HOW ARE QUEBEC'S YOUNGEST CHILDREN FARING?

2017 Portrait

OUTAOUAIS

OBSERVATOIRE des tout-petits

Fondation Lucie et André Chagnon

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A PORTRAIT OF QUEBEC'S YOUNGEST CHILDREN

Established in April 2016, the Early Childhood Observatory is a project of the Lucie and André Chagnon Foundation. The Observatory's mission is to help ensure that the well-being and development of the very young remains at the top of Quebec's list of social priorities.

To fulfill this mission, the Observatory compiles and disseminates the most rigorous data available on children between the ages of 0 and 5 in order to spark dialogue on collective action to be taken on early childhood issues. The Observatory's activities are focused on finding the answers to two important questions:

HOW ARE QUEBEC'S YOUNGEST CHILDREN FARING?

AND

WHAT KIND OF ENVIRONMENTS ARE THEY GROWING UP IN?

The first portrait, published in 2016, attempted to answer the second question. This edition of the portrait looks at the first question, providing a snapshot of the state of health and development of children between the ages of 0 and 5 living in Quebec. We have provided information on the conditions surrounding their birth, their physical and mental health, and their overall development.

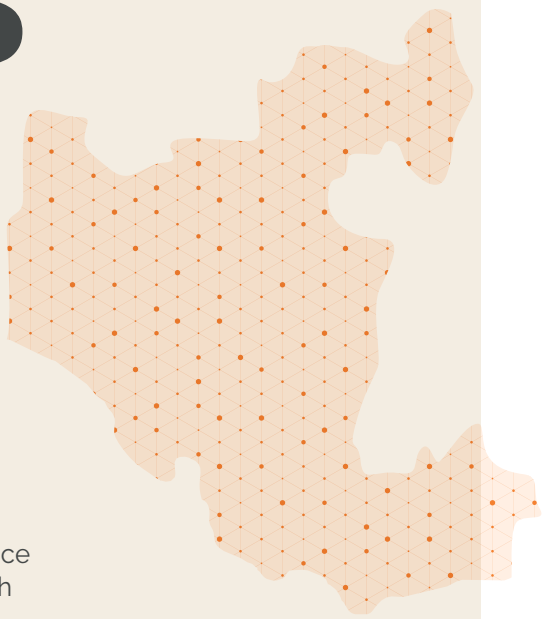
The data presented in this portrait are drawn from administrative, census and population survey documents. Certain aspects of children's health and well-being are unfortunately not presented here, as they are not all measured by surveys or stored in administrative databases. The data available to us are representative of all young children in Quebec, however.

These data create a portrait of the current situation of very young children in the Outaouais as well as, whenever possible, the evolution of their situation over the past several years. Since the data used come from different sources, reference years may vary; all data presented are the most recent available to us.

This portrait could not have been produced without the assistance of many people, including the team at the *Institut de la statistique du Québec,* the members of the Observatory's scientific and advisory committees, and the many experts consulted at various stages in the process. The Observatory extends its most sincere thanks to all of the dedicated professionals who were able to see the individuals behind the figures.

Their efforts have given us a better understanding of how children between 0 and 5 years of age are faring in the Outaouais while providing a unique insight into their world.

OUTAOUAIS



In a nutshell

According to the most recent data available:

- The number of births in this region increased by 14.8% between 2006 and 2016, as compared to an increase of 5.4% for the whole of Quebec.
- The proportion of very young children living in low-income families (after taxes) is higher in the Outaouais than in the rest of Quebec.
- The Caesarean birth rate is higher in the Outaouais than in the province as a whole, but the proportion of babies born with intrauterine growth restriction is lower.
- The proportion of parents of children between 0 and 5 who already attended prenatal classes is higher than in the rest of Quebec.
- The hospitalization rates for accidental injury and asthma are higher in the Outaouais than in Quebec as a whole.
- The infantile mortality rate is lower in the Outaouais than in the rest of Quebec.
- The proportion of families that have a family doctor or pediatrician for all their children 5 and under is higher than in the rest of Quebec.
- The rate of children between 0 and 5 who have had their teeth examined by a dentist is lower in this region than in Quebec as a whole.
- The rate of children who are recognized as having a disability is similar to the rate for the whole of Quebec.
- The rate of families with at least one child between 0 and 5 receiving the Quebec supplement for handicapped children is lower in this region than in the province as a whole.
- The proportion of children in kindergarten who are vulnerable in at least one domain of development is higher in the Outaouais than in the rest of the province.
- The proportion of developmentally vulnerable kindergartners who benefited from the services of a non-teaching professional at school is lower than in the rest of Quebec.

The indicators mentioned in the "In a nutshell" section were selected because the region stood out clearly from the rest of Quebec or the province as a whole in those areas.

WHO ARE THESE 0-5 YEAR-OLDS?

In the Outaouais region in 2016, there were 26,022 children between the ages of 0 and 5, accounting for 6.7% of the total regional population.

In 2006, that figure was 21,737 or 6.3% of the total regional population.

In 2016, there were 4,387 recorded births.

That represents an increase of 14.8% over the 2006 figure of 3,820 recorded births in the region.

WHAT DID THEIR FAMILIES LOOK LIKE IN 2011? *

1 child
29.8%

2 children
46.2%

3 children and more
24.0%

Intact
75.2%

Step/Blended
9.5%

Single-parent
15.3%

* Since certain percentages have been rounded up or down, the total may be slightly above or below 100%.

QUELLES SONT LEURS CONDITIONS DE VIE ?

13.2% of very young children in the region were living in low-income families (after tax) in 2015.

That figure was 17.4% in 2004.

La pauvreté peut avoir des conséquences négatives sur les tout-petits, autant sur leur santé physique que sur leur développement social et émotif ou leur réussite éducative. Ces impacts peuvent persister pendant toute leur vie.[1]

Sources: Institut de la statistique du Québec and Statistics Canada, Population estimates, adapted by the Institut de la statistique du Québec. Provisional data for 2016 ; Statistics Canada, 2011 *National Household Survey,* adapted by the Institut de la statistique du Québec, and Statistics Canada, *T1 Family File* (T1FF), adapted by the Institut de la statistique du Québec.

HOW ARE THEY FARING

DURING PREGNANCY AND AT BIRTH?

Pregnancy and birth are critical events in terms of health and development. What happens during this period can have repercussions throughout a child's entire life.

