# Young people, health and screens: Supporting action in Indigenous contexts

INSTITUT NATIONAL DE SANTÉ PUBLIQUE

**25** 

### KNOWLEDGE TRANSFER

Summary document

INSPQ

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The Knowledge Transfer collection is a series of scientific publications presented in a format adapted to the needs of the intended users.

» This summary document is complementary to the publication entitled <u>Un modèle logique pour</u> <u>comprendre les usages des écrans et leurs effets</u> <u>sur la santé des populations</u>.

### BACKGROUND

This document is funded by the Stratégie québécoise sur l'utilisation des écrans et la santé des jeunes 2022-2025, steered by the Ministry of Health and Social Services. It draws on the work of the <u>Screens and</u> <u>Hyperconnectivity</u> team at the Institut national de santé publique du Québec and on the collaboration of an advisory committee composed of representatives of Indigenous organizations and scientific advisors with expertise in the field.

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### **Objectives**

Describe the complex issue of screens and their potential effects on health.

Understand the factors that influence screen use and exposure, as well as their impacts on health, using a **logic model**.

Apply the logic model to fictitious situations inspired by the real lives of First Nations and Inuit youth in order to consider possible actions.

The **logic model** is a chart summarizing important information that can help understand screen use and its effects on health. It shows the negative health impacts of exposure to screens and their use, in addition to the factors and mechanisms involved. By adopting a population-based approach, the model supports analysis of this phenomenon and helps identify which factors can be influenced to reduce the health consequences.

### Who can use this summary document?

Stakeholders responsible for planning and implementing actions designed to influence exposure to and use of screens in the homes and communities of First Nations and Inuit **youth**. For example, if you are responsible for promoting healthy lifestyles or implementing interventions pertaining to parenting experiences, this document may be of use.

> The concepts of "young people" and "**youth**" vary from population to population around the world. In the interests of inclusiveness, the situations presented here concern toddlers, children, adolescents and young adults.

### Summary

- 1. Overview of the issue and logic model
- 2. Examples of applying the logic model to Indigenous contexts
- 3. Takeaways for supporting a balanced use of screens

# Overview of the issue and logic model



### Screens are used by young people of all ages and in all settings

Screens are found in the majority of young people's homes and communities. In 2016 and 2017, Canadians aged 5 to 17 spent an average of three hours a day in front of a screen, adolescents pushing that average higher (1). More recently, in 2021, more than half of 12- to 17-year-olds spent at least four hours in front of a screen on non-school days (2).

"**Screens**" include all digital devices equipped with a screen, such as televisions, computers, tablets, smartphones and game consoles. Screens are used to access content or conduct activities on or offline (3).

Exposure to and intensive use of screens may have negative health consequences that include sight and hearing impairment, language and motor skill issues, and a sedentary lifestyle (4). Because they are still developing, children may be more susceptible to these consequences. For example, the self-regulation processes controlling behaviour, emotions and thoughts are still evolving in that age group. Despite persisting inequalities in access to digital technologies (5), **hyperconnectivity** transcends social, economic and geographic barriers. According to the Quebec First Nations Regional Health Survey, children under the age of two spend nearly two hours a day in front of a screen, which rises to five hours among 12- to 14-year-olds (6). Moreover, the advisory committee points out that the recent arrival of highspeed Internet in remote regions, such as Nunavik, may lead to increased screen use.

> **Hyperconnectivity** means having almost constant access to the Internet anywhere thanks to connected mobile devices (7). Information and communication technologies are an integral part of daily life for organizations, groups and individuals (8).



### Recommended daily screen time by age

According to the <u>Canadian 24-Hour</u> <u>Movement Guidelines</u>:

- » Under the age of 2: Avoid all screen time
- » 3 to 4 years of age: Less than one hour
- » Ages 5 to 17: Less than two hours of leisure time in front of a screen
- » 18 or older: Less than eight hours of physical inactivity, including a maximum of three hours of leisure screen time

Indigenous perspectives of **health and wellness**, which go beyond the absence of disease, are comprehensive and holistic. Generally speaking, the various aspects of health—mental, emotional, spiritual and physical—are supported by pillars that vary among the different populations. Indigenous languages and cultures, social and family connections, and the relationship with the land are just a few examples. Health and wellness are therefore issues that extend far beyond the individual (10).

