. A variety of resources and support systems can assist individuals and families towards better health outcomes through awareness, engagement, education and capacity building. Examples of programs and campaigns which encourage the development of personal skills towards increasing physical activity include:

- Ensure leaders and service providers alike have the skills, knowledge, and competencies to provide culturally appropriate and safe programs and services (e.g. NH's San'yas Indigenous Cultural Safety course, ISPARC's Healthy Living Leader Training, etc.).[43]
- Increase understanding and awareness through public education (e.g. dissemination of physical activity guidelines, education regarding wilderness and wildlife risks and safety measures, education regarding safe road sharing practices, etc.).
- Build health care professionals' skills related to physical activity assessment, promotion, and counseling during vocational training as well as continuing professional development (e.g. GPSC's Brief Action Planning for Health, etc.).
- Support training of professionals across sectors (e.g. community planners, education, recreation, sport, etc.) "…to increase knowledge and skills related to their roles and contributions in creating inclusive, equitable opportunities for an active society."[44]

- Target programs and campaigns towards adults; targeting adults can create a ripple effect across families and communities (i.e. ParticipACTION).
- Ensure new initiatives and programs are focused on engaging and supporting the least active groups to become more active rather than simply providing more opportunities for those who are already active.
- Target people where they spend the majority of their time (i.e. home, schools, workplaces, etc.), and according to their level of ability and readiness.[45]
- Encourage incremental increases in physical activity (i.e. supporting a graduated approach with the option of using activity trackers or logs to see progress over time).
- Support activity through the life course, providing opportunities that are tailored to suit the needs and interests of different population and age groups, emphasizing the role of increased physical activity and decreased sedentary behaviour on improving health outcomes, well-being and quality of life (e.g. Finding Balance BC, Appetite to Play, Choose to Move, Y Mind youth programs, ISPARC FitNation, etc. .
- Emphasize the multiple co-benefits of physical activity, including the positive relationship between physical activity and an improved sense of personal and community well-being, as well as its connection to the achievement of the Sustainable Development Goals (SDGs).[46] [47]

> *Physical activity is a powerful investment in people, health, the economy and sustainability.*
>
> *- The Toronto Charter, 2011*

## 8.5 Reorient Health Services

A broad range of stakeholders can assist in reorienting health services. For example, health professionals, local government, community planners, sport and recreation professionals, and volunteers can influence population levels of physical activity. Some examples of where this can be effective include:

- Advocate for increased support and resources for health professionals to engage and document interactions with their patients to move toward healthier lifestyles (e.g. utilizing Northern Health Electronic Medical Records (EMR), Centre for Active Living's Physical Activity Counselling Toolkit, Exercise is Medicine's Exercise Prescription and Referral Tool, etc.).
- Support health care professionals to provide accurate, current, and consistent information on appropriate physical activity.
- Engage physicians and allied health professionals in a team-based approach to care including physical activity promotion and motivation (e.g. Northwest Change BC program).
- Use of technology to provide health information, advice, and simple interventions (i.e. WHO's Be He@lthy, Be Mobile mhealth interventions, virtual/group appointments, etc.).

- Move towards a greater emphasis on prevention, health promotion, and addressing the "upstream" determinants of physical inactivity within health care settings and services.[48]
- Raise awareness among the different key stakeholders of their role in improving population levels of physical activity.
- Advocate for physical activity enquiry at every primary care visit, followed by the provision of brief, supportive advice and/or referral to community programs for patients ready to increase activity levels (e.g. PAR-Q + Physical Activity Readiness Questionnaires).
- Make available and promote free resources for evidence-based, practical, and trusted physical activity and healthy living information (i.e. Physical Activity Services at HealthLink BC, ParticipACTION, etc.).