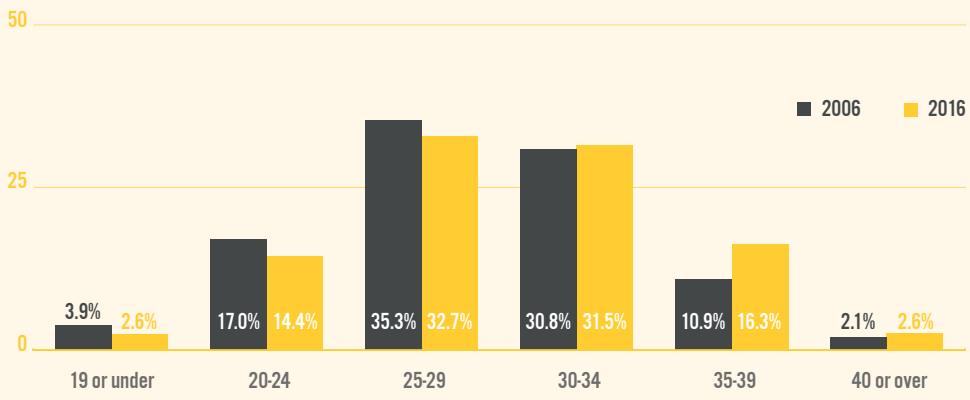
The context in which a woman's pregnancy evolves has an influence on her baby's health. For example, certain factors can increase the risk of stillbirth: the mother's weight, **her age**, her health problems (e.g.: infections, high blood pressure or diabetes), her lifestyle (e.g.: diet, smoking, use of alcohol, drugs or medication) or **multiple pregnancies**.[2] These factors also increase the risk of congenital anomalies, **intrauterine growth restriction (IUGR)**, **premature birth** and **low birthweight**. There are ways, however, to counter these factors during pregnancy and at birth. **Prenatal groups** are one of the possible solutions for informing future parents and encouraging new mothers to adopt healthy lifestyle habits.[3] Even though prenatal classes alone cannot modify children's health, they can have an influence on certain determinants of health that are affected by the mother's and father's behaviour.[4]

Improving birthing conditions is another way to give newborns a better start in life. Although a **Caesarean section** is sometimes necessary to save the life of the mother or baby, it is not without risk (including infections, hemorrhage or trouble initiating breastfeeding).[5] There are no data showing that a Caesarean birth can have positive effects for the mother or baby when it is not medically necessary. The World Health Organization recommends that countries take steps to ensure that the rate of Caesarean sections remains between 10% and 15%.[6]

Complications at birth can also affect a child's health and development. **Intrauterine growth restriction**, **prematurity** and **low birthweight** are associated with respiratory problems, neurological difficulties, blindness and deafness, as well as with behaviour and learning difficulties later in a child's life.[7]

Finally, **breastfeeding** is an important protective factor for the health of babies and the adults they become. Not only does breast milk provide all the nutritional elements a baby needs to develop, it protects against several types of infection, such as ear infections, pneumonia, and gastro-enteritis[8] Studies have also shown that breastfeeding decreases the risk of sudden infant death syndrome and certain chronic diseases (such as celiac disease, inflammatory bowel disease, obesity and diabetes).[9] **Breastfeeding support services** offered by professionals (doctors, midwives, nurses and lactation consultants) or volunteers in support groups can often give nursing mothers the help they need.[10]

HOW OLD WAS THEIR MOTHER AT BIRTH?



PRENATAL CLASSES

66.9% of parents of children between 0 and 5 in 2015 had already participated in prenatal classes..

Sources: Institut de la statistique du Québec, *Registre des événements démographiques*; Institut de la statistique du Québec, *Enquête québécoise sur l'expérience des parents d'enfants de 0 à 5 ans 2015.*

INTRAUTERINE GROWTH RESTRICTION

8.0% of babies were born with intrauterine growth restriction in 2011-2013 (weight below the 10th percentile for the gestational age).

This figure was 18.6% in 1981-1983 and 8.5% in 2002-2004.

CAESAREAN BIRTHS

26.7% of births in this region in 2015 were by Caesarean section.*

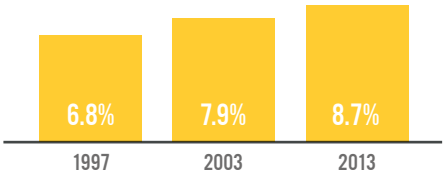
In 2002, the rate of Caesarean births in the region was 20.4%.

* The percentage presented for this indicator is based on the rate of Caesarean sections for every 100 births.

According to the World Health Organization, a rate of Caesarean births over 10% is not associated with a reduction in mother or baby mortality. The international community therefore considers the ideal proportion of Caesarean births to be between 10% and 15%.[11]

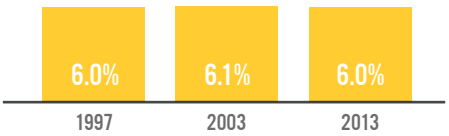
PREMATURE BIRTHS

8.7% of all births in 2013 were premature.



LOW BIRTHWEIGHT

6.0% of babies born in the Outaouais region in 2013 had a low birthweight (under 2.5 kg or 5.5 lb).



Sources: Ministère de la Santé et des Services sociaux, Fichier des naissances (produit électronique). Rapport de l'onglet Plan national de surveillance produit par l'Infocentre de santé publique à l'Institut national de santé publique du Québec, le 29 mai 2017; Base de données sur les congés des patients, Institut canadien d'information sur la santé (ICIS); Fichier des hospitalisations MED-ÉCHO, ministère de la Santé et des Services sociaux; Institut de la statistique du Québec, *Registre des événements démographiques.*

STILLBIRTHS

3.8 of every 1,000 babies were stillborn in 2009-2013.

Ce taux était de 3,7 naissances pour 1 000 en 2001-2005.

According to the World Heath Organization, all countries should aim to reduce their stillbirth rate to less than **10 out of every 1,000 births by 2035**.[12]

BREASTFEEDING

84.5% of mothers breastfed or tried to breastfeed their youngest child, according to 2013-2014 data.*

This figure was 64.4% in 2000-2001.

* Among women between 15 and 55 who had given birth over the previous five years. (N.B.: Potential for bias due to high partial non-response.)

54.4% of mothers of children between 0 and 5 in the Outaouais region who breastfed their child(ren)* had already used breastfeeding support services in 2015.

* This figure includes all mothers of children between 0 and 5, with the exclusion of those did not use breastfeeding support services because they did not breastfeed their child(ren).

The World Health Organization recommends that babies be exclusively breastfed for the first six months of their lives. Once solid foods have been introduced, breastfeeding may continue for another two years or more.[13]

In Quebec, in addition to measures introduced by establishments that have received Baby-Friendly certification, there are various other forms of support for breastfeeding mothers, including breastfeeding support groups, breastfeeding clinics, breastfeeding drop-in centres and lactation consultants.