### Diverse Indigenous realities

The **health and wellness** of toddlers, children, adolescents and young adults are important concerns of Indigenous organizations, communities and families. About 3 out of every 10 Indigenous persons in Québec are under the age of 19, which is a higher proportion than among the non-Indigenous population (9).

It should be noted that First Nations and Inuit youth grow up in unique economic, political and historical contexts that impact their health and wellness. Some live in urban settings, others in more or less remote Indigenous communities. Their schools may have many Indigenous students or almost none (11). Some toddlers attend daycares, where the presence of Indigenous cultures and traditions varies greatly (12). Turning to the family environment, Indigenous youth often live with brothers, sisters or other family members of all ages in addition to their parents or guardians. About 20% of Indigenous families in Québec have more than four members (13).

» Any attempt to reduce the impact of screens on health and wellness must take these divergent situations into account.

### A logic model to analyze issues around screen use

Although the model was not specifically designed for Indigenous contexts, it can be used to explore the issue of screens and wellness in different populations and contexts. It is not an intervention tool, but it is rather intended to help understand the phenomenon and analyze possible population-based actions.

The model comprises three major sections that are explained in the following pages:

- » Factors that influence use and exposure, known as determinants;
- » **Mechanisms of action**, which are the ways exposure to and use of screens have consequences on health and society;
- » Confirmed and potential effects on the health and wellness of individuals and communities.



### **Determinants**

Represented by the three corners of the triangle, determinants are factors that influence **use** of and **exposure** to screens.

- » Device and content characteristics: Device size, which may enable mobility and a more or less good posture for the user, Internet connectivity or not, attractiveness of content, fee structure for platform use, etc.
- » Individual characteristics: Age, sex/ gender, place of residence, education, health and wellness, socioeconomic status, etc.
- » Environmental characteristics: Accessibility in various environments (home, school, daycare, community organization), symbolic accessibility (culture, social norms concerning usage, family models), legal accessibility (laws, regulations), etc.

While screen time receives a great deal of attention, it is not the only consideration. Other aspects of screen use helping to explain its impact on health fall into the three categories listed in the middle of the triangle:

- » Context (how much, how many, when and where): Frequency and duration of use, when and where screen use occurs
- » Manner (how): On or offline; transactional or not; whether or not an adult is present; passive, active or interactive; the number of screens used simultaneously
- » Purpose (why): Conscious or unconscious reasons motivating use, such as for school, leisure time, or to occupy or calm a child



### Community's influence

In First Nations and Inuit settings, the community plays a central role in achieving and maintaining health and wellness. The strength of communities is expressed through mutual support and sharing (14). Community support is considered an environmental characteristic. For example, the more or less regular involvement of the community where several young families are dealing with issues of screen management could influence toddlers' use and exposure.

### Mechanisms of action

Mechanisms of action explain how exposure to and use of screens influence health and wellness. Three types of mechanism of action are recognized working alone or together.

### Behavioural

Behavioural mechanisms are related to how individuals act. For example, screen time may take up time that would have been spent on other activities, such as physical activity, sleep or time spent outdoors. Reducing time for those activities can have a harmful effect on health and wellness.

### Physiological and biochemical

These mechanisms affect body functions. For example, exposure to blue light reduces the secretion of melatonin, a hormone that regulates sleep. Visual problems, such as dry eye, are associated with a decrease in blinking that occurs when looking at a screen.

### Cognitive

Cognitive mechanisms are related to mental processes. For example, certain characteristics of devices and content stimulate the reward system, which may explain the phenomenon of addiction. This includes "likes" on social media and video games that offer virtual rewards. Screens can also reduce attention to others, a phenomenon known as **technoference**.

