DECEMBER 2016

Children and Youth in N.B.: Looking Back to Look Forward

New Nouveau Brunswick

New Brunswick Health Council | Conseil de la santé du Nouveau-Brunswick

Who we are

New Brunswickers have a right to be aware of the decisions being made, to be part of the decision-making process, and to be aware of the outcomes delivered by the health system and its cost. The New Brunswick Health Council (NBHC) will foster this transparency, engagement, and accountability by engaging citizens in a meaningful dialogue, measuring, monitoring, and evaluating population health and health service quality, informing citizens on health system performance and recommending improvements to the Minister of Health.

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Introduction

About the four health priorities for children and youth

In 2011, as part of its mandate, the New Brunswick Health Council (NBHC) made three recommendations to the Minister of Health, one of which related to illness prevention and health promotion, and focused on four priorities. These four priorities were based on research and data as it related to the health of the overall New Brunswick population in comparison to the rest of Canada, as well as the associated cost/ burden to the health system.

The current NBHC priorities for the overall population include those four priorities, as well as an additional one:

- Achieving healthy weights
- Lowering high blood pressure rates
- Improving mental health
- Preventing injuries
- Achieving tobacco-free living (added in 2014)

Given that today's children are tomorrow's adults, four of these population health priorities also apply to children and youth in New Brunswick:

- Improving mental health
- Achieving healthy weights
- Preventing injuries
- Achieving tobacco-free living

Each of the four priorities is addressed by provincial policy or planning initiatives*. This report provides data and information to help leaders of these provincial initiatives assess progress towards achieving their strategic objectives.

*These initiatives include the *New Brunswick Public Health Nutrition Framework for Action 2012-2016*, the *Action Plan for Mental Health in New Brunswick 2011-18*, *A Framework for the Prevention of Unintentional Injury in New Brunswick*, *Smoke-Free Places Act*, *New Brunswick's Wellness Strategy 2014-2021*, and the *Strategy for the Prevention of Harm for Children and Youth in New Brunswick*.

Why look back?

The NBHC has been measuring health and well-being among the child and youth population of New Brunswick for the past five years. Reviewing these indicators provides an opportunity to observe how the health and well-being of our children and youth has changed over time. Reflecting on their challenges and successes in the areas of health and well-being can help us better serve them in the future.

This review will help understand how our children and youth have been doing in terms of learning and development, their living conditions, their risk factors and the support they are receiving.

Indicators were selected to measure how children and youth are doing in terms of the four priorities, and the factors that contribute to the results. Where possible, indicators that showed variability for specific subgroups (e.g. Aboriginal people, Anglophone vs. Francophone schools, etc.) were highlighted.

"It is only in using the past that we create the future."
- Anatole France, *Le livre de mon ami* (1885)

Who should read this report?

In addition to the NBHC's mandate to report this information to citizens, many government departments and other organizations will be interested in the results of this review:

- Government departments and agencies that need to evaluate the programs and services related to children and youth, or that wish to identify priorities for future planning.
- Community groups, institutions and professionals interested in the health and well-being of children and youth that need to better understand them to improve services, to better take into account the context related to future decisions and choices, and to understand the priorities and challenges associated with leading change for children and youth.

The results of this review will help schools, communities, government and non-government organizations understand the current situation, evaluate their initiatives and plan for the future. Parents, families and caregivers in New Brunswick can also better understand the status of the health and well-being of their children, and the significant role they can play in helping them be healthy and happy.

The evolution of our work on child and youth data

The NBHC began reporting on population health in 2009 with the creation of its first *Population Health Snapshot*. The Snapshot provides data on the health of New Brunswickers at the provincial level as well as at the level of the seven health zones within New Brunswick. In 2010, a provincial snapshot for youth was also created, comparing New Brunswick to other provinces on a set of 52 indicators.

As awareness of and interest in youth information increased, the NBHC's reporting process evolved to cover a wider range of indicators and to report on specific subgroups of the youth population. In 2011, the NBHC and the Child and Youth Advocate in New Brunswick collaborated to report on the *Children and Youth Rights and Well-being Framework*.

This evolving process required the compilation of data from many different provincial and federal sources. In addition, a partnership was established between the NBHC, the Wellness branch of the Department of Social Development and the Department of Education and Early Childhood Development to administer and manage the New Brunswick Student Wellness Survey.

The interest generated by the data and the development of an appetite for population health data at the local level resulted in the creation of the NBHC's "My Community at a Glance" community profiles. These profiles include many of the child and youth indicators at the community level, empowering local governments, schools, Non-Government Organizations (NGOs) and other organizations to identify areas of improvement and to work collaboratively to address them.

The demand for more specific and local level data led to efforts to capture data for specific population subgroups. The New Brunswick Student Wellness Survey, with its large respondent sample size, aims to achieve coverage of all New Brunswick communities, First Nations schools, and Alternative Learning Centers. It also captures information on more specific subgroups (e.g. students with special learning needs and exceptionalities, immigrants, LGBTQ, and students experiencing to food insecurity - as a reflection of exposure to poverty). This work provides a wide range of indicators at different levels and for different objectives.

How to read this document

Terminology

For the purpose of this report, the following terminology is used:

- **Child/children** refers to boys and girls from birth to 11 years of age (or up to grade 5).
- **Youth** refers to boys and girls aged 12 to 19 years (or in grades 6 to 12).
- **Students** includes some or all children and youth from kindergarten to grade 12 who were the subjects of a New Brunswick Student Wellness Survey.

Graphs

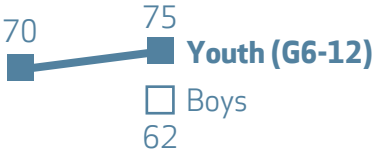
Many of the indicators presented in this report come from the New Brunswick Student Wellness Survey (NBSWS). For these results, the following shortcode and graph style are used to distinguish between the grades:

Grades	Shortcode	Graph style
Kindergarten to Grade 5	**Children K-G5**	 **solid circular** markers and a **dashed line**
Grades 4 and 5	**Children G4-5**	
Grades 6 to 12	**Youth G6-12**	 **solid square** markers and a **continuous line**

When the results from specific population subgroups vary significantly from the overall population, they may be presented as their own data points.

Children and youth population subgroups for which data can be broken down (only applicable to 2012-2013 and 2013-2014 data)
Aboriginal
Immigrant
Boys
Girls
Francophone (Students in Francophone schools)
Anglophone (Students in Anglophone schools)

For these results, we use a **hollow** marker instead of a solid one (square or circular, depending on the grade.)



In this example, the hollow square marker (62) represents the results specifically for youth boys.

Improving mental health

Enjoying positive mental health fosters children and youth's capabilities to realize their full potential for well-being. Most symptoms of mental illness begin to manifest themselves in adolescence and early adulthood. When ignored, they can escalate into mental illness (e.g. depression and anxiety), possibly leading to hospitalization and, in extreme cases, suicide.[1]

Key findings

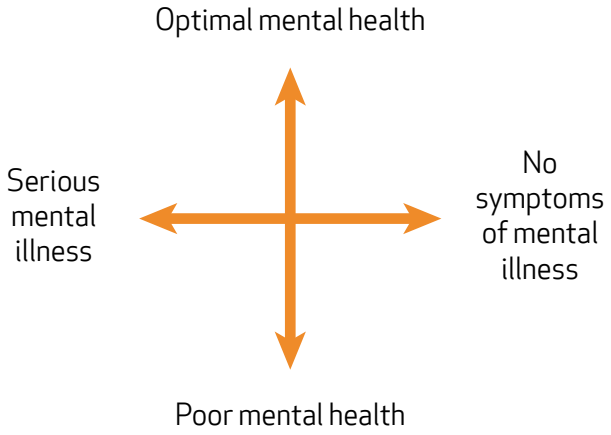
The overall rate of premature deaths due to suicide among children and youth is declining. However, more children and youth are being hospitalized due to mental illness and disease especially resulting from depression, childhood/adolescence behavioural and learning disorders, and anxiety. Different factors contribute to the mental health status of children and youth, and most observed indicators on mental fitness and social behaviours demonstrate improvements. A new indicator on youth (grades 6-12) who have symptoms of depression and anxiety was captured this year (2015-2016). The indicators shows around 30% of youth report having symptoms for either of the two conditions, while 25% report having symptoms of both. Monitoring that indicator will help improve the understanding of the status of youth mental health. Further analysis is needed to understand the trend of increasing mental health hospitalization, in order to identify target areas for improvement.

A distinction between mental health and mental illness

Although the terms are often used interchangeably, mental health and mental illness are not the same thing, nor are they mutually exclusive. A fundamental difference between mental health and mental illness is that everyone has a level of mental health all of the time, just like physical health, although it is possible to be without mental illness.[2]

Mental health is a state of well-being in which individuals realize their own abilities, can cope with the normal stresses of life, can work productively and fruitfully and are able to contribute to their community.[3]

Mental illness is a recognized, medically diagnosable disorder that results in the significant impairment of a person's cognitive, affective or relational abilities. Mental disorders result from biological, developmental and/or psychosocial factors and can be managed through approaches similar to those applied to physical disease (i.e., prevention, diagnosis, treatment and rehabilitation).[4]

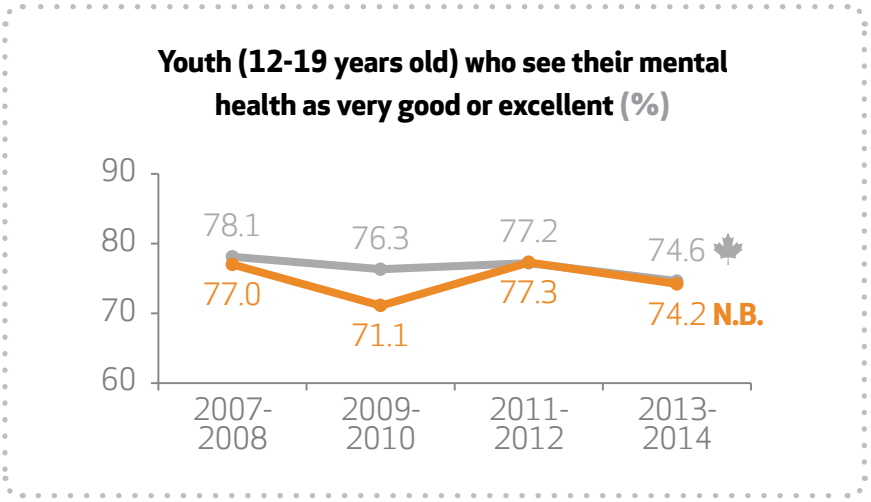


Source : Canadian Mental Health Association, Ontario

Positive mental health / mental fitness

Positive mental health / mental fitness is a state of well-being that allows us to "feel, think, and act in ways that enhance our ability to enjoy life and deal with the challenges we face" [5]. Positive mental health / mental fitness approaches and practices have been positively correlated with healthy and enhanced physical and emotional developmental outcomes in children and youth. [6] [7]

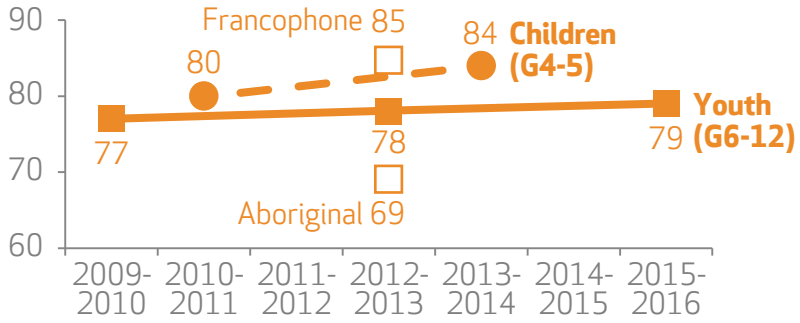
- About 3 out of 4 New Brunswick youth perceive their mental health positively and they are at par with their Canadian peers.