Sources: Institut de la statistique du Québec, *Registre des événements démographiques;* Statistics Canada, *Canadian Community Health Survey* (CCHS), 2000-2001 and 2013-2014, share files, adapted by the Institut de la statistique du Québec; Institut de la statistique du Québec, *Enquête québécoise sur l'expérience des parents d'enfants de 0 à 5 ans 2015.*

SOMETHING CAN BE DONE

The scientific literature has documented the existence of collective drivers that could be used to effect positive change in conditions surrounding pregnancy and childbirth. Here are a few examples:

Living in a disadvantaged socio-economic environment has been associated with higher frequencies of premature births, low birthweights and low breastfeeding rates.[14] Measures aimed at **improving pregnant women's surroundings** and providing them with the support they need can have a positive effect on newborn health by improving birth weights, prematurity rates and breastfeeding rates. Examples include the OLO program [15] (nutritional aid for pregnant women), the Maison Bleue[16] model and the SIPPE program (integrated perinatal and early childhood services[17]).

The QUARISMA research project conducted in 32 Quebec hospitals between 2008 and 2011 showed that **education of childbirth professionals** combined with **feedback on clinical practice** was an effective and safe way to reduce the rate of Caesarean sections.[18] In addition, according to a report produced by Quebec's Institut national d'excellence en santé et en services sociaux (INESSS), having a childbirth companion to accompany mothers during labour and birth has also been shown to effectively reduce obstetrical interventions overall.[19]

Baby-Friendly Initiative certification in hospitals has been proven to be effective in improving breastfeeding rates.[20] Certain measures could optimize implementation, however, such as the creation of baby-friendly environments[21] (including social marketing campaigns promoting positive attitudes towards breastfeeding, nursing rooms and support for mothers' right to breastfeed in public).[22] Finally, better training of professionals[23] and the existence of support groups[24] could help mothers who decide to breastfeed their babies.

Some of these measures have already been implemented in Quebec. We need to make sure they are maintained and consolidated.

How could these measures be more effectively applied? Are there other measures we need to consider? We hope our 2017 Portrait will make a valuable contribution to the public reflection on these issues.

HOW ARE THEY FARING AS THEY GROW UP?

PHYSICAL HEALTH

In order to achieve their full development potential, the very young must be able to rely on good physical health. Physical health problems that go untreated can negatively affect not only children's overall physical health but their mental health and development as well. The vast majority of such problems can be at least partially avoided through preventive intervention, thus reducing their impact on the very young.

The potential sequelae of early childhood diseases are many. **Infectious diseases** can cause paralysis, brain damage, respiratory problems, liver damage or deafness.[25] **Accidental injuries** can affect motor function and cause permanent disability.[26] **Excess weight and obesity** are associated, later in a child's life, with high blood pressure, type 2 diabetes, cardiovascular diseases, asthma and sleep apnea.[27]

The consequences of physical health problems have also been observed in children's short- and long-term mental health. **Asthma** and **epilepsy** are associated with a higher risk of symptoms of depression, anxiety and attention deficit disorder with or without hyperactivity (ADD/ADHD). **Children with epilepsy** are also at three times greater risk of suffering from mood disorders such as depression or bipolar disorder.[28] Children suffering from obesity have a poor body image and lower self-esteem.[29]

Young children's physical health problems can also have an effect on their development. **Obesity** can have a negative impact on relationships with other children, which can hinder social development.[30] Certain **accidental injuries** can negatively affect motor development and cognitive function. Finally, there is a higher risk of learning problems among children who suffer from **asthma**, **epilepsy** or **intrauterine growth restriction**.[31]

To lower the risk of consequences later in life, prevention and rapid intervention are essential—which is why timely access to healthcare is critical for very young children. Any delay in receiving treatment can have a negative impact on a child's health and quality of life. Inadequate access to healthcare is associated with higher levels of pain, complications and emotional distress.[32]

ACCIDENTAL INJURY*

469.3 **hospitalizations for every 100,000 children 4 and under in 2013-2016.**

In 2007-2010, this rate was 419.3 hospitalizations for every 100,000 children 4 and under.

* The exact name of this indicator is "unintentional trauma."

Accidental injuries can be the result of an involuntary event such as a fall, collision with a motor vehicle, medication poisoning, fire or drowning.

ASTHMA

224.0 **hospitalizations for every 100,000 children 4 and under in the region in 2013-2016.**

In 2007-2010, this rate was 252.6 hospitalizations for every 100,000 children 4 and under.

EPILEPSY

59.0 **hospitalizations for every 100,000 children 4 and under in 2013-2016.**

In 2007-2010, this rate was 72.2 hospitalizations for every 100,000 children 4 and under.

Sources: Ministère de la Santé et des Services sociaux, Fichier des hospitalisations MED-ÉCHO (produit électronique). Rapport de l'onglet Plan national de surveillance produit par l'Infocentre de santé publique à l'Institut national de santé publique du Québec, le 5 avril 2017.

MORTALITY

4.4 children out of 1,000: the average annual number of children who died before their first birthday in 2009-2013.

In 1999-2003, that rate was 6.3 children out of 1,000.

0.23 children out of 1,000: the average annual number of children who died between the ages of 1 and 4 in 2009-2013.

In 1999-2003, that rate was 0.18 children out of 1,000.

As part of its Millennium Development Goals, the United Nations has urged all the world's nations to take the necessary steps to reduce the under-5 mortality rate by two-thirds between 1990 and 2015.

The primary causes of infantile mortality (before 1 year of age) are neurological problems (such as cerebral palsy), respiratory problems (such pneumonia or flu), cardiovascular problems, infections and cancer.

The primary cause of juvenile mortality (between 1 and 4 years of age) is accidental injury.

FAMILY DOCTOR OR PEDIATRICIAN

85.2% of families had a family doctor or pediatrician for all their children 5 and under in 2015.

Sources: Institut de la statistique du Québec, *Registre des événements démographiques;* Institut de la statistique du Québec, *Enquête québécoise sur l'expérience des parents d'enfants de 0 à 5 ans 2015.*

DENTAL EXAMS

42.2% **of children between 3 and 5 and**

4.4% **of children between 0 and 2 had had their teeth examined by a dentist in 2016.**

In 2006, these rates were 41.8% and 3.3%.

DENTAL TREATMENTS (e.g., cavity filling)

7.5% **of children between 3 and 5 received dental treatment.**

The rate for children between 0 and 2 was

0.1%

In 2006, those rates were 8.6% and 0.2%.

The Canadian Dental Association recommends that children be seen by a dentist within 6 months of the eruption of their first tooth or by one year of age.

Source: Régie de l'assurance-maladie du Québec (RAMQ), Direction de l'analyse et de la gestion de l'information, Fichier des services rémunérés à l'acte.

