Renfrew County and District

Community Health Status Report

Issue #17, 2010

Child Health in Renfrew County and District

Renfrew County and District Health Unit, 7 International Drive
Pembroke ON, K8A 6W5 www.rcdhu.com

Child Health in Renfrew County and District

Contents

A. Introduction

The mandate of Ontario Health Units includes improving the health and well-being of children and families. A public health goal is "to enable all children to attain and sustain optimal health and developmental potential." [1]

The Child Health Program, as mandated in the Ontario Public Health Standards, describes required activities through which local Health Units work towards this goal. These include the epidemiological analysis of surveillance data in the areas of:

- Positive parenting
- Healthy family dynamics
- Growth and development
- Breastfeeding
- Healthy eating, healthy weights and physical activity
- Oral health

Child Health in Renfrew County and District provides analysis and interpretation of surveillance data for children and youth up to age 19 where applicable. Where local data is not available for children and/or youth, local data for adults age 20 to 34 is shown because this age group includes many parents and future parents.

Child Health in Renfrew County and District includes information on the determinants of health. These are a variety of factors that interact with each other to influence the health of individuals and communities. Understanding and addressing the determinants of health is fundamental to the work of public health in Ontario. [1]

This report is intended mainly for use by Renfrew County and District Health Unit staff and community partners, to inform priority setting and planning of our work together towards the optimal health of our children.

This report is the 17th in a series of health status reports published by the Renfrew County and District Health Unit. The most recent of these reports are available on our web site: http://www.rcdhu.com/community-health-status/index.htm.

For more information about community health indicators for Renfrew County and District, contact Peggy Patterson, Program Planning and Evaluation Coordinator at 613-735-8651 ext. 546 or ppatterson@rcdhu.com.

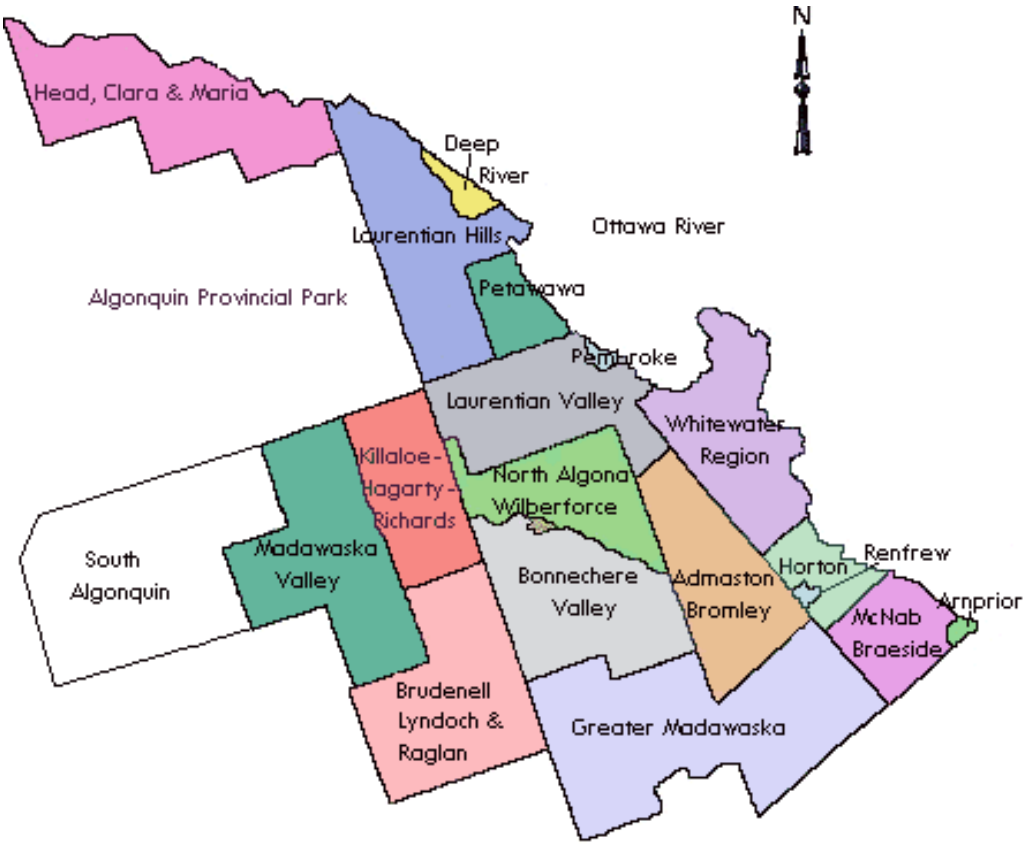
B. Local Context

Renfrew County and District (RC&D) is comprised of the County of Renfrew, the City of Pembroke, the Township of South Algonquin, and most of Algonquin Provincial Park in Ontario, Canada. This area covers about 15,000 square kilometers. The total population is estimated at about 103,000. See Figure 1 for a map showing municipal boundaries.

RC&D is considered a mainly rural area - Pembroke and Petawawa are the only municipalities defined as urban. According to the 2006 census:

- 99.6 percent of the population speaks English, and 13 percent speaks both English and French
- 5.7 percent identified themselves as Aboriginal
- Only 6 percent are immigrants, and 80 percent of these immigrated before 1991.[4]
- A relatively low proportion has post secondary education (52%). [2]

Figure 1: Municipalities in Renfrew County and District



B.1 Number of Children and Youth and Where They Live

In 2009 there were an estimated 22,685 children and youth under age 20 living in Renfrew County and District (RC&D). This represents 22% of the population.

Figure 2: Number of children and youth in RC&D, 2009

Age	# people	Age	# people
under 1	1019	10	1102
1	1028	11	1051
2	1004	12	1061
3	992	13	1139
4	1039	14	1213
5	1037	15	1232
6	1085	16	1354
7	1051	17	1348
8	1089	18	1359
9	1030	19	1451

Petawawa has the greatest number of children and youth, followed by Pembroke and Laurentian Valley. See Figure 3.

Figure 3: Number of children and youth by municipality in RC&D, 2009

	Age Group					
Municipality	**00 < 1**	**01−04**	**05−09**	**10−14**	**15−19**	**TOTAL**
Petawawa	254	899	1,032	949	1,052	**4,186**
Pembroke	127	516	646	742	909	**2,940**
Laurentian Valley	96	371	525	604	687	**2,283**
McNab/Braeside	65	284	425	417	535	**1,726**
Arnprior	75	251	343	407	523	**1,599**
Renfrew	76	273	374	372	504	**1,599**
Whitewater Region	53	256	346	392	502	**1,549**
Deep River	36	144	175	242	321	**918**
Madawaska Valley	33	169	223	220	258	**903**
Bonnechere Valley	32	124	172	208	218	**754**
Admaston Bromley	39	135	161	168	207	**710**
Laurentian Hills	30	144	147	166	156	**643**
Horton	18	102	156	139	202	**617**
North Algona Wilberforce	27	103	151	136	197	**614**
Killaloe, Hagarty and Richards	22	107	143	140	199	**611**
Greater Madawaska	9	70	113	108	162	**462**
Brudenel, Lyndoch and Raglan	14	62	79	71	91	**317**
South Algonquin	5	30	42	48	79	**204**
Pikwakanagan	8	20	32	30	43	**133**
Head, Clara and Maria	*	*	6	*	5	**11**
TOTAL	**1,019**	**4,060**	**5,291**	**5,559**	**6,850**	**22,779**

***Source**: intelliHEALTH Ontario, 2009 population estimates, extracted October 29, 2010*
** indicates information is suppressed due to cell count under 5.*

C. Determinants of Health

Determinants of health are a variety of factors that interact with each other to influence the health of individuals and communities. Determinants of health include:

- income and social status
- social support networks
- education and literacy
- employment/working conditions
- social and physical environments
- personal health practices and coping skills
- healthy child development
- biology and genetic endowment
- health services
- gender
- culture
- language [1]

This report includes sections on two important determinants of health: income and social status, and social support networks. In addition, information related to determinants of health is presented for each surveillance area if available. The hope is that a good understanding of the determinants of health will enable us to work towards comprehensive and longer-term strategies that are effective [3] in supporting optimal child health.

C.1 Income and Social Status

Income and social status is thought to be the most important determinant of health. This refers to an individual's or group's position within society. It includes occupation, education, income and place of residence and is often called socioeconomic status (SES). There is a close relationship between SES and health. In general, children born into families with lower SES are more likely to be born at a low birth weight, experience disability, disease, behaviour problems and mental health disorders that can lead to a lifetime of poor health. [4]

C.1a Socioeconomic Gradient

Research has shown that people at each socioeconomic level have better health that people in the level below. Therefore disparities in health affect those at every level of the gradient, not just those considered to be worst off. [4]

One example of a socioeconomic gradient is in standardized testing of cognitive, motor, social, behavioural and vocabulary skills of children. Children with low scores are considered vulnerable – their chances of optimum development are reduced. This testing has found that a higher proportion of children in low-income families are

vulnerable. But many of these children do well despite unfavourable SES. As family SES improves, an increasing percentage of children show better development. However there are still children who do not do well in the highest SES group. [5]

The socioeconomic gradient can be observed for most diseases and causes of death. It is thought to have both material and psychosocial causes. [6]

C.1b Income

Income is a concrete measure of social status. Family income has a strong influence on child development. Canadian researchers found that the risk of many negative developmental outcomes was higher for children living in lower income families.[7] These outcomes included aggression, emotional problems, hyperactivity and inattention, delinquent behaviours, not being in excellent health, delayed vocabulary development, seldom reading for pleasure, needing special education, rarely participating in organized sports and rarely participating in unorganized sports.

