Mental Health Among School-Aged Children in Peel: A Data Overview

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Region of Peel
working with you

Mental Health among School-Aged Children in Peel: A Data Overview

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i. Purpose of data overview

The purpose of this data overview is to describe the mental health of school-aged children and youth in Peel. Additionally, the report describes the risk and protective factors that may impact their mental health. The data will be used in conjunction with existing mandates to inform and develop the child and youth mental health strategy for the School Health Team within the Chronic Disease and Injury Prevention (CDIP) division.

Data that are relevant, accessible, and current are vital in identifying the needs of the community as well as in planning quality programs and services that influence health outcomes. The data presented here are organized into several sections, as follows:

- Demographics of Peel Children
- Mental Wellbeing
- Determinants of Mental Wellbeing
- Burden of Mental Health Disorders
- Suicidal Thoughts and Suicide
- Accessing Mental Health Services
- Quality of the Mental Health Care System

The overview is not an exhaustive list of all data pertaining to child and youth mental health and mental health indicators, but rather a comprehensive selection of variables that describe the mental health of school-aged children in Peel region. The selected indicators are based on the Conceptual Framework for Mental Health in Children and Youth in Peel.[1] Each chapter begins with a summary of mental health concepts that will be described in the chapter and the relevant indicators where data are available to establish the context for what is known (and unknown) about the mental health of children and youth in Peel.

ii. Conceptual Framework for Mental Health in Children and Youth in Peel

An evidence review by the Region of Peel Public Health identified a conceptual framework of factors influencing the mental health of school-aged children and youth.[1] The conceptual framework organizes different protective and risk factors for a child's mental health at five levels of influence: individual, family, learning environment, community and societal levels. The conceptual framework guided the selection and organization of indicators presented in this data overview (Table 1).

Table 1
Conceptual Framework of the Mental Health of Children and Youth

Dimensions of Mental Health		**i) Mental Wellbeing**: Life satisfaction, happiness, prosocial behaviour.		
		ii) Mental Health Disorders: Illnesses affecting mood, thinking and behaviour, or symptoms interfering with emotional, cognitive and social function.		
Resilience		Dynamic process of adapting positively to adversity.		
Level	**Construct**	**Protective Factor Only**	**Protective & Risk Factor**	**Risk Factor Only**
Individual	Sense of Self	• Sense of belonging • Spirituality	• Self-perception • Emotions • Self-esteem • Efficacy • Sense of control	• Isolation
	Skills and Abilities	• Emotional intelligence • Flexibility	• Problem solving skills • Social skills	
	Physical Health & Development	• Play	• Physical health status • School readiness	• Adverse birth outcomes
	Lifestyle	• Sleep • Physical activity	• Nutrition	• Alcohol or drug use • Smoking • Sexual orientation • Risky sexual behaviour
	Life events			• Stressful life events • Adverse childhood experiences
Family	Parental Health			• Alcohol or drug abuse • Physical or mental health problems • Caring for a family member with disability
	Relationships & Parenting Style	• Strong family support in decision making • Open communication • Family meals	• Attachment • Parent-child relationship	• Parental discord • Domestic abuse or violence

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Resilience	Dynamic process of adapting positively to adversity.

Level	Construct	Protective Factor Only	Protective & Risk Factor	Risk Factor Only
Family (continued)	Family Structure			• Lone or teenage parent • Parental imprisonment • Lack of contact with non-resident birth parent
	Home Environment		• Safety and security	
Learning Environment	Engagement with Learning	• Preschool learning • Liking school		Exclusion from school
	Peer Relationships	• Friendships		• Poor relationships • Bullying or being bullied
	Educational atmosphere	• Sense of control	• Staff-student relationships • School ethos	
	Expectations		• Sense of achievement	• Heavy workload • Overscheduling • Pressures to succeed or fit in
Community	Social Networks	• Participation	• Social capital • Social connections and relationships	
	Neighbourhood & Built Environment		• Neighbourhood safety • Urban design	
Society	Socioeconomic Status		• Education, income, standard of living, employment	• Poverty • Homelessness

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Resilience		Dynamic process of adapting positively to adversity.		
Level	**Construct**	**Protective Factor Only**	**Protective & Risk Factor**	**Risk Factor Only**
Society (continued)	Social Structure	• Legal recognition of rights • Political participation	• Inclusion/exclusion	• Social and cultural oppression • Colonization and war
	Equality		• Level of inequality • Discrimination and stigma	
	Culture			• Media and technology use

Notes:
These factors are associated with mental health but the evidence did not describe causal pathways.
Factors are not weighted because the magnitude of the effect of each factor on mental health was not described.
Additional factors identified by internal and external partners include: availability and access to treatment services, screen time and social media, and genetics
Source: Region of Peel – Public Health. (2018). Understanding the Determinants of the Mental Health of School-aged Children and Youth: a Rapid Review.

iii. The mental health spectrum

The World Health Organization defines mental health as "a state of wellbeing in which every individual realizes his or her own potential and can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community."[2]

Mental health is more than the absence of mental illness. Mental health is an overarching term referring to two dimensions that operate on separate continua: mental wellbeing and mental health disorders.

- Mental wellbeing refers to one's life satisfaction, happiness, and pro-social behaviour.
- Mental health disorders include a wide range of illnesses that affect mood, thinking and behaviour, or symptoms that interfere with emotional, cognitive and social function.

It is possible to achieve a state of mental wellbeing while having a mental health disorder. Likewise, absence of a mental health disorder does not mean an individual has a positive state of mental wellbeing.

iv. How to read this report

Interpreting Confidence Intervals

In some tables, 95% confidence intervals (presented as '95% CI' in the report) are provided for many of the estimates (e.g., percentages). The confidence interval presents a lower and upper range of values, which we are confident, contains the true value of the estimate for the whole population 95% of the time, or 19 times out of 20.

- When the 95% confidence interval of one estimate does not overlap with that of another estimate, the difference between the estimates is considered statistically significant (i.e., very unlikely to be due to chance).
- If the confidence intervals of two estimates do overlap, the estimates may still be significantly different.
- An appropriate statistical test would be required to assess the statistical difference of the two estimates. Unless otherwise noted, we did not conduct additional tests to determine significance in this report.
- Throughout the document the terms "significantly higher" or "significantly lower" are used to describe data that are significantly higher or lower based on the 95% confidence intervals that do not overlap with one another.

Estimates with caution

Results with high sampling variability (i.e., wide 95% confidence intervals) are indicated by a "*" and should be interpreted with caution.

Testing for trends across grades

For select outcomes that were collected by grade, simple logistic regression was used to determine if the probability of the outcome increased or decreased with increasing grade. Only trends that were statistically significant were reported.

References

There are two types of references used in this report: text references and data references.

- Text references refer to references from articles, books or other documents are defined by a superscript number. Example: A high risk of social media use was observed.[1]
- Data references refer to the source of the data for the statistic being presented in the text and are identified underneath the table, figure, or statement. Example: "More than one in three Peel students report social media use for three or more hours per day."[A] In this example, the superscript A would refer to the source of the data.

1 Overall Key Messages

- Poor mental wellbeing is an emerging issue and is common among Peel students.
- There are data gaps for indicators of resilience, determinants of mental wellbeing, and on the prevalence and incidence of mental health disorders among children and youth in Peel.
- Students in Peel experience positive relationships at home and at school that can promote mental wellbeing but also engage in unhealthy lifestyle behaviours that can contribute to negative mental wellbeing.
- Since 2007, acute care visits for most major mental health disorders have been increasing over time. Anxiety and mood disorders are most common. The rates of emergency department visits for anxiety and mood disorders have almost tripled among Peel children and youth.
- Mortality due to mental health disorders and suicide is uncommon among Peel children and youth.
- Mental health differs by sex. Female students are more likely to be distressed, while males are more likely to engage in violent behaviour. Anxiety, mood and eating disorders are more common among females, while males are more likely to be affected by substance-related, schizophrenia, neurodevelopment and personality disorders.
- Older students are at higher risk for poor mental health as compared to younger students.

2 Peel Children –Demographics

Key Messages on the Demographics of Peel Children

- Children and youth (0-19 years) account for approximately one-quarter of Peel's population.
- The most commonly reported ethnic backgrounds among Peel students in Grades 7-12, in descending order, are White, South Asian, Black, and East or South-East Asian.
- The proportion of Peel children who are immigrants is double that of Ontario.

This section provides information to characterize children living in Peel by age, sex and immigrant status.

2.1.1 Age and sex distribution

- In 2016, children and youth (0-19 years) made up one quarter of the total Peel population (Table 2). This was similar to Ontario (22%).[A]

Table 2
Population by Age Group and Sex, Peel, 2016

Age group (years)	Total		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent
0-4	76,315	5.5	39,040	5.8	37,275	5.3
5-9	87,265	6.3	44,865	6.6	42,395	6.0
10-14	89,945	6.5	46,690	6.9	43,255	6.2
15-19	97,150	7.0	50,815	7.5	46,340	6.6
0-19	350,675	25.4	181,410	26.7	169,265	24.1
Total population	**1,381,740**	**100**	**678,700**	**100**	**703,040**	**100**

Note: Statistics Canada randomly rounds counts for Census data to maintain confidentiality. Therefore, the total value may not match the sum of the individual values within the table.
Source: Census 2016 , Statistics Canada

2.1.2 Immigrant status

- In 2011, twice as many children aged 0-18 years old were immigrants in Peel (18%) as compared to Ontario (9%) (Table 3).[B]

Table 3
Proportion of Children Aged 0 to 18 Years who are Immigrants, Peel and Ontario, 2011

	Number of immigrant children	Total population aged 0-18 years	Per cent
Peel	58,465	333,320	17.5
Ontario	268,605	2,867,785	9.4

Source: National Household Survey Target Group Profile - Immigrants, 2011 Statistics Canada; Census 2011, Statistics Canada.

2.1.3 Ethnic origin

- In 2015, the top ethnicities reported by Peel students in Grades 7 - 12 were White (35%), South Asian (23%), Black (13%) and East or Southeast Asian (10%). There were larger proportions of South Asian and Black students in Peel compared to Ontario (Table 4). These results were similar to the 2013 results.[C1]

Table 4
Ethnic Background of Students in Grades 7 - 12, Peel and Ontario, 2015

Ethnic Background	Per cent of all students (95% CI)	
	Peel n=1,155	**Ontario** n= 10,426
White	35.1* (21.9 - 51.2)	57.5 (53.7 - 61.2)
South Asian	22.5* (14.5 - 33.2)	8.1 (6.4 - 10.1)
Black	12.6* (8.2 - 19.0)	5.7 (4.6 - 7.0)
East Asian or Southeast Asian†	9.6* (6.6 - 13.8)	10.5 (8.7 - 12.6)
Multiple‡	9.4 (7.4 - 12.1)	9.6 (8.7 - 10.5)
West Asian or Arab	3.1* (2.1 - 4.5)	3.0 (2.2 - 4.1)
Latin American	3.4* (2.0 - 5.9)	2.3 (1.7 - 2.9)
Aboriginal	NR	0.8* (0.6 - 1.2)
Not stated/Not sure	3.5* (2.0 - 5.9)	2.6 (2.2 - 3.2)

*Use estimate with caution
†East Asian or Southeast Asian includes: South East Asian, Chinese, Filipino, Korean, Japanese
‡Multiple includes those who selected more than one category (including those who selected both a specific category and 'not sure').
NR=Not releasable due to small numbers.
95% CI reflects the 95% confidence interval of the estimate.
Source: Ontario Student Drug Use and Health Survey, 2015, Centre for Addiction and Mental Health. Peel Public Health.

2.1.4 Language

- In Peel, 7% of children and youth aged 0-19 years old spoke neither English nor French as the most frequently used language at home and 3% had no knowledge of either official language. This was similar to Ontario.[A]

3 Mental Wellbeing

Key Messages on Mental Wellbeing

- While the majority of Peel children report being happy, not all rate their mental health as high.
- Psychological distress is an emerging issue in Peel and has increased between the past two reporting positions.
- Poor self-rated mental health and psychological distress are more common among females than males.
- Students in older grades are more likely than younger students to rate their mental health as negative and to experience moderate-to-high levels of psychological distress.

This chapter provides an overview of the mental wellbeing of Peel children and youth. Mental wellbeing refers to a child's sense of life satisfaction, happiness, and prosocial behaviour. Indicators used to capture mental wellbeing concepts in this report are presented in Table 5.

Higher levels of self-rated mental health, happiness, life satisfaction, and prosocial behaviour are associated with higher mental wellbeing; lower levels of perceived stress and psychological distress are associated with higher mental wellbeing.

Table 5
Concepts of Mental Wellbeing and Associated Indicators

Concepts of Mental Wellbeing	Indicator(s)
Self-perceived mental health	• Self-rated mental health
Happiness	• Level of happiness
Life satisfaction	---
Psychological wellbeing	• Perceived level of stress • Psychological distress
Prosocial behaviour	---

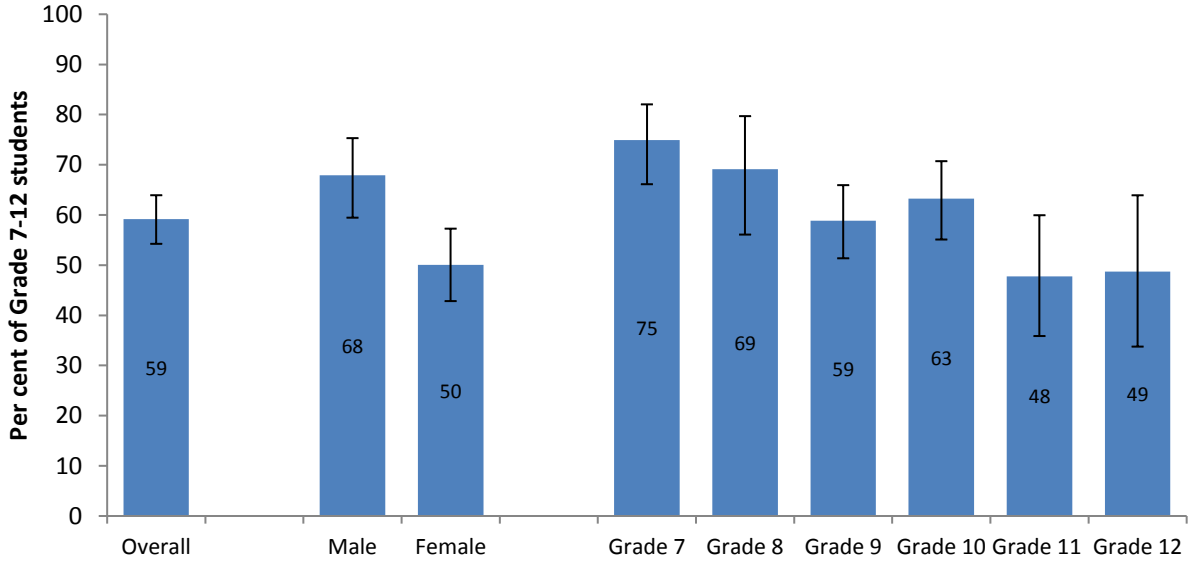
-- Data not available

3.1 Self-rated mental health

- In 2015, 59% of Peel students in Grades 7 - 12 rated their mental health as *"Excellent"* or "*Very good"* (Figure 1). This was similar to Ontario (60%).[C1]
- In Peel, males (68%) were more likely than females (50%) to rate their mental health as "*Excellent*" or *"Very good"* (Figure 1).
- Ratings of "*Excellent*" or "*Very good*" mental health decreased with grade. [C1]
- There were no differences in self-rated mental health by immigrant status or ethnicity. The 2015 estimates were similar to 2013 results.[C1, C2]

*Use estimate with caution

Figure 1
Proportion of Students in Grades 7 – 12 with *Excellent* or *Very Good* Self-Rated Mental Health by Sex and Grade,
Peel, 2015



n=577
Error bars represent 95% confidence intervals.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

3.2 Level of happiness

- In 2013/14, 98% of Peel residents 12-18 years old rated themselves as usually being happy and interested in life or somewhat happy. This was comparable to Ontario (97%).[D1]
- The 2013/2014 estimates were similar to the 2009/2010 estimates (99%). [D1, D2]
- There were no differences in the level of happiness by sex, age, immigrant status or ethnicity for the 2013/2014 estimates. [D1]

3.3 Perceived level of stress

- In 2015, 32% of Grade 7-12 students in Peel had elevated levels of stress in the past month (Table 6). This was similar to Ontario (29%).[C1]
- In 2015, students in higher grades were more likely to have elevated stress in the past month. Half of students in Grade 12 (51%) had elevated stress, compared to 15%* of students in Grade 7. [C1]
- There were no differences in the perceived level of stress by sex, immigrant status, or ethnicity for the 2015 estimates.[C1]

*Use estimate with caution

Table 6
Proportion of Students in Grade 7 - 12 with Elevated Levels of Stress† by Sex and Grade, Peel, 2015

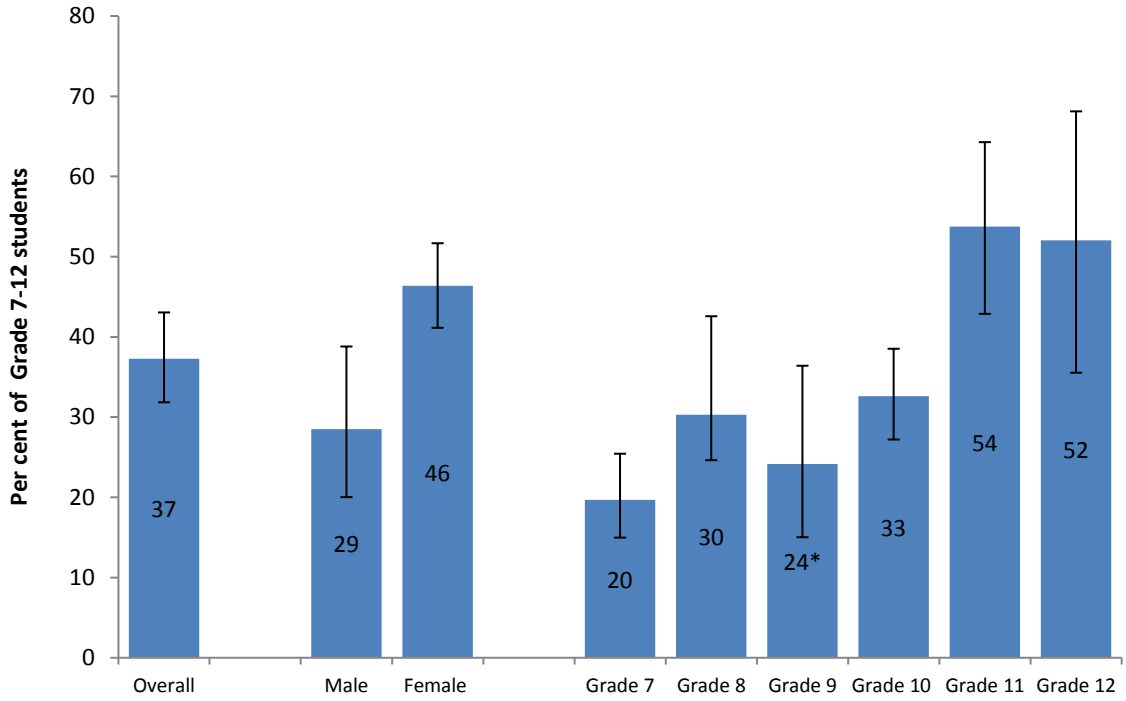
Elevated Levels of Stress	Per cent of students (95% CI)
Overall	31.9 (28.4 - 35.8)
Sex	
Female	38.4 (32.6 - 44.5)
Male	25.8 (19.6 - 33.1)
Grade	
7	15.2* (9.1 - 24.4)
8	17.0* (9.5 - 28.6)
9	21.3 (14.9 - 29.4)
10	30.8 (23.6 - 39.1)
11	44.7 (32.0 - 58.1)
12	50.6 (37.1 - 64.0)

n=1,129
*Use estimate with caution
† Students that responded "*Yes, almost more than I could take*" or "*Yes, a lot*" were classified as having elevated levels of stress.
95% CI reflects the 95% confidence interval of the estimate.
Source: Ontario Student Drug Use and Health Survey, 2015, Centre for Addiction and Mental Health. Peel Public Health

3.4 Psychological distress

- In 2015, approximately one-third of Peel students in Grade 7 -12 (37%) met the criteria for moderate-to-high levels of psychological distress (Figure 2). This was similar to Ontario (34%).[C1]
- In Peel, females (46%) were more likely than males (29%) to show symptoms of moderate-to-high levels of psychological distress (Figure 2).
- Approximately half of students in Grades 11 (54%) and 12 (52%) exhibited moderate-to-high levels of psychological distress. This was more than two times higher than students in Grade 7 (20%) (Figure 2).
- There were no differences in the levels of psychological distress by immigrant status or ethnicity.[C1]
- The proportion of moderate-to-high levels of psychological distress was higher among Peel students in 2015 (37%) as compared to 2013 (26%).[C1, C2]

Figure 2
Proportion of Students in Grades 7 - 12 with Moderate-To-High Levels of Psychological Distress in the Last Month by Sex and Grade,
Peel, 2015



n=561
*Use estimate with caution.
Error bars represent 95% confidence intervals.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

4 Determinants of Mental Wellbeing

Key Messages on Determinants of Mental Wellbeing

- Data gaps exist for several determinants of mental wellbeing, including sense of self, skills and abilities, risky sexual behaviour, stressful life events, parenting style and social networks.
- Relationships are a key determinant of mental wellbeing and most Peel students have positive relationships that can foster mental wellbeing at home and at school.
- Lifestyle behaviours that lead to negative mental wellbeing are common among Peel students. Most students are not meeting recommended guidelines for daily physical activity, adequate sleep and healthy eating. Male and females students differ in their patterns of unhealthy behaviours.
- Students in older grades may be at a higher risk for poor mental wellbeing than younger students. In comparison with younger grades, students in older grades are less likely to have adequate sleep, enjoy school a lot and get along well with their parents.

This chapter provides an overview of the determinants of mental wellbeing among Peel children and youth at the individual, family, learning environment, community, and structural levels. Determinants can be risk factors if their presence increases the risk of mental health disorders, or protective factors if their presence promotes a child's mental wellbeing. Indicators can be both risk factors and protective factors if their presence enhances mental wellbeing and their absence increases risk of mental health disorders. Indicators available to capture these determinants in this report are described in Table 7. Due to limitations in mental health measurement, not all determinants have indicators available.