WEIGHT AND PHYSICAL ACTIVITY

Although we do not have access to regional data on obesity and levels of physical activity for very young children, we know that, in 2015, one-third of this sector of the population was at risk of becoming overweight or was already overweight or obese. Moreoever, approximately three-quarters of children between the ages of 3 and 5 failed to respect recommended limits for screen time, and close to one-third did not respect recommendations for minimum levels of physical activity.

Source: Statistics Canada, Canadian Health Measures Survey (CHMS), Cycles 3 (2012-2013) and 4 (2014-2015) combined, adapted by the Institut de la statistique du Québec.

SOMETHING CAN BE DONE

The scientific literature has documented the existence of collective drivers that could be used to effect positive change in the area of young children's physical health. Here are a few examples:

Acquiring healthy living habits at a very early age can reduce the risk of chronic diseases such as obesity.[33] The adoption of public policies or collective measures such as taxes on sugary drinks, nutritional targets aimed at reducing the sugar content in food[34], and safe areas in municipalities[35] that are conducive to physical activity can contribute to creating environments that foster healthy eating habits and a physically active lifestyle.

It is also possible to take action in the context of children's educational services. The "Gazelle et Potiron" framework, for example, was developed to support the creation of environments that encourage healthy eating, active play and motor development in educational daycares.[36] These measures are not applied in all preschool programs, however.

Solutions that encourage healthy eating can also prevent tooth decay. Providing better access to free drinking water in public spaces[37] (like parks and playing fields) can help reduce children's consumption of the sugary drinks that are so harmful to overall health. Water fluoridation is another safe, effective way to help ensure healthy teeth.[38]

Some of these measures have already been implemented in Quebec. We need to make sure they are maintained and consolidated.

How could these measures be more effectively applied? Are there other measures we need to consider? We hope our 2017 Portrait will make a valuable contribution to the public reflection on these issues.

HOW ARE THEY FARING AS THEY GROW UP?

DEVELOPMENT

Early childhood development includes development in various areas of skill and aptitude. Developmental studies generally focus on the following domains: physical and motor, social, emotional, cognitive and language/communication. All these aspects are interrelated and influence each other. For example, children who have trouble managing their emotions (emotional development) may also have less harmonious relationships with their peers (social development).

Although the main stages in development are similar from one child to the next, each develops at his or her own rhythm. Rates of development in different areas depend on the various learning situations to which children are exposed and the environments they have grown up in.[39]

Certain physical and mental conditions can restrict a child's activities, however, including such disabilities as intellectual disabilities, severe behaviour disorders, autism spectrum disorder, hearing and visual disabilities, cardiovascular dysfunction, food and digestion deficiencies, and immune system or nervous system deficiencies. Different disabilities affect different aspects of a child's development. Moreover, very young children who live with a disability may also unfortunately experience discrimination and exclusion.[40]

Children who have all the skills and aptitudes they need to get a good start in school are able to take full advantage of all the educational opportunities offered to them, which sets them on the right path to achieving their full development and potential. Studies have shown that kindergarten-aged children who are developmentally vulnerable are at greater risk of having difficulty in school later on. Kindergartners who are vulnerable in one or other areas of their development are at greater risk of failing their provincial ministerial examinations in French or mathematics in grade six.[41] Academic success in primary school subsequently has an impact on the highest level of diploma obtained in adulthood and perspectives for employment.

DISABILITIES

10.4 out of 1,000 children between 0 and 5 were recognized as living with a disability in 2015.

In 2005, this rate was 9.4 out of 1,000 children between 0 and 5.

1.5% of families in the region with at least one child between 0 and 5 were receiving the Quebec supplement for handicapped children in 2015.

This figure was 1.2% in 2007.

In order to be **recognized as disabled,** a child must present a disability or developmental disorder that significantly restricts his or her daily activities.

Disabilities include food and digestion deficiencies, metabolic disorders, immune system or nervous system deficiencies, hearing or visual disabilities, and cardiovascular, renal or respiratory dysfunction.

Developmental disorders include intellectual disabilities, global developmental delay, autism spectrum disorders and speech disorders.

CHILDREN WITH A DISABILITY OR SOCIAL MALADJUSTMENT IN KINDERGARTEN*

6.5% of children in 5-year-old kindergarten had a disability or social maladjustment in 2015-2016, based on the criteria of the Ministère de l'Éducation et de l'Enseignement supérieur.

This figure was 6.3% of all children in kindergarten in 2011-2012.

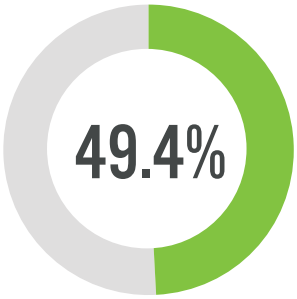
* The data of the Ministère de l'Éducation et de l'Enseignement supérieur refer to children with a disability, social maladjustment or learning difficulty (special needs children, or EHDAA: *enfants handicapés ou en difficulté d'adaptation ou d'apprentissage*). Learning difficulties do not apply to children in 5-year-old kindergarten, however. Furthermore, data refer to children in 5-year-old kindergarten in the public education system only; they do not include information from the government or private network.

Sources: Retraite Québec, Fichier administratif des enfants handicapés (containing information transmitted by the Directeur de l'état civil, Revenu Québec and parents of children with disabilities); Ministère de l'Éducation et de l'Enseignement supérieur (MEES), Territoires, statistiques et enquêtes (TSE), Direction générale des Statistiques, des Études et de la Géomatique (DGSEG), Direction des Indicateurs et des Statistiques (DIS), Portail informationnel, Système Charlemagne.

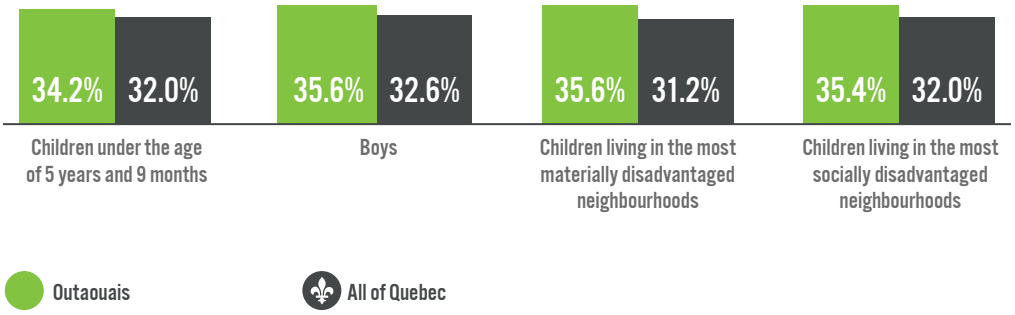
VULNERABILITY IN KINDERGARTEN

28.0% **of children in kindergarten in the Outaouais region were vulnerable in at least one domain of development in 2012.**

Among these vulnerable children, **49.4% were vulnerable in two or more domains.**



At the provincial level, certain groups of children are more likely to be developmentally vulnerable. Below are the **proportions of children in the region who were vulnerable in at least one domain of development:**



The Deprivation Index of an area of residence includes a material dimension (average income, education and employment) and a social dimension (marital status and structure of household: people who are widowed, divorced, living alone or in single-parent families).[42]

Source: Institut de la statistique du Québec, *2012 Quebec Survey of Child Development in Kindergarten.*

WHAT DO WE MEAN WHEN WE SAY A CHILD IS "VULNERABLE"?