The most commonly used measure of low income in Canada is the Low Income Cutoff (LICO). This is the income at which families spend at least 20% more of their before-tax income on food, shelter and clothing than the average family. [8]

Figure 4 shows that families with incomes below the LICO live in all municipalities in RC&D. In 2005, Pembroke, Renfrew, Arnprior and Deep River were the municipalities with the highest proportion of families with incomes below the LICO.

Figure 4: Number and percent of children age 17 and under living in families with incomes below the before-tax Low Income Cutoff, RC&D, 2005

Municipality	Number	Percent
Pembroke	555	22
Renfrew	319	20
Arnprior	258	17
Deep River	127	16
Killaloe, Hagarty and Richards	72	12
Admaston Bromley	78	11
Horton	66	11
Madawaska Valley	95	10
Whitewater Region	133	9
Brudenell, Lyndoch and Raglan	25	9
Petawawa	317	8
Bonnechere Valley	49	7

McNab/Braeside	111	6
Greater Madawaska	23	6
North Algona Wilberforce	38	6
Laurentian Valley	114	6
Renfrew County	**2380**	**11.6**

***Source**: Income information is from Statistics Canada, 2006 Community Profiles. Population estimates are from Provincial Health Planning Database, Ontario Ministry of Health and Long-Term Care, extracted October 2008.*
***Note**: In 2005, Laurentian Hills had an estimated 586 children, Pikwakanangan had an estimated 147 children and Head, Clara, and Maria had an estimated 20 children. However, there is no information on low income for these areas so they have not been included in the above table.*

Ontario as a whole has a higher proportion of children age 17 and under living in low income families (18%) than RC&D (12%).

C.1c Social Inclusion

Low income alone does not encompass the challenges and obstacles which accompany a lower status in society. The concept of social inclusion is useful in understanding the complexity of low social status and explaining inequalities among groups in society. [9] Lack of social inclusion can result from a combination of circumstances (e.g. unemployment, discrimination, poor skills, low income, substandard housing, family breakdown) and can have a profound effect on physical and mental health. [4]

"To be included is to be accepted and to be able to participate fully within our families, our communities and our society. Those who are excluded, whether because of poverty, ill health, gender, race, or lack of education, do not have the opportunity for full participation in the economic and social benefits of society." [10]

In 2007, the Renfrew County Child Poverty Action Network assisted the Social Planning Council of Ottawa with five focus groups in Renfrew County. Thirty-eight parents with low incomes came and discussed their experiences of inclusion and exclusion related to opportunities for healthy development and educational activities for their young children.

Focus group participants identified many services that ***increase*** inclusion: pre and postnatal supports from public health and community health centres; health care services; parent resource centres; emergency sources of food and clothing; school breakfast and snack programs; subsidies for recreational activities; and low-cost recreation and day camp programs. [11]

Participants also identified many ***barriers*** to including their child in healthy development and educational activities, and made recommendations for increasing inclusion. These are presented in Figure 5.

Figure 5: Summary of barriers to inclusion based on focus group discussions with parents of young children in Renfrew County, 2007 [11]

Issue	Barriers	Recommendations
Sports, recreation, music and cultural activities	In smaller communities, group activities are seldom available; cost and transportation are barriers; when subsidies are available they can be stigmatizing; children who access a subsidy are disappointed when the subsidy ends and they cannot continue; parents sometimes feel judged and misunderstood by service agencies and schools when their children are not in activities.	Enable parents to volunteer to coach/facilitate sports and recreational activities (training); establish a consistent, non-stigmatizing process to apply for subsidies; have a longer term perspective on subsidies.
Transport ation	Parents identified challenges with transporting children to services and activities due the cost of private vehicles and the lack of public transportation. Also, they explained that it is difficult for children to participate in sports at school that take place after the bus leaves.	Organize school sports/school bus schedules so that children who are bussed can participate; fund some kind of public transportation service or organized car pool to enable people to move around.
School fees	Parents felt that school was one place where their children had a chance to be on equal footing with other children. However, the cost of school supplies and activities can exclude children. Requests for school fees come up suddenly, and families have to make difficult choices. Families often go without other things so the children can participate in pizza day and attend school outings.	Don't have activities at school if all children cannot afford to participate; reduce the number of school fees (leave pizza days for an activity at home); make sure there are subsidies for low income families so that all children can participate. Let parents know well ahead of time about upcoming costs.
Medical care	Parents talked about the expense of traveling to Ottawa for care (e.g. high-risk pregnancies, children who need to see specialists). The cost of medication can be devastating, and parents do not know where to turn. Trillium (drug program) forms are confusing and some of the basics are not covered. Young mothers felt judged by health care professionals and that their decisions were not respected (e.g. abortions, infant feeding).	Put the northern travel allowance in place for Renfrew County; assist with medical costs and with Trillium applications; increase the number of local doctors, nurse practitioners, doulas and midwives so patients do not have to travel as far.

Issue	Barriers	Recommendations
Services for parents	Parents expressed a desire for more programs for dads, whole families and younger children in small communities, and ways to get to them. Another concern was supports for parents facing involvement with 'children's aid'. They felt there were no help to deal with problems – only judgments, and they were afraid to ask for help in case it would be used against them.	More parenting programs, preschool programs, play groups. Access to lawyers and/or advocates for Children's Aid or social assistance matters. Safe, non-judgmental peer supports or advocates to assist before there is a problem with Children's Aid, including people who can come into the home.
Child care	Home-based child care is more available than before but may not be of good quality. For example, there may be smoking in the home, the yard may not be fenced, or the food may not be healthy.	More licensed child care. Short-term child care so parents don't have to drag all their children to appointments, and/or provide child care at services.
Income	There are many pressures and stresses when living on a low income. Farm families have difficulty qualifying for subsidies because of higher income, but so much of it goes back into the farm. Grocery stores in smaller communities are more expensive, but the cost of driving to stores with lower prices can be prohibitive. Grocery stores located at the edge of larger towns are not accessible to people who don't have cars. Parents have difficulty with understanding what is available through OW and how to get it.	Develop a way to understand the real incomes of farm families for various application processes (e.g. subsidies). Find ways to improve access to nutritious food. Create more ways to hand down/swap/buy used clothing, baby stuff and equipment. Need better information from social assistance workers about what is available. Need better supports for parents wanting to upgrade their education.
Infor-mation	Lack of information about affordable and subsidized housing.	Create non-threatening avenues for parents to get information. When advice is given, make sure it's not condescending. Have a range of practical information available in many places and in many formats.
Attitudes	Parents feel that people with higher incomes have more opportunities, are treated differently (better) and are not judged. Money determines the level of respect, access to services, and the level of services provided. Young parents and single parents felt discriminated against.	

Issue	Barriers	Recommendations
Other concerns	Parents experienced problems with housing, e.g. inadequate heat, unsafe yards for children to play. Parents were concerned that children did not have good supervision during lunch time at school and needed more time to eat. They were also concerned about lack of supervision on school buses. There was a sense that lower income children and higher income children are not treated equally related to bullying.	Separate the ages on different school buses. Schedule more time to eat at school. Have paid staff to supervise at lunch time to ensure that children have the opportunity to eat properly. Provide better supervision at schools to prevent bullying, and more education about bullying and how to deal with it. Agencies could develop consistency in the way all families are treated.

The early years of life are a critical time when physical, emotional and behavioural patterns are established, including the value we place on ourselves and others. Negative patterns are more likely to persist into adulthood when low income and social status persist over time, or there are no interventions to mitigate their effects.[2]

C.2 Social Support Networks

Support from family, friends and communities is associated with better health. Feeling cared for and respected during difficult times creates a sense of well-being and helps people feel competent about addressing problems. This seems to act as a buffer against poor physical and mental health and premature death. [12, 13]

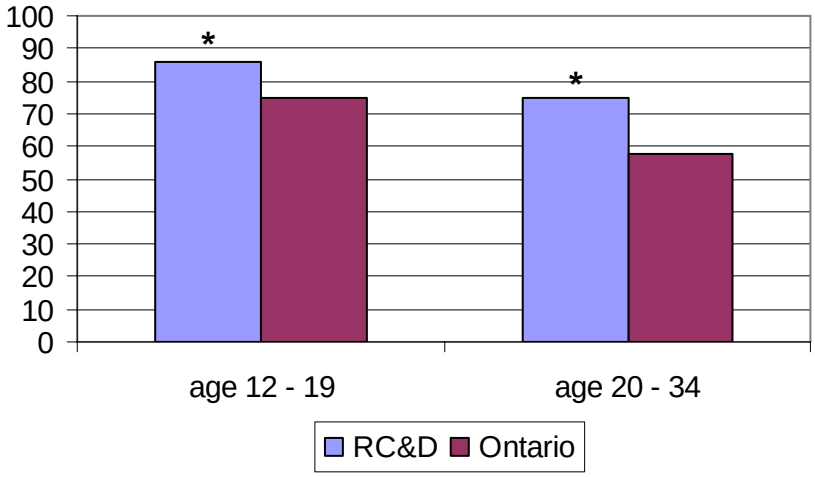
Parents with good social support networks are better able to provide a positive environment for their children and are better equipped to deal with the stresses of parenting.