Source: Statistics Canada, CANSIM Table 105-0502

- New Brunswick students seem to be developing an improved level of mental fitness.
- Students in Francophone schools demonstrate better levels of mental fitness, whereas Aboriginal students have the lowest levels.

N.B. students with moderate to high levels of mental fitness (%)



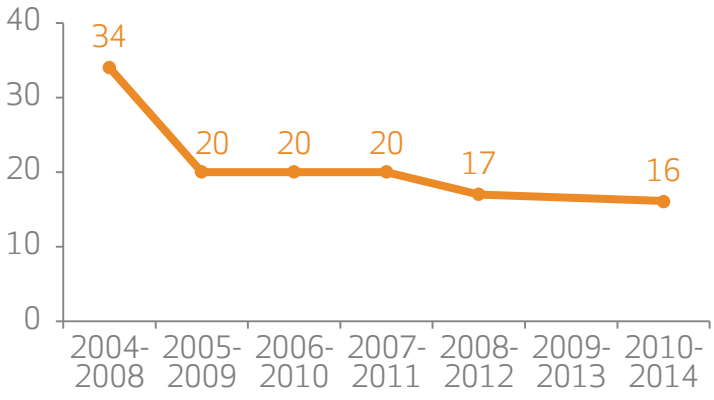
Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Suicide

Suicide is among the top causes of death for Canadian youth and young adults.

- The rate of premature deaths among children and youth in New Brunswick due to suicide and self-inflicted injuries is on the decline.

Premature deaths from children and youth (0-18 years old) suicide or self-inflicted injuries (Potential years of life lost/10,000 population)



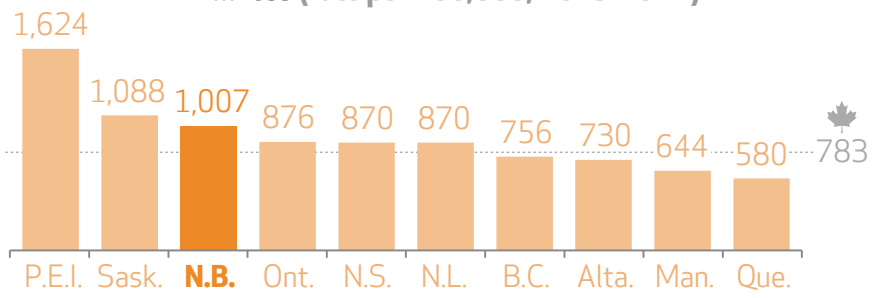
NBHC calculation from:
Service New Brunswick, Vital Statistics Database

Mental illness hospitalizations

Hospitalization is a component in the continuum of services for mental health. It is particularly important to individuals with severe mental illness, as well as those who have nowhere else to go for care. [8]

- New Brunswick youth are being hospitalized more often for mental illness than their Canadian peers.

Hospital admissions of youth (15-17 years old) for mental illness (rate per 100,000, 2013-2014)



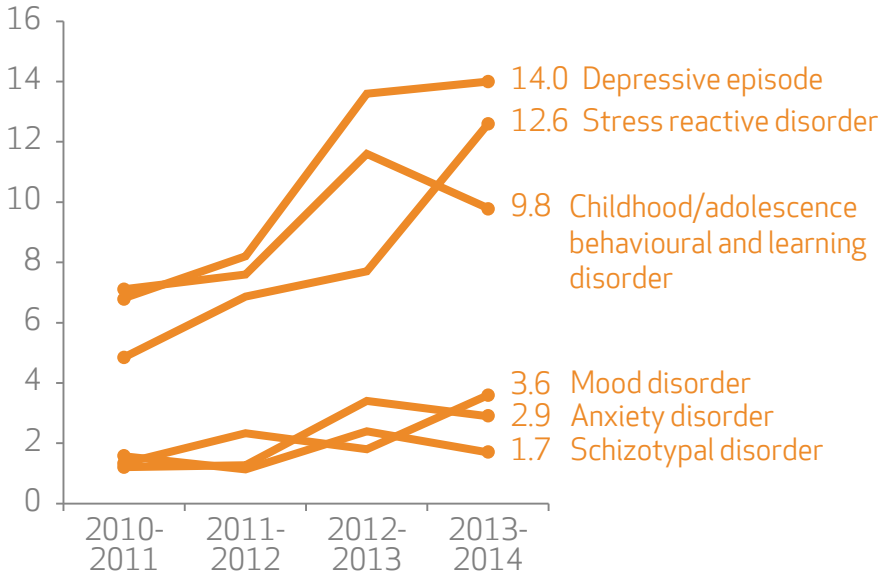
Source: Canadian Institute for Health Information, Discharge Abstract Database and Health Personnel Database

- More New Brunswick children and youth are being hospitalized for mental illness over time.
- Depressive episodes, stress reactive disorders, and behavioural and learning disorders are the leading causes of mental illness admissions.

Hospital admissions of children and youth (0-18 years old) for mental illness (rate per 10,000)

2010-2011	2011-2012	2012-2013	2013-2014
31	38	56	64

Most frequent cases

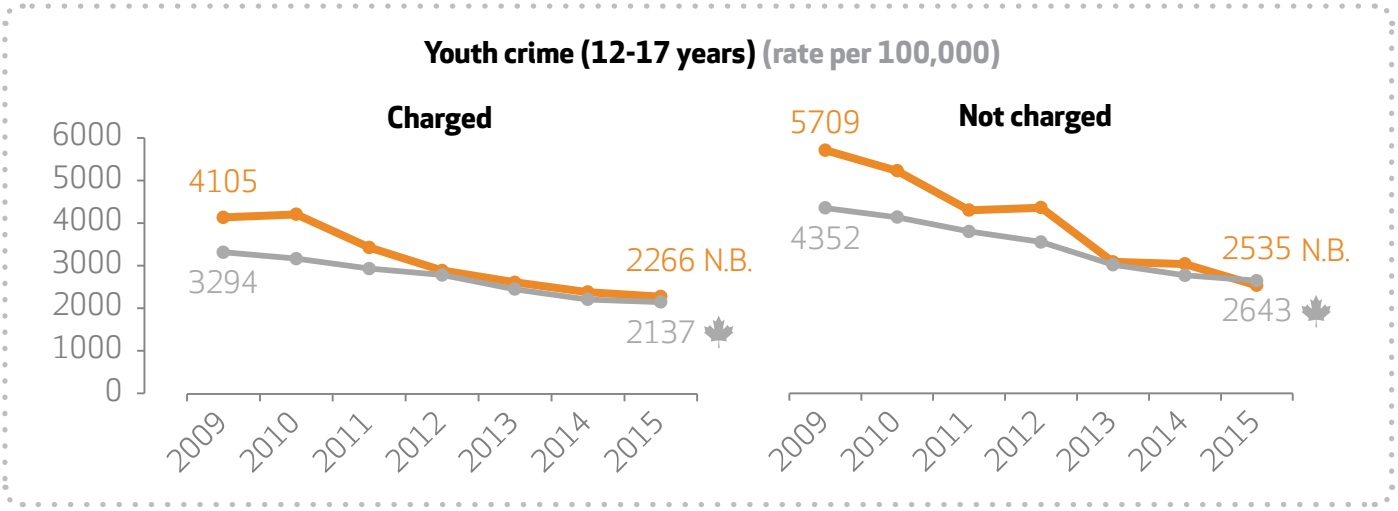


Source: GNB, Department of Health, Discharge Abstract Database

Crime rates

Inadequate parenting behaviours and family stressors were correlated with mental health problems and significantly predicted later criminal outcomes, mediated by conduct problems and substance abuse. [9]

- Both rates of youth charged and youth not charged for crimes have been declining in New Brunswick since 2009. They are now more in line with Canadian trends since 2012.

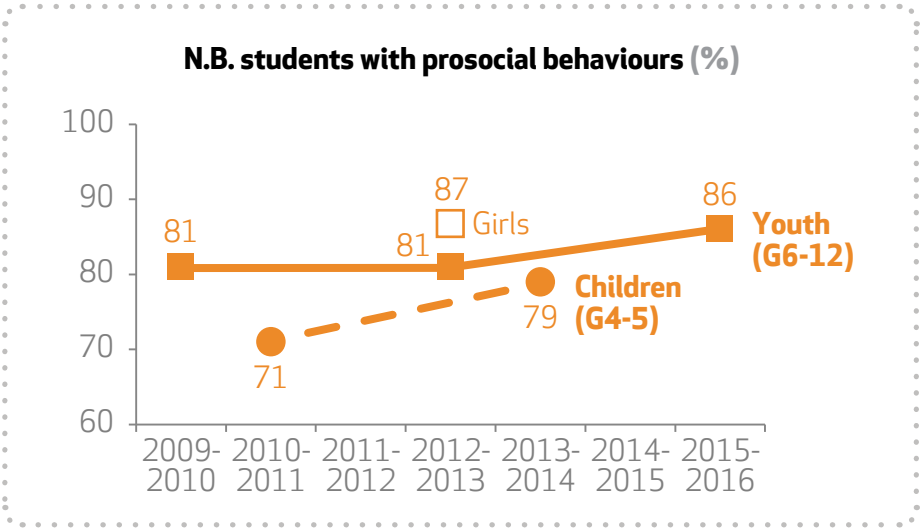


Source: Statistics Canada, CANSIM Table 252-0051

Prosocial behaviour

Prosocial behaviour is defined as the ability to express a social interest in others, such as willingness to help or to be generous. Empathetic and resilient individuals have been shown to develop prosocial behaviours as they grow up. [10]

- New Brunswick children and youth show improved prosocial behaviours.
- Girls demonstrate the highest rate of prosocial behaviours.