> *The responsibility for health promotion in health services is shared among individuals, community groups, health professionals, health service institutions, and governments. They must work together towards a health care system which contributes to the pursuit of health.*
>
> *- The Ottawa Charter, 1986*

# 9 Conclusion

In conclusion, Northern Health is adopting a position on physical activity and sedentary behaviour as primary *modifiable* behavioural risk factors related to a number of chronic diseases that burden our health care system and the health of the population. The position is consistent with provincial, federal, and global initiatives. It also recognizes that the *ability to modify* physical activity behaviours is not universal, and as such, work needs to be done to address inequities and provide increased support to those who need it in order to access opportunities to increase activity. Finally, this position presents a variety of evidence-based strategies to increase levels of physical activity and reduce sedentary living, with a view to improved health outcomes and quality of life as well as reduced health care costs attributable to inactivity. These strategies align with the comprehensive framework presented by the Ottawa Charter and support Northern Health's Strategic Plan and position on Physical Activity and Sedentary Behaviour.

# 10 Glossary of Terms

- **Active Play** is a form of gross motor or total body movement in which young children exert energy in a freely chosen, fun, and unstructured manner.[49]
- **Active Transportation** is the use of human powered transportation to get places. Examples include biking or walking to work. Public transit is also a form of active transportation as people walk to access public transit or to their destination at the end of their trip.[50]
- **Brief Counseling** is interaction offering an opportunity for a person to explore, discover and clarify ways of living with greater well-being, usually in a one-to-one discussion with a trained counsellor.[51]
- **Equity (in health)** exists when all people can reach their full health potential and are not disadvantaged from attaining it because of their race, ethnicity, religion, gender, age, social class, socioeconomic status, sexual orientation or other socially determined circumstance.[52]
- **Exercise** is a form of physical activity that is planned, structured, repetitive, and purposeful with a main objective of improvement or maintenance of one or more components of physical fitness.[53]
- **Fundamental movement skills** are movement patterns that involve various body parts and provide the basis for complex skills used in physical activity and sports.[54]
- **Health in all policies** is an approach to public policy across sectors that systematically considers the health implications of decisions, seeks synergies, and avoids harmful health impacts, in order to improve population health and health equity.[55]
- **Healthy Built Environment** is a holistic concept of the human-made or modified physical surroundings in which people live, learn, work, and play, including five core aspects: neighbourhood design, housing, transportation systems, natural environments, and food systems.[56]
- **Incidental activity** is an activity of daily living. Examples of incidental activities include: taking the stairs, tapping your toes at your office desk, getting the mail, personal hygiene, preparing meals, light cleaning, and shopping.[57]
- **Physical activity** is bodily movement produced by skeletal muscles that uses energy and can increase heart rate and breathing. Examples of physical activity include: sports, exercise, playing, walking, doing household chores, gardening, and dancing. [58, 59]
- **Physical Inactivity** is an absence or insufficient level of physical activity required to meet the current physical activity recommendations.[60]

- **Physical Literacy** is the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life.[61]
- **Sedentary behaviour** is any waking behaviour characterized by little physical movement and low energy expenditure. In general this means that any time a person is sitting or lying down, they are sedentary. Sedentary behaviours are commonly associated with "screen time," i.e., watching television, working at a computer, and video gaming; driving/commuting via automobile is another example of a sedentary behaviour.[62]

# 11 Other Resources

### British Columbian

Active People, Active Places: British Columbia Physical Activity Strategy
Appetite to Play: Healthy Eating & Physical Activity in the Early Years
Clean BC | Active Transportation Strategy
FNHA | Wellness Streams: Being Active
HealthLink BC | Physical Activity Services
ISPARC | Aboriginal Sport, Recreation and Physical Activity Strategy
ISPARC | Home
Let's Play: Inclusive Play for Children with Physical Disabilities
PHSA | Healthy Built Environment Linkages Toolkit

### Canadian

Aboriginal Communities: Active for Life
Alberta Centre for Active Living | Physical Activity Counselling Toolkit
Canada's Physical Literacy Consensus Statement
CPHA | Unstructured Play Toolkit
CSEP | Canadian Physical Activity Guidelines
A Common Vision for Increasing Physical Activity and Reducing Sedentary Living in Canada: Let's Get Moving
ParticipACTION | Home
PHAC | Age-Friendly Rural and Remote Communities: A Guide
Physical Activity - Healthy Living - Public Health Agency of Canada