During the *Quebec Survey of Child Development in Kindergarten* (*Enquête québécoise sur le développement des enfants à la maternelle* or EQDEM), children were evaluated by their kindergarten teacher. A child was considered to be vulnerable in a given domain of development if he or she was included in the 10% of Quebec children with the lowest scores in that domain.

WHAT FACTORS WERE STUDIED IN EACH DOMAIN?

Physical health and well-being
Teachers evaluated children's overall physical development, motor skills, adequate food and clothing, cleanliness, punctuality and alertness.

Social competence
Teachers evaluated children's social skills, self-confidence, sense of responsibility, respect for peers, adults and rules and routines, work skills and autonomy, and curiosity.

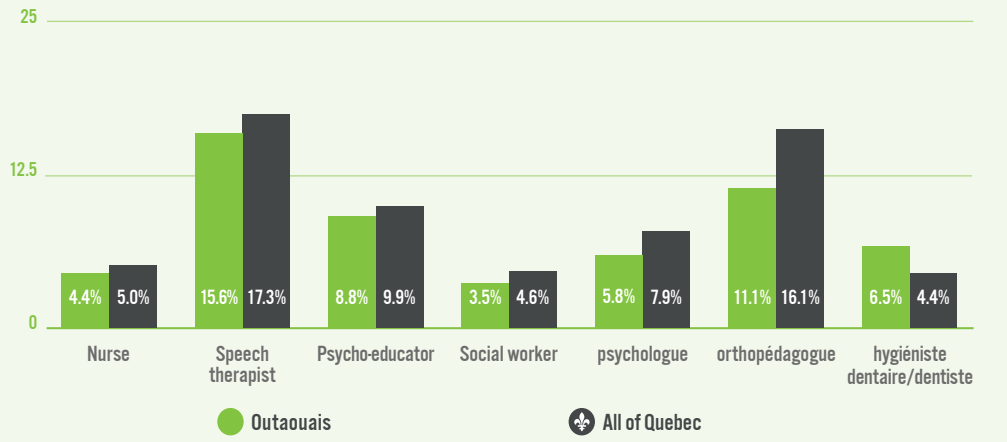
Emotional maturity
Teachers evaluated children's behaviour towards others, ability to help others, fear, anxiety, aggressive behaviour, hyperactivity and inattention, and expression of emotions.

Language and cognitive development
Teachers evaluated children's interest and skills in reading, writing and arithmetic, and appropriate use of language.

Communication skills and general knowledge
Teachers evaluated children's ability to communicate understandably, enunciate clearly and their general knowledge.

USE OF THE SERVICES OF A NON-TEACHING PROFESSIONAL BY CHILDREN WHO WERE VULNERABLE IN AT LEAST ONE DOMAIN OF THEIR DEVELOPMENT

44.0% **of vulnerable children in kindergarten in the region benefited from the services of a non-teaching professional in 2012.**



* Nurse, social worker, psychologist, dental hygienist/dentist: coefficient of variation between 15% and 25% for regional data: interpret with caution.

N.B.: *Certain types of professionals were frequently mentioned in the "Other" category: resource teachers and dental care professionals. These two categories were therefore added to the indicator based on data compiled. It is important to note, however, that the number of professionals in these two categories may be underestimated, as they were initially not offered as a response option for the question.*

Source: Institut de la statistique du Québec, Quebec Survey of Child Development in Kindergarten, 2012.

SOMETHING CAN BE DONE

The scientific literature has documented the existence of collective drivers that could be used to effect positive change in the development of very young children. Here are a few examples:

The socio-economic environment in which children grow up has a significant impact on their development.[43] Improving the living conditions of children in disadvantaged environments (better housing, for example) and providing support for parents in difficult situations is one way to have a positive impact on young children's overall development.[44]

Having access to the services of a non-teaching professional (such as a speech therapist, social worker, psychologist or resource teacher) **is beneficial** for children who are developmentally vulnerable. Non-teaching professionals can support educators by identifying a child's special needs and participating in developing an intervention plan,[45] thus playing an important role in the prevention, screening and intervention process.

Children from disadvantaged environments, those whose first language is other than French or English, and those whose parents were born outside of Canada are more likely to be developmentally vulnerable when they start school. **Quality educational daycare services** (such as preschool, 4-year-old kindergarten and the Passe-Partout program) can offer these children the stimulation and structure they need to ease their transition into the educational system.[46] Certain community organizations also offer various types of early stimulation programs for babies and toddlers.

Early intervention is crucial for very young children with special needs such as disabilities or developmental disorders. Early screening for impaired hearing, for example, can prevent some types of language delays.[47]

Some of these measures have already been implemented in Quebec. We need to make sure they are maintained and consolidated.

How could these measures be more effectively applied? Are there other measures we need to consider? We hope our 2017 Portrait will make a valuable contribution to the public reflection on these issues.

CONCLUSION

This portrait, a report on the state of health and development of the Outaouais's youngest children, helps us to know a little bit more about the well-being of children between the ages of 0 and 5 living in the province. The situation described here includes both positive and negative points.

Something can be done, however. Change is possible. The scientific literature has documented the existence of collective drivers that we can use to take action in areas that affect young children's health, well-being and development—whether it be by improving the socioeconomic environment of the very young, providing better access to healthcare or quality daycare, ensuring better training for professionals, conducting awareness campaigns or offering more support to parents.

The data—and their evolution—presented in this portrait remind us, more than ever, of the importance of ensuring that the development and well-being of the youngest Quebecers continues to be a priority for Quebec society.

THE REGION AT A GLANCE

Caution must be exercised in interpreting these data. Certain differences between the region and all of Quebec may not be significant or due to random fluctuations.