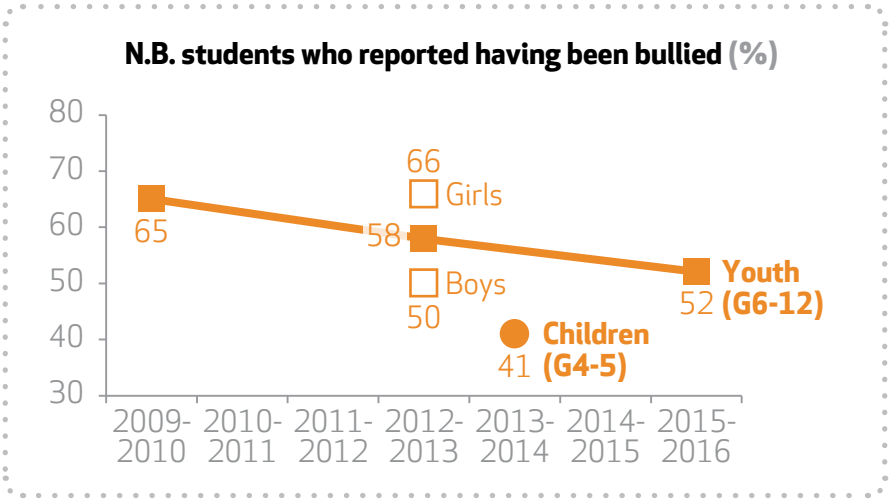
Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Exposure to bullying

Bullying is a display of anti-social/oppositional behaviours. It can have serious long term implications on the emotional well-being of the victims.[11] Both victimization (being bullied) and perpetration (being a bully) are linked to: [12]

- Academic problems (e.g. poorer academic skills and grades)
- Psychological problems and low empathy
- Distorted perceptions of the impact of aggression and its role in social problem-solving
- Increased risks for substance use and conflict with the law

- Despite a downward trend, at least 1 out of 2 youth and 2 out of 5 children in New Brunswick have been bullied.
- More girls than boys report being victims of bullying (both children and youth). The most common types of bullying reported overall are verbal violence and exclusion.

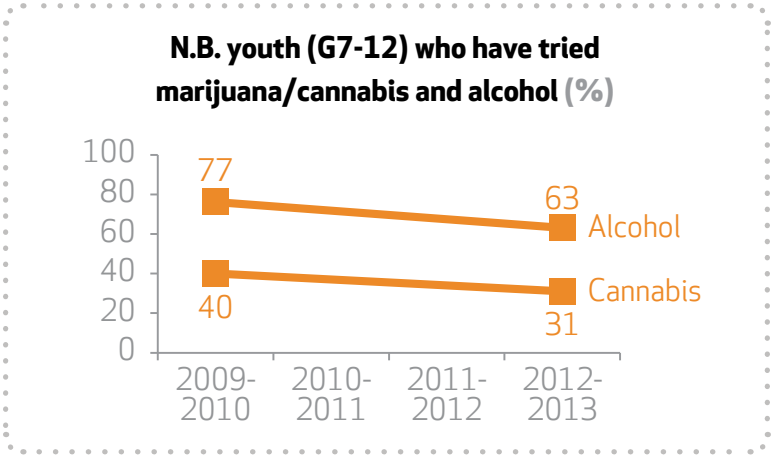


Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Substance use

Cannabis is the most commonly used substance after alcohol. The prevalence of cannabis use in Canada peaked in 2002 and has been declining ever since. It is currently at its lowest level among both boys and girls over the last 20 years. [13]

- Use of marijuana/cannabis and alcohol seems to be on the decline.
- Aboriginal youth reported higher usage of marijuana and alcohol than other youth in New Brunswick, whereas immigrants reported the lowest rates.

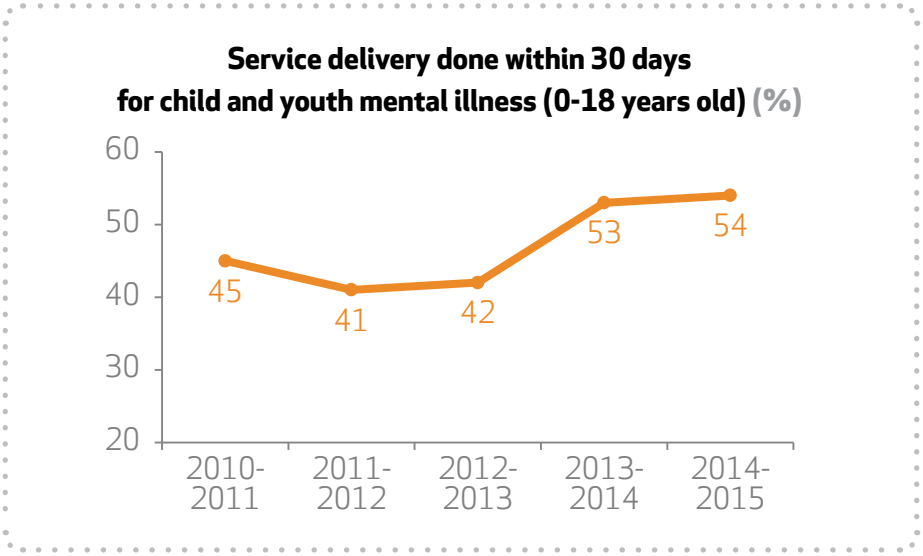


Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Timely access to mental health services

Timely access to needed services for mental health protects children and youth from more serious complications and outcomes.

- A positive trend has been demonstrated in children and youth receiving mental health services within 30 days.
- Only 1 out of 2 children and youth seeking care in the formal health system can get the service they need for mental health within 30 days.



Source: GNB, Department of Health, CSDS Database

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Achieving healthy weights

Overweight and obesity in childhood and adolescence have been associated with negative social and economic outcomes, elevated health risks and morbidities, and increased mortality rates in adulthood.[1]

Key findings

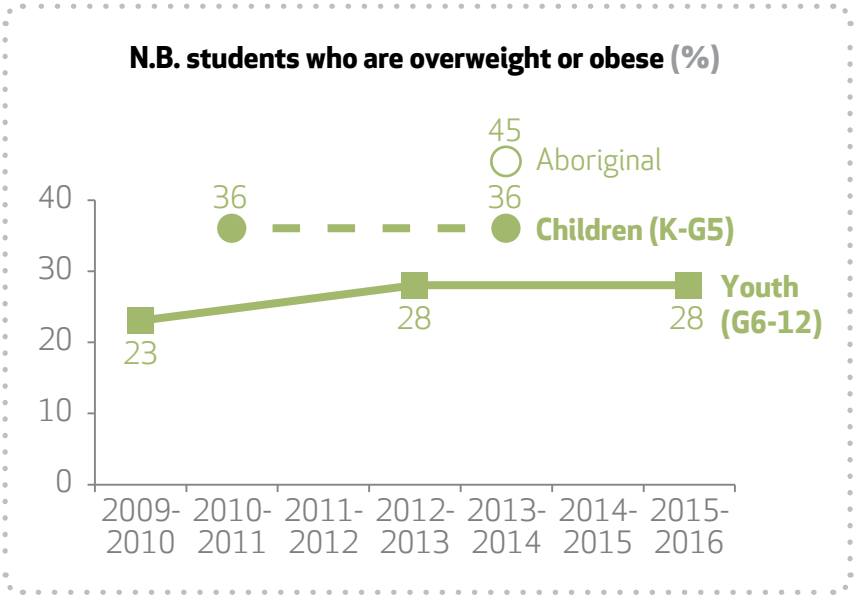
New Brunswick children and youth continue to demonstrate obesity rates that are among the highest in Canada. The higher percentage of high birth weight babies (babies weighing 4,500 g or more at birth) in New Brunswick compared to Canada implies an early basis for child obesity. With few exceptions (like screen time), a slow improvement is demonstrated in the area of healthy eating and physical activity.

The fact that obesity rates have not shown similar improvement either means that the changes in the determinants will translate into healthier weights on the long term, or that there are other factors that contribute to the obesity rates among children and youth in New Brunswick.

Obesity rates

Overweight and obesity are risk factors for a large number of chronic health conditions like high blood pressure, heart disease, diabetes, and stroke.[2]

- Rates of overweight and obesity among children and youth have stabilized over the past few years.
- Close to 3 in 10 youth and more than 3 in 10 children in N.B. are overweight or obese.
- Aboriginal children have higher obesity rates compared to the overall child population.
- New Brunswick is the third worst province for reported rates of overweight and obesity among youth.
- In Canada, approximately 33% of obese preschool-aged children and 50% of obese school-aged children remain obese as adults .

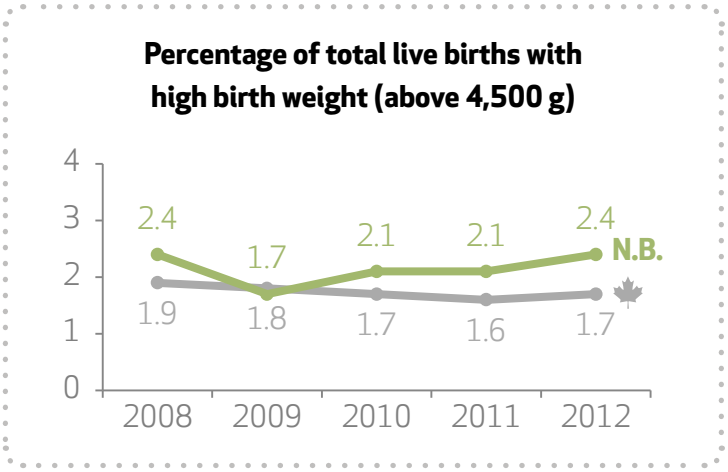


Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

High birth weight

Young adults who were born with high birth weight have an increased prevalence of obesity.[3]

- The overall trend of high birth weight has been decreasing since 2000; however, the percentage of New Brunswick babies born weighing 4,500 g or more (high birth weight) has been mostly higher than the Canadian average.



Source: Statistics Canada, CANSIM 102-4509

Healthy eating

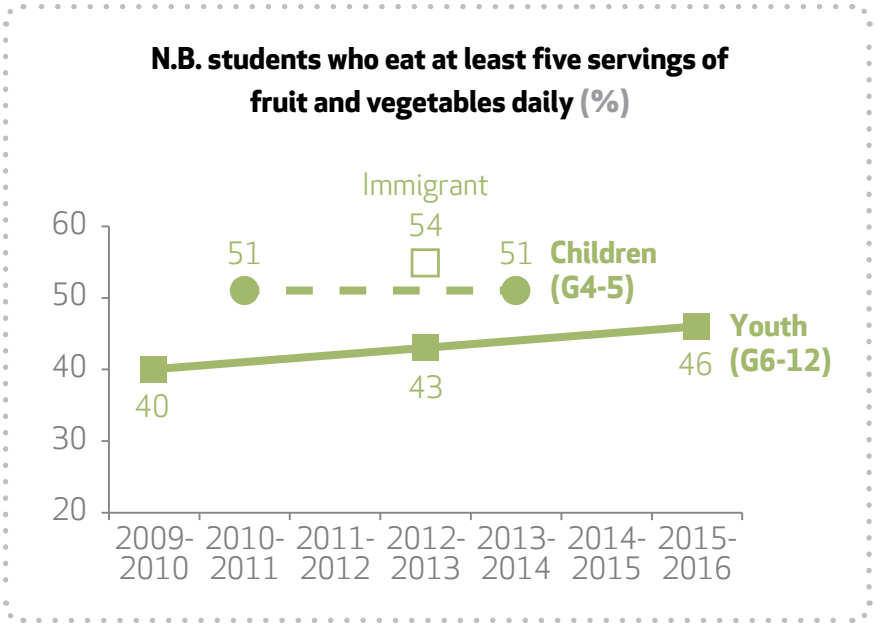
Healthy diets are essential for the development and growth of children.[4] Eating breakfast every day, eating fruit and vegetables, and limiting consumption of unhealthy food and beverages are examples of healthier eating habits.[4][5][6][7]

Students in Francophone schools seem to demonstrate better eating habits than their peers in Anglophone schools. Girls also seem to be eating healthier than boys.