C.2a Sense of Belonging

An available indicator of social support is “sense of belonging to the local community”. Research shows a high correlation between strong sense of community belonging and good physical and mental health. [13]

Figure 6 shows that a greater proportion of RC&D residents in the two age groups shown have a strong sense belonging to the local community compared to Ontario as a whole. This is consistent with the observation that predominately rural regions across Canada have higher rates of strong community belonging than urban regions. [13]

Figure 6: Sense of belonging to local community somewhat strong or very strong, 2007 - 2008

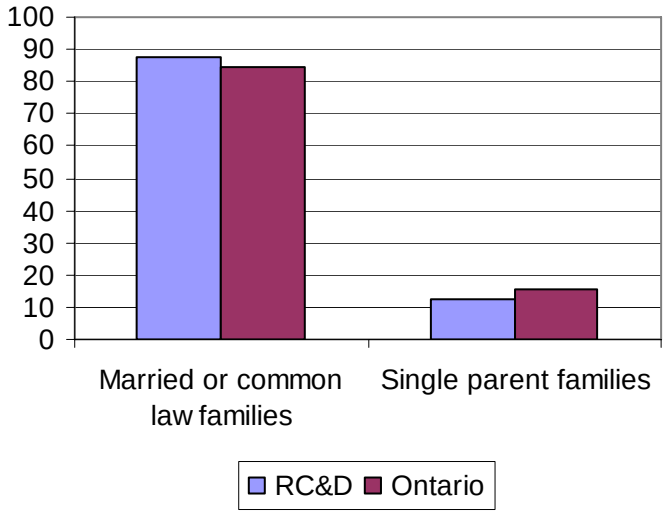


***Source**: Statistics Canada, Canadian Community Health Survey, CANSIM Table 105-0400 and 105-0502*
** indicates significantly different from Ontario*

A strong sense of belonging is more common among people who are married or living common law than people who are divorced or separated.[13] Figure 7 shows that in RC&D, 13% of families (3,695 families) were headed by a single parent in 2006. These families are also much more likely to have a low income, especially if they are headed by women.

.

Figure 7: Proportion of couple families and single parent families, 2006



***Source**: Statistics Canada, 2006 Community Profiles*

D. Surveillance Areas

As stated in the introduction, a requirement of the Child Health Program [1] is the epidemiological analysis of surveillance data in the areas of positive parenting; healthy family dynamics; growth and development; breastfeeding; healthy weights, healthy eating and physical activity; and oral health. Ontario Health Units are required to address these areas when working towards the optimal health and developmental potential of children.

The purpose of the following *epidemiological analysis* is to contribute to ongoing efforts by the Health Unit and its community partners to identify and address current and evolving health issues, and maintain/improve child health. This work is to include reducing *health inequities*. Determinants of health are to be considered when identifying *priority populations* and when using the information to focus public health action. [14]

Epidemiology is defined as the study of the distribution and determinants of health-related states or events in specified populations and the application of this study to the control of health problems [15] and the improvement of population health.

Health inequities are defined as systematic differences in health status that exist across socioeconomic groups. [1] They are related to differences in opportunity which cause, for example, unequal access to a secure income, nutritious food, adequate housing, etc. [16]

Priority populations are defined as groups of people who are experiencing health inequities. [1]

The following sections present local data if available for the required surveillance areas.

D.1 Positive Parenting

Definition of Positive Parenting

Positive parenting is defined as positive/warm and consistent parenting interactions with the child (e.g. parents frequently talk, play, praise, laugh, and do special things together with their children, have clear and consistent expectations and use non-punitive consequences with regard to child behaviour). [17]

Importance of Positive Parenting

Positive parenting creates a healthy, secure attachment relationship between infants and their primary caregiver. This is vital to ensuring optimal neurological development and stress response patterns in a child's brain.

The term “experienced-based brain development” describes an understanding of how the brain is “wired”, especially from the prenatal period to age one and continuing mainly to age six. Stimuli through the senses (e.g. eyes, ears, nose and skin) shape the formation of nerve cells (neurons) and neural pathways. [18]

Positive sensory stimulation through good nurturing in early childhood develops emotional control, a healthy response to stress, and good language, social and cognitive skills. [19] Positive parenting practices with youth helps them stay connected to parents, school, community and friends, develop life skills, and make healthy choices. [17]

Available Data on Positive Parenting

Parenting practices can be measured through a series of questions asked of parents about how often they participate in specific parenting behaviours. The National Survey of Parents of Young Children [19] found that about 2/3 of parents had frequent positive/warm interactions with their child and practiced effective child management. However, 2/3 also frequently used angry/punitive parenting behaviours. We do not have systematic information about parenting practices at the local level.

D.2 Healthy Family Dynamics

Definition of Healthy Family Dynamics

Healthy family dynamics include “how family members function together as a unit – how they get along, communicate, share feelings, accept and support one another, work together, make decisions and solve problems, and the quality of the relationship between parents or partners.” [17]

Poor mental health and stress experienced by parents are available indicators that are associated with suboptimal parenting and child health outcomes. [4, 17] Parental alcohol abuse has been linked to behaviour problems and delayed development of cognitive abilities in children.[20] Measures of mental health, stress and alcohol abuse are provided in this section.

Other suggested components of healthy family dynamics that are not included in this report are: abuse of women, post partum mood disorder, shaken baby syndrome, child abuse, substance misuse by adolescents, and teen pregnancy. [17]

Importance of Healthy Family Dynamics

Poor family functioning is associated with poor parenting practices. Poor family functioning can result in emotional and behavioural problems among children and increased risk of injury, and can compound the impact of low income on children’s

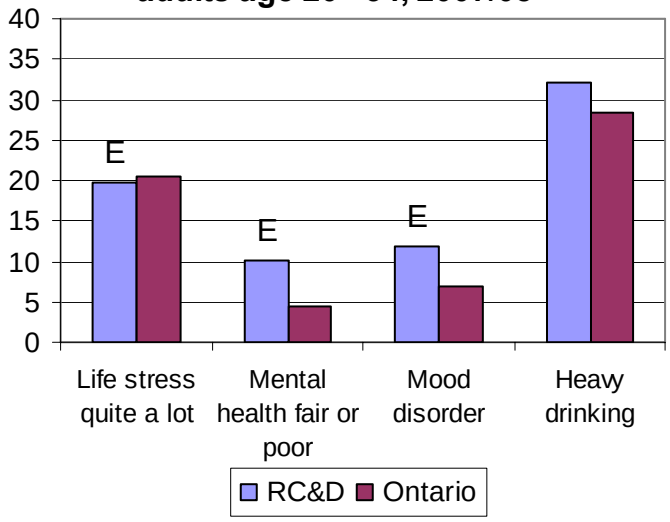
development. An extreme outcome of unhealthy family dynamics and poor parenting is child abuse or neglect. [17]

Available Data Related to Healthy Family Dynamics

Figure 8 shows information for adults age 20 to 34 because this population includes many parents and future parents of young children. Note that for "life stress quite a lot", "mental health fair or poor" and "mood disorder" the E symbol indicates that the estimate for RC&D is highly variable. Therefore, we cannot conclude that apparent differences between RC&D and Ontario are statistically significant.

However, we can observe that about 20 percent adults age 20 – 34 have high life stress and about 30 percent are considered heavy drinkers.

Figure 8: Measures of poor mental health and heavy drinking, adults age 20 - 34, 2007/08



E indicates high variability of the estimate – interpret with caution.
***Source**: Statistics Canada, Canadian Community Health Survey, Table* 105-0502

Life stress quite a lot – population who reported perceiving that most days in their life were quite a bit or extremely stressful.
Mental health fair or poor - provides a general indication of the population suffering from some form of mental disorder, mental or emotional problems, or distress, not necessarily reflected in perceived health.
Mood disorder - population who reported that they have been diagnosed by a health professional as having a mood disorder such as depression, bipolar disorder, mania or dysthymia.
Heavy drinking – 5 or more drinks on one occasion, at least once a month in the past year.

D.3 Growth and Development

Definition of Growth and Development

Child growth and development outcomes are age-appropriate and include motor, language, social, emotional and cognitive skills and abilities. At each stage of development, children build on past achievements. [17]

School readiness, injuries and exposure to second-hand smoke are components of growth and development that are examined in this section. Other suggested components that are not included here are fetal alcohol spectrum disorder, vision, hearing and immunization. [17]

D.3a School Readiness

School readiness describes each child's ability to meet the task demands of school (e.g. the ability to hold a pencil, communicate needs, get along with peers, listen attentively, work with other children, follow rules etc). These abilities enable children to benefit from the educational activities provided at school.