	INDICATORS	Outaouais 7	All of Quebec
WHO ARE THESE 0-5 YEAR-OLDS?	Number of children between the ages of 0 and 5 in 2016	**26,022**	534,939
	Proportion of children between the ages of 0 and 5 in 2016	**6.7%**	6.4%
	Number of newborns in 2016	**4,387**	86,400
PREGNANCY AND CHILDBIRTH	Proportion of parents with children between 0 and 5 in 2015 who had already attended prenatal classes	**66.9%**	59.8%
	Proportion of babies born with intrauterine growth restriction in 2011-2013	**8.0%**	8.7%
	Proportion of premature births (< 37 full weeks of gestation) in 2013	**8.7%**	7.3%
	Proportion of low birthweight babies (< 2,500 g) in 2013	**6.0%**	5.9%
	Rate of Caesarean births in 2015	**26.7%**	24.9%
	Average annual rate of stillbirths in 2009-2013	**3.8 deaths for every 1,000 births**	4.2 deaths for every 1,000 births
	Proportion of women between the ages of 15 and 55 who gave birth during the five years preceding the 2013-2014 survey who breastfed or tried to breastfeed their youngest child	**84.5%**	89.0%
	Proportion of mothers of children between the ages of 0 and 5 who breastfed their child(ren)** and used breastfeeding support services in 2015	**54.4%**	51.6%

PHYSICAL HEALTH	Average annual number of hospitalizations for asthma in 2013-2016	**224.0 hospitalizations for every 100,000 children between 0 and 4**	162.4 hospitalizations for every 100,000 children between 0 and 4
	Average annual number of hospitalizations for epilepsy in 2013-2016	**59.0 hospitalizations for every 100,000 children between 0 and 4**	57.1 hospitalizations for every 100,000 children between 0 and 4
	Average annual number of hospitalizations for accidental injuries in 2013-2016	**469.3 hospitalizations for every 100,000 children between 0 and 4**	346.3 hospitalizations for every 100,000 children between 0 and 4
	Average annual rate of infant mortality (before 1 year of age) in 2009-2013	**4.4 deaths for every 1,000 births**	4.8 deaths for every 1,000 births
	Average annual rate of juvenile mortality (between 1 and 4 years of age) in 2009-2013	**0.23 deaths for every 1,000 births**	0.15 deaths for every 1,000 births
	Proportion of families who had a family doctor or pediatrician for all their children between 0 and 5 in 2015	**85.2%**	88.8%
	Percentage of children between 0 and 5 who had their teeth examined by a dentist in 2016	**24.0%**	30.5%
	Percentage of children between 0 and 5 who received dental treatment (cavity filled) in 2016	**3.9%**	5.4%
DEVELOPMENT	Rate of children who were recognized as living with a disability in 2015	**10.4 out of every 1,000 children between 0 and 5**	12.3 out of every 1,000 children between 0 and 5
	Proportion of children in kindergarten who were vulnerable in at least one domain of development in 2012	**28.0%**	25.6%
	Proportion of children in 5-year-old kindergarten with a disability or social maladjustment in 2015-2016	**6.5%**	5.6%
	Proportion of developmentally vulnerable kindergartners who benefited from the services of a non-teaching professional at school in 2012	**44.0%**	49.7%

** These figures include all mothers of children between the ages of 0 and 5, with the exception of those who explained that they had not used breastfeeding support services because they did not breastfeed their child(ren).

ABOUT THE DATA PRESENTED

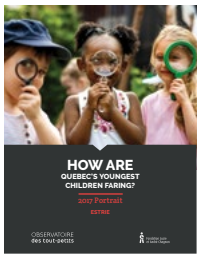
Five key criteria were used to select the indicators used to produce this portrait: data had to be recurring, statistically robust, available at the regional level and based on a recent point of reference. Possible links to child development were also taken into consideration.

Any necessary reservations with respect to data interpretation are included in the text. Notes on the methodology used for each indicator are available on the Observatory's website at **tout-petits.org/donnees**.

The Early Childhood Observatory has produced a series of documents to accompany the *2017 Portrait:*

A comprehensive 236-page report presenting data for the province of Quebec and each of its 17 regions

A brochure presenting the highlights of the 2017 portrait



Separate publications providing regional data on each of Quebec's 17 regions

Visuals for your presentations or social networks

These documents are all available on our website at **tout-petits.org/portrait2017**

The 2016 Portrait, entitled *What kind of environments are Quebec's youngest children growing up in?* is also available for consultation.

This report and the related documents are all available on our website at **tout-petits.org/portrait2016**

REFERENCES AND NOTES

[1] AAP COUNCIL ON COMMUNITY PEDIATRICS. Poverty and Child Health in the United States. *Pediatrics*. 2016; 137(4):e20160339

[2] Aune, D., Saugstad, O. D. et al. (2014). Maternal body mass index and the risk of fetal death, stillbirth, and infant death: a systematic review and meta-analysis. *JAMA*, 311(15), 1536-1546. Flenady, V., Koopmans, L. et al. (2011). Major risk factors for stillbirth in high-income countries: a systematic review and meta-analysis. *Lancet*, 377(9774), 1331-1340. Huang, L., Sauve, R. et al. (2008). Maternal age and risk of stillbirth: a systematic review. *CMAJ,* 178(2), 165-172. Liu, L. C., Wang, Y. C. et al. (2014). Major risk factors for stillbirth in different trimesters of pregnancy-a systematic review. *Taiwan J Obstet Gynecol*, 53(2), 141-145. Marufu, T. C., Ahankari, A. et al. (2015). Maternal smoking and the risk of stillbirth: systematic review and meta-analysis. *BMC Public Health*, 15, 239. Sidebotham, P., Fraser, J. et al. (2014). Understanding why children die in high-income countries. *Lancet*, 384(9946), 915-927.

[3] Ministère de la Santé et des Services sociaux du Québec. (2008) Politique de périnatalité (perinatal care policy) 2008-2018.

[4] Tu, M.T & Poissant, J. (2015). Avis scientifique sur les effets des rencontres prénatales de groupe. Institut national de santé publique du Québec, 140 p.

[5] Lavender, T., Hofmeyr, G. J. et al. (2012). Caesarean section for non-medical reasons at term. *The Cochrane database of systematic reviews3:* CD004660-CD004660. Kapellou, O. (2011). Effect of Caesarean section on brain maturation. *Acta Paediatr,* 100(11), 1416-1422. Chien, L. N., Lin H. C. et al. (2015). Risk of autism associated with general anesthesia during Caesarean delivery: a population-based birth-cohort analysis. *J Autism Dev Disord,* 45(4), 932-942. Moraitis, A. A., Oliver-Williams, C. et al. (2015). Previous Caesarean delivery and the risk of unexplained stillbirth: retrospective cohort study and meta-analysis. *BJOG,* 122(11), 1467-1474. O'Neill, S. M., Kearney, P. M. et al. (2013). Caesarean delivery and subsequent stillbirth or miscarriage: systematic review and meta-analysis. *PLoS One,* 8(1): e54588.