Table 7
Indicators And Peel Measures Associated With Determinants Of Mental Wellbeing

Determinant	Indicators	Measures for Peel	Estimate	Source
Individual				
Sense of self	• Self-esteem	% of Grade 7-12 students with low self-esteem	6%	OSDUHS (2013)
	• Spirituality	---	---	---
	• Self-perception			
	• Emotions			
	• Efficacy			
	• Sense of control			
	• Isolation			
Skills and Abilities	• Emotional intelligence	--	--	--
	• Problem solving skills			
	• Social skills			
	• Flexibility			
Physical health and development	• Self-rated physical health	% of Grade 7 – 12 students who self-rate their physical health as "very good" or "excellent"	66%	OSDUHS (2015)
	• School readiness	% of kindergarten students who are vulnerable in at least one domains of early childhood development	30%	EDI (2015)
	• Play	---	---	---
Lifestyle and behaviours	• Physical activity	% of Grade 7-12 students that have at least 60-minutes of daily physical activity	21%	OSDUHS (2015)
	• Fruit and vegetable consumption	% of Grade 7-12 students that eat at fruits and vegetables at least five time a day	15%	OSDUHS (2015)
	• Sleep	% of Grade 7-12 students that have eight or more hours of sleep on an average school night	36%	OSDUSH (2015)
	• Screen time	% of students in Grades 7-12 who spend more than two hours a day on recreational screen time	65%	OSDUHS (2015)
	• Social media use	% of students in Grades 7-12 who spend three or more hours per day on social media	37%	OSDUHS (2015)
	• Problem drug use	% of Grade 9 -12 students with a drug use problem	17%	OSDUHS (2015)
	• Marijuana severity of dependence	% of Grade 9-12 students with symptoms of marijuana dependence	2%	OSDUHS (2013)
	• Hazardous or harmful drinking	% of Grade 9-12 students with symptoms of hazardous or harmful drinking	14%*	OSDUHS (2015)
	• Sexual orientation	---	---	---
	• Risky sexual behaviour			
Stressful life events	• ED visits due to assaults	The rate of ED visits due to assaults per 100,000 population aged 0-19 years	103	NACRS (2016)
	• Hospitalizations due to assaults	The rate of hospitalizations due to assaults per 100,000 population aged 0-19 years	8	DAD (2016)
	• Witnessing domestic abuse	--	--	--
	• Loss or bereavement			
	• Illness of a loved one			
	• Sexual abuse			
	• Difficulties with growing up			

Table 7 (continued)
Indicators And Peel Measures Associated With Determinants Of Mental Wellbeing

Family				
Parental health	• Alcohol or drug abuse • Physical or mental health problems • Caring for a family member with disability	--	--	--
Relationships and parenting style	• Relationship with mother	% of students in Grades 7-12 who get along very well with their mother	74%	OSDUHS (2015)
	• Relationship with father	% of students in Grades 7-12 who get along very well with their father	64%	OSDUHS (2015)
	• Strong family support • Open communication • Family meals • Attachment • Parental discord • Domestic abuse/violence	--	--	--
Family structure	• Lone parent families	% of population 0-14 years old living in a lone-parent family	16%	Census (2016)
	• Teenage parent	The rate of teenage (15-19 years) pregnancies per 1,000 women	21.1	ON Live Births (2011)
	• Parental imprisonment • Lack of contact with non-resident birth parent	--	--	--
Home environment	• Household food insecurity	% of households with children experiencing moderate or severe food insecurity	11%*	CCHS (2013/14)
	• Safety and security	---	---	---
Learning Environment				
Engagement with learning	• Feelings about school in general	% of students in Grades 7-12 who like school very much or quite a lot	35%	OSDUHS (2015)
	• Preschool learning • Exclusion from school	---	---	---
Peer relationships at school	• Physical fighting	% of students in Grades 7-12 who had a fight on school property	10%	OSDUHS (2015)
	• Bullied others	% of students in Grades 7-12 bullied others at school	11%	OSDUHS (2015)
	• Being bullied	% of students in Grades 7-12 was a victim of bullying at school in the past 12 months	21%	OSDUHS (2015)
	• Feel close to people	% of students in Grades 7-12 who feel close to people at school	91%	OSDUHS (2015)
	• Friendships	---	---	---
Educational atmosphere	• Sense of belonging	% of students in Grades 7-12 who felt like they were a part of their school	88%	OSDUHS (2015)
	• Feel safe in school	% of students in Grades 7-12 who felt safe at school	95%	OSDUHS (2015)
	• School subjective social status	% of students in Grades 7-12 who self-rate their subjective social status at school as high	44%	OSDUHS (2015)
Expectations	• Sense of achievement	--	--	--

Table 7 (continued)
Indicators And Peel Measures Associated With Determinants Of Mental Wellbeing

	• Heavy workload • Over-scheduling • Pressures to succeed	--	--	--
Community				
Social networks	• Sense of community belonging	% of population aged 12-18 years with a very or somewhat strong sense of community belonging	75%	CCHS (2013/14)
	• Participation • Social capital • Social connections and relationships	---	---	---
Neighbourhood and built environment	• Offered drugs in neighbourhood	% of students in Grades 7-12 who have been offered drugs	23%	OSDUHS (2015)
	• Seen drugs sold in neighbourhood	% of students in Grades 7-12 who have seen drugs being sold in their neighbourhood	26%	OSDUHS (2015)
	• Neighbourhood safety • Urban design • Local availability of treatment services	---	---	---
Structural				
Socioeconomic status	• Household income	Median after-tax income of census couple families with children	$91,994	Census (2015)
		Median after-tax income of lone-parent families with children	$54,565	Census (2015)
	• Subjective socio-economic status	% of students in Grades 7-12 who self-rated their family to be of low socio-economic status	32%	OSDUHS (2015)
Social structure	• Legal recognition of rights • Political participation • Inclusion/exclusion • Social and cultural oppression • Colonization and war	--	--	--
Equality	• Inequality • Discrimination and stigma	--	--	--
Culture	• Media and technology	--	--	--

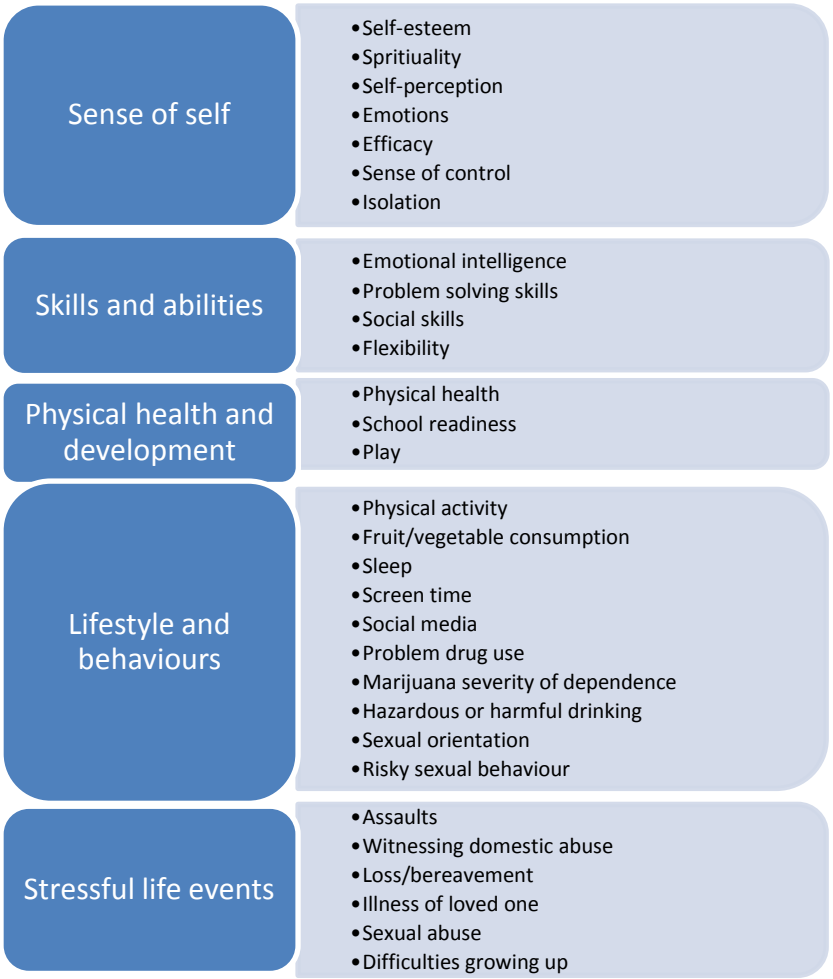
--- Data not available
*Use estimate with caution
Sources:
Ontario Student Drug Use and Health Study (OSDUHS), 2013,2015, Centre for Addiction and Mental Health, Peel Public Health
Early Development Instrument (EDI), 2015. Ontario Ministry of Education and Offord Centre for Child Studies. Peel Public Health.
National Ambulatory Care Reporting System Data, 2016, IntelliHealth Ontario, Ministry of Health and Long Term Care
Discharge Abstract Database, 2016, IntelliHealth Ontario, Ministry of Health and Long Term Care
Population Estimates, 2016, IntelliHealth Ontario, Ministry of Health and Long Term Care
Census 2016 , Statistics Canada
Canadian Community Health Survey (CCHS) Share File, 2013/2014, Statistics Canada, Ontario, Ministry of Health and Long Term Care
Annual Income Estimates for Census Families and Individuals, 2015, Statistics Canada
Ontario Live Birth and Stillbirth Databases 2011, IntelliHealth Ontario, Ministry of Health and Long Term Care

4.1 Individual

Key Messages on Individual Determinants of Mental Wellbeing

- For individual risk factors, there is limited data for the concepts of ***sense of self*** and ***skills and abilities,*** and ***stressful life events.***
- Peel has limited information about ***physical health and development***. Three out of five children rate their physical health as very good or excellent. At entry to kindergarten, about one in three children have at least one vulnerability according to the Early Development Instrument.
- ***Lifestyle behaviours*** that may lead to negative mental wellbeing are common among Peel students. Most students are not meeting recommended guidelines for daily physical activity, adequate sleep and healthy eating.

The mental health of children and youth are influenced by sense of self, physical health status and development, lifestyle and behaviours, and exposure to stressful life events.[1] Indicators of mental wellbeing at the individual level are as follows:



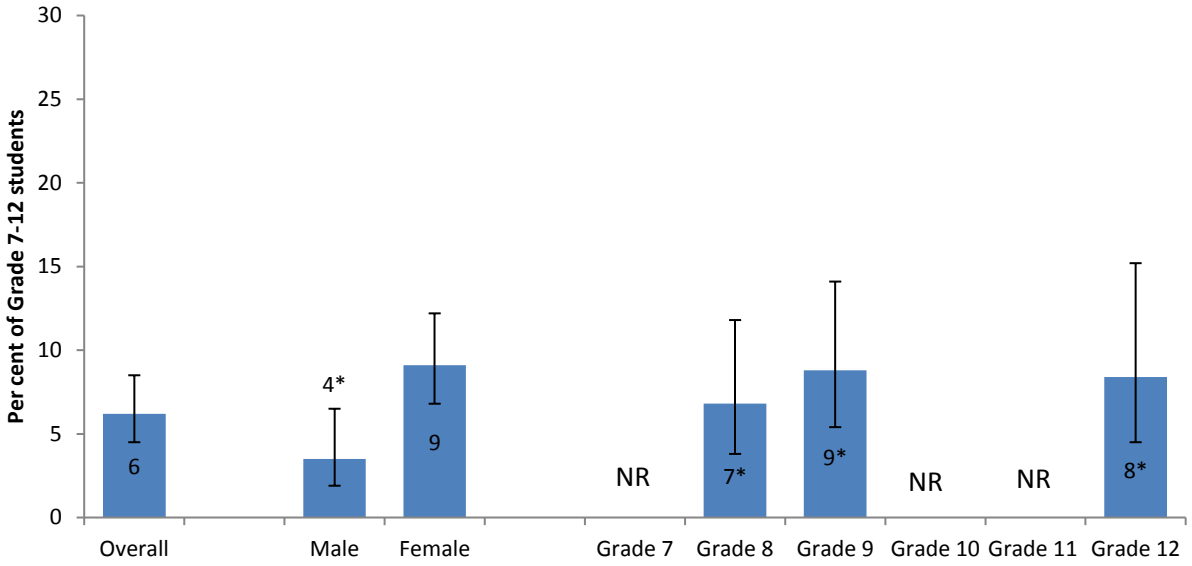
4.1.1 Self-esteem

A sense of self influences mental health through the sense of autonomy, mastery and self-efficacy. Strong sense of self protects mental health; poor sense of self increases the risk of mental health disorders.[1]

- In 2013, 6% of students showed symptoms of low self-esteem (Figure 3). This was similar to Ontario (7%).[C2]
- Females (9%) were more likely than males (4%*) to exhibit symptoms of low self-esteem.[C2]
- Differences in self-esteem by grade, immigrant status or ethnicity were not comparable due to small numbers.[C2]

*Use estimate with caution

Figure 3
Proportion of Students in Grades 7 - 12 with Low Self-Esteem† by Sex and Grade, Peel, 2013



n=1,046
*Use estimate with caution.
†Low self-esteem is defined as negative responses to all five items adapted from the Rosenberg Self-Esteem Scale
NR=Not releasable due to small numbers
Error bars represent 95% confidence intervals.
Source: Ontario Student Drug Use and Health Survey 2013, Centre for Addiction and Mental Health. Peel Public Health.

4.1.2 Physical health and development

A child's mental health is intrinsically linked to physical health. Good physical health protects a child's mental health; poor physical health is a risk factor for mental health disorders.[1]

4.1.2.1 Self-rated physical health

- In 2015, most Peel students in grades 7-12 rated their physical health as either "*Very Good*" or "*Excellent*" (66%) (Table 8). This was similar to Ontario (66%).[C1]
- In Peel, males were more likely to report "*Very Good*" or "*Excellent*" physical health (73%) compared to females (59%) (Table 8).
- The proportion of students reporting "*Very Good*" or "*Excellent*" physical health declines with increasing grade. Grade 7 students were more likely to report "*Very Good*" or "*Excellent*" health (78%) compared to students in Grade 12 (63%) (Table 8).
- There were no differences by ethnicity or immigrant status.[C1]
- The 2015 estimates were similar to 2013 results.[C1, C2]

Table 8
Proportion of Students in Grades 7 - 12 with *Very Good* or *Excellent* Self-Rated Physical Health by Sex and Grade,
Peel, 2015

Very good/Excellent self-rated physical health	Per cent of students (95% CI)
Overall	66.1 (62.5 - 69.5)
Sex	
Male	73.2 (69.0 - 77.0)
Female	58.6 (52.1 - 64.9)
Grade	
7	77.5 (73.7 - 80.9)
8	67.1 (61.5 - 72.2)
9	62.7 (50.1 - 73.7)
10	64.4 (58.1 - 70.3)
11	65.1 (53.7 - 75.0)
12	62.8 (53.0 - 71.7)

n=1,135
95% CI reflects the 95% confidence interval of the estimate.
Source: Ontario Student Drug Use and Health Survey, 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.1.2.2 School-readiness

- In 2015, approximately one-third (30%) of senior kindergarten students in Peel were categorized as 'Vulnerable' on one or more of the five domains for early childhood development.[F] Children who score lower than 90% of their Ontario peers are considered vulnerable.
- A higher proportion of boys (20%) were 'Vulnerable' on one or more of the five domains, as compared to girls (9%).[F]

4.1.3 Lifestyle and Behaviours

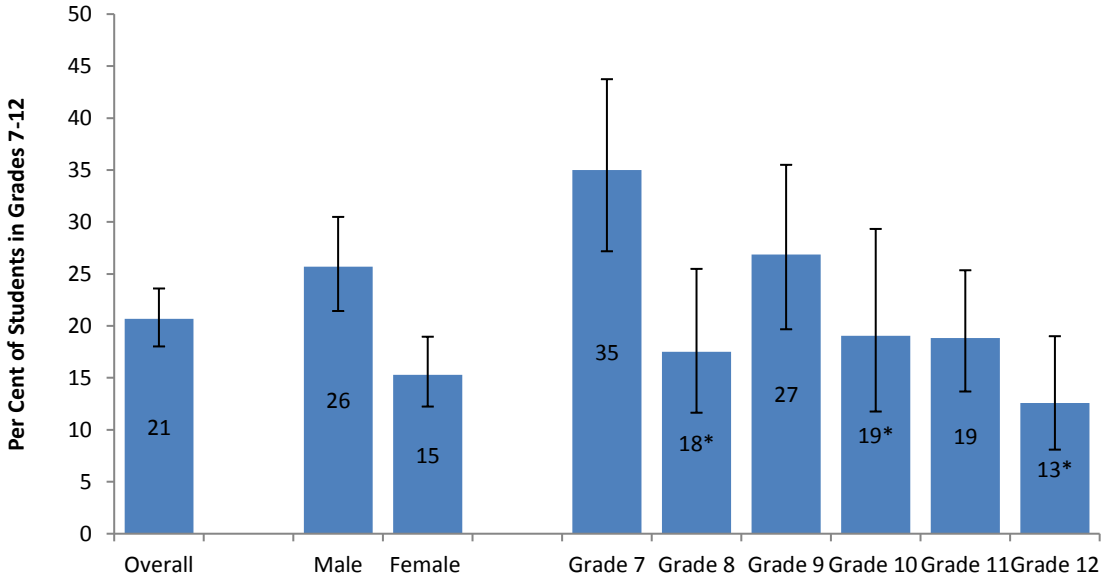
Lifestyle and behaviours influence a child's mental health. Healthy lifestyle choices can protect mental health. For example, physical activity can promote feelings of self-efficacy, self-determination and heightened self-esteem which can enhance mental health. Unhealthy behaviours such as alcohol and drug use, smoking and risky sexual behaviour can increase the risk of mental health disorders.[1]

4.1.3.1 Level of physical activity per week

- In 2015, 21% of Peel students met the 60-minute daily activity recommendations in the seven days before the survey (Figure 4). This was similar to Ontario (22%).[C1]
- In Peel, males (26%) were more likely than females (15%) to be active daily (Figure 4).
- Students in Grade 7 (35%) were more likely to report getting at least 60 minutes of physical activity each day compared to students in Grade 12 (13%*).[C1]
- There were no differences by ethnicity or immigrant status.[C]
- The 2015 estimates were similar to the ones obtained in 2013.[C1, C2]

*Use estimate with caution

Figure 4
Proportion of Students in Grades 7 - 12 who Achieved at Least 60 Minutes of Physical Activity on Each Day of the Week†, by Sex and Grade,
Peel, 2015



n=1,125
*Use estimate with caution.
†Refers to each of the seven days of the week prior to the survey.
Error bars represent 95% confidence intervals.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.1.3.2 Consumption of fruits and vegetables

- In 2015, one in seven Peel students in Grades 7-12 ate fruits and vegetables at least five times a day (15%). This was similar to Ontario estimates (16%). There were no differences by sex, grade, ethnicity or immigrant status.[C1]

4.1.3.3 Sleep

- In 2015, fewer than half of Peel students in Grades 7-12 (36%) had eight or more hours of sleep on an average school night (Table 9). This was similar to Ontario students (41%).[C1]
- The proportion of students who slept at least eight hours declined with increasing grade. Most Grade 7 students (74%) reported sleeping eight or more hours, while only 14%* of students in Grade 12 reported sleeping the same amount.[C1]
- There were no differences in the duration of sleep by sex, immigrant status or ethnicity.[C1]

*Use estimate with caution

Table 9
Proportion of Students in Grade 7 - 12 who Reported Eight or More Hours of Sleep on an Average School Night by Sex and Grade, Peel, 2015

8 or more hours of sleep	Per cent of students (95% CI)
Overall	36.0 (31.6 - 40.6)
Sex	
Female	31.7 (26.1 - 37.8)
Male	40.0 (34.3 - 45.9)
Grade	
7	74.0 (64.7 - 81.5)
8	56.7 (49.6 - 63.5)
9	42.9 (34.3 - 52.0)
10	27.3 (21.3 - 34.3)
11	18.4 (13.4 - 24.8)
12	14.0* (7.4 - 25.0)

n=1,129
*Use estimate with caution.
95% CI reflects the 95% confidence interval of the estimate.
Source: Ontario Student Drug Use and Health Survey, 2015, Centre for Addiction and Mental Health. Peel Public Health

4.1.3.4 Screen time

According to several professional organizations, including *The Canadian Society for Exercise Physiology* and *The Canadian Pediatric Society*, youth (aged 15- 17 years) should minimize the time they spend being sedentary each day.[5] This may be achieved by limiting recreational screen time to no more than two hours per day; lower levels are associated with additional health benefits. [1,5]

- In 2015, 65% of Peel students spent more than two hours a day on recreational screen time. This was similar to Ontario (63%).
- In Peel, Grade 12 students (74%) were 1.5 times more likely to spend three or more hours per day on recreational screen time activities, as compared to students in Grade 7 (49%) (Table 10).
- There were no differences by sex, ethnicity or immigrant status. [C1]
- Estimates from 2015 were similar to 2013.[C1, C2]

Table 10
Grade 7 -12 Students who Spend More Than Two Hours per Day on Average in Recreational Screen Time Activities†, by Grade,
Peel and Ontario, 2015

Grade	Per cent of all students with > 2 hrs screen time (95% CI)
7	49.3 (41.7 - 57.0)
8	57.4 (44.0 - 69.7)
9	71.4 (64.7 - 77.3)
10	66.0 (55.0 - 75.5)
11	67.7 (57.5 - 76.5)
12	73.6 (65.4 - 80.4)

†Refers to the week prior to the survey.
95% CI reflects the 95% confidence interval of the estimate.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health.
Peel Public Health.

4.1.3.5 Social Media Use

- In 2015, 37% of Peel students in Grades 7 – 12 spent three or more hours per day on social media websites, while 16% spent at least five hours per day (Table 11). This was similar to Ontario.[C1, C2]
- In Peel, twice as many females (51%) as compared to males (24%) reported spending three or more hours per day on social media websites.[C1]
- Students that identified as having multiple ethnicities (56%) were more likely than White students (30%) to spend three or more hours per day on social media. [C1]
- There were no differences by grade or immigrant status. [C1]
- Estimates from 2015 were similar to 2013.[C1, C2]

Table 11
Number of Hours Spent on Social Media Websites among Students in Grades 7 - 12, Peel, 2015

Number of hours per day	Per cent of all Peel students (95% CI)
Two hours or less†	55.0 (49.3 - 60.5)
3 - 4 hours	21.0 (17.6 - 24.7)
5 - 6 hours	9.9* (6.9 - 14.0)
7 or more hours	6.3 (4.6 - 8.5)
Do not use social media/internet	7.9 (5.6 - 11.0)

n=585
*Use estimate with caution.
†Includes the following categories: not daily, < than 1 hour, approximately 1 hour and 2 hours.
95% CI reflects the 95% confidence interval of the estimate.
Source: Ontario Student Drug Use and Health Survey, 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.1.4 Substance misuse

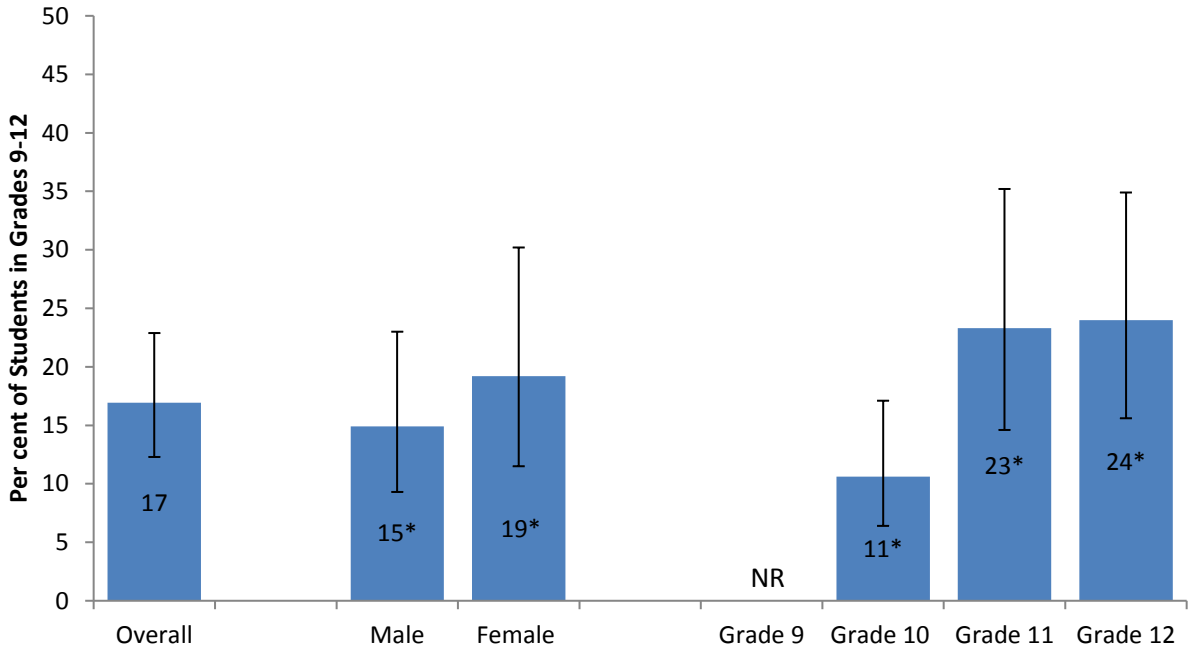
- In 2015, the most commonly used illicit drugs (excluding marijuana) in the last 12 months among Peel students were ecstasy (5%*), hallucinogens (2%*), and cocaine (2%*).[C1]

4.1.4.1 Problem drug use

- In 2015, 17% of Peel students in Grades 9 - 12 were classified as having a drug use problem (excluding alcohol), based on a score of two or more on the CRAFFT screening tool (Figure 5). This was similar to Ontario (16%).[C1]
- There were no differences in terms of problem drug use by grade, sex, immigrant status or ethnicity.[C1]
- The 2015 estimates were similar to 2013.[C1, C2]