Fruit and vegetable consumption

Fruits and vegetables contain a rich source of essential minerals, vitamins and fiber for our bodies. They can also limit the development of chronic diseases such as cancer, diabetes and heart diseases, among many other conditions. Children and youth who eat fruit and vegetables five or more times a day are less likely to be overweight or obese compared to those who consume less often.[4]

- Consumption of fruit and vegetables has been stable for children, but has increased for youth.
- Only 1 in 2 children in New Brunswick eat five or more servings of fruit and vegetables daily (as recommended by Canada's Food Guide) and only 2 out of 5 youth do.
- Immigrant youth consume more fruit and vegetables than their peers.
- New Brunswick youth are on par with their Canadian peers in fruit and vegetable consumption, and the rate is relatively stable (third best after Quebec and Ontario).

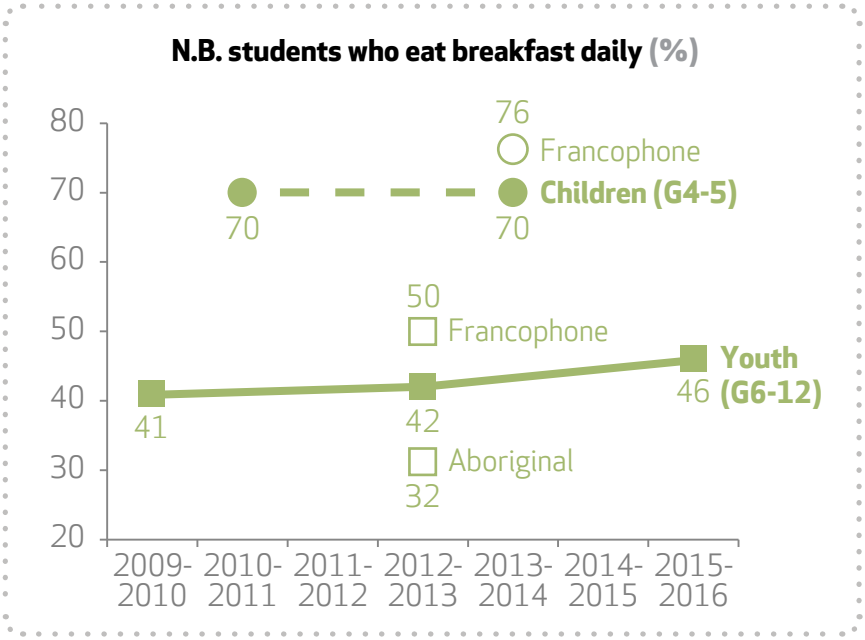


Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Eating breakfast daily

Eating breakfast every day can help improve concentration, and increase students' potential to learn . Students who eat breakfast have improved memory, problem-solving skills and creative abilities.[8]

- The percentage of youth reporting eating breakfast daily is increasing.
- 7 in 10 children and 5 in 10 youth in New Brunswick reported eating breakfast daily.
- Students in Francophone schools seem to eat breakfast daily more often, whereas Aboriginal youth have the lowest rate.

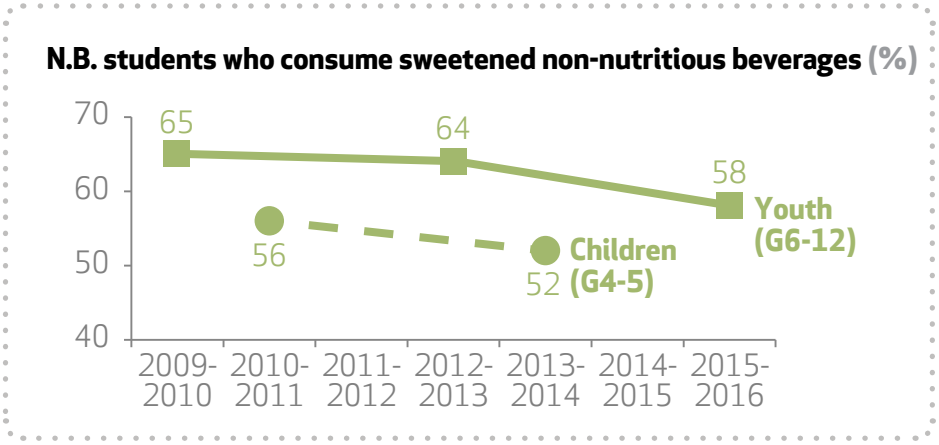


Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Sweetened non-nutritious beverages

Limiting the consumption of foods and beverages high in calories, fat, sugar and salt is an important step towards better health and healthy body weight.[9] Excessive regular consumption of non-nutritious beverages adversely affects the appropriate dietary balance of nutrients needed for optimal growth, development, body composition and health. [10] [11]

- Consumption of sweetened non-nutritious beverages (e.g. pop or soft drinks, punch, sports drinks and energy drinks) is on the decline.

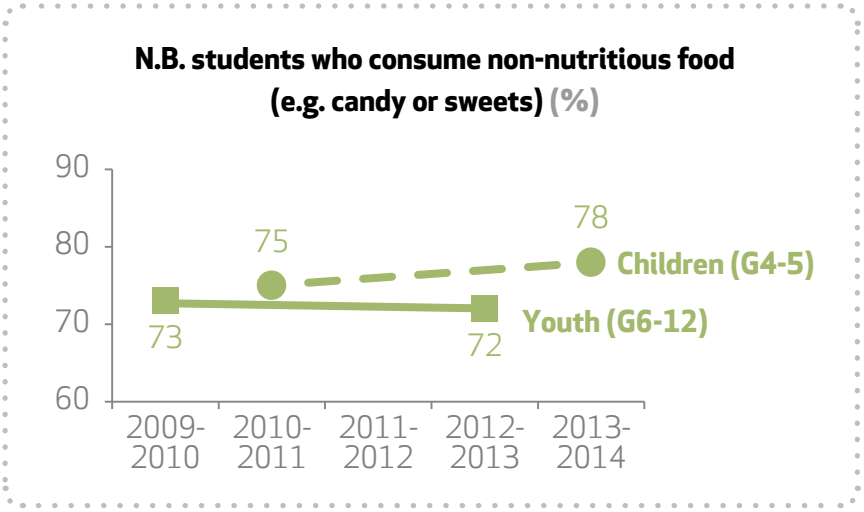


Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Non-nutritious food

The increase in non-nutritious food consumption is a main factor implicated in the spread of the worldwide obesity epidemic. Consuming non-nutritious foods increases calorie intake and can lead to being overweight or obese. [12]

- At least 7 in 10 children and youth consume non nutritious food (e.g. candy or sweets); consumption is increasing among children, yet relatively stable among youth.



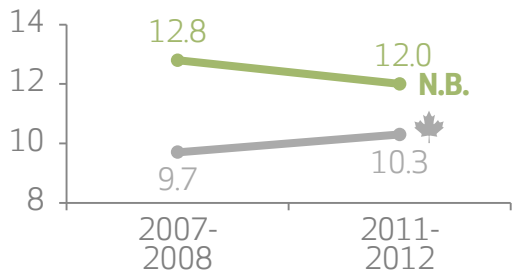
Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Other determinants of healthy eating

Some social and economic factors can influence the affordability and availability of healthy food options.

- At least 1 in 10 families with children in New Brunswick experiences moderate to severe food insecurity. This is a vulnerable group that may experience barriers to healthy eating habits, and for whom there is a need to address the social and economic factors that impede the achievement of healthy lifestyles.

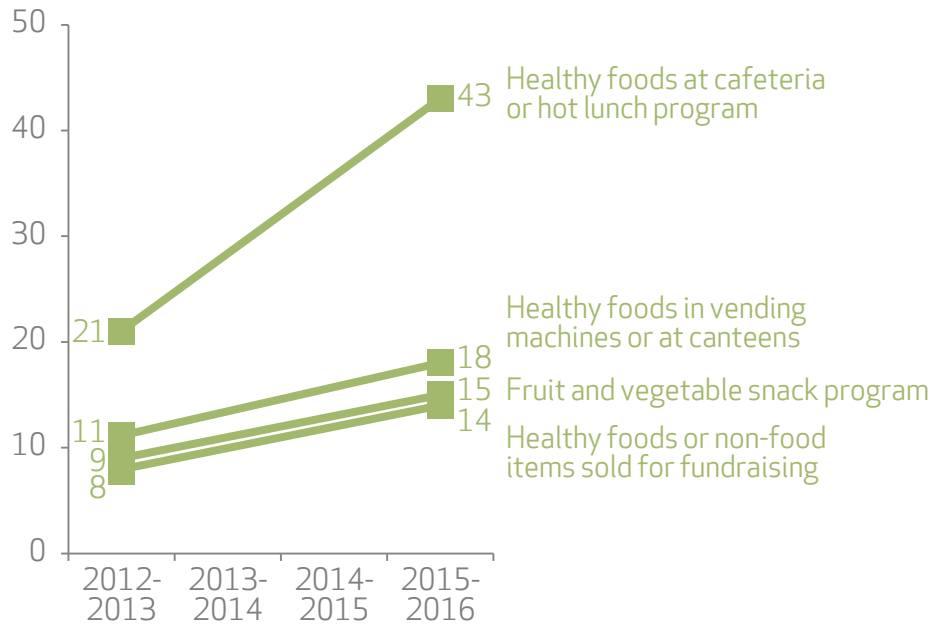
Moderate to severe food insecurity in homes with children less than 18 years old (%)



Source: Statistics Canada, CANSIM Table 105-0546

- Schools have been playing an important role in supporting healthy eating habits among children and youth. The latest Student Wellness Survey for Grades 6-12 showed improvements in access to healthy food options.