[6] World Health Organization (WHO). (2014) WHO statement on Caesarean section rates.

[7] Ministère de la Santé et des Services sociaux du Québec. (2008) Politique de périnatalité (perinatal care policy) 2008-2018.

[8] Ministère de la Santé et des Services sociaux du Québec. (2008) Politique de périnatalité (perinatal care policy) 2008-2018.

[9] Comité de nutrition de la Société française de pédiatrie, D. Turck, et al. (2013). Allaitement maternel : les bénéfices pour la santé de l'enfant et de sa mère. *Arch Pediatr,* 20(2), S29-48. Section on breastfeeding (2012). Breastfeeding and the use of human milk. *Pediatrics,* 129(3), e827-841. Anderson, J. W., Johnstone, B. M. et al. (1999). Breast-feeding and cognitive development: a meta-analysis. *Am J Clin Nutr,* 70(4), 525-535. Mahurin Smith, J. (2015). Breastfeeding and language outcomes: A review of the literature. *J Commun Disord,* 57, 29-40. Delgado, C. et Matijasevich, A. (2013). Breastfeeding up to two years of age or beyond and its influence on child growth and development: a systematic review. *Cad Saude Publica,* 29(2), 243-256.

[10] Ministère de la Santé et des Services sociaux du Québec. (2008) Politique de périnatalité (perinatal care policy) 2008-2018.

[11] World Health Organization (WHO). (2014) WHO statement on Caesarean section rates.

[12] WHO. (2014) Every newborn, an action plan to end preventable deaths.

[13] WHO. Infant and young child feeding, 2017.

[14] Institute of Health Economics. (2008). Alberta, Canada. Determinants and prevention of low birth weight: a synopsis of the evidence. Alberta : Institute of health economics.

[15] Haeck, C. et P. Lefebvre. (2016) A simple recipe : The effect of a prenatal nutrition program on child health at birth. *Labour Economics,* 41, 77-89.

[16] Dubois, Nathalie et al. (2014) Évaluation de la mise en œuvre, des effets et de la valeur économique de La Maison Bleue. Évaluation de la mise en œuvre, des effets et de la valeur économique de La Maison Bleue.

[17] Brownell, Marni D. et al. (2016) Unconditional Prenatal Income Supplement and Birth Outcomes. *Pediatrics,* 137 (6).

[18] Chaillet, Nils et al. (2015) A Cluster-Randomized Trial to Reduce Cesarean Delivery Rates in Quebec. *N Engl J Med,* 372:1710-21.

[19] Rossignol, Micher, Boughrassa, Faiza et Jean-Marie Moutquin. (2012) Mesures prometteuses pour diminuer le recours aux interventions obstétricales évitables pour les femmes à faible risque. Institut national d'excellence en santé et en services sociaux (INESSS). ETMIS, 8(14):1-134

[20] Canadian Paediatric Society (2017) The Baby-Friendly Initiative: Promoting, protecting and supporting breastfeeding. Position statement.

[21] Association pour la santé publique du Québec et Mouvement allaitement du Québec. Rendre votre municipalité plus favorable à l'allaitement.

[22] Semenic S, Groleau D, Gray-Donald K, Rodriquez C, Collaborators : Haiek L, Sibeko L. L'évaluation de la mise en oeuvre des lignes directrices en allaitement maternel au Québec. Rapport de recherche. Montréal, McGill University, 2012.

[23] Holmes, Alison Volpe et al. (2012) Physician Breastfeeding Education Leads to Practice Changes and Improved Clinical Outcomes. *Breastfeeding Medicine,*7(6) : 403-408..

[24] Canadian Paediatric Society (2017) The Baby Friendly Initiative: Promoting, protecting and supporting breastfeeding. Position statement.

[25] Ministère de la Santé et des Services sociaux du Québec. Vaccination, the best protection. Fact sheets for vaccine recipients. (http://publications.msss.gouv.qc.ca/msss/fichiers/piq/feuillets_complets_en.pdf)

[26] Deal et al. (2000). Unintentional injuries in childhood: analysis and recommandations. *The Future of Children,* 10(1), 4-22. Gold, JI. (2008). The impact of unintentional pediatric trauma: a review of pain, acute stress, and posttraumatic stress. *J Pediatr Nurs.,* 23(2), 81-91. Institut national de santé publique du Québec (2009). Les traumatismes chez les enfants et les jeunes québécois âgés de 18 ans et moins : état de situation, Direction du développement des individus et des communautés, 129 p. Martin-Herz, SP et al. (2012). Health-related quality of life in children and adolescents following traumatic injury: a review. *Clin Child Fam Psychol Rev.,* 15(3), 192-214. Garcia, D., Hungerford, G. M. et al. (2015). Topical review: negative behavioral and cognitive outcomes following traumatic brain injury in early childhood. *J Pediatr Psychol,* 40(4), 391-397.

[27] Neslihan Koyuncuoğlu Güngör. Overweight and Obesity in Children and Adolescents. *J Clin Res Pediatr Endocrinol.* 2014 Sep ; 6(3) : 129–143.

[28] Blackman, J. A. et Gurka, M. J. (2007). Developmental and behavioral comorbidities of asthma in children. *J Dev Behav Pediatr,* 28(2), 92-99. Blackman, J. A. et Conaway, M.R. (2012). Changes over time in reducing developmental and behavioral comorbidities of asthma in children. *J Dev Behav Pediatr,* 33(1), 24-31. Chen, J. H. (2014). Asthma and child behavioral skills: does family socioeconomic status matter? *Soc Sci Med,* 115, 38-48. Schieve, L. A., Gonzalez, V. et al. (2012). Concurrent medical conditions and health care use and needs among children with learning and behavioral developmental disabilities, National Health Interview Survey, 2006-2010. *Res Dev Disabil,* 33(2), 467-476. Carl E. Stafstrom and Lionel Carmant. Seizures and Epilepsy: An Overview for Neuroscientists. *Cold Spring Harb Perspect Med.* 2015 Jun 1; 5(6).

[29] Neslihan Koyuncuoğlu Güngör. Overweight and Obesity in Children and Adolescents. *J Clin Res Pediatr Endocrinol.* 2014 Sep ; 6(3) : 129–143.

[30] Desrosiers, Hélène, Dumitriu, Valeriu et Lise Dubois. (2009). Le surplus de poids chez les enfants de 4 à 7 ans : des cibles pour l'action. *Je suis, je serai,* vol. 4, fascicule 3, Institut de la statistique du Québec.