> **Technoference** occurs when an onscreen activity interferes with social interaction by interrupting interpersonal communication (15). Screen use by parents can have repercussions on their level of vigilance and the attention they pay to a young child. This could be the case when a notification interrupts play with a child. The parent may become less sensitive and reactive to signals from the child, potentially creating an unsafe situation (16).

### Impacts on health

Few long-term studies have been conducted on the consequences of screen use on the health and wellness of individuals and communities. Most studies look at the statistical relationship between screen use and health issues, establishing potential impacts, while a smaller number of studies confirm an actual causal link. Based on current understanding, the logic model groups potential and confirmed impacts into six categories. They are listed in random order, since the goal is solely to identify the various aspects of health and wellness that may be impacted.

### Consequences for the population:

- » Physical health: Diseases associated with a sedentary lifestyle, eye and vision health issues, musculoskeletal disorders, sleep problems
- » Mental health: Issues around selfesteem and body image, stress, anxiety, depression, suicidal behaviour, abuse or dependence (video games, gambling, Internet addiction)
- » Safety and risky behaviours: Accidents and trauma, access to age-inappropriate content (violence, pornography, hate, racism, fraud), violent online behaviour (cyberbullying, cybervictimization, sexual solicitation and predation, identity theft, risky sexual behaviour)
- » Development and social adaptation: Childhood development issues; problems with interpersonal relationships in the family, at work or at school; financial difficulties; reduced quality of life

#### Consequences for society:

- » Health burden: Costs associated with the effects of screen use on health and wellness (for example, the burden of dealing with musculoskeletal disorders)
- » Social inequalities in health: May be accentuated by the digital transition in some environments (for example, limited access to online public services or low digital literacy rates reducing how much help with homework some parents can offer)

### » Read a <u>full description of the model</u> (in French only) for more information about the health impacts.



### And the benefits?

In addition to the negative impacts of screen use and exposure, there are, of course, some benefits. These include using social media to keep in touch with family members or strengthen cultural identity (17) or a mobile application to learn an Indigenous language (18). The logic model, however, deals only with the negative impacts on health. 2

### Examples of applying the logic model to Indigenous contexts



### How to use the examples

- » In this section, three fictional scenarios are presented and then analyzed with the model mainly focusing on determinants.
- » Analytical questions found below the scenarios are connected with two functions of the logic model:
  - The first involves trying to understand a personal situation that may also be experienced by others.
  - The second considers actions that might be taken from a populationbased perspective.
- The table on the second page suggests possible answers. Note that words in *italics* in the table refer to model components.
- » Take some time to think of possible answers. Yours may vary from the ones presented here if you work in and are familiar with a different context.

#### Methodological note

The members of the advisory committee shared observations and thoughts about screen use and exposure among First Nations and Inuit youth. The experiencebased information they provided was used to develop the scenarios presented and analyze them. The analyses are not intended to be exhaustive, but rather to provide examples of how the model can be applied and used to raise awareness in various situations. Finally, knowledgeable users have read this summary document and provided feedback to ensure that it is relevant and inclusive.

### Smartphones and social media provide an escape from boredom

### Laura, 14 years old

Laura lives in an Innu community on the North Shore. After school, she goes to a youth centre, where she has a good relationship with Melanie, who runs the after-school program. Laura socializes, learns a few words of Innu-aimun and participates in organized sports.

When the centre closes at six o'clock, she feels like there is nothing to do, a sentiment shared by other young people in her community. Within the past year, Laura received a smartphone. She spends many hours on Instagram and TikTok to pass the time. Like most of her classmates, Laura doesn't have a data plan, but she has access to wireless Internet at home and connects to free wireless networks in public places. She enjoys following Indigenous content creators.

Last month, Laura's uncle organized an outing to Magpie River. With no Internet access for several days, she didn't use her phone. She enjoyed her time in nature and conversed with adults. Back home again, she quickly resumed her usual behaviour. Her parents find that it is sometimes difficult to communicate with her. She appears to be consumed by content on her phone and has difficulty getting up in the morning for school. They are worried about her school grades and have been wondering about the safety of her online activities. They have spoken with other parents in a similar situation, who expressed the same concerns.