### International & Global

Ellyn Satter Division of Responsibility in Activity

Global Advocacy for Physical Activity - Toronto Charter for Physical Activity

WHO | Global Action Plan on Physical Activity 2018-2030: More Active People for a Healthier World

WHO | Ottawa Charter for Health Promotion

WHO | Physical Activity

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| **Appendix A: Canadian Guidelines on Physical Activity** | | | | |
|---|---|---|---|---|
| **Age Group** | **Early Years: (0-4)** | **Infants: Less than 1 year** | **Toddlers: 1 – 2 years** | **Preschoolers: 3 – 4 years** |
| **Guidelines** | **Move: Physical Activity** | Being active several times in a variety of ways, particularly through interactive floor-based play—more is better. For those not yet mobile, this includes at least 30 minutes of tummy time spread throughout the day while awake. | At least 180 minutes spent in a variety of physical activities at any intensity, including energetic play, spread throughout the day—more is better. | At least 180 minutes spent in a variety of physical activities spread throughout the day, of which at least 60 minutes is energetic play—more is better. |
| | **Sleep** | 14 to 17 hours (for those aged 0-3 months) or 12 to 16 hours (for those aged 4-11 months) of good-quality sleep, including naps. | 11 to 14 hours of good-quality sleep, including naps, with consistent bedtimes and wake-up times. | 10 to 13 hours of good-quality sleep, which may include a nap, with consistent bedtimes and wake-up times. |
| | **Sit: Sedentary Behaviour** | Not being restrained for more than 1 hour at a time (e.g., in a stroller or high chair). Screen time is not recommended. When sedentary, engaging in pursuits such as reading and storytelling with a caregiver is encouraged. | Not being restrained for more than 1 hour at a time or sitting for extended periods. For those less than 2 years, sedentary screen time is not recommended. For 2 year olds, sedentary screen time should be no more than 1 hour—less is better. When sedentary, engaging in pursuits such as reading and storytelling with a caregiver is encouraged. | Not being restrained for more than 1 hour at a time or sitting for extended periods. Sedentary screen time should be no more than 1 hour—less is better. When sedentary, engaging in pursuits such as reading and storytelling with a caregiver is encouraged. |
| **Age Group** | | **Children & Youth: 5 – 17 years** | **Adults: 18 – 64 years** | **Older Adults: 65 years and older** |
| **Guidelines** | **Sweat: Moderate - Vigorous Physical Activity** | An accumulation of at least 60 minutes per day of moderate to vigorous physical activity involving a variety of aerobic activities. Vigorous physical activities, and muscle and bone strengthening activities should each be incorporated at least 3 days per week. | To achieve health benefits, adults should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more. Vigorous-intensity physical activities will cause adults to sweat and be 'out of breath.' | To achieve health benefits, and improve functional abilities, adults should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more. |
| | **Step: Light Physical Activity** | Several hours of variety of structured and unstructured light physical activities | Moderate-intensity physical activities will cause adults to sweat a little and to breathe harder. | Moderate-intensity physical activities will cause older adults to sweat a little and to breathe harder. |
| | **Sleep** | Uninterrupted 9 to 11 hours of sleep per night for those aged 5 – 13 years and 8 to 10 hours per night for those aged 14 – 17 years, with consistent bed and wake-up times | 24-Hour Movement Guideline development underway | 24-Hour Movement Guideline development underway |
| | **Sit: Sedentary Behaviour** | No more than 2 hours per day of recreational screen time: limited sitting for extended periods | Recommend limiting recreational screen time (e.g., 2 hours per day); limit and/or break up extended periods of sitting. 24-Hour Movement Guideline development underway | Recommend limiting recreational screen time (e.g., 2 hours per day); limit and/or break up extended periods of sitting. 24-Hour Movement Guideline development underway |

Appendix B: Global, National, and Provincial Physical Activity Framework

## Physical Activity Frameworks at a Glance