N.B. youth (G6-12) who noticed healthy food options at school (%)



Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Physical activity

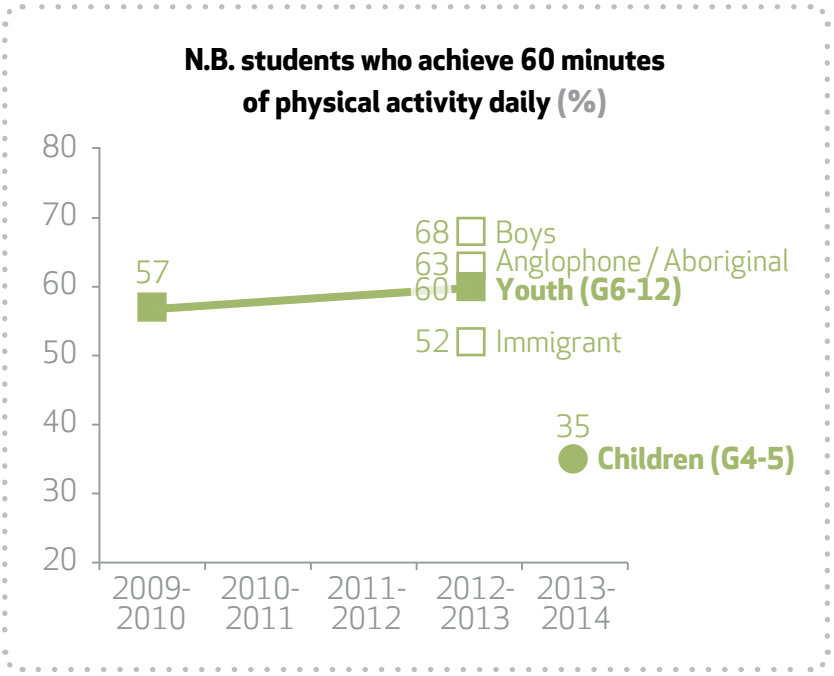
Physical activity can help children achieve and maintain a healthy body weight, reduce stress, increase energy levels, and improve their overall outlook on life.[13] Children who are physically active may experience immediate and long-term positive impacts like improved mental health status and self-esteem, and increased physical fitness, which improves performance of daily activities. [14]

The 2016 edition of the ParticipACTION report[15] highlighted the links between physical activity, screen time and sleep among children and youth. Low levels of physical activity and high levels of sedentary behaviour (such as screen time) is linked to shorter and poorer quality sleep.

Daily physical activity

The Canadian Physical Activity Guidelines recommend that children and youth accumulate 60 minutes a day doing hard or moderate physical activity. [16]

- New Brunswick youth seem to be slightly more physically active than before.
- 3 out of 5 youth are physically active every day, whereas fewer than 2 in 5 children are.
- Boys, students in Anglophone schools and Aboriginal students are more physically active than their peers, whereas immigrants show the lowest percentage of youth who are physically active on a daily basis.

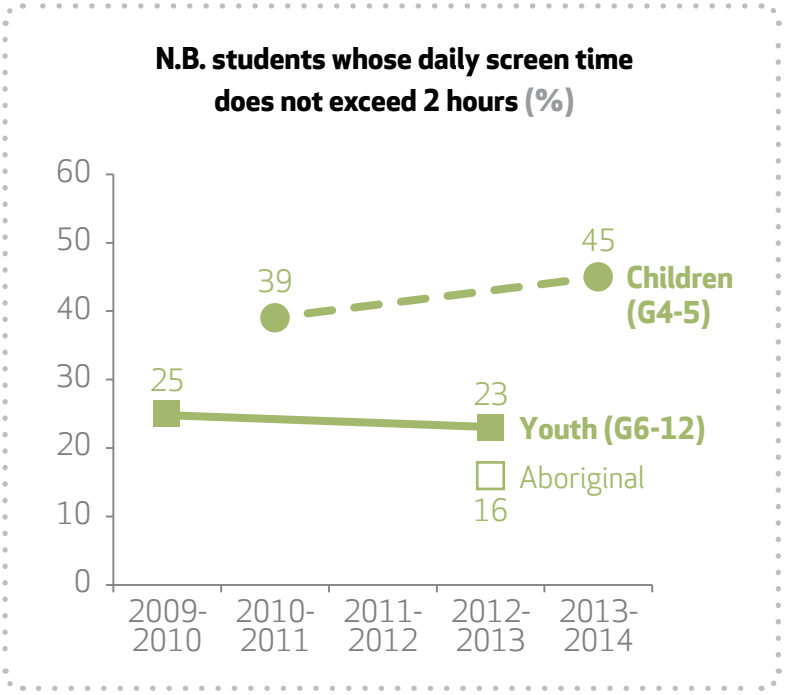


Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Screen time

The Canadian Sedentary Behaviour Guidelines call for children and youth to spend less than two hours per day in sedentary recreational activities, such as screen time (watching TV or using a computer). [16]

- The trend for screen time is improving among children, but not among youth.
- More New Brunswick children follow the guidelines for screen time than youth
- Aboriginal youth seem to spend more time in sedentary screen time compared to their peers.



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Preventing injuries

Preventable injury is the leading cause of fatality for Canadians between the ages of 1 and 44 and is among the top causes of hospitalizations for Canadians of all ages.[1]

Key findings

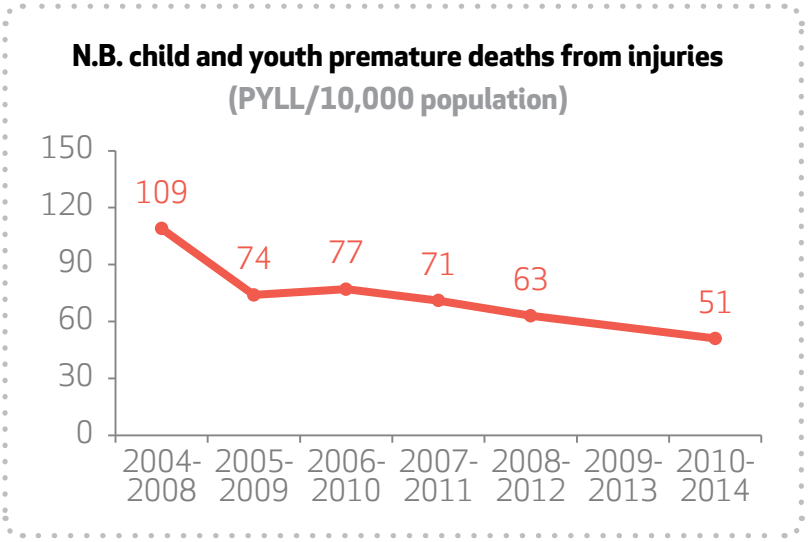
Premature deaths as well as injury hospitalization among children and youth are on the decline, yet injury hospitalization remains significantly above the Canadian average. Exposure to safety hazards, falls and transport accidents seem to be the major causes of injury-related hospital admissions.

Greater ability to capture the data around injury-related emergency deparment visits will ensure a more comprehensive overview of the causes of injury among children and youth, as normally only severe cases require hospitalization. Understanding variability by geographic regions and different population groups can also highlight priority areas of intervention.

Premature deaths due to injuries

Injuries are responsible for approximately 350 deaths each year in New Brunswick, representing about 6% of all deaths in the province.[2]

- Premature deaths because of injury among children and youth are on the decline.

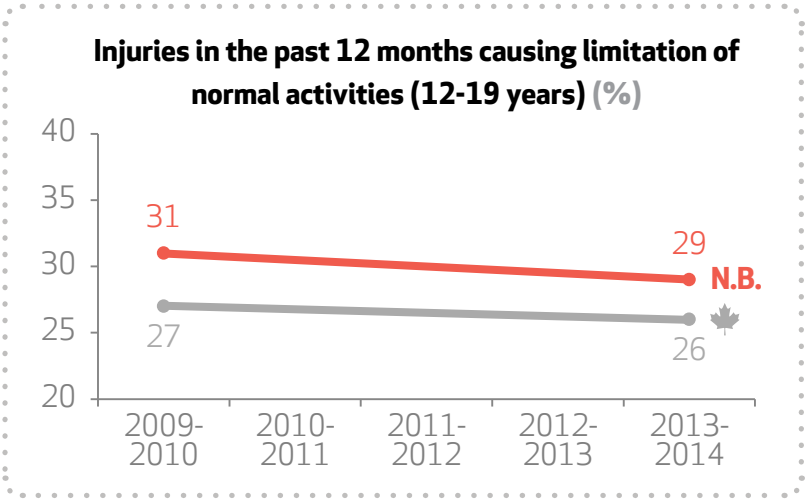


NBHC calculation from:
Service New Brunswick, Vital Statistics Database

Youth-reported injuries

Non-fatal injuries can vary in degree with some requiring medical attention and leading to restriction in daily activities. For the overall New Brunswick population, falls, followed by motor vehicle accidents, were the leading causes of injury requiring hospitalization.[2]

- The rate of injuries that limit activities is relatively stable.
- According to the most recent data from SWS G6-12, about 1 in 3 students reported having experienced an injury that required medical treatment in the past year.

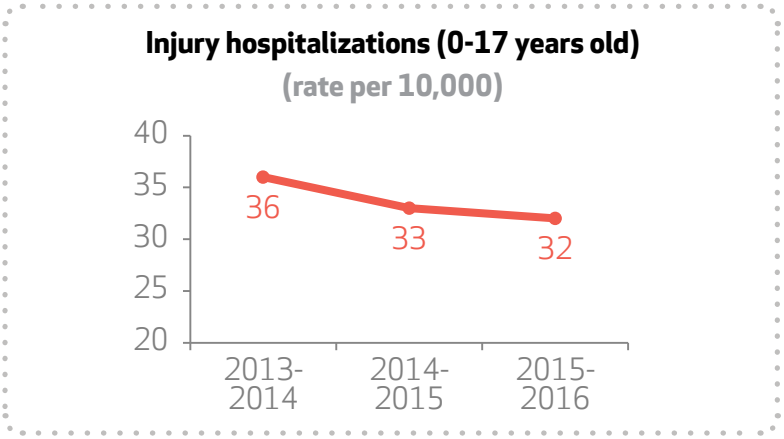


Source: Statistics Canada, CANSIM Table 105-0502

Injury hospitalizations

The leading causes of hospitalizations and emergency room visits due to transport incidents in Canada (all ages) were attributed to biking, motor vehicle collisions, and snowmobile/ ATV incidents.[1]

- Injury hospitalizations among children and youth are on the decline.



NBHC calculation from:
GNB, Department of Health, Discharge Abstract Database

Top causes of injury hospitalizations for youth and children (0-19 years old) in N.B.

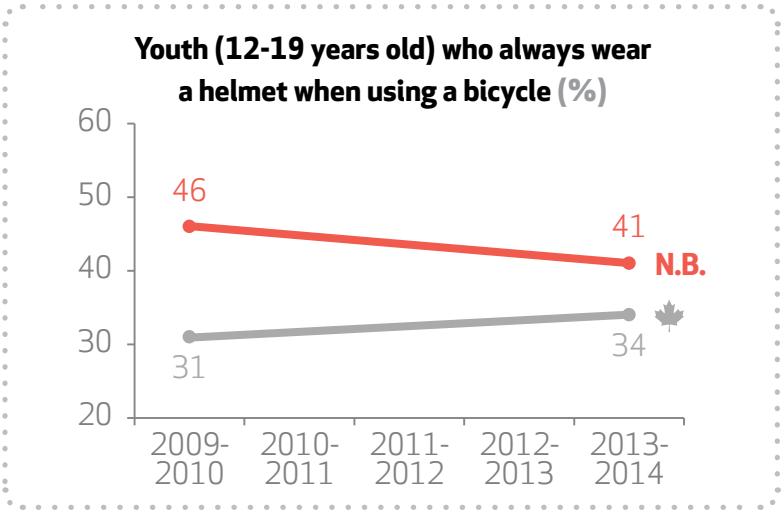
Cause (based on ICD-10 groups) [3]	**Number of cases in 2015-16**	**Percentage of total cases**
1. Slipping, tripping, stumbling and falls	147	34.8%
Fall involving playground equipment	27	
Fall involving skates/skis/sportboard/inline skates	24	
Fall same level from slipping, triping or stumbling	20	
Unspecified fall	15	
Fall on/from stairs and steps	13	
2. Exposure to inanimate mechanical forces	54	12.8%
Striking against/struck by other objects	17	
3. Other land transport accidents	34	8.0%
Occupant of special all-terrain vehicle injured in transport accident	28	
4. Exposure to animate mechanical forces	34	8.0%
Striking against/bumped by another person	14	
5. Assault	30	7.1%
6. Accidental exposure to other specified factors	23	5.4%
7. Pedal cycle rider injured in transport accident	20	4.7%
8. Car occupant injured in transport accident	19	4.5%
9. Exposure to unspecified factor	18	4.3%

Source: GNB, Department of Health, Discharge Abstract Database

Biking safety

In Canada, biking (pedal cycling) was the commonly reported cause of injury hospitalization for children and youth, and head injury is the no. 1 cause of serious injury and death to kids on bicycles. A head injury can permanently change the way a child walks, talks, plays and thinks. Head injuries can also occur during activities like skateboarding, skiing, ice and inline skating and scooter riding. A properly fitting helmet helps protect the brain the same way it does on a bicycle, dramatically decreasing the risk of serious injury. [4][5]

- More New Brunswick youth wear helmets when using bikes than their Canadian peers, but the rate is trending in the wrong direction.
- According to the 2015-2016 New Brunswick Student Wellness Survey (G6-12), about 1 in 3 adolescents reported always wearing a helmet when riding a bike.