Definition of School Readiness

The Early Development Instrument – A Population-Based Measure for Communities (EDI) is used across Ontario as a measure of growth and development. It assesses the cumulative outcomes of senior kindergarten (SK) children's early years in terms of readiness to learn at school. [21]

The EDI includes five domains:

- Physical health and well-being
- Social competence
- Emotional maturity
- Language and cognitive development
- Communication skills and general knowledge

The EDI classifies SK children as "very ready for school", "ready", "at risk" and "vulnerable". Children who are vulnerable score in the lowest 10 percent of all scores in Ontario. Children who are vulnerable in one or more EDI domains are at risk of experiencing future difficulty at school. [21]

Importance of School Readiness

Children who begin school with age-appropriate motor, language and cognitive development, and adequate social, emotional and communication skills are more able to take advantage of learning opportunities and are less likely to experience problems such as low achievement at school. [22]

Factors Associated with School Readiness

A Canadian study looked at *individual and family characteristics* that increase a child's risk of vulnerability as identified by the EDI. The risk factors which contributed most strongly to vulnerability were sub-optimal health of the child as measured by the Health Utilities Index, male gender and living in a family with low income. [20] (The Health Utilities Index provides a description of an individual's overall functional health based on eight attributes: vision, hearing, speech, mobility, dexterity, cognition, emotion, and pain and discomfort. [20])

Living in a broken family, not looking at books with parents, and living with a parent that smoked also increased the likelihood of vulnerability, but not as strongly as the first three factors. [20]

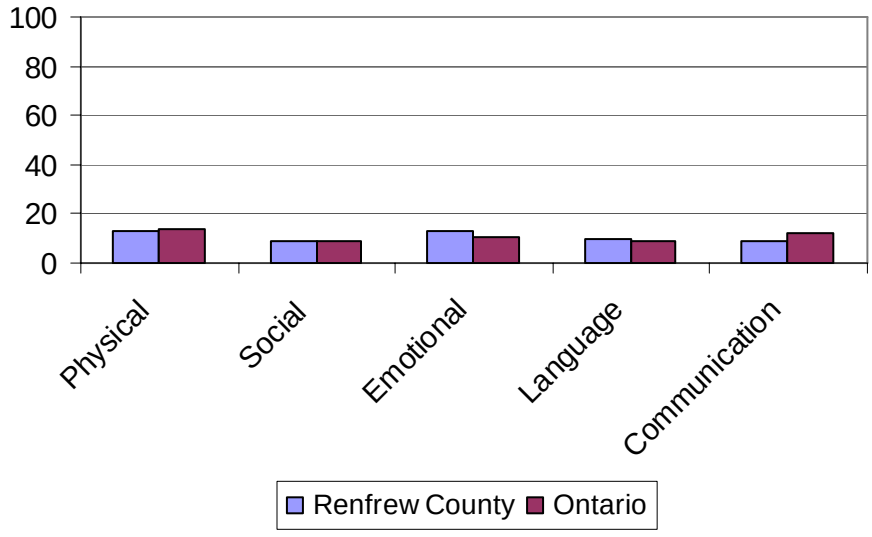
It is also thought that *community* characteristics have an important influence on early childhood development in the domains used to assess school readiness.

One study found an association between low school readiness and living in a neighbourhood with a high proportion of lone parent families. There was also an association between low school readiness and living in a neighbourhood with a high proportion of families with low incomes. [23]

Available Data about School Readiness

In RC&D, between 9.3 and 13 percent of children were vulnerable in each of the domains. This is similar to provincial results. See Figure 9.

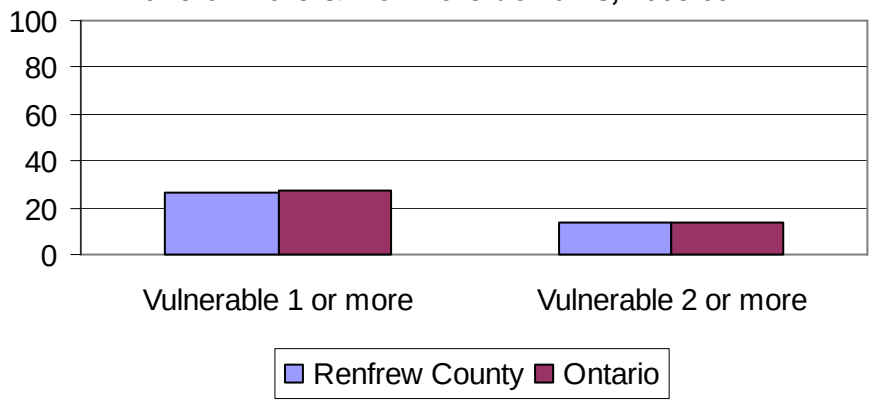
Figure 9: Proportion of SK children "vulnerable", 2008/09



***Source**: Personal communication with Karen Woods, Program Effectiveness Data Analysis Coordinator, Parent Resource Centre, Ottawa. March 2010.*

In RC&D, 26.2 percent of SK children were vulnerable in one or more EDI domain, and 13.8 percent were vulnerable in two or more domains. This is similar to provincial results. See Figure 10.

Figure 10: Proportion of children vulnerable on one or more & 2 or more domains, 2008/09



***Source**: Renfrew County 2008/09 EDI Results, created by Program Effectiveness Data Analysis Coordinator, Parent Resource Centre, Ottawa. March 2010.*

The percent of children vulnerable in one or more domain varies across RC&D, from a low of 14.5 percent to a high of 37.7 percent as shown in Figure 11. The areas with the highest percent of vulnerable children were:

- the combined areas of North Algona Wilberforce, Bonnechere Valley and Pikwakanagan,
- the combined areas of Killaloe, Hagarty and Richards, Madawaska Valley and Brudenel, Lyndoch and Raglan, and
- the Township of Whitewater.

Areas were combined so that each group for analysis had at least 40 children. The municipality with the lowest percent of vulnerable children was the Town of Renfrew.

Analysis of the association between community characteristics and school readiness can be used to inform decision-making about how communities can mobilize resources to support children's development in the first five years of life. This could be done in Renfrew County with the support of appropriate expertise.

D.3b Injuries

The overall rate of unintentional injury in Canada has been declining due to concerted injury prevention efforts. Most injuries are predictable and preventable, and further efforts can continue to reduce the impact of injuries. [4]

Definition of Injuries

Injuries are defined as unintentional or intentional damage to the body resulting from a transfer of energy. Some common unintentional injuries are motor vehicle crashes, falls, poisonings, scalds, burns, and drowning. Intentional injuries include suicide/self-harm and violence. [24]

Importance of Injuries

Injury rates are used as an indicator of growth and development because they can have immediate and long-term impacts on the health of children.

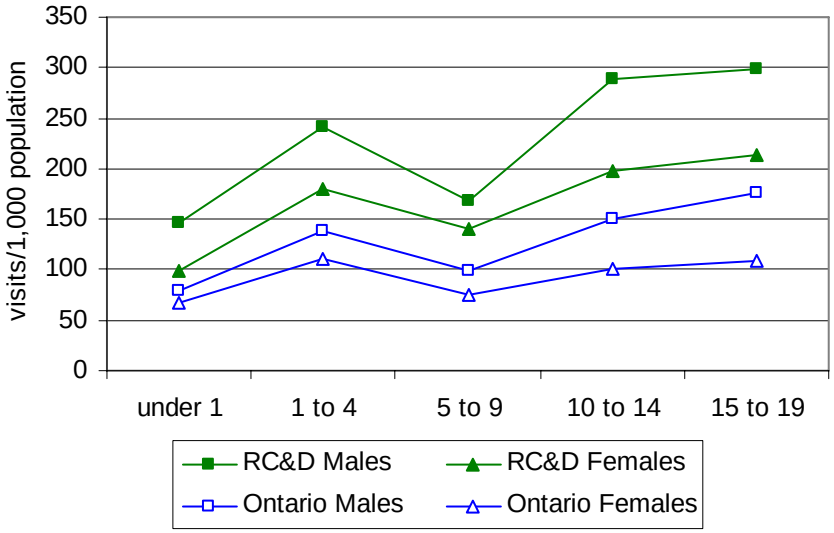
Factors Associated with Injuries

Socioeconomic status is thought to affect the risk of childhood injury. Lower socioeconomic status has been associated with higher risk of injury from home, recreation/play and fall injuries [25] and higher risk of hospitalization from pedestrian and motor vehicle injuries, burns and poisonings. [26]

Available Data about Injuries

Figure 11 shows that emergency department (ED) visit rates for all unintentional and intentional injures combined appear to be higher in RC&D than in Ontario as a whole for the age groups shown. Some of the difference between RC&D and Ontario may be due to lack of alternatives to hospital emergency care in RC&D. The statistical significance of these differences was not assessed.

Figure 11: Age-specific emergency department visit rates for all injuries, 2007/08 - 2009/10

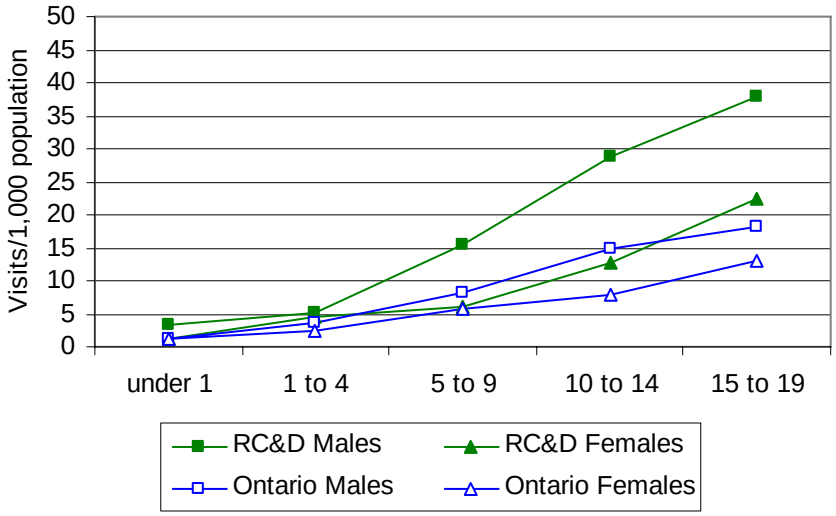


***Source**: intelliHEALTH Ontario, extracted November 1 and 2, 2010. The average visit rate for the three fiscal years 2007/08 – 2009/10 in each age group are shown.*

A report focusing on injuries in RC&D identified transport injuries as a priority for injury prevention efforts. [27] Therefore the next figure shows ED visit rates for transport injuries of children and youth. Transport injuries include injuries to pedestrians; pedal cyclists; occupants of on-road and off-road motor vehicles; occupants of motorized and non-motorized boats; animal riders and occupants of animal drawn vehicles, and occupants of air transport vehicles.