[31] Cole, Sarah Z., Failure to Thrive : An Update. *Am Fam Physician.* 2011 Apr 1; 83(7) : 829-834.

[32] Aizer, A. et Currie, J. (2014). The intergenerational transmission of inequality: maternal disadvantage and health at birth. *Science,* 344(6186), 856-861. Globerman, Steven (2013). Reducing Wait Times for Health Care: What Canada Can Learn from Theory and International Experience. Fraser Institute. Institut canadien d'information sur la santé (2012). Les soins de santé au Canada 2012 : regard sur les temps d'attente. Ottawa, ON: ICIS. Maharaj, V., Rahman, F. et al. (2014). Tackling child health inequalities due to deprivation: using health equity audit to improve and monitor access to a community paediatric service. *Child Care Health Dev,* 40(2), 223-230. National Child and Youth Health Coalition (2006). Children wait too. National Paediatric Surgical Wait Times Strategy. Final Report.

[33] Liu, Y.H., et Stein, M.T. (2005). Feeding Behaviour of Infants and Young Children and Its Impact on Child Psychosocial and Emotional Development. Encyclopedia on Early Childhood Development, San Diego, University of California, p. 7. Boreham, C, et Riddoch, C. (2001). The physical activity, fitness and health of children. *Journal of Sports Science,* 19(12),

[34] WHO. (2012) Population-based approaches to childhood obesity prevention.

[35] La Direction des communications du ministère de la Santé et des Services sociaux. (2016) Politique gouvernementale de prévention en santé (Quebec health policy on prevention).

[36] Ministère de la Famille (2014). Gazelle and Pumpkin (*Gazelle et Potiron*). Framework for creating environments that promote healthy eating, active play and motor development in educational daycare centres.

[37] Direction de santé publique de l'Agence de la santé et des services sociaux de la Montérégie (s.d.). Fontaine, je boirai de ton eau !

[38] Ran T, Chattopadhyay S, Community Preventive Services Task Force. Economic evaluation of community water fluoridation: a Community Guide systematic review. *Am J Prev Med.* 2016; 50(6) : 790–6.

[39] Kershaw, P., et al (2010). The Economic Costs of Early Vulnerability in Canada, Canadian Journal of Public Health, 101(3), 8-13. Moisan, M. (2013). Garder le cap sur le développement global des jeunes enfants. L'importance des mots utilisés pour parler de l'Enquête québécoise sur le développement des enfants à la maternelle. Québec : Direction du développement des enfants, Direction générale des politiques, Ministère de la Famille, Gouvernement du Québec. Pagani, L. S., et al (2011). Prédire la réussite scolaire des enfants en quatrième année à partir de leurs habiletés cognitives, comportementales et motrices, Étude longitudinale du développement des enfants du Québec (ÉLDEQ 1998-2010). Québec : Institut de la statistique du Québec, vol. 6, fascicule 1. Simard, M., Tremblay, M-E., Lavoie, A. and Audet, N. (2013). Enquête québécoise sur le développement des enfants à la maternelle 2012. Québec : Institut de la statistique du Québec. Williams, R. et al (2012). The promise of the early years: How long should children wait? Canadian Pediatric Society, 17(10), 537-538.

[40] Allerton, L. A., Welch, V. et al. (2011). Health inequalities experienced by children and young people with intellectual disabilities: a review of literature from the United Kingdom. *J Intellect Disabil,* 15(4), 269-278. Families Special Interest Research Group of I. (2014). Families supporting a child with intellectual or developmental disabilities: the current state of knowledge. *J Appl Res Intellect Disabil,* 27(5), 420-430. Hauser-Cram et al. (2001). Children with disabilities: A longitudinal study of child development and parent well-being. *Monographs of the Society for Research in Child Development,* Serial no. 266, 66(3), 135 p. Oeseburg, B., G. J. Dijkstra, et al. (2011). Prevalence of chronic health conditions in children with intellectual disability: a systematic literature review. *Intellect Dev Disabil,* 49(2), 59-85. UNICEF (2007). Promoting the rights of the children with disabitities. *Innocenti Digest* no. 13, Innocenti Research Center.

[41] Desrosiers, H., et K. Tétreault (2012). "Les facteurs liés à la réussite aux épreuves obligatoires de français en sixième année du primaire : un tour d'horizon", Étude longitudinale du développement des enfants du Québec (ÉLDEQ 1998-2010) – De la naissance à 12 ans, Institut de la statistique du Québec du vol. 7, fascicule 1, 40 p. Tétreault, K., et H. Desrosiers (2013). "Les facteurs liés à la réussite aux épreuves obligatoires de mathématiques en sixième année du primaire : un tour d'horizon", Étude longitudinale du développement des enfants du Québec (ÉLDEQ 1998-2010) – De la naissance à 12 ans, Institut de la statistique du Québec vol. 7, fascicule 4, 27 p

[42] Gamache, P, Pampalon, R et Hamel, D. (2010), Guide méthodologique : "L'indice de défavorisation matérielle et sociale : en bref", Québec, Institut national de santé publique du Québec, septembre.

[43] Desrosiers, H., K. Tétreault et M. Boivin (2012). "Caractéristiques démographiques, socioéconomiques et résidentielles des enfants vulnérables à l'entrée à l'école", Portraits et trajectoires. Série Étude longitudinale du développement des enfants du Québec - ÉLDEQ, Institut de la statistique du Québec, n° 14, mai, 12 p.

[44] Bowers, Anne Pordes et al. (2012). An Equal Start : Improving outcomes in Chidren's Centres, The Evidence Review. UCL Institute of Health Equity.

[45] Simard, Micha, Tremblay, Marie-Eve, Lavoie, Amélie, and Audet, Nathalie (2013). Enquête québécoise sur le développement des enfants à la maternelle 2012, Québec, Institut de la statistique du Québec, 99 p.

[46] Japel, C., & Dihman, P. (2013). Les services à la petite enfance : la qualité et son impact sur le développement des enfants. Dans G. Tarabulsy et M. Provost (Éds.) Développement social et émotionnel des enfants et adolescents, Tome 2, (pp. 155-192). Presses de l'Université du Québec.

[47] Canadian Pediatric Society. (2016) Universal newborn hearing screening. Position statement.

OBSERVATOIRE
des tout-petits

The mission of the Early Childhood Observatory is to help ensure that the development and well-being of Quebec's very youngest children has a place on the province's list of social priorities. In order to do so, the Observatory compiles the most rigorous data on 0-5 year-olds which it then disseminates to incite dialogue on collective actions in this area.

Fondation Lucie
et André Chagnon