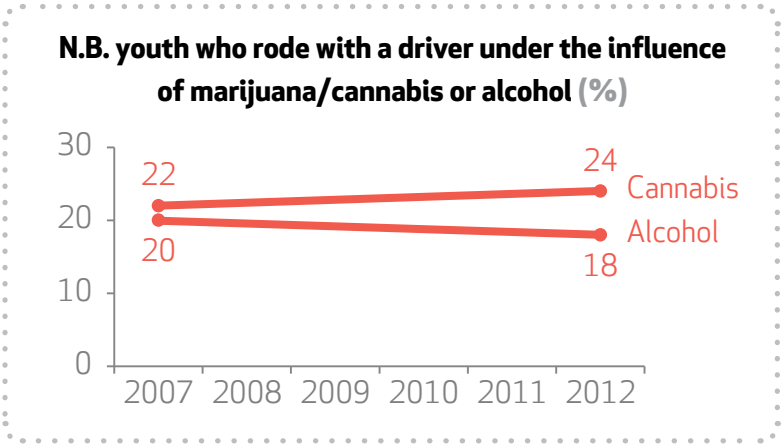


Source: Statistics Canada, CANSIM Table 105-0502

Impaired driving

Impaired driving / driving under the influence of drugs or alcohol) has been associated with higher risk for transport accidents. As passengers in vehicles driven by drivers who screened positive for marijuana or drugs and alcohol, children and youth were less likely to be seated in an appropriate seating position in the vehicle and were less likely to be restrained.[6] Distracted driving is a new form of risky driving behaviour that is also associated with higher risk of accidents.[7]

- The rates of youth (12-19 years old) reported riding in a vehicle with a driver influenced by alcohol or cannabis have remained stable.



Source: GNB, Department of Health, New Brunswick Student Drug Use Survey Report 2012

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Achieving tobacco-free living

Smoking, whether active (i.e. being a smoker) or passive (i.e. exposure to second hand smoke), contributes to the onset of respiratory diseases and conditions like asthma. Second-hand smoke causes premature death and disease in children and in adults who do not smoke. Using tobacco at an early age has been associated with other risk behaviours, including problem alcohol and substance use.[1] [2]

Key findings

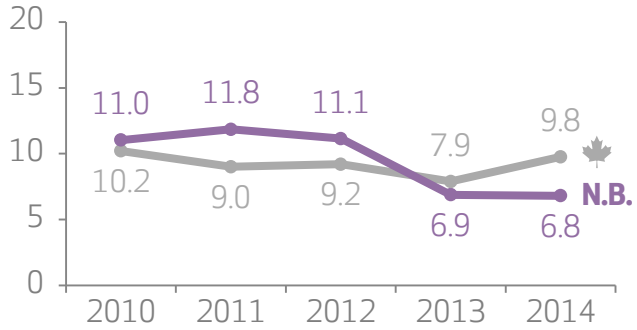
Smoking rates among youth seem to be trending in the right direction and the trend is in line with the Canadian average. Despite the decline in exposure to second hand smoke at home and in vehicles, the latter continues to be higher than the Canadian average, highlighting an area of potential improvement.

Asthma

Children exposed to second-hand smoke are at an increased risk for sudden infant death syndrome (SIDS), acute respiratory infections, ear problems and more severe asthma. Smoking by parents causes respiratory symptoms and slows lung growth in their children.[3]

- Asthma admission rates in New Brunswick are on the decline and they are below the Canadian average.

N.B. children and youth (1 to 17 years old) hospitalized due to asthma (rate per 1,000)



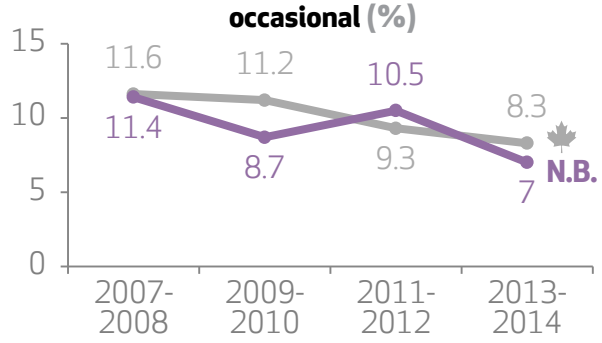
NBHC calculation from:
- Canadian Institute for Health Information's Patient Cost Estimator
- Statistics Canada, CANSIM Table 051-000

Smoking rates

The younger one starts to smoke the more likely he/she to become strongly dependent on nicotine. [4]

- Smoking rates among youth seem to be trending in the right direction and the trend is in line with the Canadian average.
- The percentage of students who have tried cigarette smoking have dropped from 27% in 2012-13 to 23%.
- However, the popularity of alternative smoking products seems to be high with 28% of students reporting having tried one or more of those products. E-cigarettes were the most popular at 22%.

Youth (12-19 years old) current smoker, daily or occasional (%)

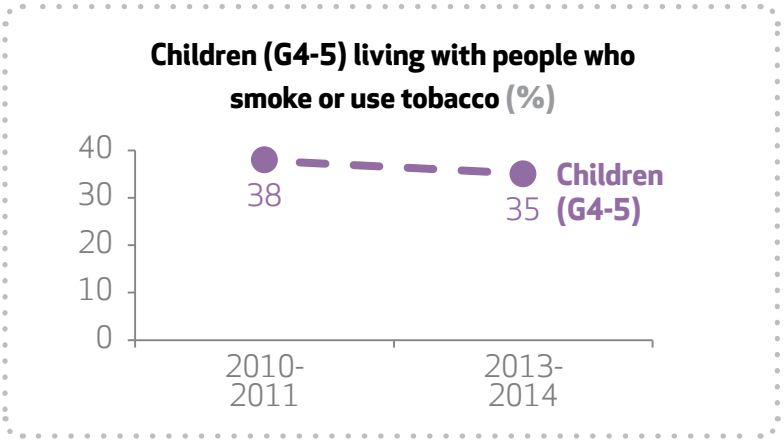


Source: Statistics Canada, CANSIM Table 105-0502

Second-hand smoke

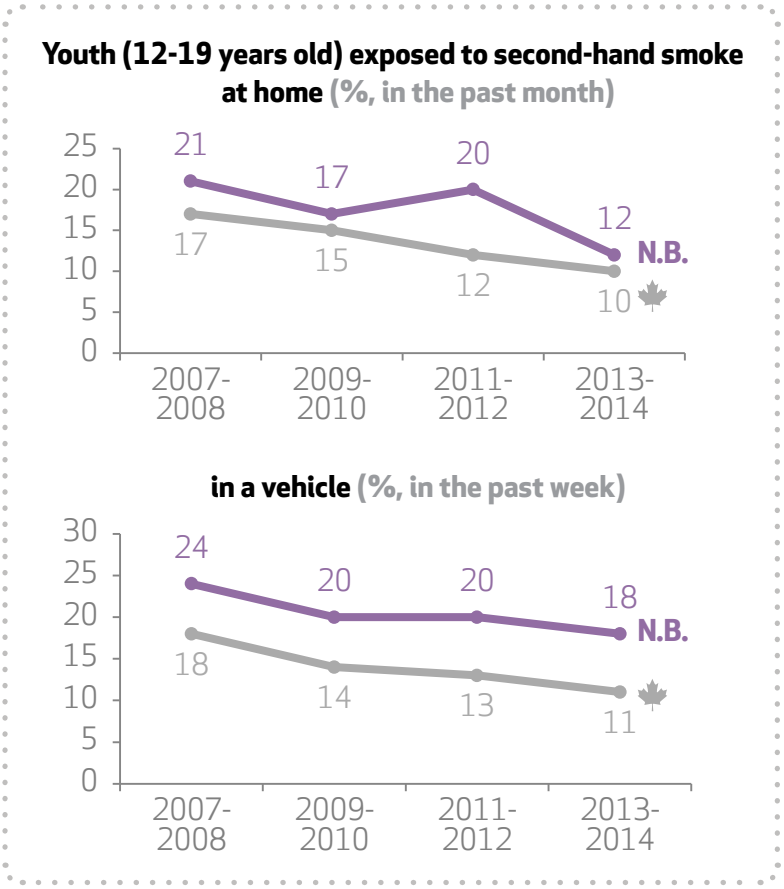
In addition to the adverse health impacts of exposure to second hand smoke, smoking within the home has a relation to youth smoking behaviour. Youth are more likely to smoke when both parents smoke, rather than only one. Adolescents having family members who smoke are at a higher risk of beginning to smoke. [5]

- At least 3 out of 10 children in grades 4 and 5 live with people who smoke.



Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

- Exposure to second hand smoke is declining both at home and in vehicles, but is still higher than the Canadian average in vehicles.
- According to the New Brunswick Student Wellness Survey (G6-12), exposure to second hand smoke in a vehicle was highest among Aboriginal youth and lowest among immigrants.



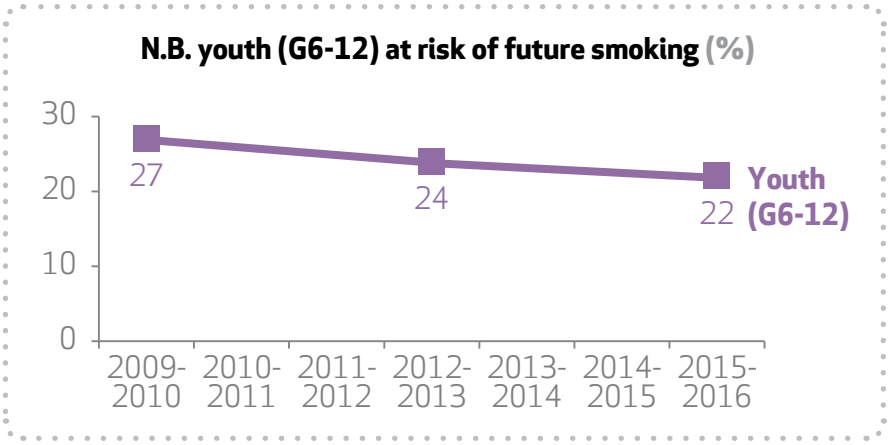
Source: Statistics Canada, CANSIM Table 105-0502

Susceptibility to smoking

Susceptibility to smoking is defined as "the absence of a firm decision not to smoke." This represents youth who have never tried smoking, but are at risk of smoking in the future. Susceptibility is therefore useful for predicting which youth may become smokers. Susceptible youth are more likely to experiment with tobacco and to become regular smokers than non-susceptible youth. [6]

- Fewer youth seem to be at risk of future smoking.
- Aboriginal youth are at the highest risk for future smoking among their peers, whereas girls have the lowest risk.