In Figure 12, emergency department (ED) visit rates for transport injuries appear to be higher in RC&D than in Ontario as a whole, particularly for males in the three upper age groups shown. The statistical significance of these differences was not assessed.

Figure 12: Age-specific emergency department visit rates for transport injuries, 2007/08 - 2009/10



***Source**: intelliHEALTH Ontario, extracted November 1 and 2, 2010. The average visit rate for the three fiscal years 2007/08 – 2009/10 in each age group are shown.*

D.3c Exposure to Second-hand Smoke

Second-hand smoke (also called environmental tobacco smoke) causes disease and death. No scientific authority or regulatory health body in the world has established a safe level of exposure to second-hand smoke. [28]

Definition of Second-hand Smoke

Secondhand smoke is tobacco smoke that comes from smoke that is exhaled by the smoker after puffing on a lit cigarette, and smoke produced by a smoldering cigarette. Secondhand smoke has over 4000 chemicals, many of which cause cancer. [29]

Importance of Exposure to Second-hand Smoke

Children who are exposed to environmental tobacco smoke have a greater likelihood than other children of experiencing acute and chronic respiratory illnesses including pneumonia, bronchitis and asthma. They are also at a greater risk of having impaired lung function and chronic middle ear infections. [7]

Factors Associated with Exposure to Second-hand Smoke

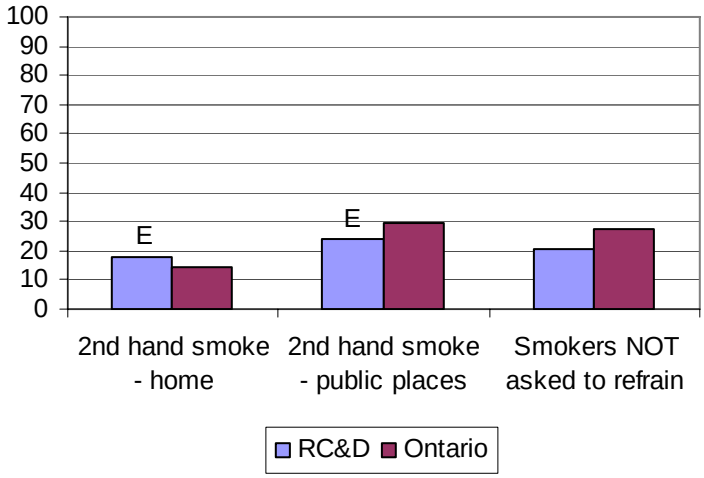
The likelihood of children living with smokers increases as household income decreases. [7]

Available Data About Exposure to Second-hand Smoke

Figure 13 shows that an estimated 18 percent of non-smoking youth in RC&D are exposed to second-hand smoke in the home, and 24 percent are exposed to second hand smoke in private vehicles and/or public places every day or almost every day in the past month. Due to high variability of the estimate, these numbers should be interpreted with caution.

Twenty percent lived in households where smokers are not asked to refrain from smoking indoors. Differences between RC&D and Ontario in Figure 14 are not statistically significant. We do not have this information for children under age 12.

Figure 13: Smoking measures, age 12 - 19, 2007 - 2008

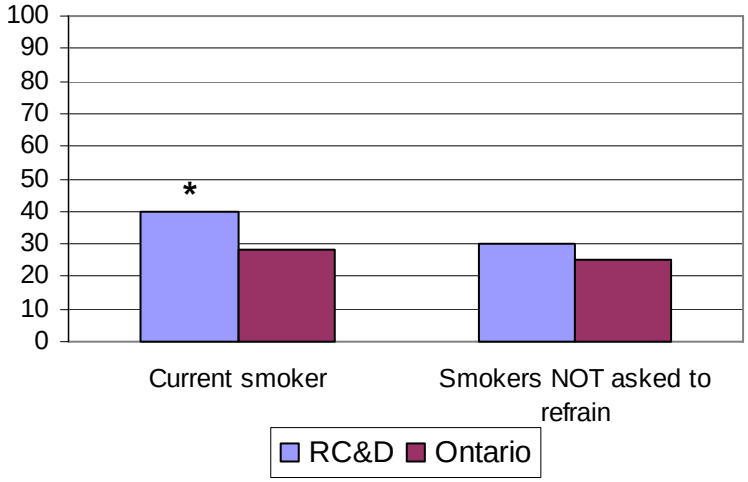


Source: *Statistics Canada, Canadian Community Health Survey, Table 105-0502*
E indicates high variability of the estimate – interpret with caution.
2nd hand smoke-home - non-smokers who reported that at least one person smoked inside their home every day or almost every day.
2nd hand smoke – public places - non-smokers who reported being exposed to 2nd-hand smoke in private vehicles and/or public places every day/almost every day in past month.
Smokers NOT asked to refrain – from smoking in their house.

Figure 14 shows that there is a higher proportion of 20 to 34 year olds who are current smokers in RC&D compared to Ontario. This age group contains many parents and future parents.

In RC&D, 30 percent of adults age 20 to 34 live in households where smokers are not asked to refrain from smoking indoors. These figures are not significantly different from Ontario.

Figure 14: Smoking measures, age 20 - 34, 2007 - 2008



Source: *Statistics Canada, Canadian Community Health Survey, Table 105-0502*
** indicates significantly different from Ontario*
Current smoker – daily or occasional smoker.
2nd hand smoke – public places - non-smokers who reported being exposed to 2nd-hand smoke in private vehicles and/or public places every day/almost every day in past month.
Smokers NOT asked to refrain – from smoking in their house.

D.4 Breastfeeding

Definition of Breastfeeding

This report looks at *breastfeeding intention* – the proportion of mothers who said on admission to hospital for labour/delivery that they intended to breastfeed; and *breastfeeding for six months or more* – the proportion of mothers aged 15 to 55 who breastfed (not exclusively) their last baby (born within the past five years) for six months or more.

Importance of Breastfeeding

A wealth of research tells us that breastfeeding is the healthiest choice for mothers and infants. Health Canada recommends *exclusive* breastfeeding for 6 months and *continued* breastfeeding (along with solid food) for up to two years and beyond. [30]

Factors Associated with Breastfeeding

Maternal factors associated with increased breastfeeding initiation and duration are older age, higher income and education, being employed, being married, and having a positive attitude and confidence about breastfeeding. Other factors are supportive hospital practices, and having access to breastfeeding education and support. [31]

Available Data about Breastfeeding

Figure 15 shows that 80% of women in RC&D said that they planned to breastfeed upon admission to hospital for labour/delivery. However, over 1/4 of these moms used a breast milk substitute during their hospital stay. This is a concern because supplementing with formula during the establishment of breastfeeding can lead to the early stopping of breastfeeding. [32]

Figure 15: Proportion of new moms who stated an intention to breastfeed upon hospital admission, and who fed breast milk only in hospital, RC&D and Ontario

	RC&D	Ontario
Intended to breastfeed	80%	89%
Breast milk only in hospital	57%	59%

***Source**: RC&D (2007 – 2008) - Niday Perinatal Database; Ontario (2006/07 fiscal year) – Ontario Perinatal Surveillance System Report 2008*

Figure 16 shows that the most common reason for using a breast milk substitute in hospital was "informed parent choice". The Breastfeeding Committee for Canada defines standard information that should be provided to parents to ensure that they make an informed decision. [33] However, hospitals that provided data shown in the chart below are not required to use a standard definition of informed parent choice, so it is unclear what this means.

Ideally, breast milk substitutes would only be used for medical reasons (the last six reasons listed in Figure 16). [34] A medical reason for use of a breast milk substitute was noted for only three percent of the mothers who intended to breastfeed (Figure 16).

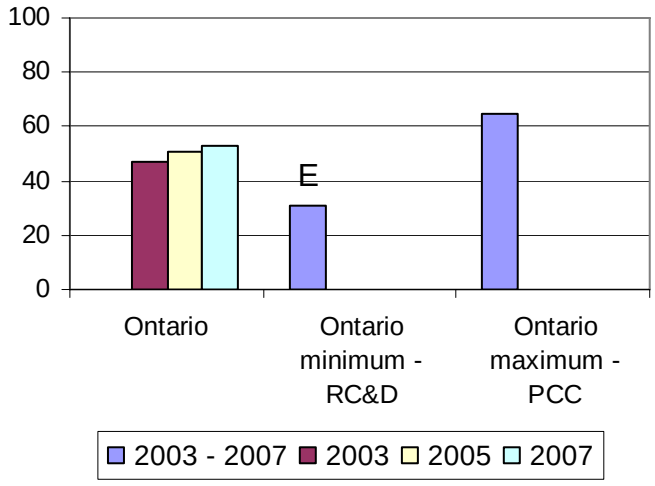
Figure 16: Reasons for use of breast milk substitute in hospital, moms who said they intended to breastfeed, RC&D, 2007 – 2008

Reason	Percent
Informed parent choice	64
Other	15
None	8
Infant unable to feed at breast	6
Separation of mom and baby	4
Hypoglycemia unresponsive to feeding	1
Breast/reconstruction surgery	1
Clinical evidence of severe dehydration	1
Mom taking contraindicated medication	0
Inborn error of metabolism	0
Severely ill mother	0

***Source**: Niday Perinatal Database*

Figure 17 shows that RC&D has the lowest proportion of mothers who breastfed at least six months compared to other Ontario health units, although an "E" indicates high variability of the estimate – the information should be used with caution.