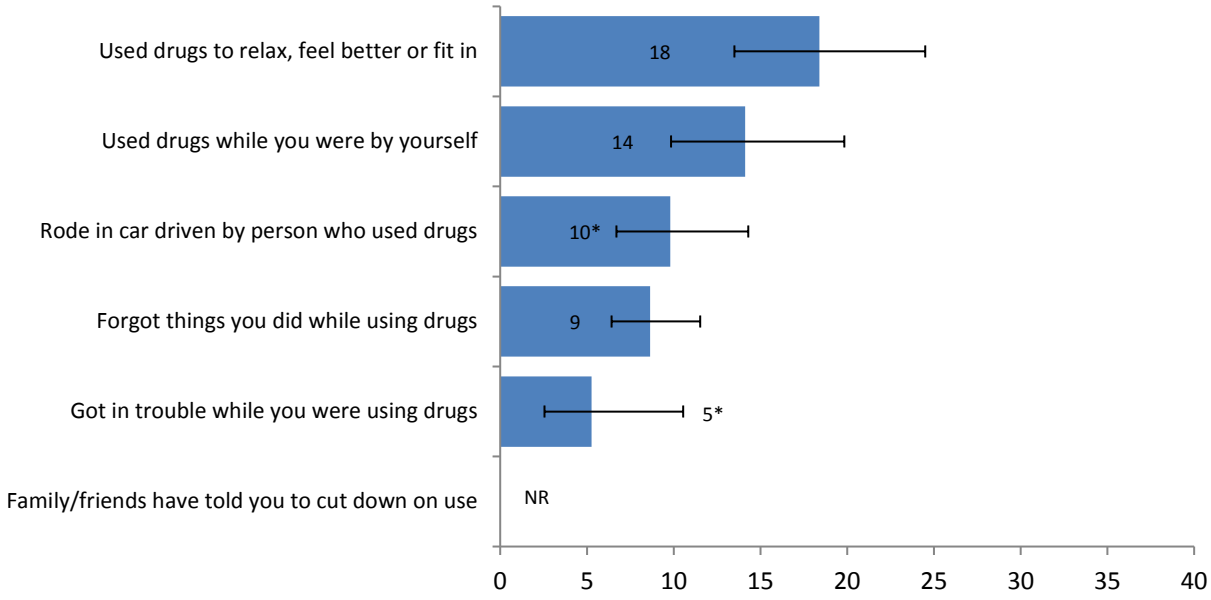
*Use estimate with caution

Figure 5
Per Cent of Grade 9 - 12 Students Exhibiting Problem Drug Use in the Past 12 Months by Sex and Grade,
Peel, 2015



n=350
*Use estimate with caution.
Error bars represent 95% confidence intervals.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

Figure 6
Per Cent of Grade 9 - 12 Students Reporting on CRAFFT Indicators, Peel, 2015

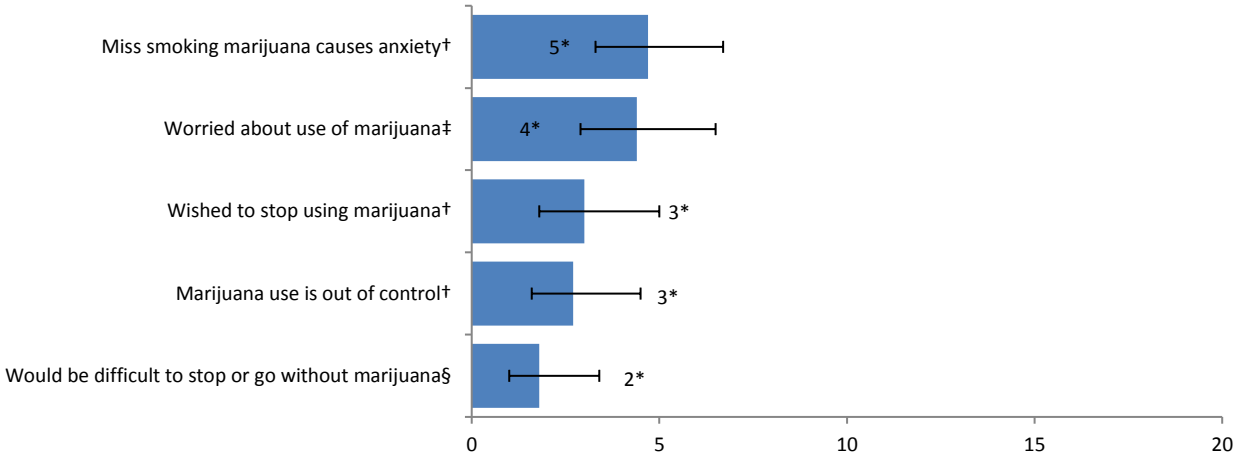


*Use estimate with caution.
Note: Denominators differ based on question.
Error bars represent 95% confidence intervals.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.1.4.2 Marijuana severity of dependence scale

- In 2015, marijuana was the most commonly used drug with 20% of Grade 7 - 12 students in Peel having used marijuana at least once in the last year. [C1]
- In 2013, 2% of Peel students in Grades 9-12 exhibited symptoms of marijuana dependence (Figure 7). This was similar to Ontario (3%).[C2]
- The 2015 estimated proportion of Peel students with symptoms of marijuana dependence was not releasable due to small numbers.[C1]

Figure 7
Per Cent of Grade 9 - 12 Students Reporting Severity of Dependence Scale (SDS) Indicators Experienced in the Last 3 Months,
Peel, 2013



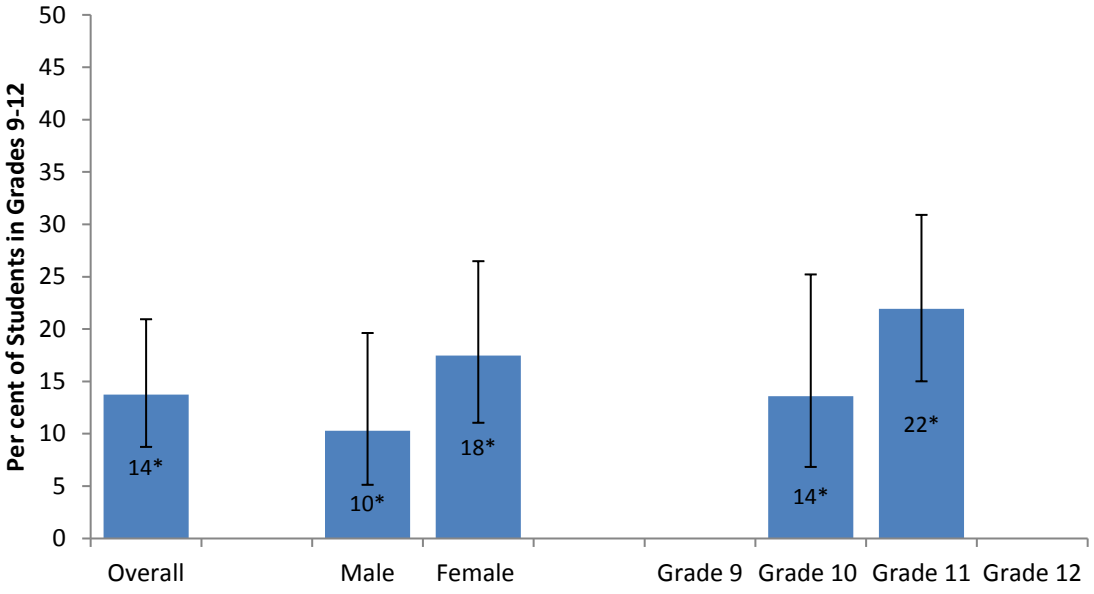
*Use estimate with caution.
†Proportion reporting sometimes/often/always.
‡Proportion reporting little/quite a lot/a great deal.
§Proportion reporting quite difficult/very difficult/ impossible.
Error bars represent 95% confidence intervals.
Source: Ontario Student Drug Use and Health Survey 2013, Centre for Addiction and Mental Health. Peel Public Health.

4.1.4.3 Hazardous or harmful drinking

- In 2015, 14%* of Peel students in Grades 9 - 12 showed symptoms of hazardous or harmful drinking (Figure 8). This represents approximately 11,200 students. This was similar to the proportion of Ontario students (20%).[C1]
- In Peel, there were no differences in hazardous or harmful drinking by sex or grade. Differences by immigrant status or ethnicity were not comparable due to small numbers.[C1]
- Estimates from 2015 were similar to 2013. (Question was only asked of Grade 9-12 students in 2015).[C1, C2]

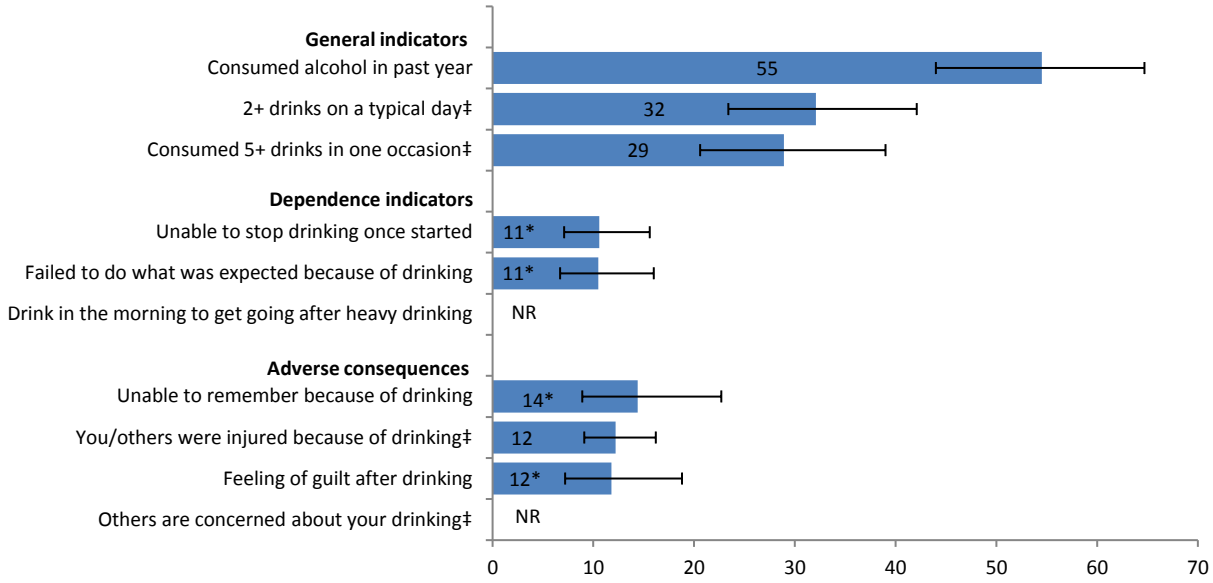
*Use estimate with caution

Figure 8
Per Cent of Students in Grades 9 - 12 with Symptoms of Hazardous or Harmful Drinking† by Sex and Grade,
Peel, 2015



n=707
*Use estimate with caution.
†Hazardous or harmful drinking as indicated by a score of eight or more on the AUDIT screening tool
NR=Not releasable due to small numbers
Error bars represent 95% confidence intervals.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

Figure 9
Per Cent of Students in Grades 9 – 12 by AUDIT† indicators, Peel, 2015



*Use estimate with caution.
†AUDIT is a screening tool that measures hazardous or harmful drinking.
‡Indicators refer to lifetime; Otherwise, all indicators refer to the past year.
Note: Denominators differ based on the question.
NR=Not releasable due to small numbers
Error bars represent 95% confidence intervals.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.1.5 Stressful life events and violence

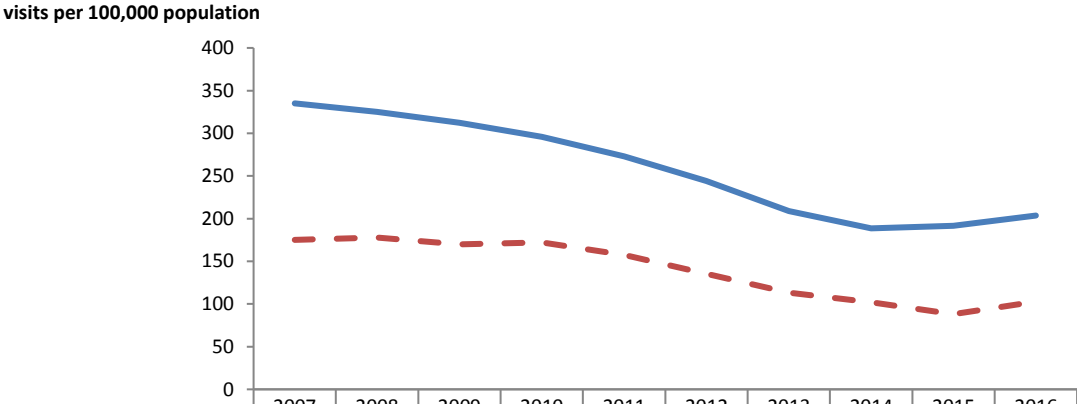
Violence involves the intentional use of physical force or power, threatened or actual, which results in or has a high likelihood of resulting in, injury, death, psychological harm, mal-development or deprivation. Violence can be physical, sexual, psychological or emotional in nature and violence can also be witnessed. Children who witness abuse have higher rates of mental health disorders such as depression and anxiety, symptoms of trauma, behavioural and cognitive problems and risk-taking behaviours.[1,3]

4.1.5.1 Assaults

Emergency visits due to assaults

- In 2016, there were 373 emergency department (ED) visits for assaults among individuals aged 0-19 years in Peel.[F]
- The rate of ED visits for assaults has decreased from 175 per 100,000 in 2007 to 103 per 100,000 in 2016 (Figure 10).[F,G]
- Between 2007 and 2016, the emergency department visit rate for children and youth aged 0-19 years in Peel was:
    - Lower than Ontario (Figure 10)
    - Higher among males as compared to females (Figure 11)
    - Highest among those 15-19 years old when compared to younger age groups (Figure 12)

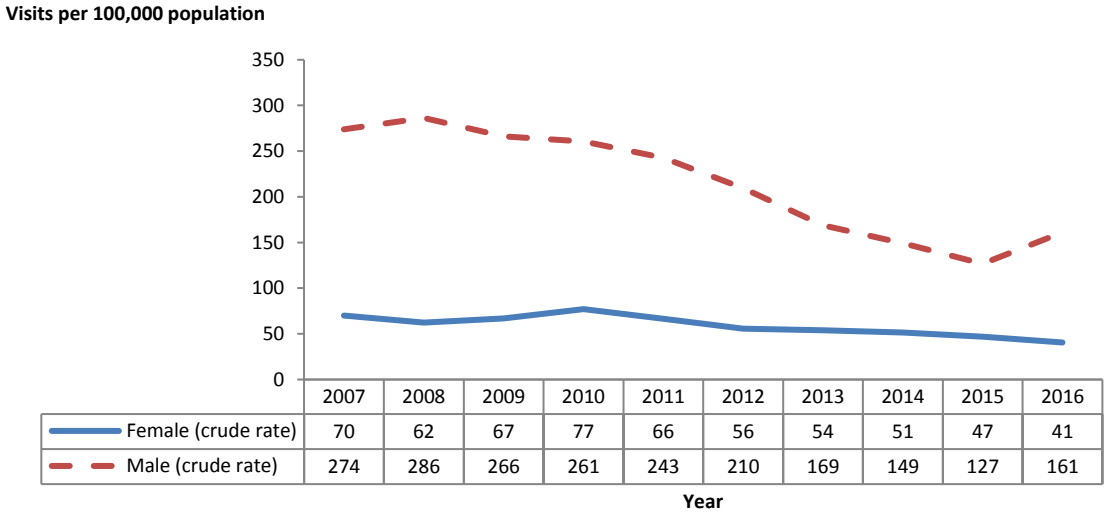
Figure 10
Emergency Department Visits due to Assaults per 100,000 Population 0-19 Years, Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	335	325	312	296	273	244	209	189	192	204
Peel (crude rate)	175	178	170	172	158	135	113	102	88	103

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care. Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

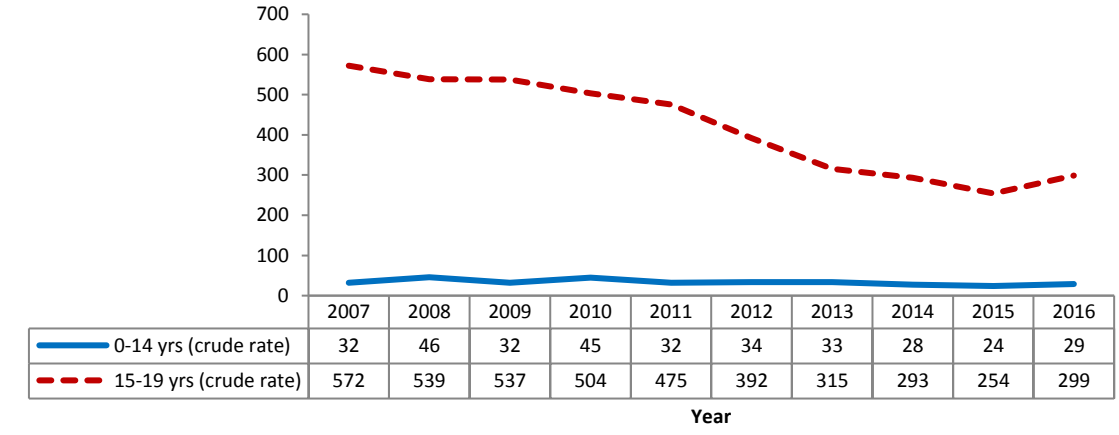
Figure 11
Emergency Department Visits due to Assaults per 100,000 Population 0-19 Years by Sex, Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	70	62	67	77	66	56	54	51	47	41
Male (crude rate)	274	286	266	261	243	210	169	149	127	161

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care. Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 12
Emergency Department Visits Due To Assaults per 100,000 Population 0-19 Year by Age, Peel, 2007-2016



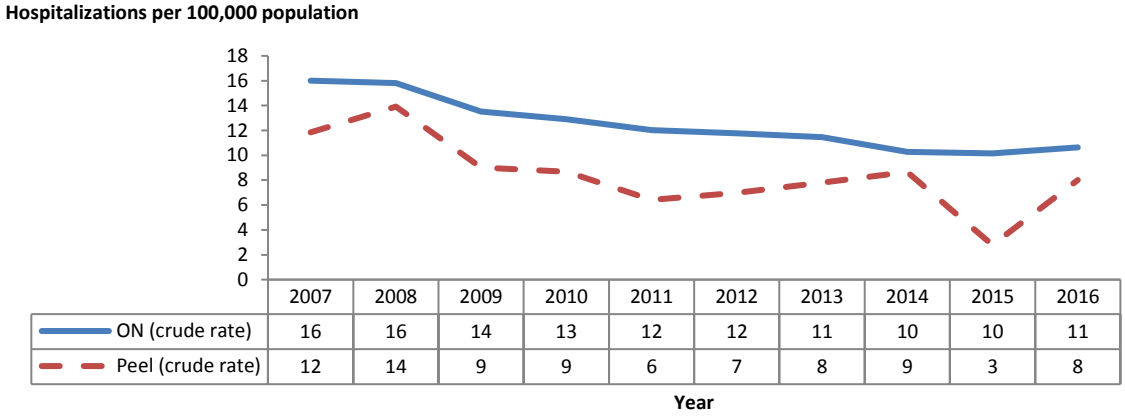
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0-14 yrs (crude rate)	32	46	32	45	32	34	33	28	24	29
15-19 yrs (crude rate)	572	539	537	504	475	392	315	293	254	299

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care. Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Hospitalizations due to assaults

- In 2016, there were 29 hospitalizations for assaults among individuals aged 0-19 years in Peel.[H]
- The hospitalization rate for assaults has slightly decreased from 12 per 100,000 in 2007 to 8 per 100,000 in 2016 and remained consistently lower than Ontario.[G,H] (Figure 13)
- The five-year average hospitalization rate from 2012 to 2016 in Peel was:
    - Higher among males as compared to females (Figure 14)
    - Highest among those 15-19 years old when compared to younger age groups (Figure 14)

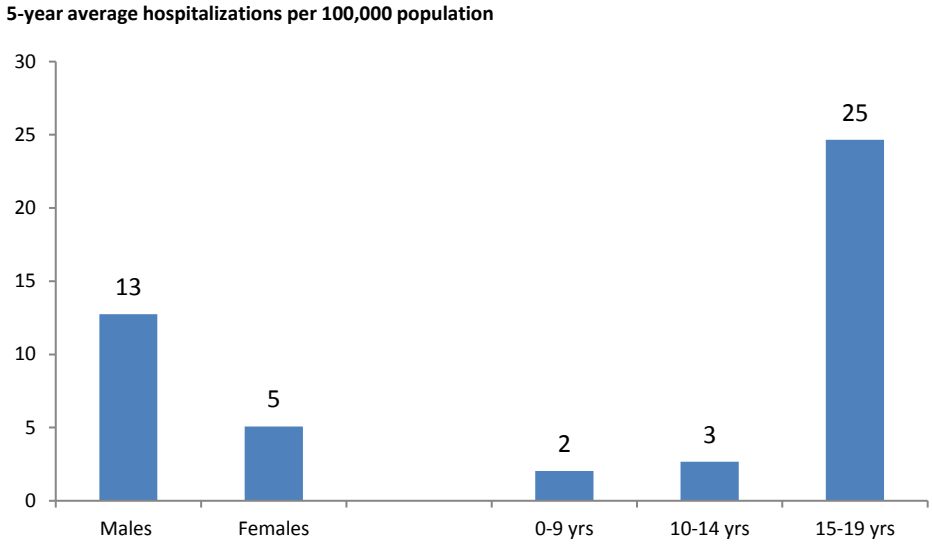
Figure 13
Hospitalizations due to Assaults per 100,000 Population 0-19 Years, Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	16	16	14	13	12	12	11	10	10	11
Peel (crude rate)	12	14	9	9	6	7	8	9	3	8

Sources: Discharge Abstract Database, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care. Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 14
Hospitalizations due to Assaults per 100,000 Population 0-19 Years, Five Year Average, by Sex and Age Group,
Peel, 2012-2016 combined



Sources: Discharge Abstract Database, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care. Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Mortality due to assaults

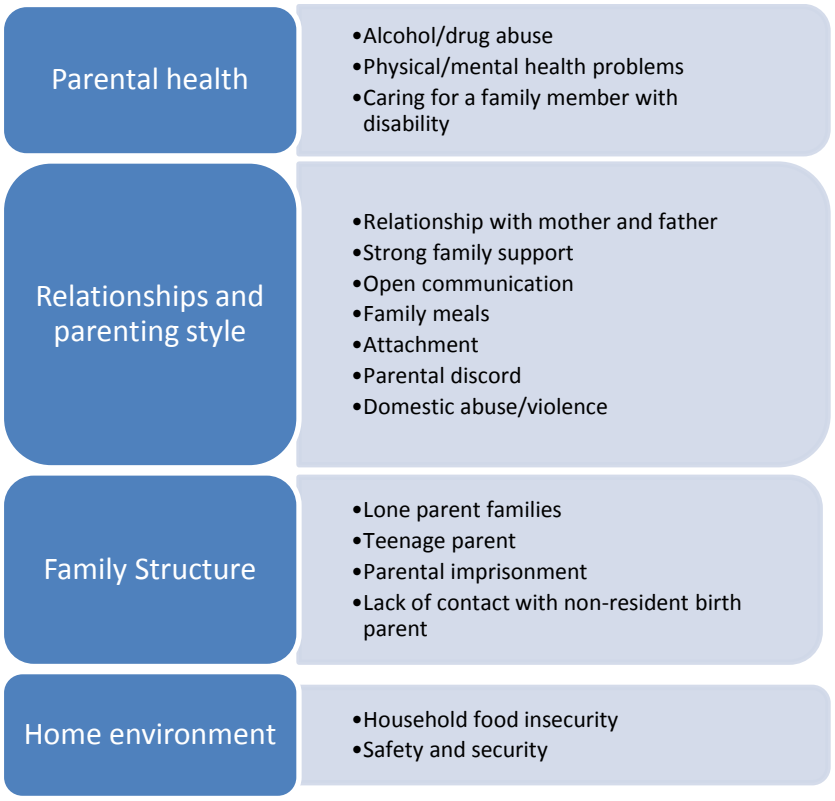
- Between 2000 and 2012, there were 24 deaths due to assault among individuals 0-19 years in Peel. Most of the deaths occurred among males aged 15-19 years (58%).[I]

4.2 Family

Key messages for Family Determinants of Mental Wellbeing

- Peel has no measures about the concepts of ***parental health***, and limited data about measures of family structure.
- Within the concept of relationships with parents, Peel students, in general, have a good relationship with their parents.