### Ideas for analysis

- A. What is the context for Laura's screen use? What motivates her and possibly other young people? What other responses might be available?
- **B.** What are the characteristics of Laura's environment? Given that she is not the only one in this situation, what are some possible actions?
- **C.** Could someone at the youth centre serve as a positive role model, influencing her use of screens? If so, how could this be used to advantage?
- **D.** What impacts on health and wellness can be seen in the example? How could they be mitigated?



### An analysis of Laura's situation

Understand	Reflect					
Usage characteristics						
<b>A.</b> Like other young people in her community, Laura uses a screen to escape boredom and build her identity, which is the <i>purpose</i> . Young people criticize the lack of activities in the community, which tends to increase their <i>screen time</i> .	Laura participates in activities when they are available. Keeping the youth centre open longer and offering activities on the land related to Innu culture are possible actions to improve the <i>living environment</i> and potentially reduce screen use.					
Environmental characteristics						
<b>B.</b> Laura has her own phone and lives in an <i>environment</i> where the Internet is readily accessible at home and in public spaces. There are no limits or parental controls on her device, which means that she can access social media almost anywhere and at any time. When there is no Internet, she doesn't use her phone.	Controlling Internet <i>access</i> can reduce screen time. The community might think about the relevance of limiting when the Internet is accessible in places frequented by young people. However, the proposed alternatives to screens must be appealing and geared to what they enjoy in order to encourage, for example, conversation and physical activity.					
C. The person who runs the youth centre after-school program appears to be a <i>role</i> <i>model</i> for Laura and other young people. Behavioural role models are an example of <i>environmental characteristics</i> because they influence <i>symbolic accessibility</i> .	Given their influence and the trust young people place in them, leaders at places frequented by young people can play a role in awareness- raising activities intended to open dialogue and reflection about screen use. Furthermore, the Canadian Paediatric Society recommends that adults set an example of balanced use by encouraging screen-free activities (19).					

### Potential impacts on health

**D.** Although this scenario doesn't explicitly discuss the health impacts on Laura, it does contain situations that represent a potential risk to her mental health. Phone use appears to impact interpersonal relationships not only between Laura and her parents but also within other parent–child pairs. In addition, Laura's parents are concerned about the *safety* of using digital devices as well as possible effects on her *sleep* and *academic results*.

The school or community could offer information sessions about the health concerns related to social media and video games. Positive aspects, such as *content* promoting pride in one's identity, would be a possible topic. Such a session could also deal with the issue of *safety*. Suggesting avenues for discussion between parents and their children is a possibility, such as asking children what they watch and taking an interest in it. Signs to watch out for, such as changes in behaviour, could also be identified.

### New parents use screens as timesavers

### Billie, 2 years old

Johanne is a perinatal nurse at a health centre. In recent years, she has noticed that a greater number of parents have concerns about their toddler's development. In talking with them, she has learned that the television often stays on in the background at home. Children are also offered a phone or tablet during down time. Johanne has found that few parents are familiar with recommendations concerning exposure to screens and the related health consequences. Those who do know the recommendations say that they are difficult to follow on a day-to-day basis.

This morning she met a young couple, Lise and Bryan, who are first-time parents. Bryan is from the Atikamekw Nation and moved to Quebec City with Lise for Billie's birth. They are very happy but find household chores and their role as new parents exhausting. Billie does not go to a daycare as Lise is expecting a second child and stays at home.

Bryan often gives his phone to Billie while he does the shopping or in the car so he won't be disturbed. Billie is entertained by the playful brightly coloured videos. As for Lise, she turns on the television while preparing meals. The couple sometimes make video calls to Billie's grandmother, who lives in Wemotaci, so she can see Billie. During one call, she mentioned that Billie did not speak much for a child of two. Lise and Bryan later shared her concern with the nurse.