Figure 17: Proportion of new moms who breastfed for 6 months or more



***E** indicates high variability of the estimate – use with caution*
PCC = Peterborough County-City Health Unit
***Source:** Initial Report on Public Health, August 2009*

D.5 Healthy Eating, Healthy Weights and Physical Activity

Definitions of Healthy Eating, Healthy Weights and Physical Activity

Healthy eating: The number of *times*/day that vegetables and fruit are consumed is an available indicator of healthy eating. Five or more times/day is used to indicate a desirable amount. This measure is based on a short food frequency questionnaire. [35] Where dietary intake records the amounts of vegetables and fruits consumed, the number of *servings* per day can be estimated.

Healthy weights: Body mass index (BMI) is a method of classifying body weight of adults age 18 and older according to health risk. BMI is calculated by dividing the respondent's body weight (in kilograms) by their height (in metres) squared. The weight range with the least health risk – "normal" weight - is BMI from 18.5 to 24.99. [35] BMI for youths is different from that of adults as they are still maturing. The Canadian Community Health survey, beginning in 2005, [36] classifies children aged 12 to 17 (except female respondents aged 15 to 17 who were pregnant or did not answer the pregnancy question) as "obese" or "overweight" according to the age- and sex-specific BMI cut-off points as defined by Cole and others. [37] The Cole cut-off points have been linked to the internationally accepted adult BMI cut-off points of 25 (overweight) and 30 (obese).

Physical activity: Leisure time physical activity is an available measure for age 12 and over. It is based on responses to questions about the nature, frequency and duration of participation in leisure-time physical activity over the past 3 months. Physical activity levels are classified as active, moderately active and inactive. The levels moderately active and active are considered desirable. [35]

Importance of Healthy Eating, Healthy Weights and Physical Activity

Childhood overweight and obesity is increasing in Canada and is considered a public health crisis. Obese children and adolescents often suffer low self-esteem because of the social stigma of being obese. This can affect their social development and academic achievement. [38] They are also more likely than normal weight children to have a risk factor for heart disease other than their weight (e.g. high blood pressure, high blood cholesterol).

Childhood obesity can lead to adult obesity, and higher risk of heart disease, stroke, osteoarthritis, hypertension, type 2 diabetes, some cancers, asthma and depression. [17] There is overwhelming evidence that higher fitness levels are associated with health benefits in children and youth. [39]

Vegetable and fruit consumption is associated with many health benefits including a reduced risk of cardiovascular disease, stroke, and some types of cancer. [40] Children and youth who consume fruit and vegetables less than five times a day are significantly

more likely to be overweight or obese compared to those who consume fruit and vegetables more frequently. [3]

Factors Associated with Healthy Weights, Physical Activity and Healthy Eating

The term "obesogenic environment" was coined to describe the way that social and physical environments encourage physical inactivity and provide ready access to high-calorie foods, fostering an epidemic of obesity. [36] Risk factors for childhood overweight and obesity are low family income, low parental education, parental obesity, low physical activity, watching TV, and short sleep duration.[41] Physical inactivity is more prevalent in socially disadvantaged groups, especially those with low education levels and low incomes. [42]

Available Data about Healthy Weights, Physical Activity and Healthy Eating

In Canada, 19 percent of children/youth age 2 to 17 are overweight and 9 percent are obese based on measured height and weight. (This estimate used the International Obesity Task Force recommendations on how to calculate overweight/obesity for children and adolescents.) [43] Fitness levels of Canadian children and youth have declined significantly and meaningfully since 1981. [37] Sixty-four percent of Ontario children/youth age 4 to 18 consume less than five servings/day of vegetables and fruit. [44] This information is not available at the local level.

Figure 18 shows information for adults age 20 – 34 because this population includes many parents and future parents. Almost 1/2 of these adults had a body mass index (BMI) in the overweight or obese range based on self-reported height and weight. Close to 60 percent consumed vegetables and fruits less than 5 times/day.

A positive observation is that in RC&D, a smaller proportion of adults age 20 – 34 were physically ***in***active in their leisure time compared to Ontario. However, there are still over 1/3 in the inactive category. It appears that a significant portion had pain or discomfort that prevents activities, or a physical or mental condition or health problem that limits their participation home, school, work and other activities.

Figure 19 shows information for youth age 12 to 19. Twenty-three percent had a BMI in the overweight or obese range based on self-reported height and weight. Forty-four percent reported consuming vegetables and fruits less than five times/day. As with adults age 20 – 34, a smaller proportion were physically ***in***active in their leisure time compared to Ontario.

Figure 18: Indicators of healthy eating, healthy weight and physical activity, age 20 - 34, RC&D and Ontario, 2007 - 2008

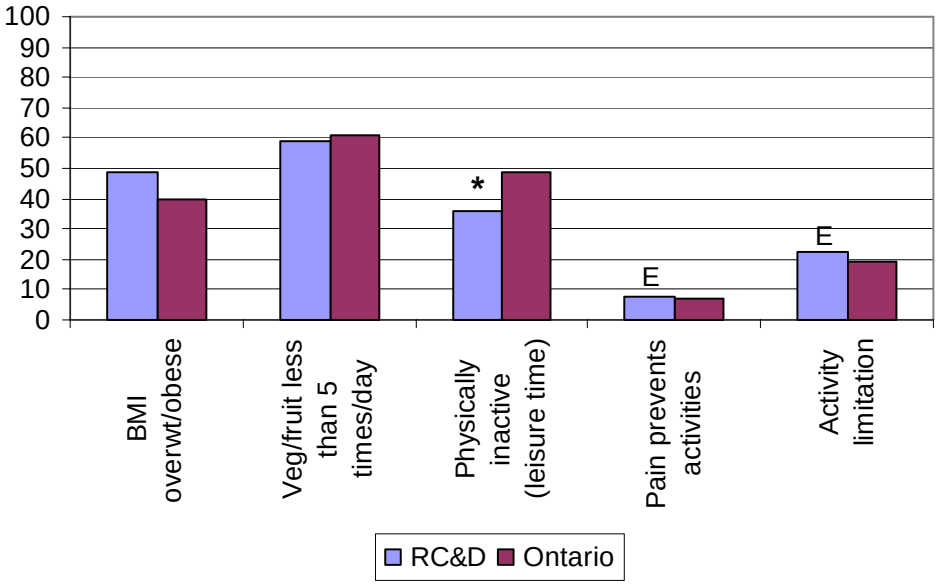
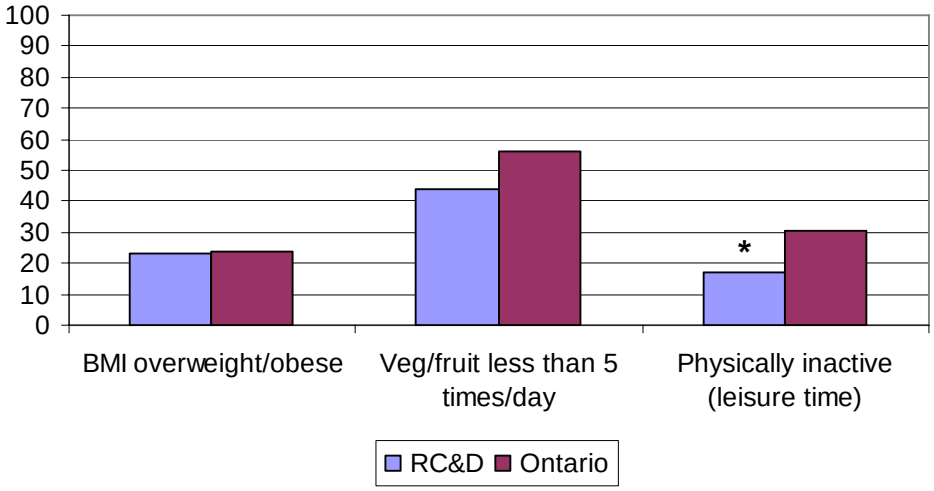


Figure 19: Indicators of healthy eating, healthy weight and physical activity, age 12 - 19, RC&D and Ontario, 2007 - 2008



Source: *Statistics Canada, Canadian Community Health Survey, Table 105-0502*
** indicates significantly different from Ontario*
E *indicates high variability of the estimate – interpret with caution*

BMI overwt/obese – population with a body mass index in the overweight or obese range based on self-reported height and weight.
Veg/fruit less than 5 times/day – proportion of the population that usually consumes vegetables and fruits less than 5 times/day. This indicator does not take into account the amount consumed.

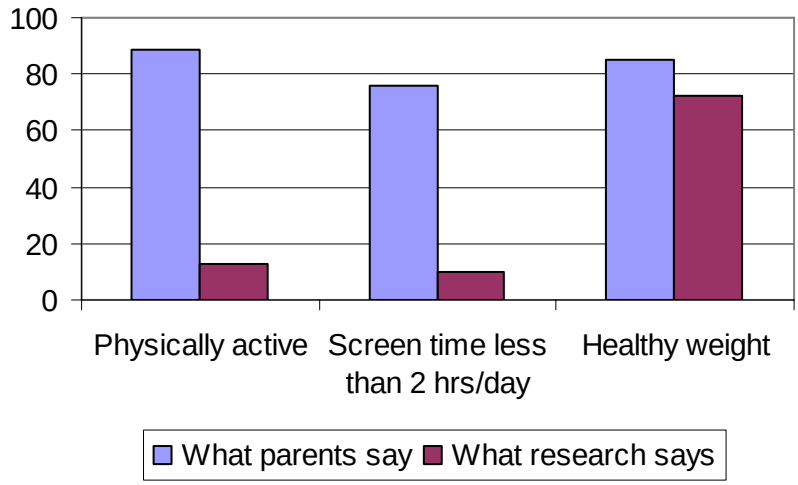
Physically inactive – proportion of the population with a physical activity level defined as inactive during leisure time.
Pain prevents activities – population that reported having pain or discomfort that prevents activities.
Activity limitation - "participation and activity limitation, sometimes or often" This refers to the population who reported being limited in selected activities (home, school, work and other activities) because of a physical condition, mental condition or health problem which has lasted or is expected to last 6 months or more.