The role of the schools in achieving tobacco-free environments is of paramount importance, and recent findings show that more students in Francophone schools believed their schools had a clear set of rules about smoking for students to follow.



Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

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Adequate sleep

Sleep has been recognized as very important for children and youth, as it can have a positive impact on the other four themes described earlier: healthy weights, mental health, preventing injuries and tobacco-free living.

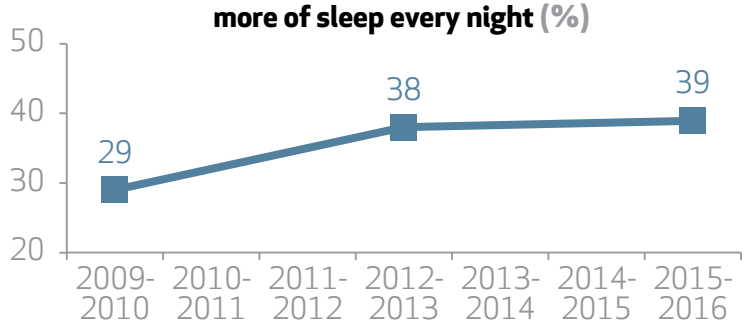
Sleep boosts the energy of children and youth and helps them be active and healthy.

Adequate sleep

Research has found that duration and quality of sleep are associated with obesity, mental health, risk of injury and the use of tobacco and other substances.[1][2][3][4][5][6] It is recommended that children and youth sleep at least 8 hours per night.[7]

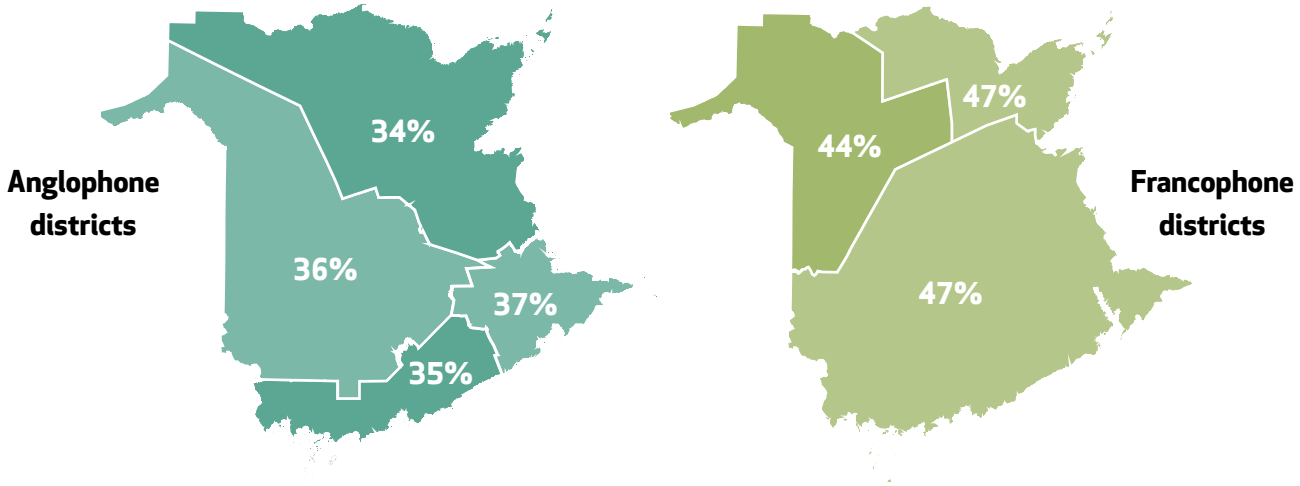
- Despite an improvement, fewer than 4 in 10 New Brunswick youth achieve 8 hours of sleep or more.
- Many Aboriginal and immigrant students report having poor sleep habits (less than 8 hours of sleep every night).
- More students in Francophone districts report getting 8 hours of sleep than in Anglophone districts.

N.B. youth (grades 6-12) who get 8 hours or more of sleep every night (%)



Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

N.B. youth (grades 6-12) who get 8 hours or more of sleep every night, by school district (%)



Source: NBHC and Department of Social Development (Wellness Branch), New Brunswick Student Wellness Survey

Further analysis will be needed to study the actual relation between sleep behaviours among New Brunswick youth and their rates of anxiety, obesity, exposure to injuries and substance use.

In an effort to increase awareness of the potential effects of sleep deprivation on children and youth, the NBHC has produced and distributed the following infographic.

When I don't sleep enough...

Poor mental health

I am more likely to feel **anxious** or **depressed**, to have **mood disorders**, and to recall **gloomy memories** rather than pleasant ones.

Unhealthy weights

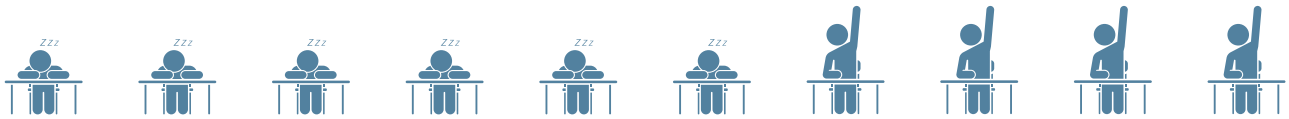
My body experiences hormonal changes, which can contribute to **weight gain**, **diabetes** and **hypertension**.

Injuries

I become **less attentive and alert**, and I can be more **impulsive**. This increases my risk of **accidents** and being **injured**.

Tobacco use

I have more difficulty managing **stress**, which means I'm more likely to use **tobacco or other substances**.



In New Brunswick, **more than 6 in 10 youth** sleep less than 8 hours per night.

Recommended sleep:		
	Ages 5 to 13	9 to 11 hours
	Ages 14 to 17	8 to 10 hours

See ParticipACTION's healthy sleep infographic at http://bit.ly/2el2nxm

New Brunswick Health Council | Conseil de la santé du Nouveau-Brunswick

For more information, visit our website at http://www.nbhc.ca

New Nouveau Brunswick

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Discussion

Are the four youth priorities still relevant?

As noted in the report, a number of indicators related to the four population health priorities are showing positive trends. Depending on what an indicator measures, significant change may be possible from year to year, or it may require several years before the effects of an initiative are observed. This difference among indicators must be considered when evaluating the results of programs or activities.

Given the time required for real change, the four priorities identified for children and youth still require additional emphasis and effort. Since New Brunswick continues to have room for improvement in comparison to other provinces on many indicators, it would be prudent to continue to target these four population health areas as priorities. This will enable the province to achieve even better results and to sustain the current improvements.

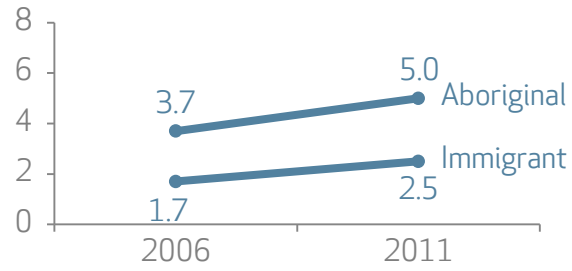
In addition to this continued focus, efforts are needed to increase our understanding of the variability of these indicators across different demographic groups and geographic regions in the province, to determine the groups or the communities that require additional attention and support to achieve their potential improvement on the priorities.

For example, students in Anglophone schools, Aboriginal students and boys were more physically active than their peers. However, their level of physical activity did not translate into healthier weight overall as these groups continue to demonstrate higher rates of overweight and obesity levels. This highlights the important contribution of healthy eating as a determinant of healthy weights.

The role of contextual factors

Understanding the contextual factors influencing population health is also important in order to forecast and address pertinent challenges. For example, the child and youth population in New Brunswick has become more ethnically diverse with an increasing proportion of Aboriginal people and immigrants.

N.B. children and youth (0-20 years old) who identify as Aboriginal or immigrant (%)



Source: Statistics Canada, Census

Although there is a projected decrease in the New Brunswick population overall, the Aboriginal population in New Brunswick is projected to grow from 3% in 2011 to around 6% in 2036 (assuming the same trends in fertility and outmigration).[1] Two main factors that can possibly explain the projected higher growth of the Aboriginal population are higher fertility rates and changes in self-reported identification during the life course.

Until recently, immigration rates in New Brunswick have been stable and low, with a relatively low retention rate of newcomers.

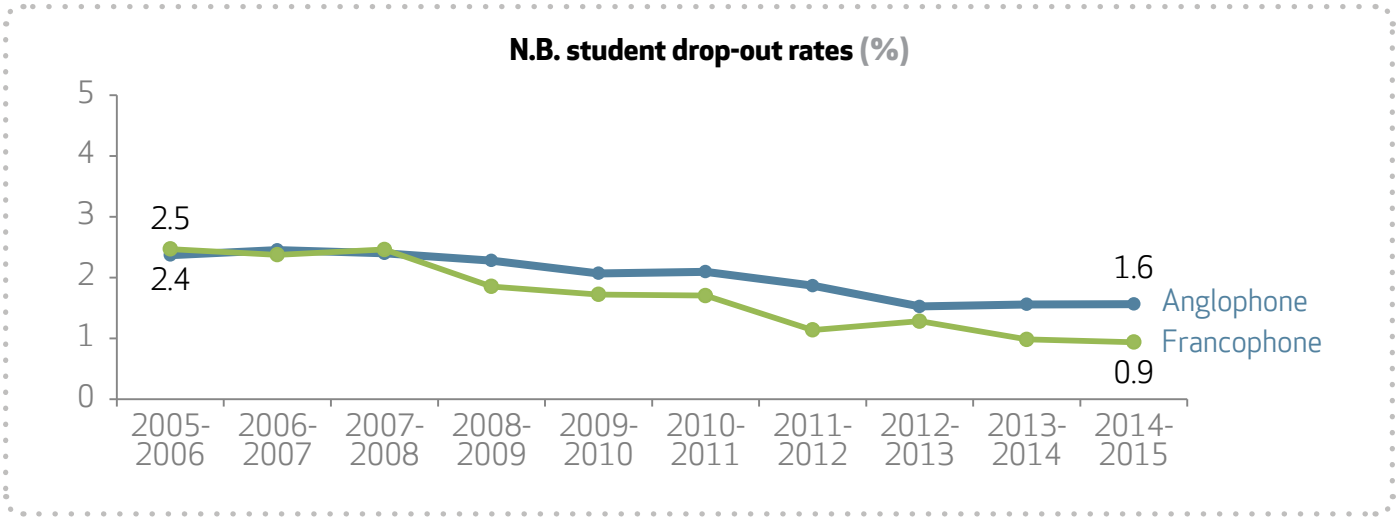
Starting in 2015, New Brunswick has welcomed a big wave of Syrian refugees (1,138 government-assisted

Syrian refugees), 59% of which are children 17 and younger. [2]

The links between the four health priorities and a number of social and economic factors are also important to address.