### Ideas for analysis

- A. Describe Billie's characteristics and the contexts in which Billie is exposed to screens. Given that other toddlers have the same characteristics, how can that knowledge be applied in identifying potential population-based actions?
- **B.** What motivates Lise and Bryan to expose Billie to a screen? Are there other ways to meet the needs of parents and toddlers living a similar family situation?
- **C.** What characteristics of the environment (family setting) might influence Billie's exposure to screens? What kind of population-based approach might be adopted?

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An	anal	ysis	of	Billie	's	situation
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Understand	Reflect				
Individual characteristics and screen use					
<b>A.</b> Considering Billie's <i>individual</i> <i>characteristics</i> , the toddler's daily screen time ( <i>manner</i> ) may exceed recommendations based on age. Two <i>contexts</i> emerge from this example: Billie is exposed passively to colourful videos and more interactively during video calls with the grandmother.	Bringing age-based recommendations to the attention of parents would be a first step, and one that could be applied to other families at the same time. This is an action on the level of the <i>family environment</i> . Awareness-raising messages could mention that screens offer no health benefits to children under the age of two. Other, more appropriate, means are available to stimulate toddlers and foster their language, motor and cognitive development. For parents of older children, ideas such as <b>co-viewing</b> could be proposed.				
Characteristics of exposure					
<b>B.</b> When we examine the <i>purpose</i> of the exposure, it is clear that the parents use screens to keep Billie occupied so that they have more time for household chores. Billie, Lise and Bryan are just one example of a family for whom those who might have been able to provide daily support live too far away.	The health centre could review existing family resources, ensure that they address actual needs and promote their use. Those resources could include screen-free meeting places that foster the overall development of children or providing support that gives parents a break. In urban settings, Indigenous Friendship Centres offer activities for the entire family. Billie could visit such a centre with one parent, leaving the other free to do the chores. This would give Billie an opportunity to spend time and interact with children of the same age, as well as with other adults				
Environmental characteristics					
C. The environment in which Billie is	Programs to enhance the parenting experience				

**C.** The *environment* in which Billie is growing up, i.e. the home, encourages exposure to screens, with easy *accessibility* due to the absence of clear limits. In fact, the scenario mentions potential developmental *consequences*. Programs to enhance the parenting experience within the *community environment* could benefit Lise and Bryan, as well as other new parents. Such programs could provide key opportunities to address managing screen time while also teaching about alternatives, such as how to encourage child play.

**Co-viewing** involves guiding the child through a viewing experience and discussing it afterwards. This could include making a video call with the child or watching a short educational video together.

### Tablet time creates a private bubble in overcrowded housing

### Jimmy, 11 years old

When high-speed Internet reached the Ungava Coast, many families signed up. It seems that parents in some communities, however, are under the false impression that the fact that their children are in view and safely indoors makes screens and the Internet a risk-free option. Moreover, many young people find that screen time is the only way to have some privacy in overcrowded housing. But it is sometimes hard to stop, which is the case with Jimmy.

Jimmy, an Inuk tween, shares a bedroom with three younger brothers who are sometimes noisy, and he almost never has any time to himself.

A few months ago, he received his very own tablet – so he doesn't have to share with other family members anymore. Jimmy loves playing games and is completely absorbed by the animations, sound and virtual rewards. When he plays on his tablet, Jimmy feels calm and is in his own private bubble. His parents don't allow him to take the tablet when he goes out, which is about the only time he doesn't use it. Since his parents made that rule, he goes outdoors less often to play with his brothers and friends. Someone who used to love running around and riding his bike now spends more time indoors with his tablet. On more than one occasion, his grandmother has caught him in his closet playing games at night.

### Ideas for analysis

- **A.** Which of Jimmy's individual characteristics might influence his screen use and what motivates that use? How can this information be considered in determining possible actions?
- **B.** How might the environment influence his use of the tablet either positively or negatively? What actions can be taken with respect to that environment?
- **C.** What are the health impacts in this situation, and which mechanisms of action are involved? How can understanding those mechanisms lead to appropriate responses?