In 2007, the Champlain Cardiovascular Disease Prevention Network (CCPN) conducted a survey to understand how parents of children age 4 to 12 perceive their children's weight, physical activity, and eating behaviours. The survey was conducted in the Champlain region, which includes Renfrew County.

The survey found that many parents think that their children are at a healthy weight and are physically active. This is in contrast to research findings. Figure 20 shows the *opinions* of Renfrew County parents about their child's physical activity habits and weight [45] compared to *research* findings. [46]

These findings suggest that parents may not be clear on recommended standards, or perhaps they have accepted the poor eating habits and low physical activity patterns that are supported by our culture and lifestyle as normal.

Figure 20: Proportion of children with healthy behaviours according to parent opinions vs. research



Source: *Champlain Cardiovascular Disease Prevention Network. What parents say: Champlain Healthy School-aged Children Initiative: Attitude Research Study Summary Report, 2007; what research says: www.knowmoredomore.ca.*

D.6 Oral Health

Oral health is an important part of overall health. The mouth has long been regarded as a mirror that reflects the state of health in the rest of the body.

Definition of Oral Health

The Dental Indices Survey (DIS) identifies dental disease and urgent and non-urgent dental treatment needs of participating students. Dental hygienists at Renfrew County and District Health Unit visit schools throughout the school year and conduct the survey with children of selected ages. This report shows DIS results for five year olds that were surveyed. This age of child has been surveyed most often so results can be shown for several years.

Importance of Oral Health

Tooth decay is the single most common chronic childhood disease. [17] Dental diseases such as tooth decay and gum disease can begin early in life, and negatively impact growth, development and self-esteem. Dental diseases in children can cause pain that affects eating, sleeping and speech. They can cause difficulty concentrating at school and missed days at school. They can also cause malocclusion (e.g. crowded or crooked teeth), which can lead to further dental problems. [47]

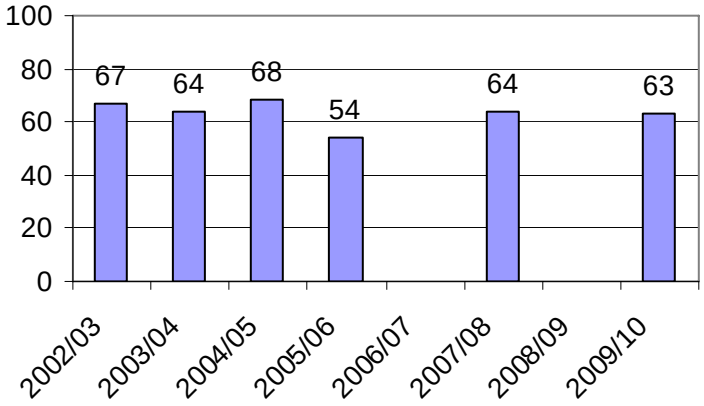
Factors Associated with Oral Health

Although the incidence of caries has declined throughout North America, there is growing disparity of dental health according to socioeconomic status. Children living in lower income households have more untreated decayed teeth than their higher income counterparts. People with lower incomes report fewer dental visits, tend to visit dental offices for emergency care only and receive fewer preventive services. [47]

Available Data on Oral Health

The DIS determines whether each child surveyed has ever experienced dental caries. The percent of five-year olds who were caries-free (never had a cavity) is shown in Figure 21.

Figure 21: Proportion of caries-free five year olds, RC&D

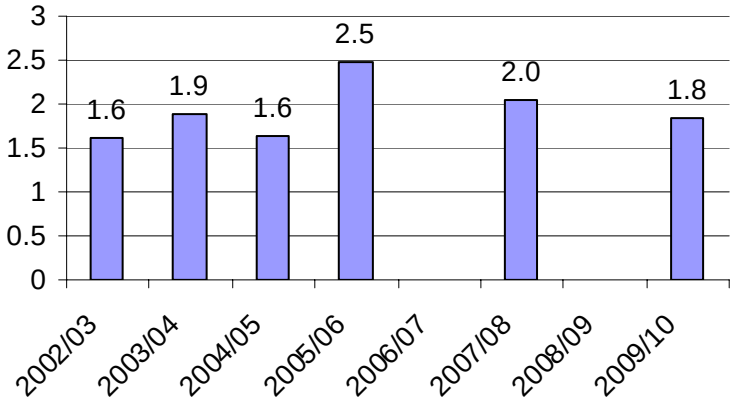


***Source**: Renfrew County and District Health Unit Dental Indices Survey*
***Note**: Information for 2006/07 and 2008/09 is not included because five-year-olds were not surveyed these school years.*

The mean number of teeth affected by caries is an indicator of the overall dental health of a population. During the DIS, caries are recorded when a lesion in a pit or fissure, or on a smooth tooth surface has an unmistakable cavity, undermined enamel, or a detectably softened floor or wall. Any fillings are also recorded.

The deft/DMFT score is used to measure the extent of past and present caries. deft indicates the number of decayed, extracted and filled baby teeth; DMFT indicates the number of decayed, extracted, missing and filled permanent teeth. Figure 22 shows the mean deft/DMFT of five year olds during six recent school years.

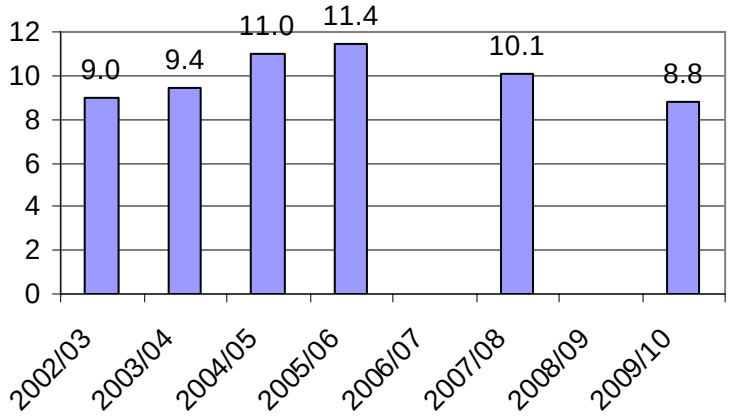
Figure 22: Mean deft/DMFT for five year olds, RC&D



***Source**: Renfrew County and District Health Unit Dental Indices Survey*
***Note**: Information for 2006/07 and 2008/09 is not included because five year olds were not surveyed these school years.*

The DIS identifies children who have an urgent need for dental treatment. Urgent dental conditions according to the criteria used include pain, large lesions, infections, bleeding, trauma, pathology or irreversible periodontal disease. Figure 23 shows the proportion of five year olds who participated in the Dental Indices Survey that were identified as having urgent treatment needs.

Figure 23: Percent of five year olds with urgent dental treatment needs



***Source**: Renfrew County and District Health Unit Dental Indices Survey*
***Note**: Information for 2006/07 and 2008/09 is not included because five year olds were not surveyed these school years.*

For more complete data from Renfrew County and District for the 2002/03, 2003/04 and 2004/05 school years, please see Dental Health of Kindergarten Children. [47]

E. Summary and Recommendations

This report presented available surveillance data on child health in the areas of positive parenting; healthy family dynamics; growth and development; breastfeeding; healthy eating, healthy weights and physical activity; (and oral health). Information was presented in the context of the determinants of health.

The following is a list of key observations that should be considered when setting priorities and planning initiatives that aim to enable all children in RC&D to attain and sustain optimal health and developmental potential.

- About 12 percent of children and youth age 17 and under live in families with low incomes. These families are concentrated most heavily in Pembroke, Renfrew, Arnprior and Deep River.
- In focus group discussions about experiences with social inclusion/exclusion, parents with low incomes expressed many concerns. These included challenges with transportation, difficulty with being able to afford recreational, cultural and school activities for their children, difficulties with accessing medical care, and being treated differently/being judged by service providers.
- A higher proportion of residents age 12 – 19 and 20 - 34 over have a strong sense of belonging to the local community compared to Ontario.
- Twenty-six percent of senior kindergarten children were considered vulnerable on one or more of the five domains of growth and development assessed with the Early Development Instrument in the 2008/9 school year. The proportion of vulnerable children is not evenly distributed across the Health Unit.
- Emergency department (ED) visit rates by children and youth for all injuries appear to be higher here than in Ontario as a whole. ED visit rates for transport injuries appear to be higher for males age 5 to 9, 10 to 14 and 15 to 19 than in Ontario.
- More adults age 20 – 34 are current smokers compared to Ontario as a whole. This age group contains many parents and future parents.
- Fewer adults age 20 – 34 and youth age 12 – 19 are physically inactive compared to Ontario.
- There is a discrepancy between parents' perceptions of their children's physical activity levels and weight, and research findings (with parents perceiving that their children are healthier than what the research tells us).
- Breastfeeding for six months or more appears to be the lowest of all Ontario health units.

Based on research about factors that increase the risk of poor health, potential local priority populations are:

- families with low incomes and families experiencing social exclusion
- single parent families

- families with one or more member experiencing poor physical and/or mental health
- families with one or more parent experiencing high life stress
- families with one or more parent who is a heavy drinker or a smoker
- pregnant women and families with infants.