At the family level, a child's mental health is influenced by relationships and parenting style, parental health, household composition and the home environment. [1] Indicators of mental wellbeing at the family level are as follows:

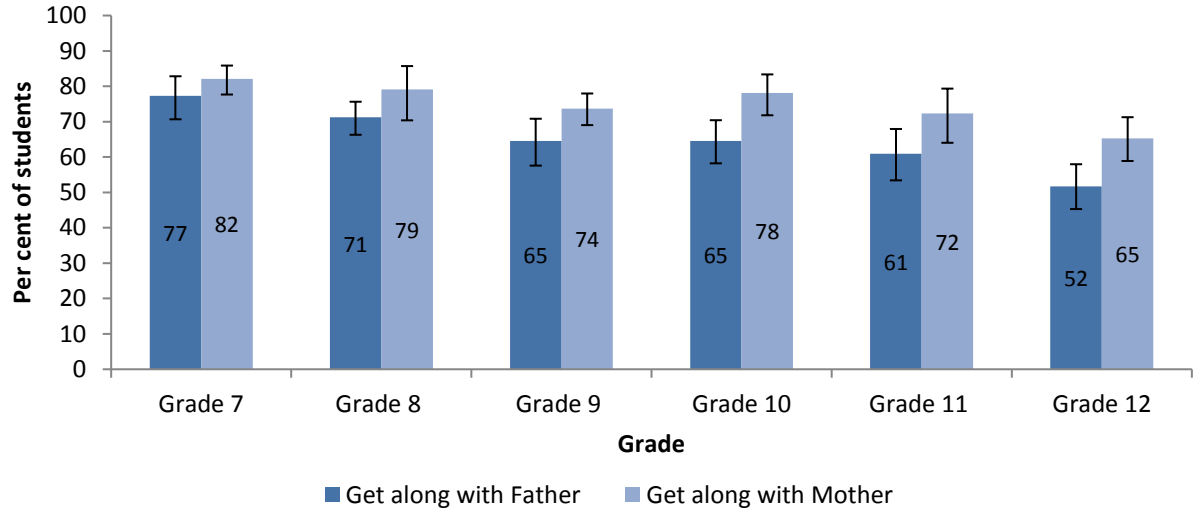


4.2.1 Relationship with mother and father

Relationships and parenting style impact a child's mental health. A consistent and engaging parenting style and secure attachment promote a child's mental wellbeing. A lack of parental involvement and family discord increase a child's risk for poor mental health.[1]

- In 2013, 74% of Peel students in Grades 7-12 reported getting along very well with their mother, and 64% reported getting along very well with their father. This was similar to Ontario students (70% and 65%, respectively).[C2]
- The proportion of students that get along very well with their mother decreases with grade. In 2013, Peel students in Grades 7 (82%) and 10 (78%) were more likely to report getting along very well with their mothers compared to students in Grade 12 (65%) (Figure 15).[C2]
- The proportion of students that get along very well with their father decreases with grade. In 2013, Peel students in Grades 7 (77%), 8 (71%) and 10 (65%) were more likely to report getting along very well with their fathers compared to students in Grade 12 (52%) (Figure 15).[C2]
- There were no differences by sex, immigrant status or ethnicity.[C2]

Figure 15
Per Cent of Students in Grades 7 -12 who Get Along Very Well with their Mother or Father by Grade,
Peel, 2013



n=2,025
Error bars represent 95% confidence interval.
Source: Ontario Student Drug Use and Health Survey 2013, Centre for Addiction and Mental Health. Peel Public Health.

4.2.2 Teenage Pregnancy

Peel has a low rate of teenage pregnancies (15 to 19 years old). From 1993 to 2011, teenage pregnancy has been declining both provincially and in Peel. In 1993 in Peel, the teenage pregnancy rate was 43.6 pregnancies per 1,000 women (n=1,221 teenage pregnancies), which declined to a rate of 21.1 pregnancies per 1,000 women (n=988) in 2011. During this period, the teenage pregnancy rate in Peel has consistently been lower than the provincial rate, which in 2011 was 24.0 pregnancies per 1,000 women age 15 to 19 years in Ontario.[K]

4.2.3 Family Structure

Family structure influences mental health. Lone parent families and teenage parent families have increased risk of children with poor mental health due to social issues associated with being a lone or teenage parent (e.g., lower income).[1]

- In 2016, 16% of Peel children 0-14 years old lived in a lone-parent family. This is equivalent to 41,515 children.[A]
- Among these children, most lived in a female lone-parent family (85%) (Table 12).[A]

Table 12
Children Aged 0-14 Years in Lone-Parent Census Families, Peel, 2016

Lone parent census families	Number	%
Male lone-parent	6,100	15
Female lone-parent	35, 415	85
Total lone-parent families	41,515	

Note: Statistics Canada randomly rounds counts for Census data to maintain confidentiality. Therefore, the total value may not match the sum of the individual values within the table.
Source: 2016 Census, Statistics Canada

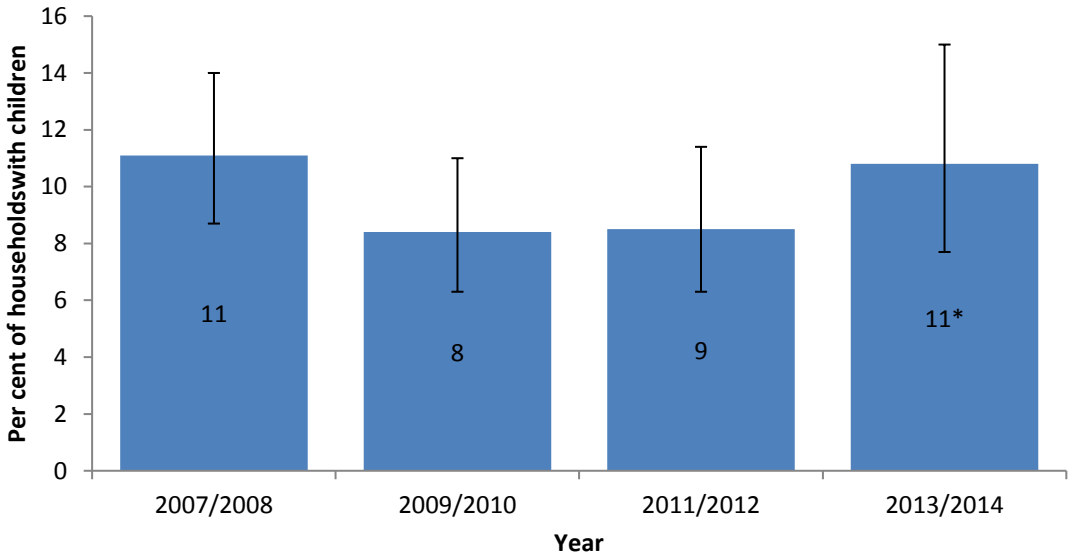
4.2.4 Household food insecurity

A sense of safety, including access to quality housing and nutrition, can promote a child's mental health. Living in poor quality housing and lack of access to quality nutrition can increase stress and behavioural issues in children.[1]

- In 2013/2014, 11%* of households with children reported moderate to severe food insecurity (Figure 16). This was similar to Ontario (11%).[D1]
- The proportion of households with moderate to severe food insecurity has remained stable between 2007/2008 and 2013/2014 (Figure 16).

*Use estimate with caution

Figure 16
Per Cent Of Households with Children Present† Experiencing Food Insecurity (Severe Or Moderate)‡,
Peel, 2007/2008, 2009/2010, 2011/2012, 2013/2014



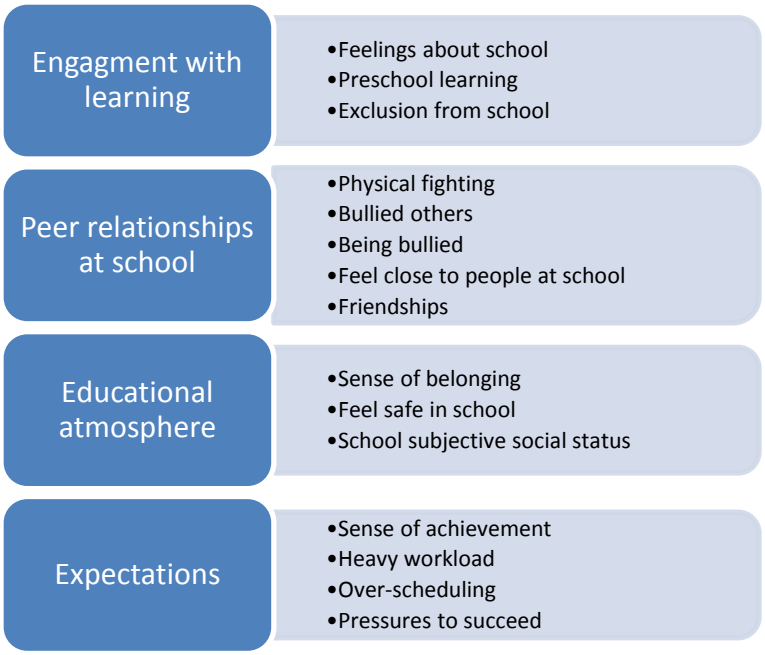
* Use estimate with caution.
†Households with children are defined as households with individuals who are aged 17 or less and who are the child, grandchild, child-in-law, niece or nephew of another household member.
‡Food insecurity is defined as someone in the household experiencing moderate or severe compromise to food quality and/or quantity in the past 12 months.
Error bars represent 95% confidence interval.
Source: Canadian Community Health Survey Share File, 2007/2008, 2009/2010, 2011/2012, 2013/2014, Statistics Canada. Ontario Ministry of Health and Long-Term Care

4.3 Learning Environment

Key Messages on Learning Environment as a Determinant of Mental Wellbeing

- Peel has limited information about the concept of ***enjoyment with learning*** and ***expectations***.
- For the concept of ***peer relationships at school***, most students have close connections with people at school and very few engage in physical fighting. Bullying however, is experienced by about one in five students.
- Within the concept of ***educational atmosphere,*** students have strong connections with their school environment and feelings of safety

In the learning environment, mental health is influenced by a child's engagement with learning, peer relationships, the educational atmosphere, and pressures and expectations. A feeling of liking school, close friendships, and a positive school ethos can promote a child's mental health; feeling excluded, a lack of achievement, being bullied and bullying can negatively impact a child's mental health.[1] Indicators of mental wellbeing at the level of the learning environment are as follows:

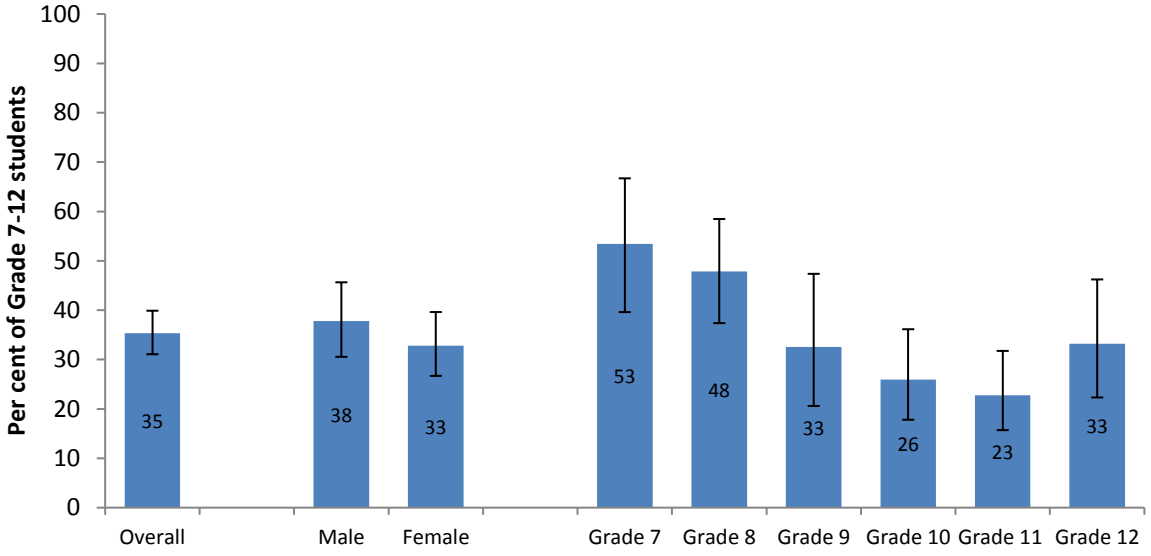


4.3.1 Feelings about school in general

- In 2015, approximately one-third of Peel students (35%) liked school "*very much"* or "*quite a lot"* (Figure 17). This was similar to Ontario (32%).[C1]
- The proportion of students that liked school "*very much*" or "*quite a lot*" decreased with increasing grade. Students in Grade 7 (53%) were more likely than students in Grades 10 (26%*) and 11 (23%*) to report liking school "*very much*" or "*quite a lot*".[C1] There were no differences in terms of feelings about school in general by sex, immigrant status or ethnicity.[C1]
- The proportion of Peel students that liked school "very much" or "*quite a lot"* decreased from 48% in 2013 to 35% in 2015. This decline was also seen among Ontario students.[C1, C2]

*Use estimate with caution

Figure 17
Per Cent of Students in Grades 7 -12 who Like School *Very Much* or *Quite A Lot*, by Sex and Grade, Peel, 2015



n=583
Error bars represent 95% confidence interval.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.3.2 Peer relationships at school

4.3.2.1 Physical fighting at school

- In 2015, 10% of Peel students in Grades 7-12 got into a fight on school property. This was similar to Ontario (10%).[C1]
- In Peel, males (15%*) were three times more likely than females (5%*) to fight on school property.[C1]
- There were no differences by grade, immigrant status or ethnicity.[C1]
- The 2015 estimates were similar to 2013.[C1, C2]

*Use estimate with caution

4.3.2.2 Bullied other students

- In 2015, 11% of Peel students in Grades 7-12 reported bullying others at school. This was similar to Ontario (13%) (Table 13).[C1]
- There were no differences by sex, grade, ethnicity or immigrant status.[C1]
- The 2015 estimates were similar to 2013.[C1, C2]

Table 13
Proportion of Students in Grades 7 - 12 who Bullied Others at School, Peel and Ontario, 2013 - 2015

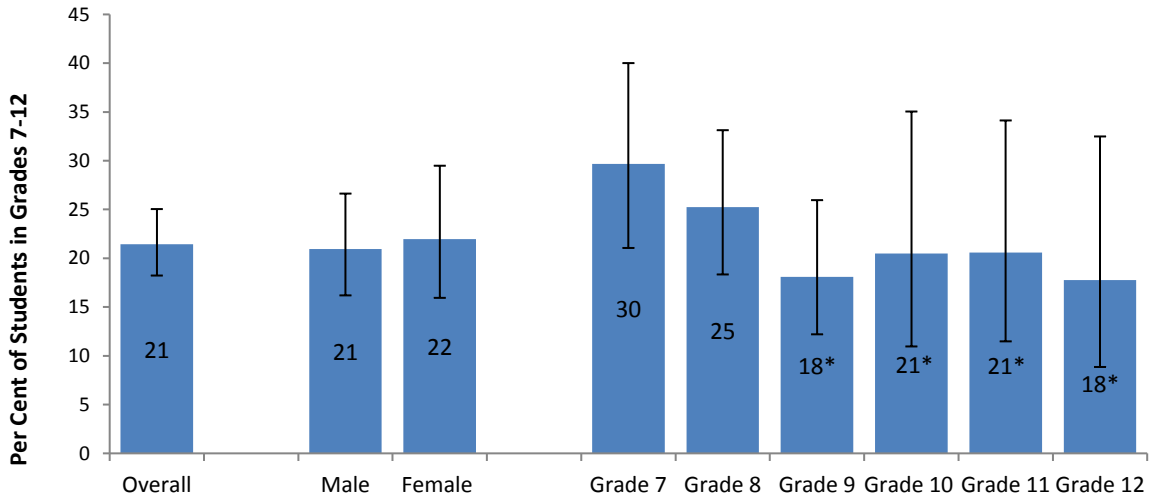
Bullied others	Per cent of all students (95% CI)			
	Peel		Ontario	
	2013 n=1,041	**2015** n=565	**2013** n=5,365	**2015** n=5,304
Yes, any type of bullying	15.2 (12.6 - 18.2)	11.4 (8.7 - 14.8)	16.0 (14.4 - 17.8)	13.1 (11.5 - 14.8)

95% CI reflects the 95% confidence interval of the estimate.
Source: Ontario Student Drug Use and Health Survey, 2013 - 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.3.2.3 Being bullied by other students

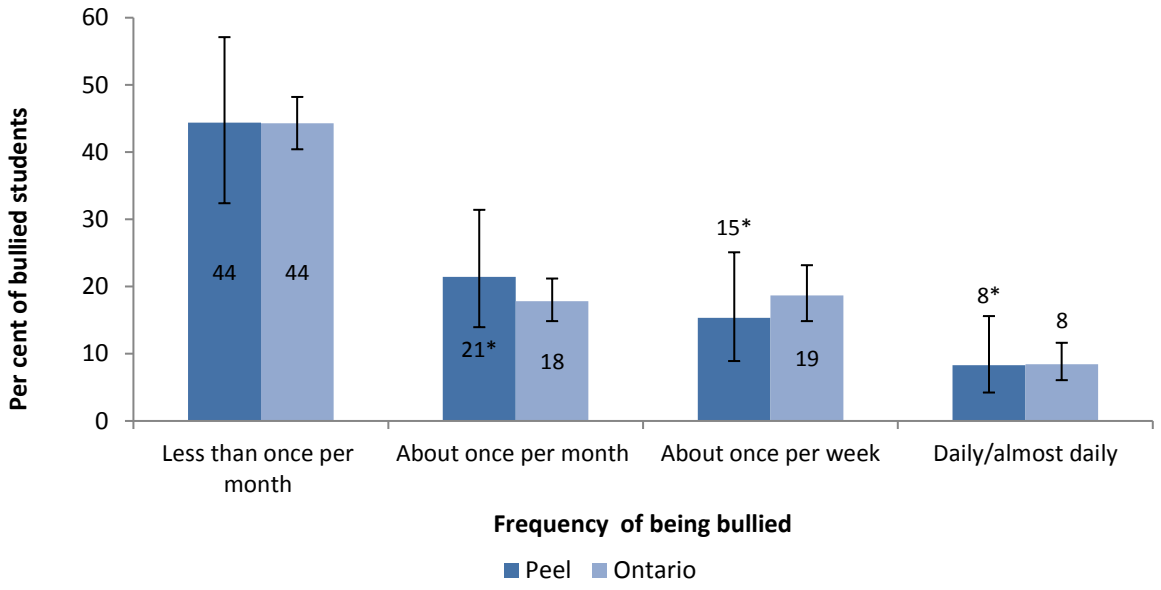
- In 2015, approximately one in five Peel students in Grades 7-12 (21%) was a victim of bullying at school at least once in the 12 months prior to the survey (Figure 18). This was similar to Ontario (24%).[C1]
- Verbal attack was the most common type of bullying experienced by Peel (18%) and Ontario (21%) students.[C1]
- In 2015, 18% of Peel students were bullied electronically or through the internet. This was similar to Ontario (20%).[C1]
- Among Peel students who were bullied, 44% reported that it happened less than once a month (Figure 19). This was similar to Ontario (41%).[C1]
- Approximately 1 in 5 students that experienced bullying, were bullied at least once a week (23%).
- There were no differences by sex, grade, ethnicity or immigrant status.[C1]
- The 2015 estimates were similar to 2013.[C1, C2]

Figure 18
Proportion of Students in Grades 7 - 12 who Report Being Bullied at School During the School Year by Sex and Grade,
Peel, 2015



n=565
*Use estimate with caution.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

Figure 19
Frequency of Bullying among Grade 7 - 12 Students who Report Being Bullied at School During the School Year,
Peel and Ontario, 2015



Peel n=126, Ontario n=1,325
* Use estimate with caution.
Error bars represent 95% confidence interval.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.3.2.4 *Feel close to people in my school*

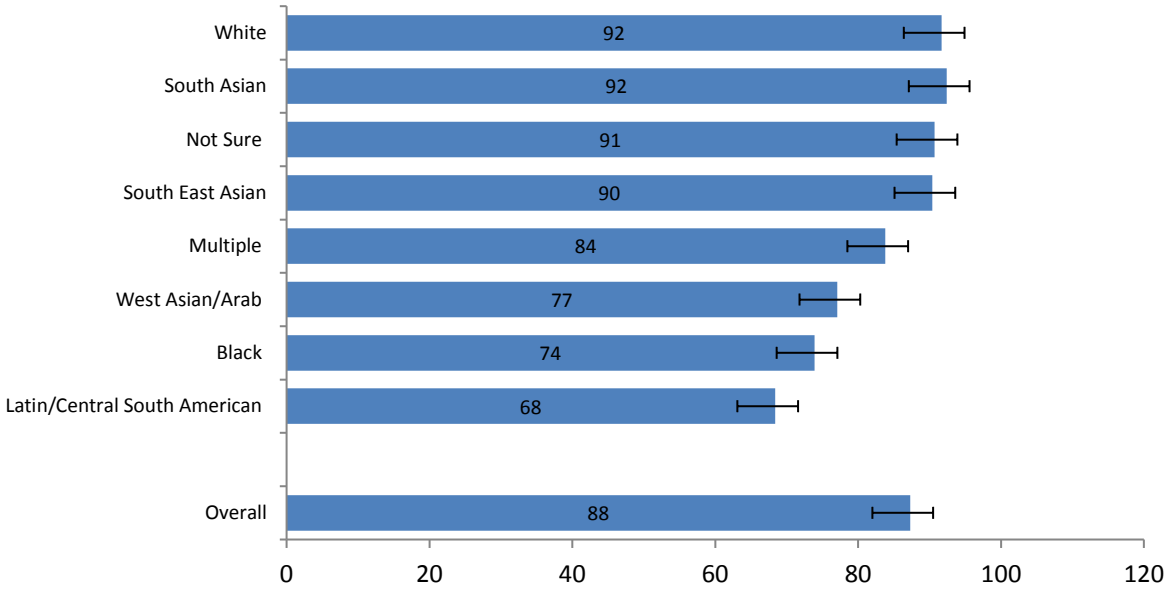
- In 2015, most Peel students (91%) felt close to people at their school. This was similar to Ontario (88%).[C1]
- There were no differences by sex, grade, immigrant status or ethnicity.[C1]
- The 2015 estimates were similar to 2013.[C1, C2]

4.3.3 Educational Atmosphere

4.3.3.1 *Sense of belonging at school*

- In 2015, the majority of Peel students felt like they were a part of their school (88%) (Figure 20). The Peel estimate is similar to Ontario (86%). There were no differences by sex, grade or immigrant status. The 2015 estimates were similar to 2013.[C1, C2]
- Black (74%) and Latin/Central South American (68%) students were less likely to feel like they were a part of the school as compared to White (92%) and South Asians (92%) students (Figure 20).