### An analysis of Jimmy's situation

Understand	Reflect				
Individual characteristics and screen use					
A. Consider the <i>individual characteristics</i> in this situation. Jimmy is at the onset of adolescence, a time for seeking one's identity and risk taking. Hiding to play games at night in defiance of his parents' rules is an example of this. The <i>purpose</i> behind Jimmy's screen use is to have private time alone, something that is difficult to find in overcrowded housing. His situation is shared by other young people.	Taking the <i>characteristics of young people</i> <i>and their environments</i> into account provides an avenue for suggesting alternatives to screen time. One idea would be to create environments that encourage intergenerational conversations to maintain an open dialogue. Providing stimulating environments that foster the development of creativity would be another way for young people in this northern community to have time for themselves.				
Environmental characteristics					
<b>B.</b> Jimmy's parents and the family context are <i>environmental characteristics</i> that act as protective factors in not allowing Jimmy to take his tablet outdoors. On the other hand, some parents prefer having their child spend time on a tablet rather than going outside, which they see as more dangerous (20). The Internet itself, however, is not a risk-free space. In addition, Jimmy's housing situation influences his screen use since he has trouble finding time alone.	This example highlights the multitude of <i>environmental characteristics</i> that can influence exposure to and use of screens. Providing outdoor environments that are safe in the eyes of parents and young people, as well as housing adapted to the needs of families, would be indirect ways of influencing screen time. Finally, the health benefits of spending time outdoors could be emphasized in awareness-raising messages, in addition to providing reminders about the risks and consequences of screen use.				
Potential health impacts					
<b>C.</b> This example shows the potential <i>consequences</i> on sleep, physical inactivity and social isolation. Those risks are influenced by the combination of	Awareness-raising activities might include taking a moment to consider the <i>mechanisms</i> <i>of action</i> , which might make adults think twice before passing judgment on young				

people's behaviour. Reflection may also

help in understanding their situation and

Canadian Paediatric Society recommends viewing content and discussing it with them

whenever possible (19).

create avenues for dialogue. For example, the

exposure increase exponentially.

*behavioural* and *cognitive* mechanisms: 1) time spent playing games replaces time for

sleep, social events and outdoor activities,

and 2) the alluring characteristics of devices

*and of their content* makes it difficult to stop – the visual and auditory stimuli, virtual rewards

and immersive nature of a device. Furthermore, in households with more than one device, which is now commonplace, screen use and

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### Takeaways for supporting a balanced use of screens



### Screen use is a complex issue requiring individual and collective reflection.

Issues around screen use concern everyone, directly or indirectly. Any consideration of the subject must include those who are most impacted: youth, families, communities, the broader population and Indigenous organizations. Information needs to flow in both directions. Efforts to raise awareness about screen use must be based on expertise and address the concerns of the target population. An in-depth understanding of the realities faced by First Nations and Inuit youth will help in striking a balance between the benefits and health consequences.

### Living environments are one avenue for action.

Creating environments that are favourable to population health can help achieve a balanced use of screens. Actions targeting the living environments of First Nations and Innuit youth can lead to change without placing the responsibility solely on individuals. An analysis of the preceding scenarios points to broader health and wellness actions that target specific determinants of screen use and exposure, including safe outdoor environments, healthy housing, a diverse range of activities for youth (e.g., cultural or on the land), as well as actions designed to enhance the parenting experience and overall development of toddlers.

## Concerted action drawing on the strengths of individuals, families and communities should be prioritized.

Despite the screen-use issues highlighted in the three examples, strengths are also present: parents setting limits, existing activities organized by communities and organizations, zones without wireless access reserved for screen-free activities, screen-use role models in spaces where youth spend leisure time, and educational content or activities designed to build pride in one's identity or support relationships. Analyzing situations with the logic model can serve to identify strengths beyond the family environment and individual. Sharing responsibility and working together are the keys to building on existing strengths.



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