The fact that drop-out rates are on the decline is promising. However, the difference between the Anglophone and the Francophone system, with drop-out rates in the Anglophone schools being higher merits further investigation and analysis.

Analysis of upstream indicators like kindergarten school readiness can be helpful. This indicator is an important determinant of health and well-being in later life as it assesses the proportion of children who are considered vulnerable in at least one area of development at school entry. [3] The trend for kindergarten readiness varies among New Brunswick children depending on the sector they are enrolled in. Children in the Francophone sector have higher (and increasing) rates of kindergarten readiness, whereas children in the Anglophone sector have lower (and decreasing) rates.



Source: GNB, Department of Education and Early Childhood Development

Summary of key findings

To summarize the findings, indicators were mapped by priority and direction of trend for children and youth separately.

For children

Most of the child indicators are trending in a favourable direction.; however, the consumption of unhealthy food and hospitalizations for mental illness (the latter indicator covers the age group from 0-18) are areas where trends are moving in the wrong direction.

In spite of the general improvement observed, efforts to address the four population health priorities need to be sustained and further enhanced to maintain ongoing improvement in the future.

This is the case for the priority to achieve healthy weights, where the healthy eating indicators require even more emphasis, especially the consumption of fruit and vegetables. This would also help to improve the child overweight and obesity indicator. Efforts to reduce the proportion of high birth weights could also provide a positive contribution to achieving healthy weights.

For youth

The population health priority of achieving tobacco-free living demonstrates major gains overall, but there is still room for further improvement in terms of the exposure to second hand smoke in vehicles and at home.

The three other population health priorities for youth have demonstrated minor gains, highlighting the need for more efforts addressing certain contributing factors (e.g. screen time, healthy eating, obesity, exposure to impaired driving, and mental fitness and illness).

Aboriginal youth seem to be a population subgroup that requires more focused attention across the majority of indicators in the four health priorities.

Inadequate sleep is highlighted as an area for improvement, especially as it relates to healthy weights, mental health, risk of injuries, and smoking.

Common points

The observed trends raise the question about whether public initiatives have had an influence or contribution to some of these trends.

For example, policies and legislations have addressed smoking in public places and have prohibited smoking in cars with child passengers on board (under 16 years old) as well as prohibiting the sale of e-cigarettes to persons under 19 years of age. However, there is room for improvement in the enforcement of these policies to limit exposure of children and youth to second hand smoke inside vehicles and their utilization of e-cigarettes.[4] Also, many initiatives and policies have focused on physical activity and healthy eating in order to curb the increasing obesity among children and youth.

Where more work is needed

Prevention and health promotion as a joint responsibility

Illness prevention and health promotion are components of the health system, but the extent to which initiatives are implemented varies based on who is targeted and where they are delivered. Prevention and health promotion initiatives are also influenced by different contextual factors (demographic, social and economic, environmental, etc.), and accordingly, they imply the involvement of different stakeholders, both within and outside the scope of the health system.

Various provincial initiatives have been developed that address the four priorities. Examples of priority-specific initiatives include:

- *New Brunswick Public Health Nutrition Framework for Action 2012-2016*
- *Action Plan for Mental Health in New Brunswick 2011-18*
- *A Framework for the Prevention of Unintentional Injury in New Brunswick*
- *Smoke-Free Places Act*

In addition to topic-specific initiatives, provincial strategies like the *New Brunswick's Wellness Strategy 2014-2021* and the *Strategy for the Prevention of Harm for Children and Youth in New Brunswick* address all four priority areas within a broad scope. Inter-departmental programs and groups were also established in response to the needs of children and youth, like the Integrated Services Delivery (ISD) program for mental health, and the "Interdepartmental working group for the prevention of harm for children and youth." The mandate of these programs and groups aligns closely with the four population health priorities.

The implementation of many of the government initiatives and programs has been documented, and progress reports have been published to describe the fulfillment of activity-related goals. Limited integration of those initiatives and programs, as well as a lack of reported performance measures or outcomes, has increased the difficulty in evaluating of the overall impact on the priority areas.

For initiatives, programs, policies and strategies to be effective, indicators are essential to evaluate and monitor progress. At this point, further analysis of these indicators is needed to identify and understand variabilities between population subgroups.

Using the right indicator

Most work to improve the lives of children and youth takes one of two forms. There are provincial programs and strategies meant to impact the health and wellness of all children in N.B., and there are community-based initiatives which target specific needs among children and youth of that community. In both cases, the right indicator(s) must be identified, both to clearly define the change needed and to measure the performance of the activity.

For example, to monitor mental health outcomes at the local level, two questions on anxiety and depression were introduced to the New Brunswick Student Wellness Survey (Grades 6-12) in 2015-2016. Questions on sexual violence and injuries were also added to the survey to provide indicators relevant to the Strategy for the Prevention of Harm for Children and Youth (2015). The choice of themes was based on the voice of youth who requested data on certain topics that were not being captured

through school survey.

The new 10-year education plan, *Everyone at their best*, also selects specific indicators to measure its performance. Addressing child and youth mental health concerns has led to some province-wide initiatives to encourage more upstream approaches such as focusing on positive mental health or mental fitness using the CAR model (Competence, Autonomy, Relatedness) and focusing on resilience to build protective factors to reduce or prevent consequences of poor mental health.

All of these examples demonstrate the importance of selecting the right indicator(s) from a reliable, ongoing source of data. The New Brunswick Student Wellness Survey represents a cornerstone for data on children and youth, empowering policy makers to identify areas of concern around the health and well-being of students. It provides detailed insights to support monitoring and surveillance for key priorities, as well as to identify possible inequities among subgroups of the child and youth population.

There are also additional opportunities for indicator selection to improve other priority areas. When measuring injuries, the best available data leveraged in this report was based on injury hospitalization. For effective injury prevention, analysis of causes is of paramount importance, and comprehensive and accurate coding of the injury causes is essential. A significant number of injuries continue to be missed by monitoring efforts as the system does not properly capture data from hospital emergency departments (where most injured people get treated and discharged before even getting admitted) in a standardized way that is suitable for analysis.

In addition, the essential role that the education system plays in the health and well-being of children and youth implies a strong need for further links to education plans to align indicators and measures and to ensure addressing the needs appropriately and effectively.

Conclusion

Over the past year, the New Brunswick Health Council has reported on the growing problem of chronic health conditions in the province and has emphasized the need for more effective prevention at an early age.

Prior to that, we had also shared findings about the causes of avoidable mortality in the province, and highlighted how lung cancer, cardiovascular diseases, suicides and transport accidents top the list.

These observations re-affirm the need for health promotion and disease prevention among children and youth and re-validate the populations health priorities we had identified in 2014 for that age group.

Young generations of New Brunswickers growing up healthy lends to a healthier population in the future with fewer chronic conditions and less disability.

Health promotion and disease prevention is a shared responsibility across different government departments and organizations, and is highly enhanced when supported by families, care givers, schools and local communities.

Reviewing indicators and their trends over the past few years at the provincial level provides a global picture that can help policy makers and government departments appreciate progress on achieving relevant objectives. This exercise can also be replicated at local levels when different groups use available data, such as school reports from the New Brunswick Student Wellness Surveys or the "My Community at a Glance" community profiles that have the same indicators.

Working on population health priorities at various levels (provincial, regional, community and schools) will ensure more effective initiatives, empower New Brunswickers to participate in shaping the future of the health system (population health, health services and sustainability), and help the province meet many of its goals.

References

[1] Statistics Canada, Demography Division.

[2] GNB, Office of Chief Medical Officer, New Brunswick Disease Watch Bulletin, July 2016.

[3] CIHI indicators library.

[4] New Brunswick Anti-Tobacco Coalition, New Brunswick Policies and Legislation.

Annex

Indicators available by population subgroup

For youth (grades 6 to 12)

				School		Diversity		Sex	
Priority	Indicator (%)	Year	N.B.	Anglophone	Francophone	Immigrant	Aboriginal	Female	Male
Improving mental health	Youth with moderate to high levels of **mental fitness**	2012-13	78	75	85	75	69	80	76
	Youth with **prosocial behaviours**	2012-13	81	80	84	77	76	87	75
	Youth who have **been bullied**	2012-13	58	60	52	58	62	66	50
	Youth who have **tried marijuana**	2012-13	31	33	26	24	48	28	33
	Youth who have **tried alcohol**	2012-13	63	61	68	52	74	62	63
Achieving heathy weights	Youth who eat at least five servings of **fruit and vegetables** daily	2012-13	43	42	48	54	40	45	42
	Youth who **eat breakfast** daily	2012-13	42	39	50	45	32	37	47
	Youth consumption of **sweetened non-nutritious beverages** the day before the survey:								
	Two or more beverages	2012-13	33	36	26	32	43	24	42
	Less than two beverages	2012-13	67	64	74	68	57	76	58
	Youth who achieve 60 minutes of **physical activity** daily	2012-13	60	63	54	52	63	53	68
	Youth whose daily **screen time** does not exceed 2 hours	2012-13	23	22	25	22	16	23	22
Achieving tobacco-free living	Youth **at risk of future smoking**	2012-13	24	25	23	24	31	22	27
	Youth exposed to **second-hand smoke in a vehicle**	2012-13	27	28	24	18	41	27	27
Sleep	Youth who get **8 hours or more of sleep** every night	2012-13	38	35	46	31	31	37	39

For children (kindergarten to grade 5)

Priority	Indicator (%)	Year	N.B.	School		Diversity		Sex	
				Anglophone	Francophone	Immigrant	Aboriginal	Female	Male
Improving mental health	Children with moderate to high levels of **mental fitness**	2013-14	84	82	88			87	81
	Children with **prosocial behaviours**	2013-14	79	77	82			86	71
	Children who have **been bullied**	2013-14	41	41	42			44	38
Achieving heathy weights	Children who are **overweight or obese**	2013-14	36	37	32	37	45	34	37
	Children who eat at least five servings of **fruit and vegetables** daily	2013-14	51	50	52			54	48
	Children who **eat breakfast** daily	2013-14	70	67	76			72	68
	Children who consumed two or more **sweetened non-nutritious beverages** the day before the survey	2013-14	26	28	23			22	30
	Children who consume **non-nutritious food** (e.g. candy or sweets)	2013-14	78	81	72			78	79
	Children who achieve 60 minutes of **physical activity** daily	2013-14	35	37	31			32	38
	Children whose daily **screen time** does not exceed 2 hours	2013-14	45	44	48			55	35
Achieving tobacco-free living	Children who **live with people who smoke** or use tobacco	2013-14	35	38	27			35	34