Figure 20
Per Cent of Students in Grades 7 -12 who Feel Like a Part of their School by Ethnicity, Peel, 2015



n=1,133
*Aboriginal estimate not releasable due to small numbers
Error bars represent 95% confidence interval.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.3.3.2 Feel safe in school

- In 2015, almost all Peel students (96%) felt safe at school. This was similar to Ontario students (95%).[C1]
- There were no differences by sex, grade, immigrant status or ethnicity. [C1]
- The 2015 estimates were similar to 2013. [C1, C2]

4.3.3.3 School subjective social status

- Self-perceived social status at school is measured by a self-administered scale.
- In 2015, approximately half of Peel students (53%) reported average subjective social status (SSS) at school and 44% reported high SSS (Table 14). This was similar to Ontario students.[C1]
- There were no differences by sex, grade, ethnicity or immigrant status.[C1]

Table 14
School Subjective Social Status† of Students in Grade 7 – 12 by Sex, Peel, 2015

Social status	Per cent of all students (95% CI)	
	Male	Female
Low	2.0* (1.1 - 3.8)	4.4* (2.7 - 7.0)
Average	51.5 (45.7 - 57.2)	53.6 (48.8 - 58.3)
High	46.5 (40.8 - 52.3)	42.0 (37.0 - 47.3)

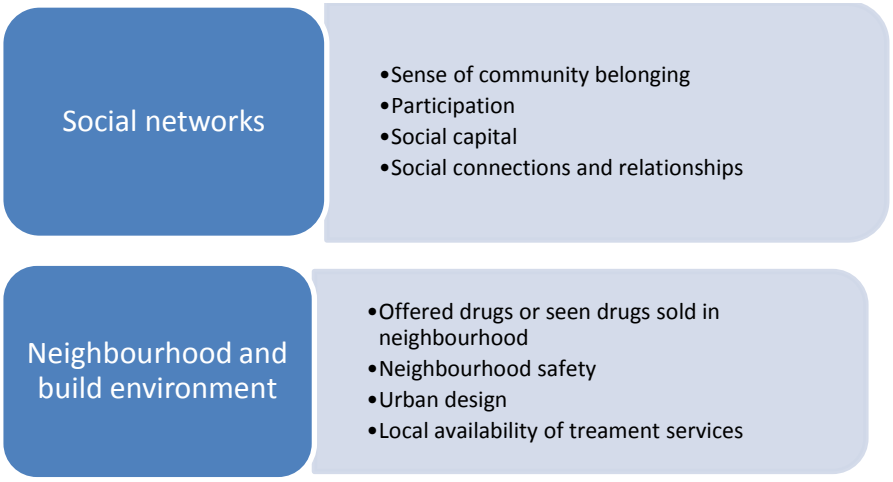
n=1,134
*Use estimate with caution.
†As measured by the MacArthur Scale of Subjective Social Status
95% CI reflects the 95% confidence interval of the estimate.
Source: Ontario Student Drug Use and Health Survey, 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.4 Community

Key messages on Community as Determinant of Mental Wellbeing

- ***Social networks*** for Peel children are strong and are reported positively by three out of four children.
- There is limited data on concepts of ***social networks*** and the ***neighbourhood and built environment***.

At the community level, social networks, the neighbourhood and built environment influence a child's mental health.[1] Indicators of mental wellbeing at the community level are as follows:

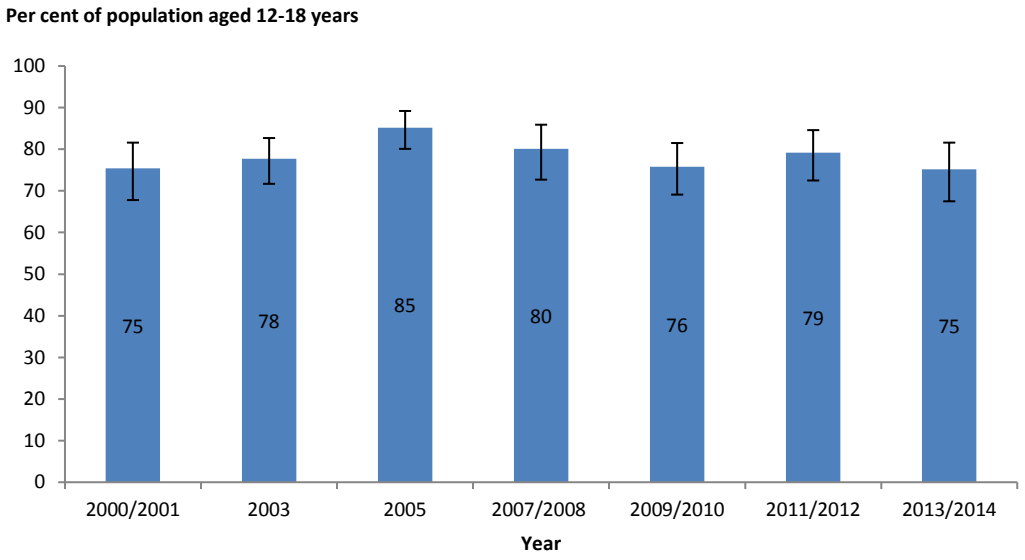


4.4.1 Sense of community belonging

Higher levels of community social capital (e.g., cohesion, reciprocity and belonging), the presence of supportive social relationships, and strong community involvement enhance a child's mental wellbeing. Participation in community groups and organizations enhances social connections and increases self-efficacy. Low levels of social capital and few social connections and relationships in the community contribute to poor mental health.[1]

- In 2013/2014, three-quarters of individuals aged 12-18 years old in Peel (75%) had a very or somewhat strong sense of community belonging (Figure 21). This was similar to Ontario (79%). Meanwhile, 21% reported a somewhat weak sense of community belonging in the same time period.[D1]
- The proportion of the population aged 12-18 years who reported a very or somewhat strong sense of community belonging in Peel has remained stable between 2000/01 (75%) and 2013/2014 (75%) (Figure 21).

Figure 21
Per Cent of Population who Report a *Very* or *Somewhat* Strong Sense of Community Belonging,
Peel, 2000/2001, 2003, 2005, 2007/2008, 2009/2010, 2011/2012, 2013/2014



Error bars represent 95% confidence intervals.
Source: Canadian Community Health Survey Share File, 2000/2001, 2003, 2005, 2007/2008, 2009/2010, 2011/2012, 2013/2014, Statistics Canada. Ontario Ministry of Health and Long-Term Care

4.4.2 Neighbourhood built environment

The built environment refers to buildings, spaces and products created or modified by people. Green space, such as parks, gardens, woods, and fields can promote mental health and reduce the risk of poor mental health by reducing exposure to air and noise pollution and stress, and enhancing opportunities for physical activity, social connections and participation. Exposure to prolonged environmental stress and neighbourhood crime can negatively impact mental health.[1,4]

4.4.2.1 Offered drugs in neighbourhood

- In 2015, 23% of Peel students indicated that they have been offered drugs in the year prior to the survey. This was similar to Ontario (25%).[C1]
- In Peel, there were no differences by sex, grade, immigrant status or ethnicity. [C1]
- The 2015 estimates were similar to 2013.[C1, C2]

4.4.2.2 Seen drugs sold in neighbourhood

- In 2015, 26% of Peel students saw drugs being sold in their neighbourhood in the last 12 months (Table 15). This was comparable to Ontario (22%).[C1]
- There were no differences in the percentage of students who reported seeing drugs being sold in their neighbourhood, by sex, grade or immigrant status.
- The 2015 estimates were similar to 2013.[C1, C2]

Table 15
Proportion of Students in Grades 7 - 12 who Have Seen Drugs Sold in Neighbourhood, Peel, Ontario, 2013 - 2015

Drugs sold in neighbourhood	Per cent of students (95% CI)			
	Peel		Ontario	
	2013 n=1,041	2015 n=559	2013 n=4,751	2015 n=4,963
Yes	21.2 (18.5 - 24.2)	25.5 (19.6 - 32.5)	21.1 (19.2 - 23.1)	21.9 (20.0 - 23.9)
No	60.4 (55.5 - 65.0)	52.7 (45.7 - 59.7)	63.5 (61.1 - 65.8)	61.9 (59.6 - 64.2)
I think so, but not sure	18.4 (15.3 - 22.1)	21.7 (17.4 - 26.8)	15.5 (13.7 - 17.5)	16.2 (14.7 - 17.7)

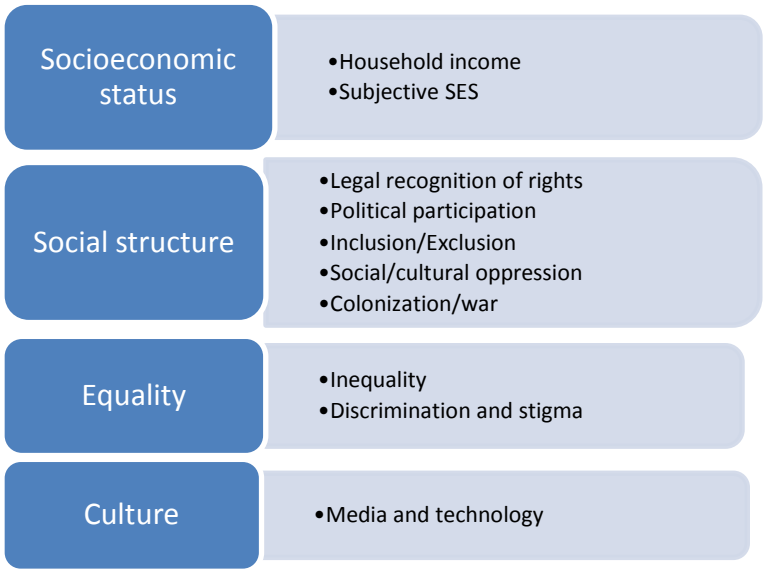
Asked of half the sample.
95% CI reflects the 95% confidence interval of the estimate.
Source: Ontario Student Drug Use and Health Survey, 2013, 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.5 Structural

Key Messages on Structural Determinants of Mental Wellbeing

- Within the concept of ***socioeconomic status,*** one in three students feel their socioeconomic status is low and one in three children in lone parent families is in a low income household.
- Peel does not have measures for ***social structure***, ***equality*** or ***culture***.

Social factors such as level of socioeconomic status, the presence or absence of discrimination, equality and culture can influence a child's mental health.[1] Indicators of mental wellbeing at the structural level are as follows:



4.5.1 Socioeconomic status

Socioeconomic position refers to the position of a child's family relative to others, measure by differences in education, income, occupation, etc. Higher levels of education, income, standard of living and employment promote mental health. Lower levels of education, poverty, homelessness and unemployment negatively impact a child's mental health.[1]

4.5.1.1 Household income

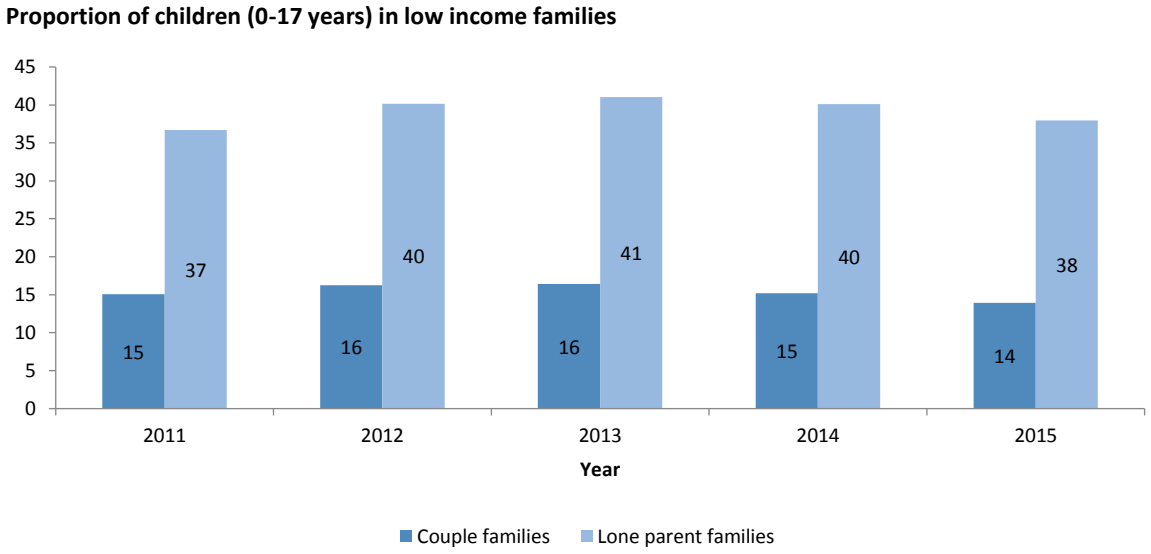
- In 2016, the median after-tax income of Peel census couple family households with children ($91,994) was more than double than that of lone-parent families with children ($54,565). Female lone-parent families with children ($52,940) had a lower median after-tax income than male lone-parent families with children ($63,976).[A]
- 14% of children ages 0-17 living in couple families were in low-income couple families. Meanwhile, 38% of children living in lone parent families were in low-income lone parent families (Figure 22). This was equivalent to 21,240 children.[J]

Table 16
Median Family Income by Type of Family, Peel and Ontario, 2015

Type of family	Peel Median family Income	Ontario Median family Income
Couple family with 1 children	90,270	99,690
Couple family with 2 children	101,380	117,950
Couple family with 3+ children	90,310	107,480
Lone parent family with 1 children	45,540	43,190
Lone parent family with 2 children	50,170	46,610
Lone parent family with 3 + children	47,760	44,610

Source: Taxfiler Data 2015 ,Statistics Canada

Figure 22
Children in Low Income Couple and Lone-Parent Families, Peel, 2011-2015



Source: Taxfiler Data 2011-2015, Statistics Canada

4.5.1.2 Subjective socio-economic status

- In 2015, 32% of Grade 7 - 12 students in Peel considered their family to be of low socio-economic status, as measured by the family socio-economic ladder (Table 17). This was similar to Ontario students (32%). [C1]
- Students in Grade 12 (20%) were less likely than those in Grades 7 (37%), 9 (40%), and 10 (36%) to rank their family to be of low socio-economic status.[C1]
- There were no differences by sex, immigrant status or ethnicity.[C1]
- The 2015 results were similar to 2013 estimates.[C1, C2]

Table 17
Subjective Family Socio-Economic Status among Students in Grades 7 - 12, Peel and Ontario, 2015

Socio-economic status	Per cent of all students (95% CI)	
	Peel n=1,134	**Ontario** n=10,259
Low SES	31.6 (27.8 - 35.6)	31.9 (30.2 - 33.5)
High SES	68.4 (64.4 - 72.2)	68.1 (66.5 - 69.8)

95% CI reflects the 95% confidence interval of the estimate.
Source: Ontario Student Drug Use and Health Survey, 2015, Centre for Addiction and Mental Health. Peel Public Health.

4.5.2 Social Structure, Equality, and Culture

Social and cultural oppression and inequality in society can negatively impact children and youth's mental wellbeing. Peel level data on indicators of these three determinants of mental wellbeing is not available.

5 Mental Health Disorders

Key Messages on Mental Health Disorders

- There is limited data on the prevalence and incidence of mental health disorders among Peel children and youth.
- Among Peel children and youth 0-18 years, the rate of mental health disorders resulting in an acute care visit is lower than Ontario.
- Anxiety and mood disorders are the most common mental health disorders resulting in an emergency department visit or hospitalization.
- Emergency department visits due to anxiety and mood disorders have more than doubled between 2007 and 2016.
- Mental health disorders differ by sex. Substance-related mental health disorders, schizophrenia and other psychotic disorders, and neurodevelopmental and personality disorders are more common among males, while females are more likely to present with anxiety, mood and eating disorders.
- Mental health disorders are most common among youth aged 15-18 years.
- Mortality due to mental health disorders is uncommon.

This chapter provides an overview of the key mental health disorders among children and youth in Peel. There is limited data on the prevalence and incidence of mental health disorders among children and youth in Peel. Due to this limitation, the burden of mental health disorders is described by emergency department (ED) visits, hospitalization and mortality. However, these indicators only represent a small fraction of medically-attended cases of mental health disorders. Individuals may seek treatment from community-based health care services (i.e., general practitioner, psychologist) and many others may not seek treatment at all.

This overview presents health data for the six major categories of mental health disorders for children and youth: anxiety disorders, mood disorders, substance-related mental health disorders, neurodevelopmental and personality disorders, schizophrenia and other psychotic disorders and eating disorders. While there are other disorders, these categories have been identified by the Institute of Clinical Evaluation Sciences (ICES) as the most relevant for children and youth.

5.1 Burden of Mental Health Disorders in Peel

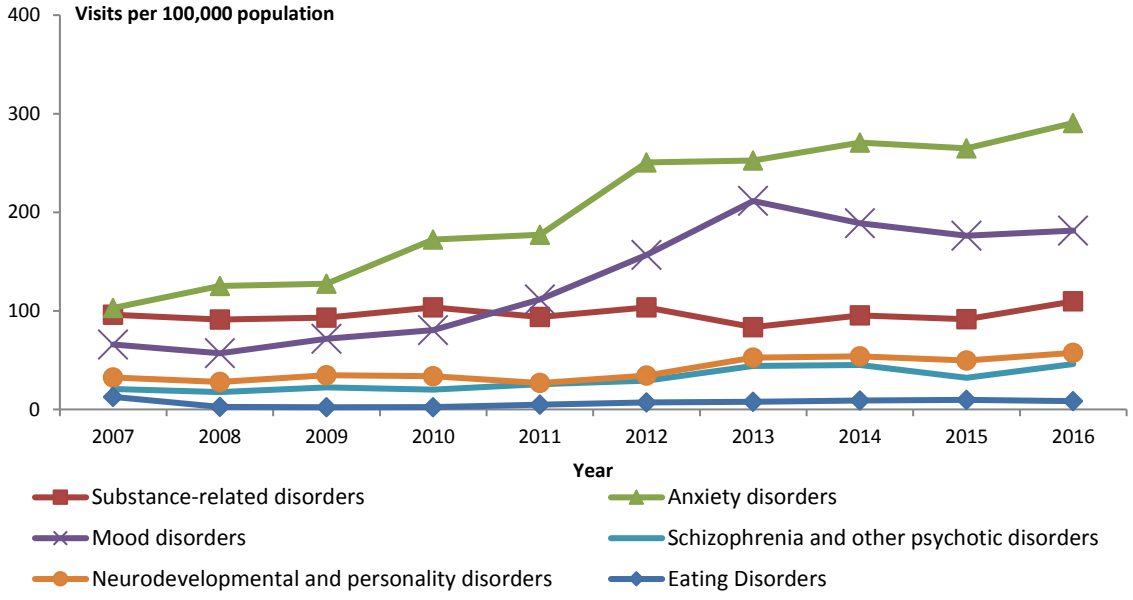
- In 2016, anxiety and mood disorders were the most common mental health disorders resulting in an emergency department (ED) visit or hospitalization (Table 18). There were no deaths due to mental health disorders.
- The ED visit rates for anxiety and mood disorders almost tripled between 2007 and 2016 (Figure 23).

Table 18
Emergency Department Visits and Hospitalizations for Mental Health Disorders per 100,000 Population, by Sex,
Peel, 2016

	Emergency department visits				Hospitalizations			
	Crude rate per 100,000			Total	Crude rate per 100,000			Total
Mental health disorder	Male	Females	Total	count	Males	Females	Total	count
Anxiety disorders	194	395	291	997	34	104	68	233
Mood disorders	98	272	182	623	29	52	40	136
Substance-related	121	97	110	376	15	7	11	37
Neurodevelopmental & personality	73	41	57	197	24	28	26	88
Schizophrenia and other psychotic	54	37	46	158	6	10	8	28
Eating disorders	3	15	8	29	3	16	9	32

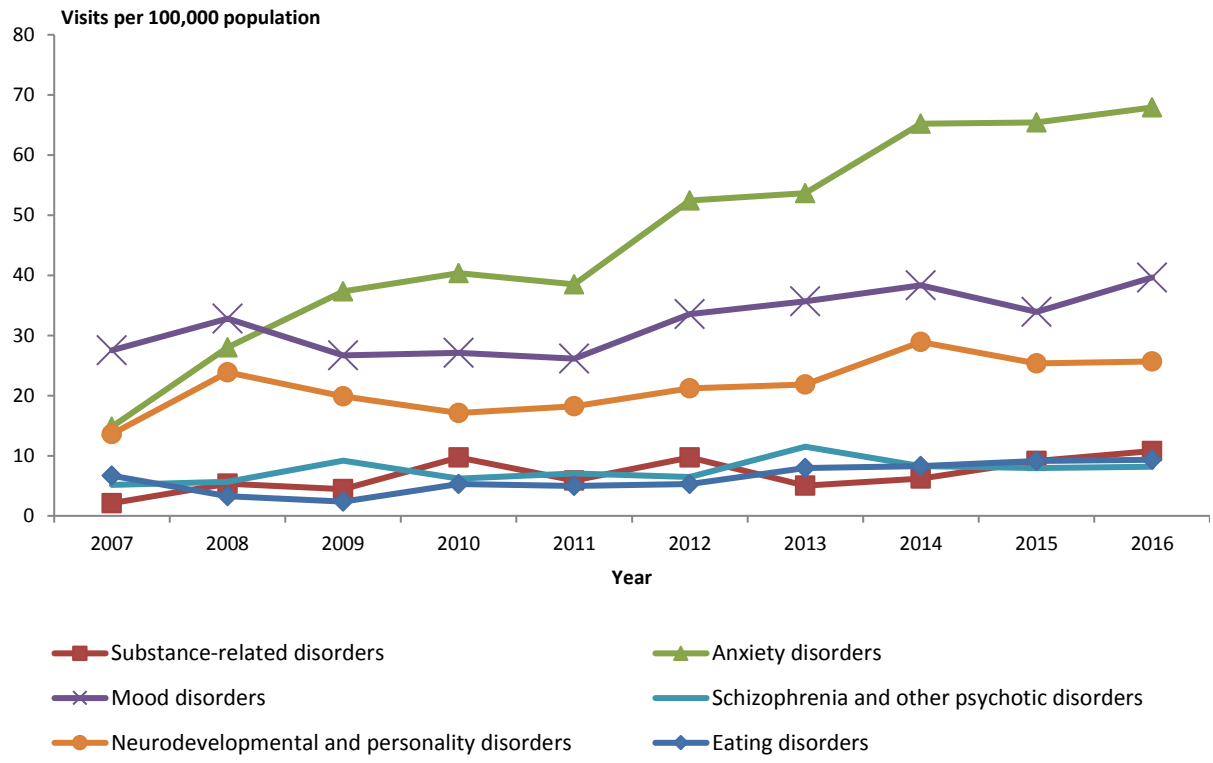
Sources: National Ambulatory Care Reporting System Data, 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care Discharge Abstract Database, 2016, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 23
Rate of Emergency Department Visits related to Mental Health Disorders per 100,000 Population Aged 0-18 Years by Type of Disorder, Peel, 2007-2016



Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2003- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care.

Figure 24
Rate of Hospitalizations related to Mental Health Disorders per 100,000 Population Aged 0-18 Years by Type of Disorder
Peel, 2007-2016



Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long-Term Care.

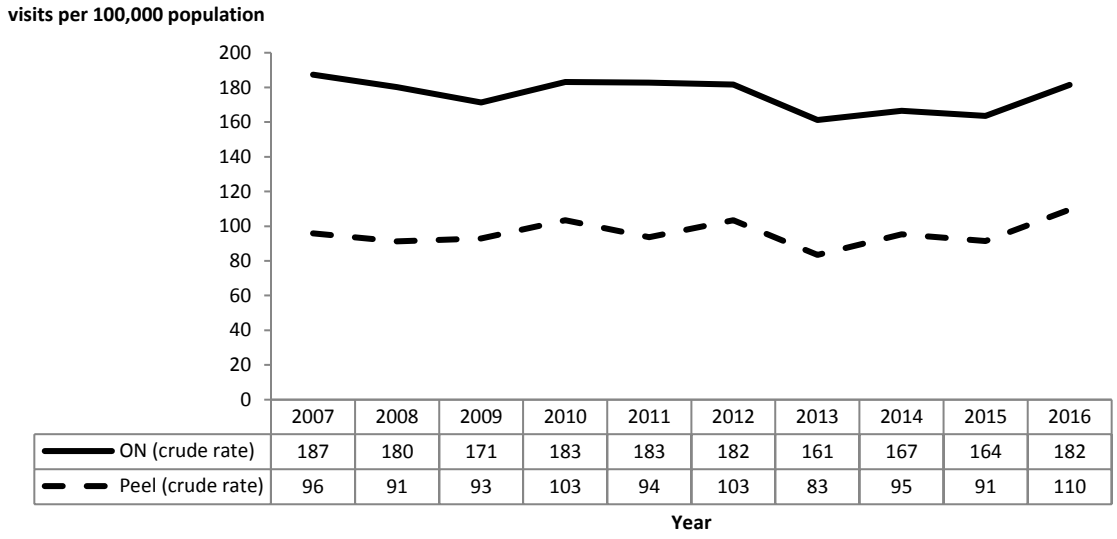
5.2 Substance-related mental health disorders

Substance-related mental health disorders involve a cluster of cognitive, behavioural, and physiological symptoms which indicate that one continues to use a respective substance even though he or she is experiencing substance-related issues.[6] The following section highlights the emergency department visit rate, hospitalization rate, and mortality due to substance-related mental health disorders among Peel children and youth.