Geographic areas with a higher proportion of low income families and higher percentage of vulnerable children according to the EDI should also be considered.

It is critical to use Child Health Guidance Document along with this report when planning local child health initiatives. The following are some general recommendations from the Child Health Guidance Document. [18] The document should be examined for further details.

- Socioeconomic status is a primary determinant of health. Disadvantaged children are compromised in almost all aspects of their lives and the health effects of low socioeconomic status are often life long. Ensure that strategies to reduce child poverty, address determinants of health and reduce health inequities are a fundamental part of working to improve child health. Do this work in collaboration with others.

- Incorporate mental health promotion into all child health initiatives. This could include strategies to build resilience and social support, strengthen coping skills, address social injustices and other stressors, and foster healthy parenting practices.

- Plan child health initiatives in collaboration with other public health programs, community partners and government ministries.

- Develop child health strategies that extend beyond the early years (throughout adolescence).

- Use a blend of universal and targeted strategies. This recommendation is related to observations of a socioeconomic gradient - people in all socioeconomic groups experience negative health outcomes, but these are more prevalent in groups with lower socioeconomic status.

- Support the early identification of poor health and developmental outcomes. Design some programs for children and families who are having difficulties or are at risk or having difficulties. Make special efforts to reach priority populations by making strategies more accessible, or by developing specific strategies.

- Programs designed solely for disadvantaged families miss the majority of children with health and developmental needs. Ensure that key programs are available and accessible to all families in all socio-economic groups.

Next steps will be to share and discuss this report with community partners. It could be used to review existing priorities and programs, to identify new approaches or areas for program development and collaboration, or as part of a situational assessment that contributes to a comprehensive planning process.

F. References

1. Ontario Minister of Health and Long-Term Care. Ontario Public Health Standards 2008.

2. Statistics Canada. 2006 Community Profiles. Available online at: http://www12.statcan.ca/census-recensement/2006/dp-pd/prof/92-591/index.cfm?Lang=E

3. Ontario Ministry of Health and Long-Term Care. Initial Report on Public Health.

4. Public Health Agency of Canada. The Chief Public Health Officer's Report on the State of Public Health in Canada, 2009: Growing Up Well – Priorities for a Healthy Future.

5. McCain MN, Mustard F. The Early Years Study Three Years Later. From early child development to human development: Enabling Communities. Toronto, ON. The Founders' Network of the Canadian Institute for Advanced Research, 2002.

6. World Health Organization. Social Determinants of Health: The Solid Facts, 2nd Edition. Copenhagen, Denmark, 2003.

7. Ross DP, Roberts P. *Income and Child Well-being: A new perspective on the poverty debate.* Ottawa: Canadian Council on Social Development, 1999.

8. Statistics Canada, Census Operations Division. 2006 Census Dictionary. Census Year 2006. Catalogue No. 92-566-X. January 2010.

9. Galabuzi GE, Labonte R. The social determinants of health: Social Inclusion as a Determinant of Health (Summary of presentations at the Social Determinants of Health Across the Life-Span Conference, November 2002). Available online at: http://www.phac-aspc.gc.ca/ph-sp/oi-ar/03_inclusion-eng.php Accessed October 18, 2010.

10. Guilford J. Making the Case for Social and Economic Inclusion. Population and Public Health Branch Atlantic Region, Health Canada, 2000. Available online at: http://www.phac-aspc.gc.ca/canada/regions/atlantic/Publications/Making_case/index-eng.php (Accessed October 19, 2010).

11. Social Planning Council of Ottawa. Overview of Renfrew County Focus Groups. Presentation to Renfrew County Child Poverty Action Network's Social Inclusion Committee, May 23, 2007.

12. Public Health Agency of Canada. What makes Canadians Healthy or Unhealthy: Underlying Premises and Evidence Table. Available online at: http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#evidence (Accessed October 19, 2010).

13. Statistics Canada, Health Statistics Division. Community Belonging and self-perceived health: Early CCHS Findings (January to June 2005). Catalogue No. 82-621-XIE – No. 001. December 2005.

14. Ontario Ministry of Health and Long-Term Care. Population Health Assessment and Surveillance Protocol, 2008.

15. Last J. (editor) A Dictionary of Epidemiology. New York, NY: Oxford University Press, 2001; 62.

16. World Health Organization. Division of Health Promotion, Education and Communications, Health Education and Health Promotion Unit. Health Promotion Glossary, 1998.

17. Ontario Ministry of Health Promotion, Standards, Programs and Community Development Branch. Child Health Guidance Document, May 2010.

18. McCain MN, Mustard F. Early Years Study: Reversing the Real Brain Drain. Final Report 1999. Toronto, ON: Ontario Children's Secretariat, 1999.

19. Invest in Kids. A National Survey of Parents of Young Children, 2002.

20. Janus M, Duku E. The School Entry Gap: Socioeconomic, family, and health factors associated with children's school readiness to learn. Early Education and Development 2007;18(3):375-403.

21. Offord Centre for Child Studies, McMaster University. School Readiness to Learn Project. Available online at: http://www.offordcentre.com/readiness/SRL_project.html (Accessed October 18, 2010.)

22. McKeown D. The Health of Toronto's Young Children, Volume 3 – The Growing Child. Toronto, ON:Toronto Public Health, 2007.

23. Janis M, Walsh C, Viveiros H, Duku E, Offord D. School Readiness to Learn and Neighbourhood Characteristics. Hamilton, Ontario: Canadian Centre for Studies of Children at Risk. 2003. Poster presentation at SRCD Biennial Meeting, Tampa, Florida, April 24 – 27, 2003.

24. D'Cunha CO. 2002 Chief Medical Officer of Health Report. Injury: Predictable and Preventable. Ontario Ministry of Health and Long-Term Care, 2002.

25. Gagné M, Hamel D. Deprivation and unintentional injury hospitalization in Quebec children. *Chronic Diseases in Canada* 2009;29(2):56 – 69.

26.

27. Renfrew County and District Health Unit. Unintentional Injuries in Renfrew County and District. 2009.

28. Ontario Ministry of Health and Long-Term Care. Health Effects of Second-Hand Smoke. Tobacco Contro Statute Law Amendment Act, 2005, Available online at: http://www.health.gov.on.ca/english/public/updates/archives/hu_04/tobacco/tobacco_2hand.html (Accessed November 29, 2010.

29. Canadian Lung Association. Available online at: http://www.lung.ca/protect-protegez/tobacco-tabagisme/second-secondaire/index_e.php#what. (Accessed November 29, 2010)

30. Canadian Paediatric Society, Dietitians of Canada and Health Canada. *Nutrition for Healthy Term Infants*, Minister of Public Works and Government Services, Ottawa, 2005.

31. Toronto Public Health. Breastfeeding in Toronto: Promoting Supportive Environments. March 2010.

32. Mohrbacher N, Stock J. *The Breastfeeding Answers Book*, Revised Edition. Schaumburg, IL: La Leche League International, 1997 and Canadian Institute of Child Health, National Breastfeeding Guidelines for Health Care Providers. Ottawa, 1996.

33. Breastfeeding Committee for Canada. The Seven Point Plan and Practice Outcome Indicators for the Protection, Promotion and Support of Breastfeeding in Community Health Services. 2004.

34. Breastfeeding Policy Template for Ontario Community Services, Appendix C.

35. Statistics Canada Health Profiles. Available online at: http://www12.statcan.gc.ca/health-sante/82-228/index.cfm?Lang=E

36. Described in results from Statistics Canada's CANSIM Table 105-0502 with reference to the Canadian Community Health Survey, beginning in 2005.

37. Cole TJ, Bellizzi MC, Flegal KM, Dietz WH. Establishing a standard definition for child overweight and obesity worldwide: international survey. *BMJ* 2000;320(7244);1240-3.

38. Ontario Ministry of Health and Long-Term Care. 2004 Chief Medical Officer of Health Report: Healthy Weights, Healthy Lives.

39. Tremblay MS, Shields M, Laviolette M, Craig CL, Janssen I, Gorber SC. Fitness of Canadian children and youth: Results from the 2007-2009 Canadian Health Measures

Survey Statistics Canada, Catalogue no. 82-003-XPE • Health Reports, Vol. 21, no. 1, March 2010.

40. Association of Public Health Epidemiologists of Ontario. Vegetable and Fruit Consumption Core Indicator. Available online at: http://www.apheo.ca/index.php?pid=55

41. Jean-Philippe Chaput. Childhood Obesity Prevention at the Individual and Family Levels. CDPAC PHAC Best Practices Initiative. Presentation for CHNET-Works on September 30, 2010

42. Gauvin L. Social Disparities and Involvement in Physical Activity: Shaping the policy agenda in healthy living to successfully influence population health. Université de Montréal, May 2003.

43. Shields M. Measured Obesity: Overweight Canadian Children and Adolescents. Nutrition: Findings from the Canadian Community Health Survey Issue No. 1. Statistics Canada, Component of Catalogue no. 82-620-MWE2005001

44. Garriguet D. Canadians' Eating Habits. *Health Reports* May 2007;18(2). Statistics Canada Catalogue No. 82-620-XIE.

45. Champlain Cardiovascular Disease Prevention Network. Attitudinal Research Study Summary Report. November 2007.

46. Champlain Cardiovascular Disease Prevention Network web site: *www.knowmore-domore.ca*.

47. Renfrew County and District Health Unit. Dental Health of Kindergarten Children, 2006.