Emergency department visits due to substance-related mental health disorders

- In 2016, there were 376 emergency department (ED) visits due to substance-related mental health disorders among individuals 0-18 years in Peel.[F]
- Between 2007 and 2016, the ED visit rate for children and youth aged 0-18 years in Peel was:
    - Relatively stable (Figure 25)
    - Lower than Ontario (Figure 25)
    - Slightly higher among males as compared to females (Figure 26)
    - Highest among those 15-18 years old when compared to younger age groups (Figure 27)
- Alcohol was the most prevalent reason for an ED visit associated with a substance-related mental health disorder (Figure 28)

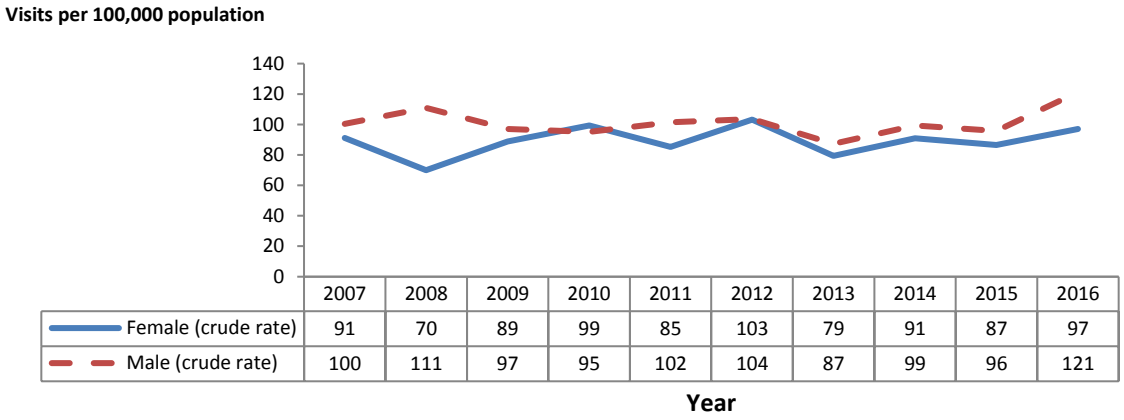
Figure 25
Emergency Department Visits due To Substance-Related Mental Health Disorders per 100,000 Population 0-18 Years,
Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	187	180	171	183	183	182	161	167	164	182
Peel (crude rate)	96	91	93	103	94	103	83	95	91	110

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

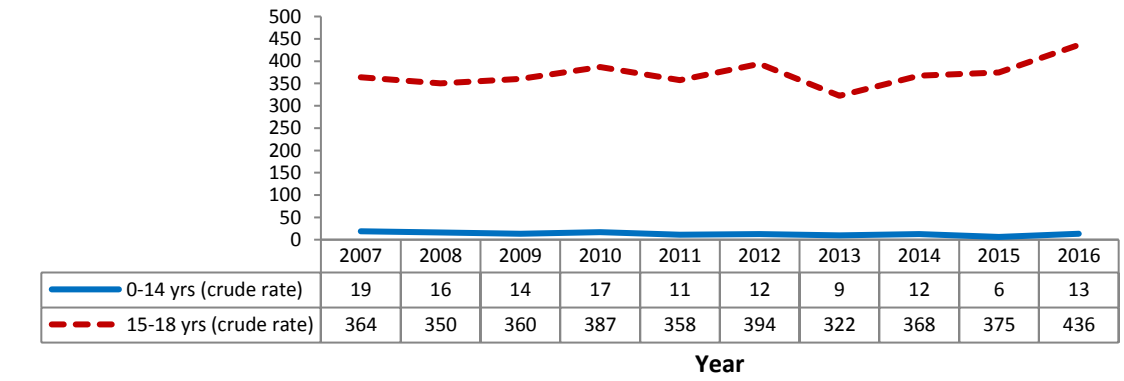
Figure 26
Emergency Department Visits for Susbtance-Related Mental Health Disorders per 100,000 Population 0-18 Years, by Sex,
Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	91	70	89	99	85	103	79	91	87	97
Male (crude rate)	100	111	97	95	102	104	87	99	96	121

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

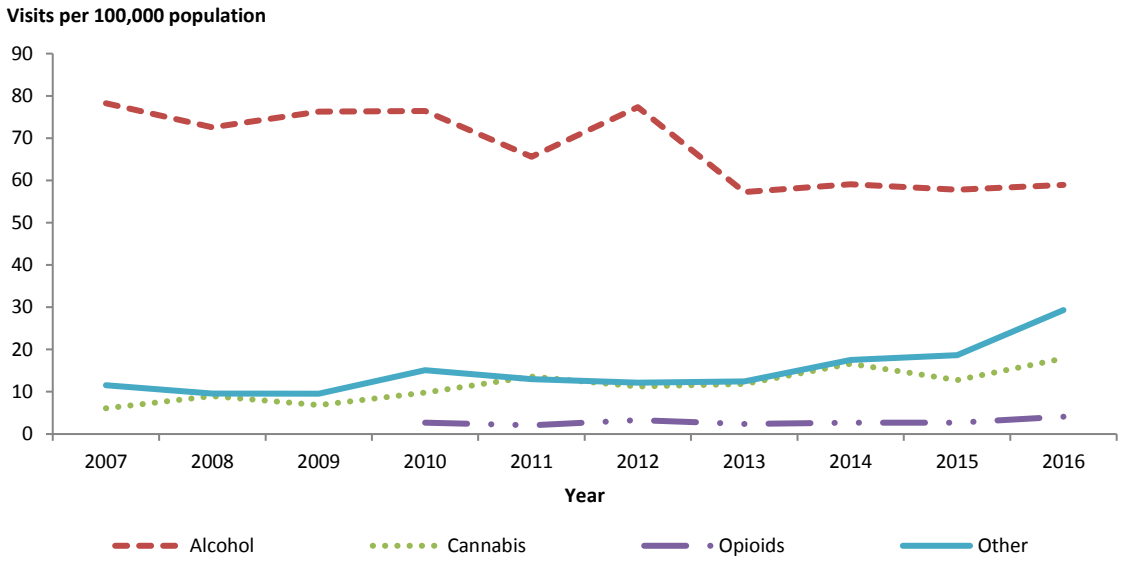
Figure 27
Emergency Department Visits For Susbtance-Related Mental Health Disorders Per 100,000 Population 0-18 Years, By Age Group,
Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0-14 yrs (crude rate)	19	16	14	17	11	12	9	12	6	13
15-18 yrs (crude rate)	364	350	360	387	358	394	322	368	375	436

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 28
Emergency Department Visits for Susbtance-Related Mental Health Disorders, by Susbtance, per 100,000 Population 0-18 Years,
Peel, 2007-2016

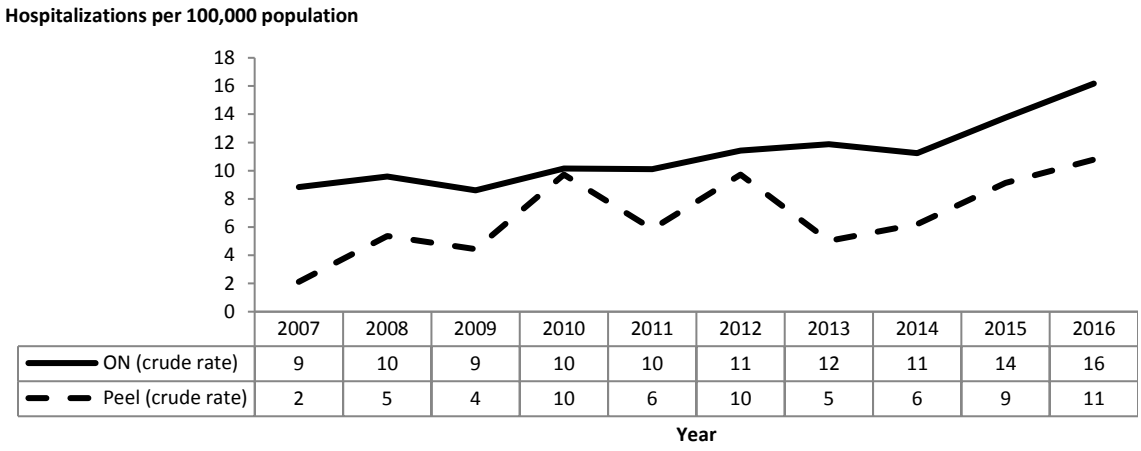


Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Hospitalizations due to substance-related mental health disorders

- In 2016, there were 37 hospitalizations due to substance-related mental health disorders among individuals 0-18 years in Peel.[H]
- The hospitalization rate increased from 2 per 100,000 in 2007 to 11 per 100,000 in 2016 (Figure 29).
- Between 2007 and 2016, the hospitalization rate for children and youth aged 0-18 years in Peel was:
    - Lower than Ontario (Figure 29)
    - Slightly higher among males as compared to females (Figure 30)
    - Almost all cases (93%) occurred among youth aged 15-18 years
- There were more cannabis-related mental health disorders that resulted in a hospitalization as compared to alcohol-related disorders. (Figure 31)

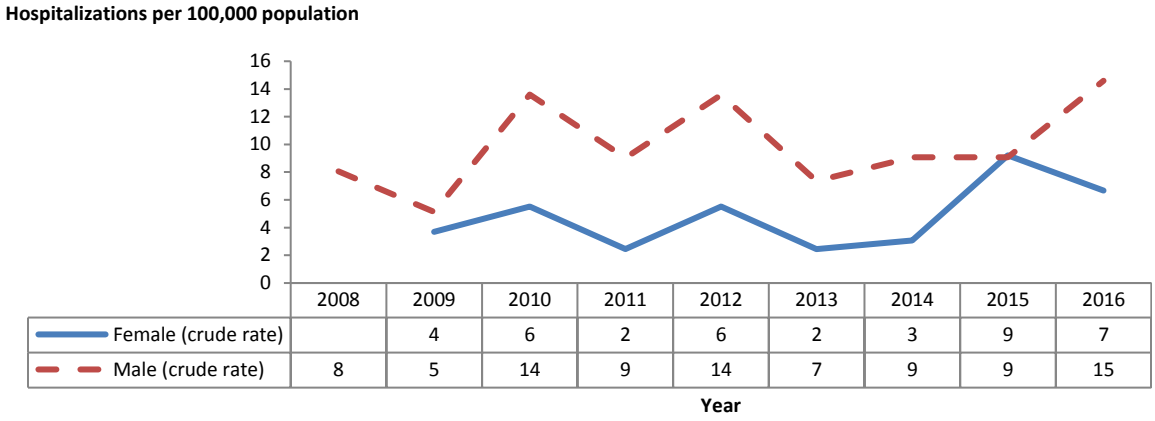
Figure 29
Hospitalizations due to Substance-Related Mental Health Disorders per 100,000 Population 0-18 Years,
Peel And Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	9	10	9	10	10	11	12	11	14	16
Peel (crude rate)	2	5	4	10	6	10	5	6	9	11

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

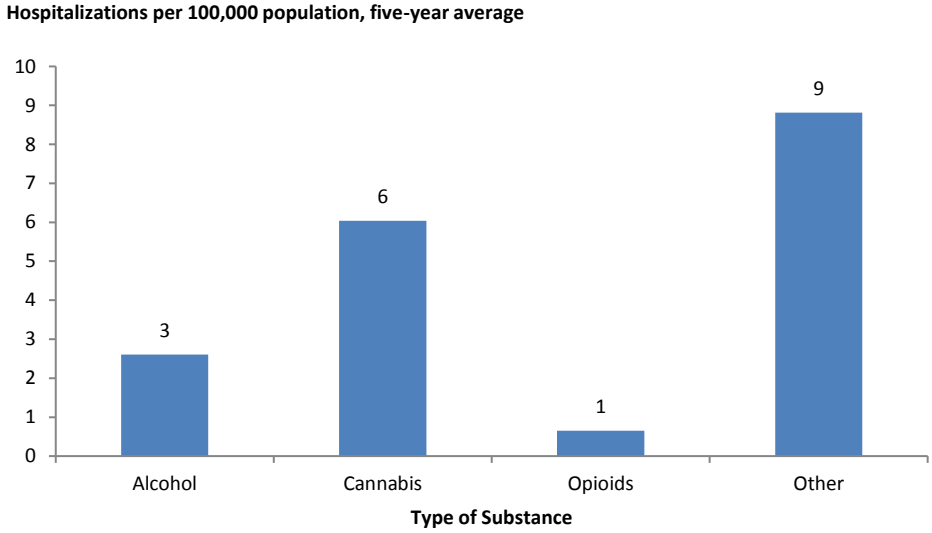
Figure 30
Hospitalizations due to Substance-Related Mental Health Disorders per 100,000 Population 0-18 Years, by Sex,
Peel, 2008-2016



	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)		4	6	2	6	2	3	9	7
Male (crude rate)	8	5	14	9	14	7	9	9	15

Sources: Discharge abstract databases, 2008-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care. Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and LongTerm Care

Figure 31
Hospitalizations due to Substance-Related Mental Health Disorders per 100,000 Population 0-18 Years, by Substance,
Peel, 2012-2016, Combined



Sources: Discharge abstract databases, 2008-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care. Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and LongTerm Care

Mortality due to substance-related mental health disorders

- From 2000 to 2012, there have been fewer than five deaths due to a substance-related mental health disorder among those 0-19 years old.[l]

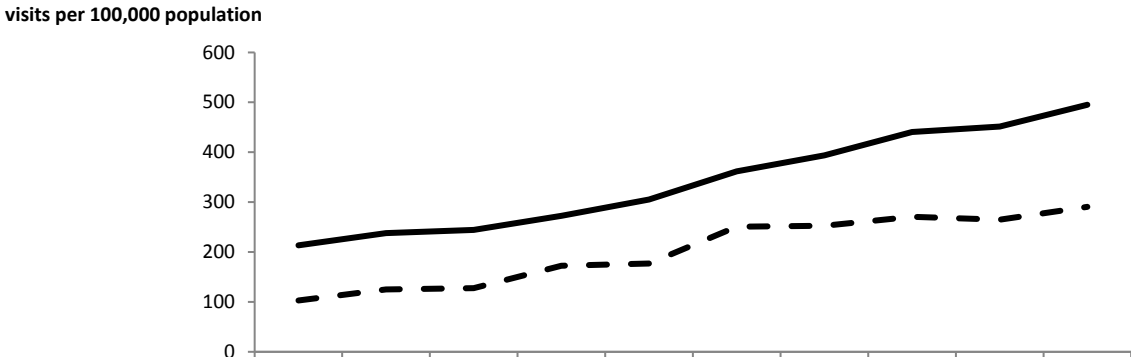
5.3 Anxiety disorders

Anxiety disorders are comprised of disorders that produce excessive fear, anxiety, and any related behavioural disturbances in anticipation of a possible future threat.[6] This section describes the emergency department visit rate, hospitalization rate, and mortality due to anxiety disorders among Peel children and youth.

Emergency department visits due to anxiety disorders

- In 2016, there were 997 emergency department (ED) visits due to anxiety disorders among individuals 0-18 years in Peel.[F]
- The ED visit rate more than doubled from 103 per 100,000 in 2007 to 291 per 100,000 in 2016 (Figure 32).
- Between 2007 and 2016, the ED visit rate for children and youth aged 0-18 years in Peel was:
    - Lower than Ontario (Figure 32)
    - Higher among females as compared to males (Figure 33)
    - Highest among those 15-18 years old when compared to younger age groups (Figure 34)

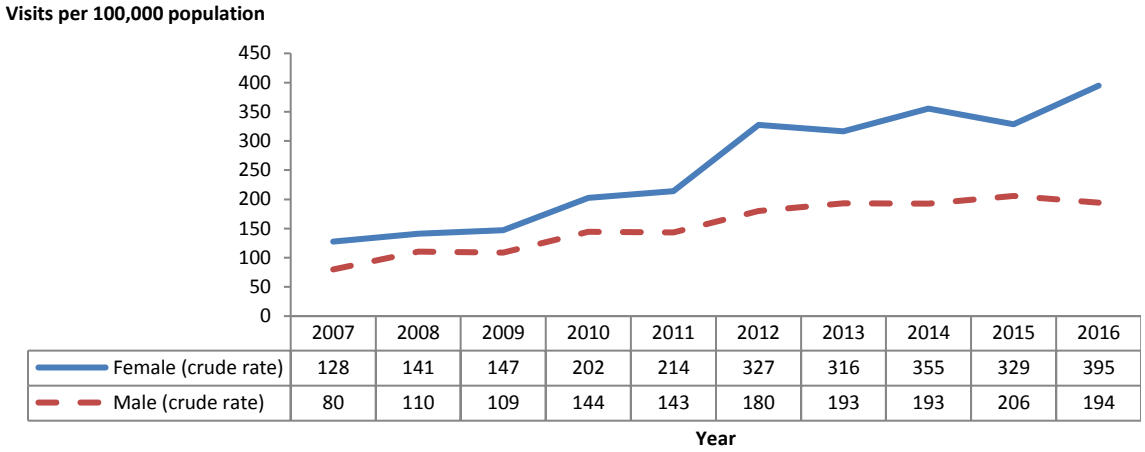
Figure 32
Emergency Department Visits due to Anxiety Disorders per 100,000 Population 0-18 Years, Peel And Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	213	238	245	273	305	362	394	441	452	495
Peel (crude rate)	103	125	127	172	177	251	252	271	265	291

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

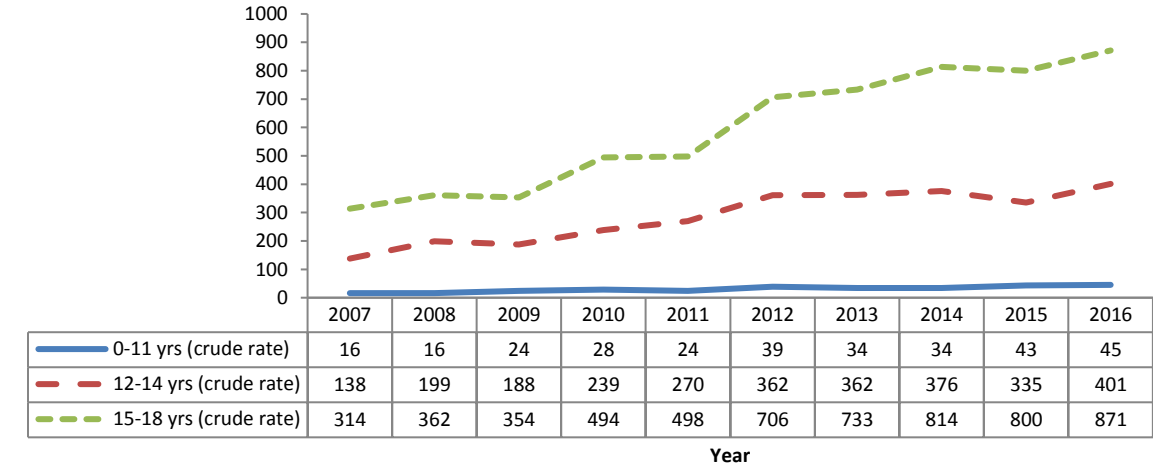
Figure 33
Emergency Department Visits for Anxiety Disorders per 100,000 Population 0-18 Years, by Sex, Peel, 2007-2012



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	128	141	147	202	214	327	316	355	329	395
Male (crude rate)	80	110	109	144	143	180	193	193	206	194

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 34
Emergency Department Visits for Anxiety Mental Health Disorders per 100,000 Population 0-18 Years, by Age Group,
Peel, 2007-2012



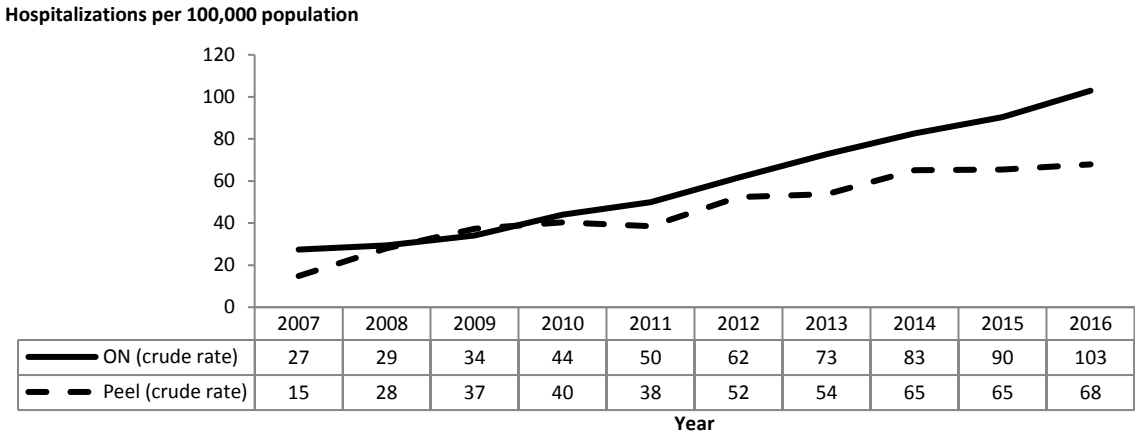
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0-11 yrs (crude rate)	16	16	24	28	24	39	34	34	43	45
12-14 yrs (crude rate)	138	199	188	239	270	362	362	376	335	401
15-18 yrs (crude rate)	314	362	354	494	498	706	733	814	800	871

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Hospitalizations due to anxiety disorders

- In 2016, there were 233 hospitalizations due to anxiety disorders among individuals 0-18 years in Peel.[H]
- The hospitalization rate increased from 15 per 100,000 in 2007 to 68 per 100,000 in 2016 (Figure 35).
- Between 2007 and 2016, the hospitalization rate for children and youth aged 0-18 years in Peel was:
    - Lower than Ontario (Figure 35)
    - Higher among females as compared to males (Figure 36)
    - Highest among those 15-18 years old when compared to younger age groups (Figure 37)

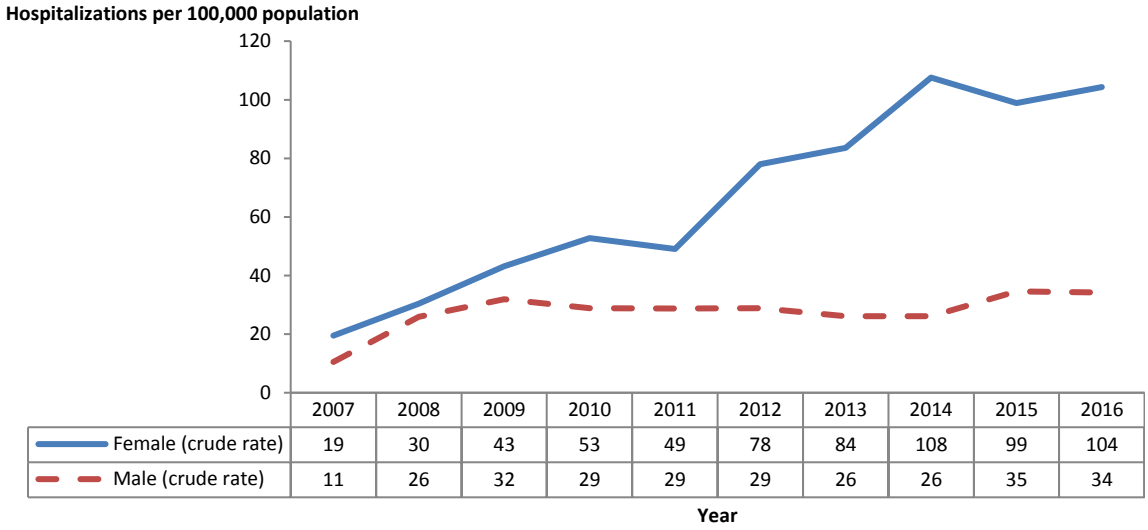
Figure 35
Hospitalizations due to Anxiety Disorders per 100,000 Population 0-18 Years, Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	27	29	34	44	50	62	73	83	90	103
Peel (crude rate)	15	28	37	40	38	52	54	65	65	68

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

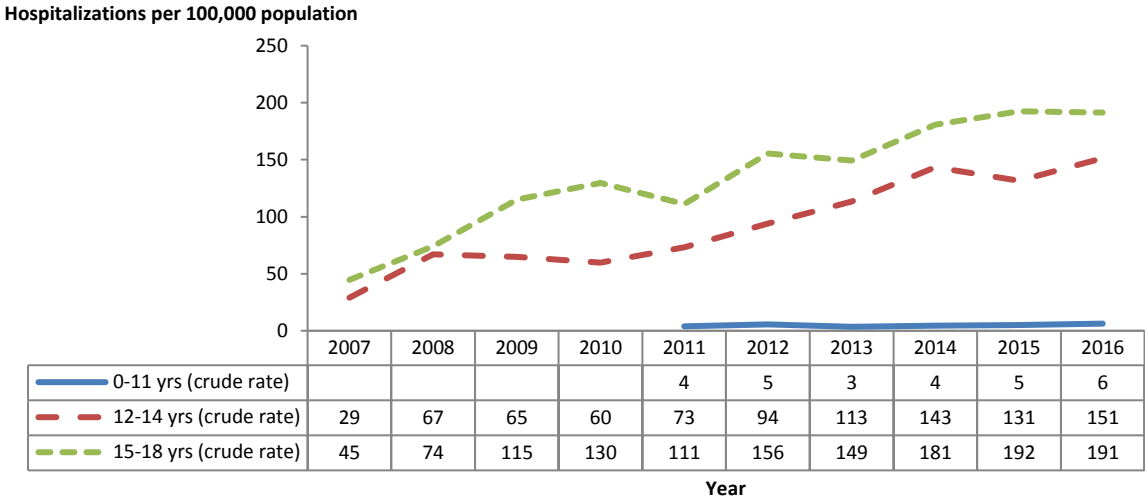
Figure 36
Hospitalizations due to Anxiety Disorders per 100,000 Population 0-18 Years, by Sex, Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	19	30	43	53	49	78	84	108	99	104
Male (crude rate)	11	26	32	29	29	29	26	26	35	34

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 37
Hospitalizations due to Anxiety Disorders per 100,000 Population 0-18 Years, by Age Group, Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0-11 yrs (crude rate)					4	5	3	4	5	6
12-14 yrs (crude rate)	29	67	65	60	73	94	113	143	131	151
15-18 yrs (crude rate)	45	74	115	130	111	156	149	181	192	191

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Mortality due to anxiety disorder

- From 2000 to 2012, there were no deaths due to an anxiety disorder among those 0-19 years old.[l]

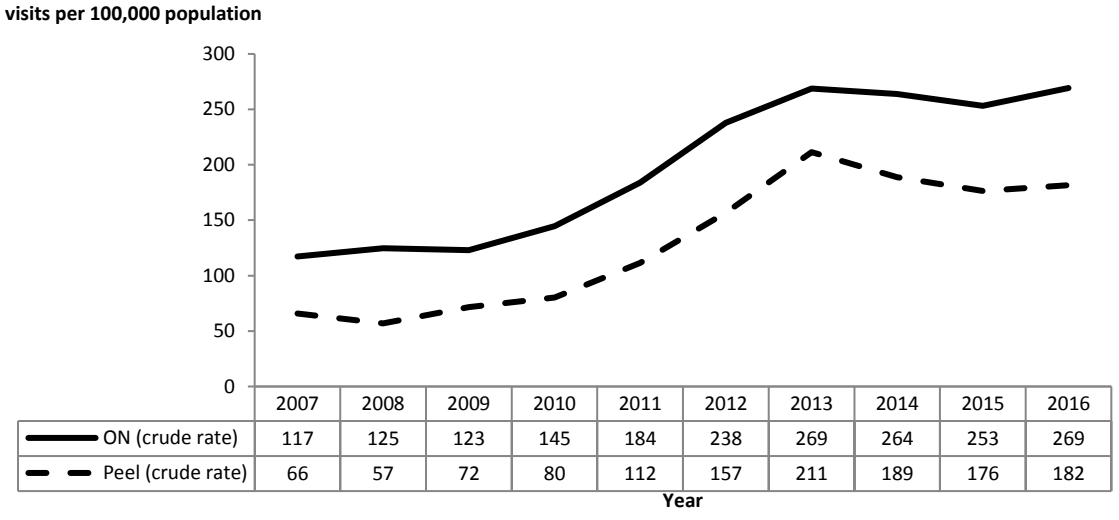
5.4 Mood disorders

Mood disorders are mental health disorders categorized by significant distress or impairment in social, occupational, educational, or other important areas of functioning.[7] This category includes bipolar and mood disorders. The following section describes the emergency department (ED) visit rate, hospitalization rate, and mortality due to mood disorders among Peel children and youth.

Emergency department visits due to mood disorders

- In 2016, there were 623 emergency department (ED) visits due to mood disorders among individuals 0-18 years in Peel. Of those cases, 557 (89%) were classified as major depression.[F]
- The ED visit rate gradually increased from 66 per 100,000 in 2007 to 211 per 100,000 in 2013, and has remained relatively stable between 2013 and 2016. (Figure 38)
- Between 2007 and 2016, the ED visit rate for children and youth aged 0-18 years in Peel was:
    - Lower than Ontario (Figure 38)
    - Higher among females as compared to males (Figure 39)
    - Highest among those 15-18 years old when compared to younger age groups (Figure 40)

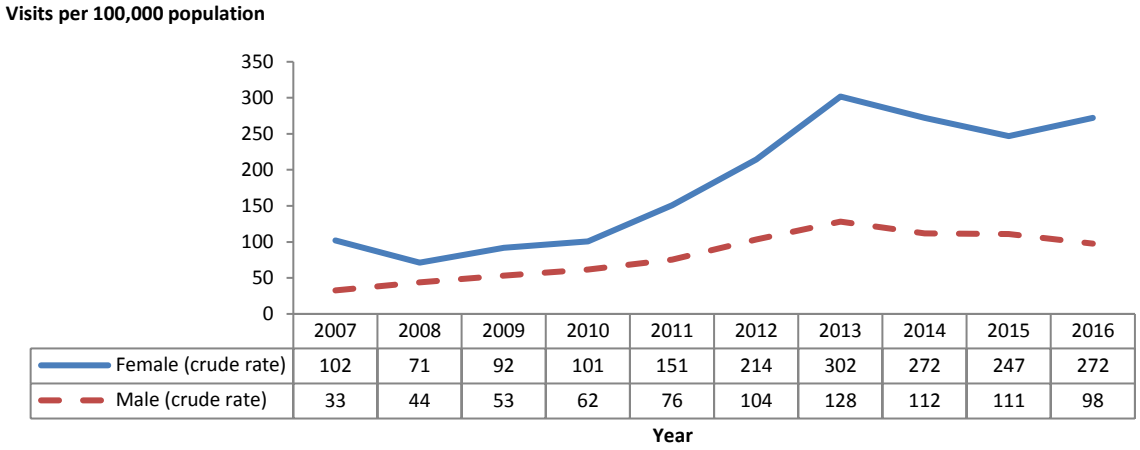
Figure 38
Emergency Department Visits due to Mood Disorders per 100,000 Population 0-18 Years, Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	117	125	123	145	184	238	269	264	253	269
Peel (crude rate)	66	57	72	80	112	157	211	189	176	182

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

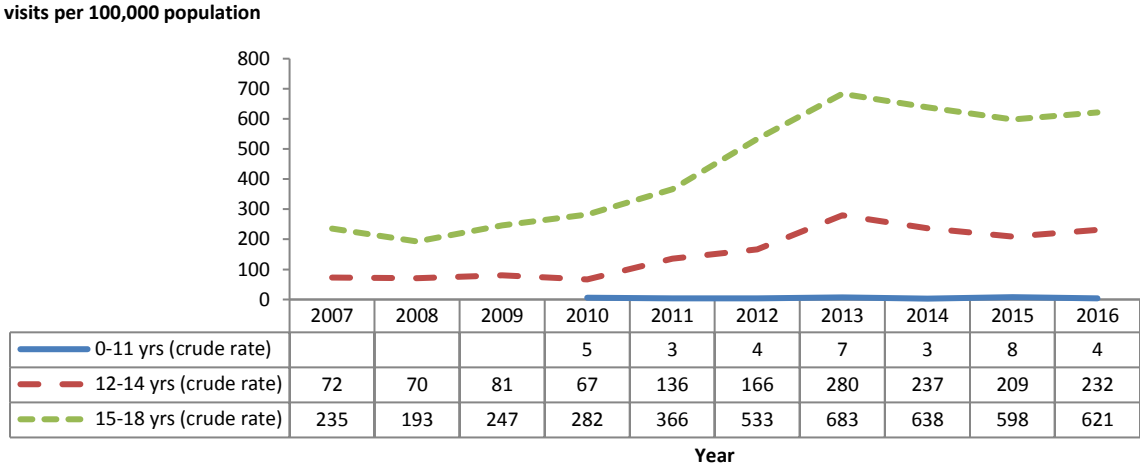
Figure 39
Emergency Department Visits for Mood Disorders Per 100,000 Population 0-18 Years, By Sex, Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	102	71	92	101	151	214	302	272	247	272
Male (crude rate)	33	44	53	62	76	104	128	112	111	98

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 40
Emergency Department Visits for Mood Mental Health Disorders per 100,000 Population 0-18 Years, by Age Group,
Peel, 2007-2016



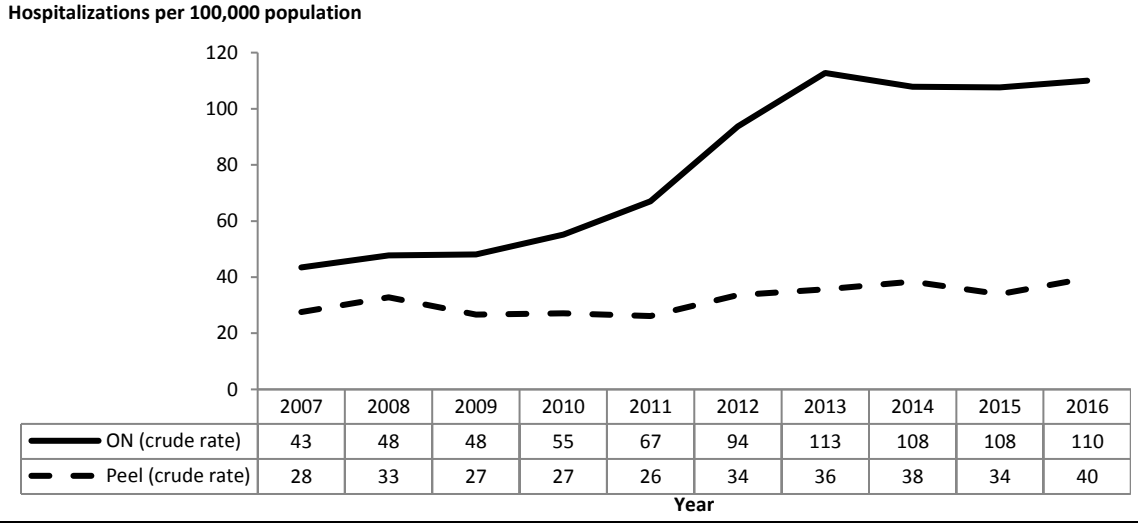
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0-11 yrs (crude rate)				5	3	4	7	3	8	4
12-14 yrs (crude rate)	72	70	81	67	136	166	280	237	209	232
15-18 yrs (crude rate)	235	193	247	282	366	533	683	638	598	621

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Hospitalizations due to mood disorders

- In 2016, there were 136 hospitalizations due to mood disorders among individuals 0-18 years in Peel. Of those cases, 95 (70%) were classified as major depression.[H]
- The hospitalization rate slightly increased from 28 per 100,000 in 2007 to 40 per 100,000 in 2016 (Figure 41).
- Between 2007 and 2016, the hospitalization rate for children and youth aged 0-18 years in Peel was:
    - Lower than Ontario (Figure 41)
    - Higher among females as compared to males (Figure 42)
    - Highest among those 15-18 years old when compared to younger age groups (Figure 43)

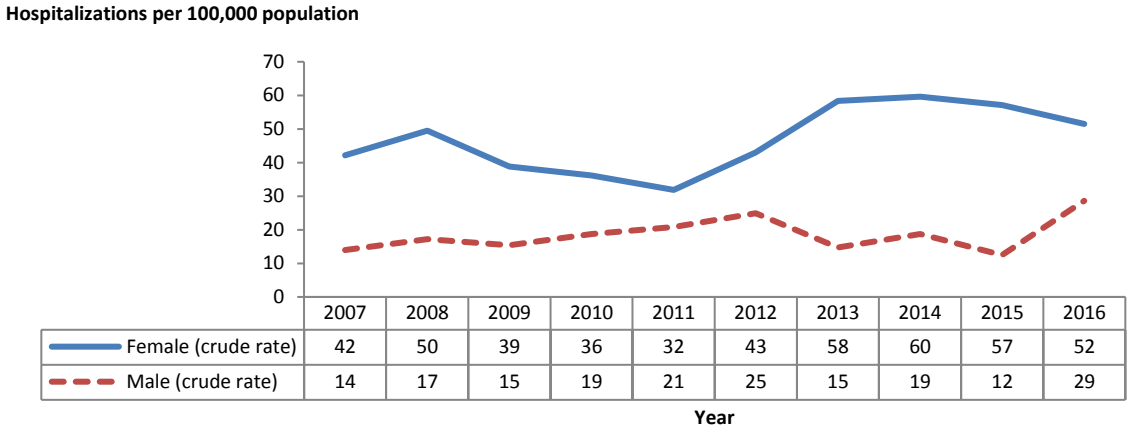
Figure 41
Hospitalizations due to Mood Disorders per 100,000 Population 0-18 Years, Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	43	48	48	55	67	94	113	108	108	110
Peel (crude rate)	28	33	27	27	26	34	36	38	34	40

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

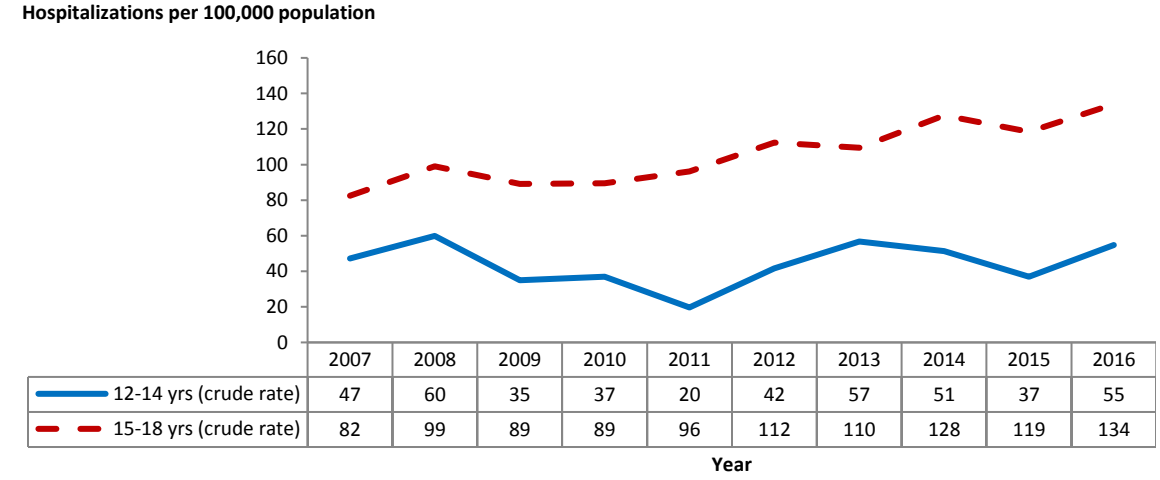
Figure 42
Hospitalizations due to Mood Disorders per 100,000 Population 0-18 Years, by Sex, Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	42	50	39	36	32	43	58	60	57	52
Male (crude rate)	14	17	15	19	21	25	15	19	12	29

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 43
Hospitalizations due to Mood Disorders per 100,000 Population 0-18 Years, by Age Group, Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
12-14 yrs (crude rate)	47	60	35	37	20	42	57	51	37	55
15-18 yrs (crude rate)	82	99	89	89	96	112	110	128	119	134

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Mortality due to mood disorder

- From 2000 to 2012, there were no deaths due to a mood disorder among those 0-19 years old.[l]

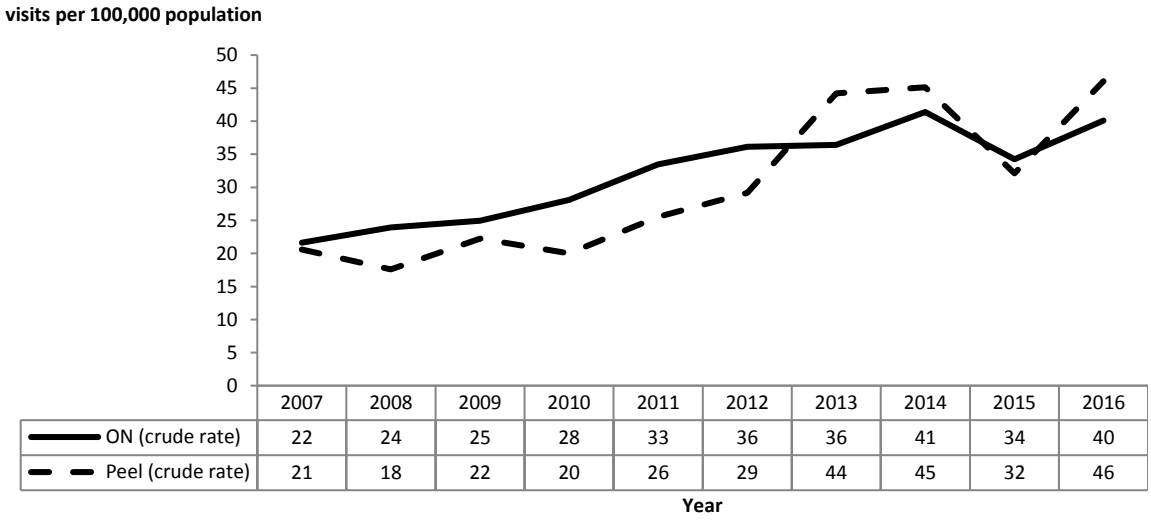
5.5 Schizophrenia and other psychotic disorders

Schizophrenia and other psychotic disorders are characterized by abnormalities in one or more of the following: delusions, hallucinations, disorganized thinking (speech), very disorganized or abnormal motor behaviour, and negative symptoms.[6] The following section describes the emergency department visit rate, hospitalization rate, and mortality due to schizophrenia and psychotic disorders among Peel children and youth.

Emergency department visits due to schizophrenia and other psychotic disorders

- In 2016, there were 158 emergency department (ED) visits due to schizophrenia and other psychotic disorders among individuals 0-18 years in Peel.[F]
- The ED visit rate increased from 21 per 100,000 in 2007 to 46 per 100,000 in 2016 (Figure 44).
- Between 2007 and 2016, the ED visit rate for children and youth aged 0-18 years in Peel was:
    - Comparable to Ontario (Figure 44)
    - Higher among males as compared to females (Figure 45)
    - Highest among those 15-18 years old when compared to younger age groups (Figure 46)

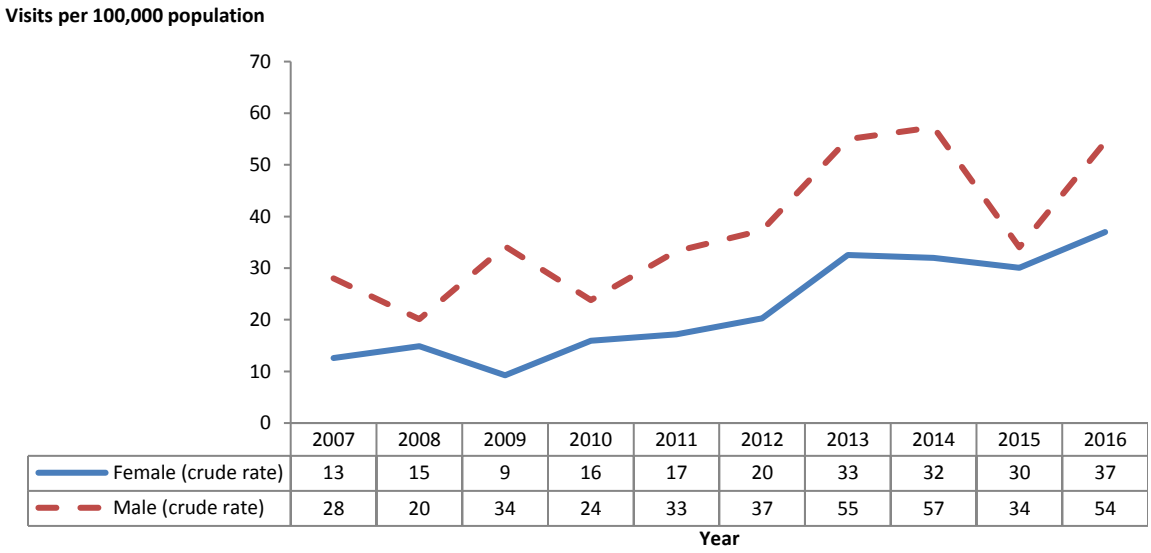
Figure 44
Emergency Department Visits due to Schizophrenia and Other Psychotic Disorders per 100,000 Population 0-18 Years,
Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	22	24	25	28	33	36	36	41	34	40
Peel (crude rate)	21	18	22	20	26	29	44	45	32	46

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

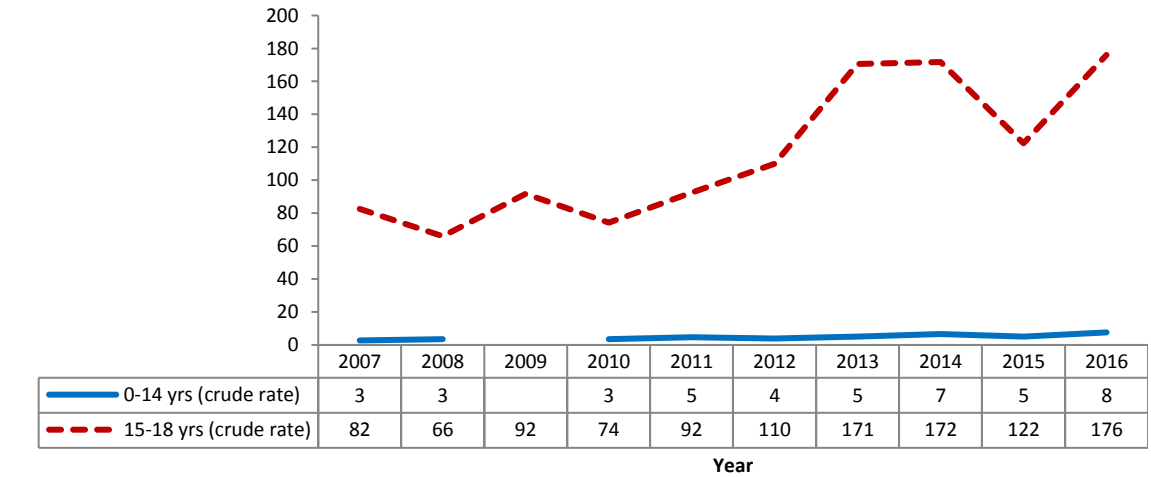
Figure 45
Emergency Department Visits for Schizophrenia and Other Psychotic Disorders per 100,000 Population 0-18 Years, by Sex,
Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	13	15	9	16	17	20	33	32	30	37
Male (crude rate)	28	20	34	24	33	37	55	57	34	54

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 46
Emergency Department Visits for Schizophrenia and Other Psychotic Disorders per 100,000 Population 0-18 Years, by Age Group,
Peel, 2007-2016



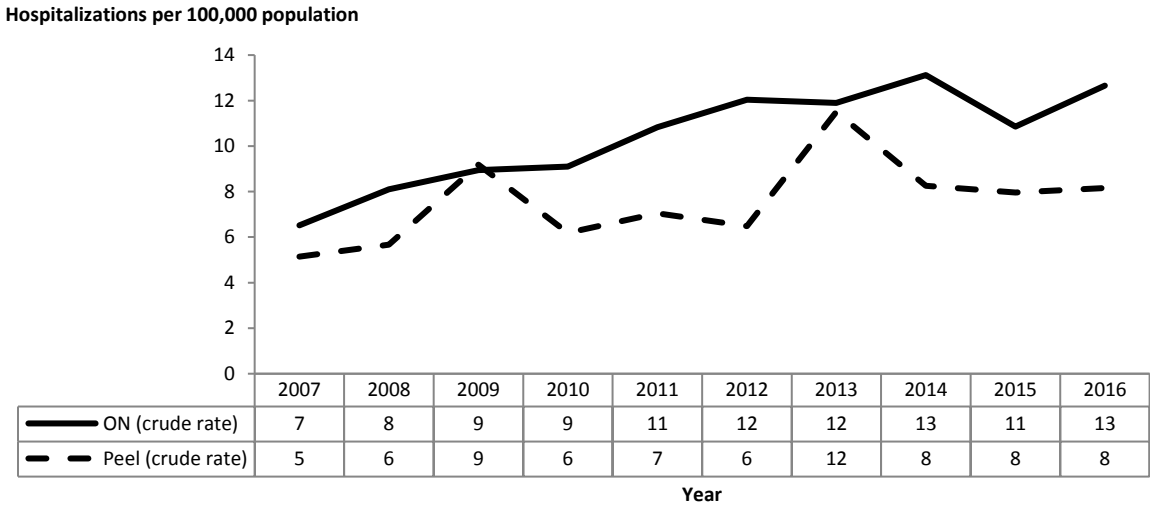
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0-14 yrs (crude rate)	3	3		3	5	4	5	7	5	8
15-18 yrs (crude rate)	82	66	92	74	92	110	171	172	122	176

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Hospitalizations due to schizophrenia and other psychotic disorders

- In 2016, there were 28 hospitalizations due to schizophrenia and other psychotic disorders among individuals 0-18 years in Peel.[H]
- Between 2007 and 2016, the hospitalization rate for children and youth aged 0-18 years in Peel was:
    - Relatively stable (Figure 47)
    - Lower than Ontario (Figure 47)
    - Generally higher among males as compared to females (Figure 48)
    - Highest among those 15-18 years old when compared to younger age groups (Figure 49)

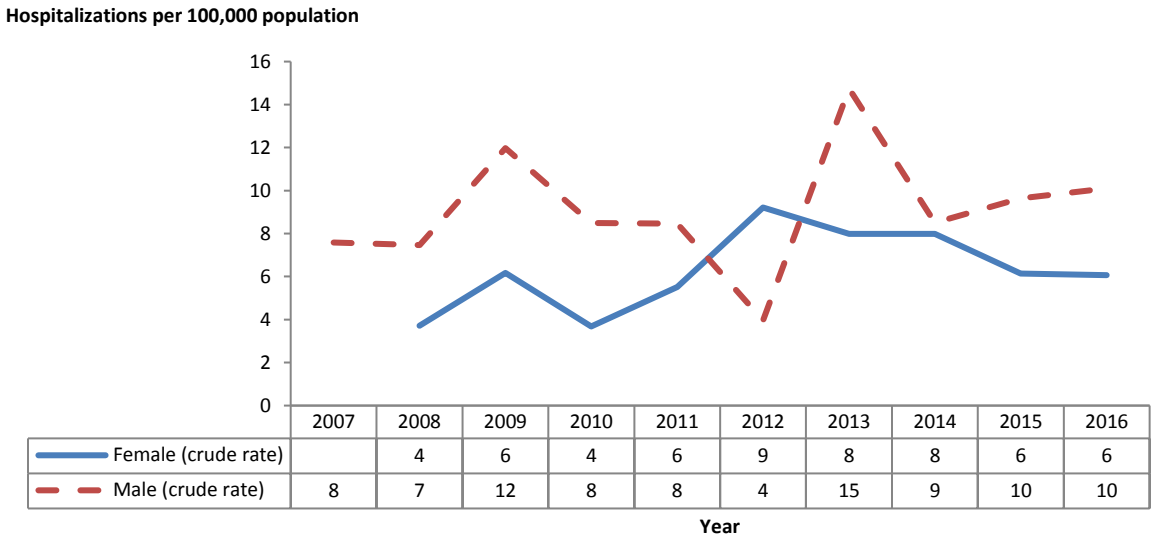
Figure 47
Hospitalizations Due To Schizophrenia And Other Psychotic Disorders Per 100,000 Population 0-18 Years,
Peel And Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	7	8	9	9	11	12	12	13	11	13
Peel (crude rate)	5	6	9	6	7	6	12	8	8	8

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

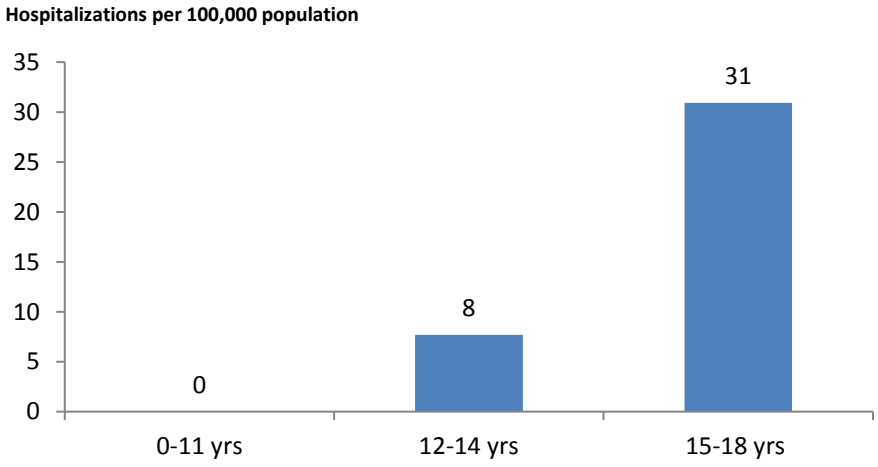
Figure 48
Hospitalizations due to Schizophrenia and Other Psychotic Disorders per 100,000 Population 0-18 Years, by Sex,
Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)		4	6	4	6	9	8	8	6	6
Male (crude rate)	8	7	12	8	8	4	15	9	10	10

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 49
Hospitalizations due to Schizophrenia and Other Psychotic Disorders per 100,000 Population 0-18 Years, by Age Group,
Peel, 2012-2016 Combined



Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Mortality due to schizophrenia and other psychotic disorder

- From 2000 to 2012, there were no deaths due to a schizophrenia and other psychotic disorder among those 0-19 years old.[I]

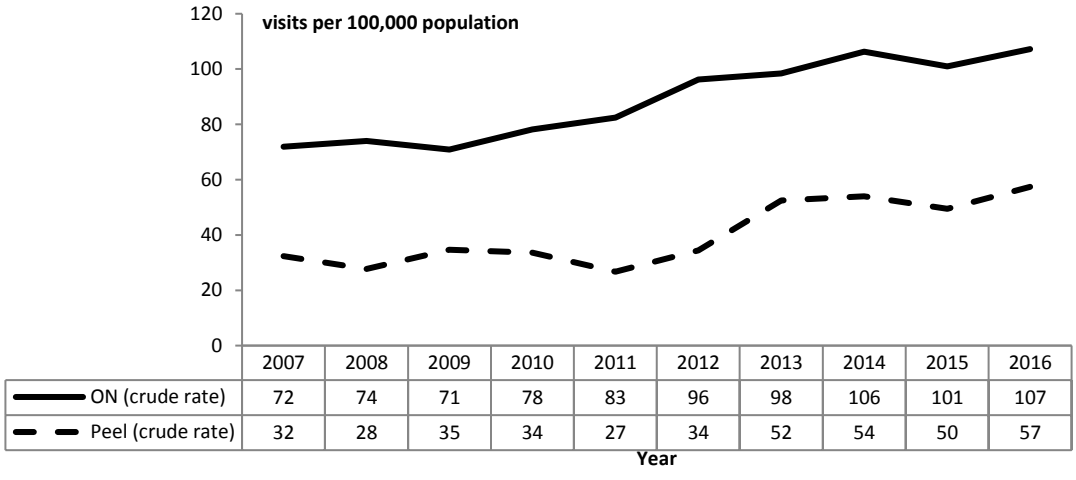
5.6 Neurodevelopmental and personality disorders

Neurodevelopmental disorders are developed and exhibited in the developmental period and are comprised of developmental deficits which impair personal, social, academic, or occupational functioning that range from very specific limitations in learning executive functioning control to larger global impairments of social skills or intelligence.[6] Personality disorders are characterized by an enduring pattern of inner experience and behaviour that significantly deviates from one's cultural expectations, is persistent and inflexible, and leads to distress or impairment.[6] The following section describes the emergency department visit rate, hospitalization rate, and mortality due to neurodevelopmental and personality disorders among Peel children and youth.

Emergency department visits due to neurodevelopmental and personality disorders

- In 2016, there were 197 emergency department (ED) visits due to neurodevelopmental and personality disorders among individuals 0-18 years in Peel.[H]
- The ED visit rate slighty increased from 32 per 100,000 in 2007 to 57 per 100,000 in 2016 (Figure 50).
- Between 2007 and 2016, the ED visit rate for children and youth aged 0-18 years in Peel was:
    - Lower than Ontario (Figure 50)
    - Higher among males as compared to females (Figure 51)
    - Generally highest among those 15-18 years old when compared to younger age groups (Figure 52)

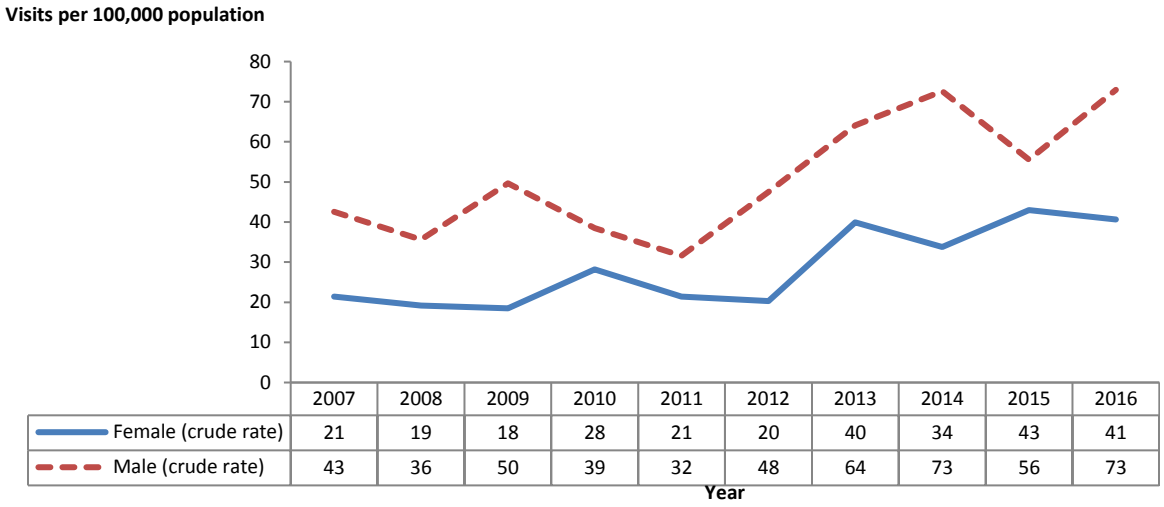
Figure 50
Emergency Department Visits due to Neurodevelopmental and Personality Disorders per 100,000 Population 0-18 Years,
Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	72	74	71	78	83	96	98	106	101	107
Peel (crude rate)	32	28	35	34	27	34	52	54	50	57

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

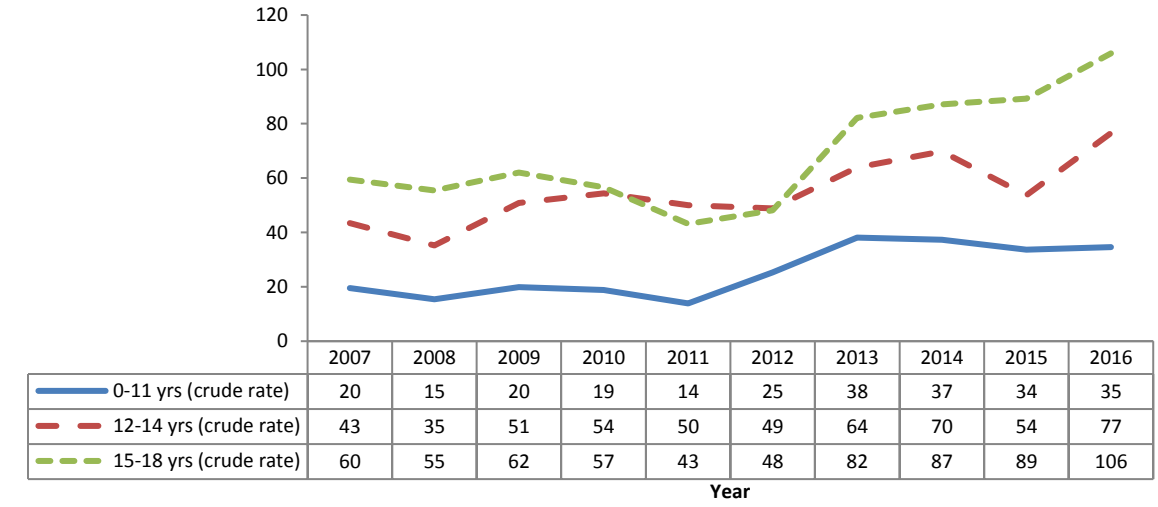
Figure 51
Emergency Department Visits for Neurodevelopmental and Personality Disorders per 100,000 Population 0-18 Years, by Sex,
Peel, 2007-2012



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	21	19	18	28	21	20	40	34	43	41
Male (crude rate)	43	36	50	39	32	48	64	73	56	73

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 52
Emergency Department Visits for Neurodevelopmental and Personality Disorders per 100,000 Population 0-18 Years, by Age Group,
Peel, 2007-2012



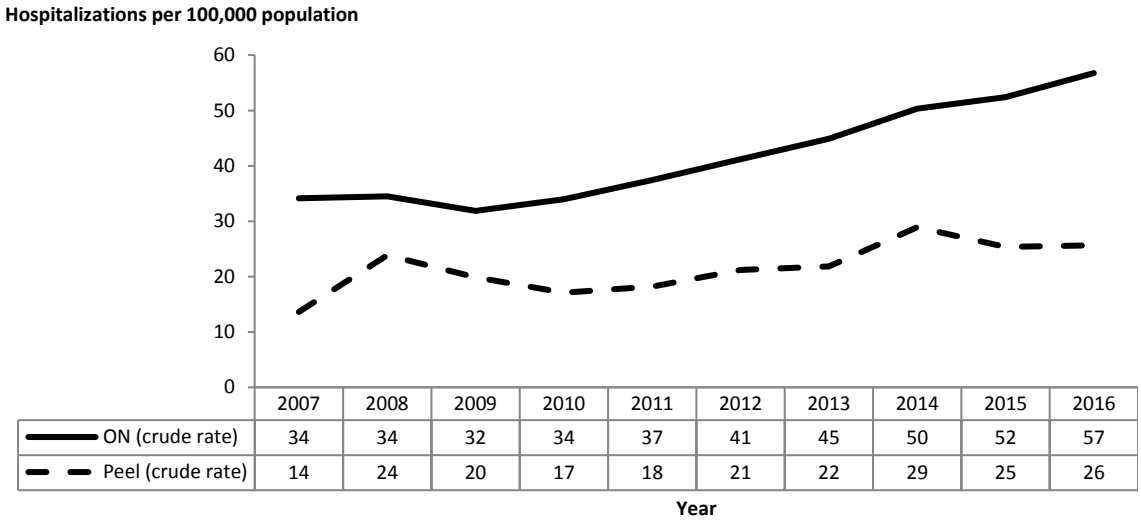
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0-11 yrs (crude rate)	20	15	20	19	14	25	38	37	34	35
12-14 yrs (crude rate)	43	35	51	54	50	49	64	70	54	77
15-18 yrs (crude rate)	60	55	62	57	43	48	82	87	89	106

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Hospitalizations due to neurodevelopmental and personality disorders

- In 2016, there were 88 hospitalizations due to neurodevelopmental and personality disorders among individuals 0-18 years in Peel.[H]
- Between 2007 and 2016, the hospitalization rate for children and youth aged 0-18 years in Peel was:
    - Relatively stable (Figure 53)
    - Lower than Ontario (Figure 53)
    - Comparable between females and males (Figure 54)
    - Highest among those 12-18 years old when compared to younger age groups (Figure 55)

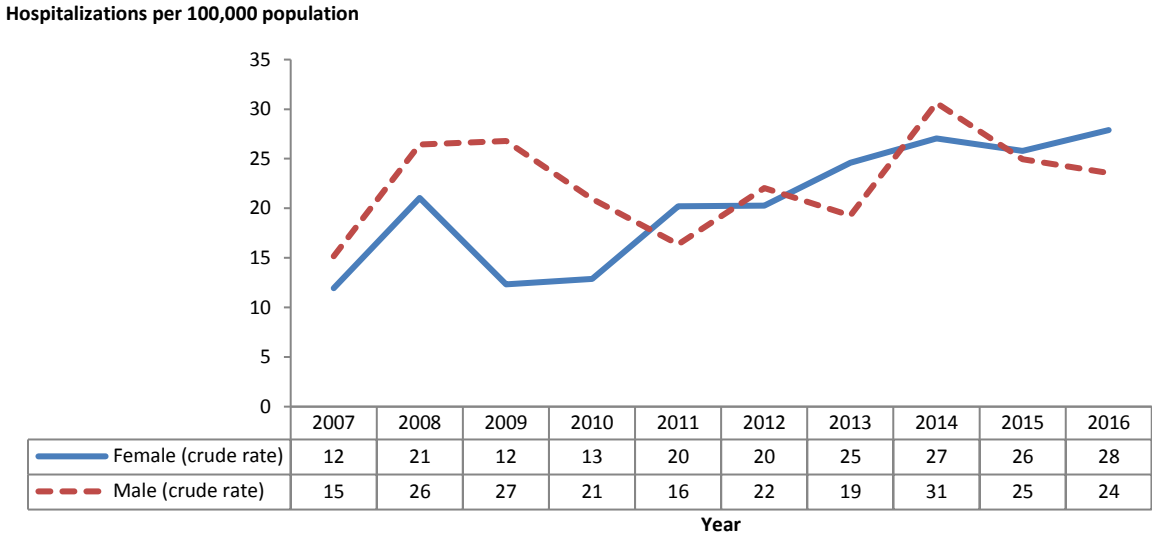
Figure 53
Hospitalizations due to Neurodevelopmental and Personality Disorders per 100,000 Population 0-18 Years,
Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	34	34	32	34	37	41	45	50	52	57
Peel (crude rate)	14	24	20	17	18	21	22	29	25	26

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

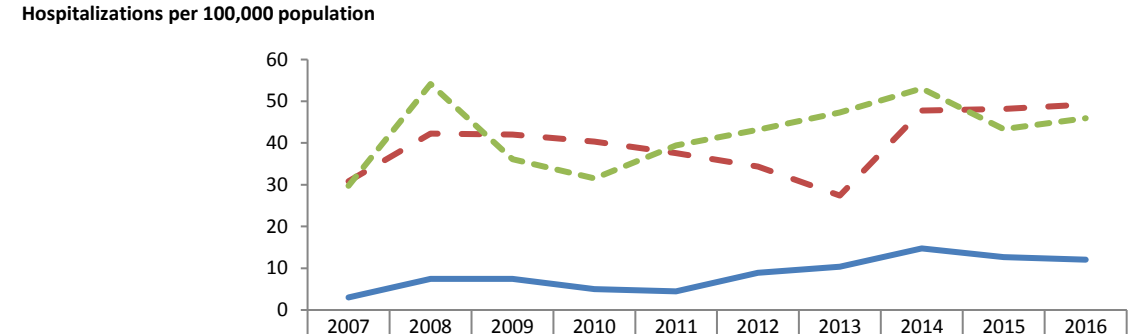
Figure 54
Hospitalizations due to Neurodevelopmental and Personality Disorders per 100,000 Population 0-18 Years, by Sex,
Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	12	21	12	13	20	20	25	27	26	28
Male (crude rate)	15	26	27	21	16	22	19	31	25	24

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 55
Hospitalizations due to Neurodevelopmental and Personality Disorders per 100,000 Population 0-18 Years, by Age Group,
Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
0-11 yrs (crude rate)	3	7	7	5	4	9	10	15	13	12
12-14 yrs (crude rate)	31	42	42	40	38	34	27	48	48	49
15-18 yrs (crude rate)	30	54	36	31	39	43	47	53	43	46

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Mortality due to neurodevelopmental and personality disorder

- From 2000 to 2012, there were no deaths due to a neurodevelopmental and personality disorder among those 0-19 years old.[i]

5.6.1 Attention-deficit/hyperactivity disorder

Attention-deficit/hyperactivity disorder is classified by i) impairing levels of inattention and/or disorganization leading to the inability to stay on task, seeming not to listen, and loosing materials or ii) hyperactivity-impulsivity which leads to over activity, fidgeting, the inability to remain seated, intruding into other's activities, and an inability to wait.[6]

- In 2015, 16% of Peel students reported symptoms of ADHD in the past six months. This was similar to Ontario (15%) (Table 19).[C1]
- There were no differences by sex, grade, ethnicity or immigrant status.[C1]

Table 19
Proportion of Students in Grade 7 - 12 with Attention-Deficit/Hyperactivity Disorder (ADHD) Symptoms,
Peel and Ontario, 2015

ADHD symptoms	Per cent of all students (95% CI)	
	Peel	Ontario
	n=586	n=5,403
Exhibited symptoms in the last 6 months	15.6 (12.8 - 19.0)	15.3 (13.7 - 17.1)

Missing values included in denominator - Peel (5.3%), Ontario (3.3%)
95% CI reflects the 95% confidence interval of the estimate
Source: Ontario Student Drug Use and Health Survey, 2015, Centre for Addiction and Mental Health. Peel Public Health.

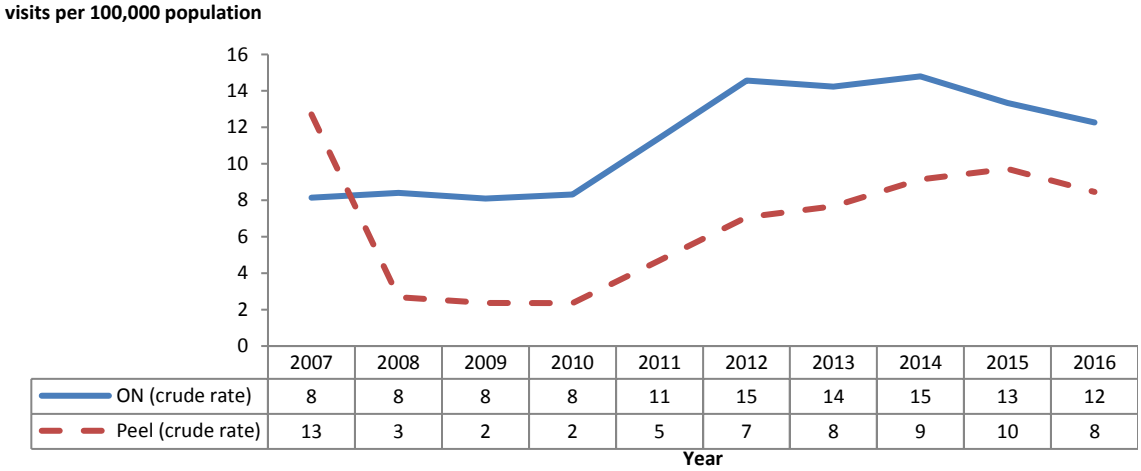
5.7 Eating disorders

Eating disorders are characterized by a continuous disturbance of eating or eating-related behaviour that results in a different form of consumption or absorption of foods and which significantly impacts physical health or psychological functioning.[6] The following section describes the emergency department visit rate, hospitalization rate, and mortality due to eating disorders and Peel children and youth.

Emergency department visits due to eating disorders

- In 2016, there were 29 emergency department (ED) visits due to eating disorders among individuals 0-18 years in Peel.[F]
- The ED visit rate fluctuated between 2007 and 2012, but has remained relatively stable between 2013 and 2016 (Figure 56).
- Between 2007 and 2016, the ED visit rate for children and youth aged 0-18 years in Peel was:
    - Lower than Ontario (Figure 56)
    - Higher among females as compared to males (Figure 57)
    - Highest among those 15-18 years old when compared to younger age groups (Figure 57)

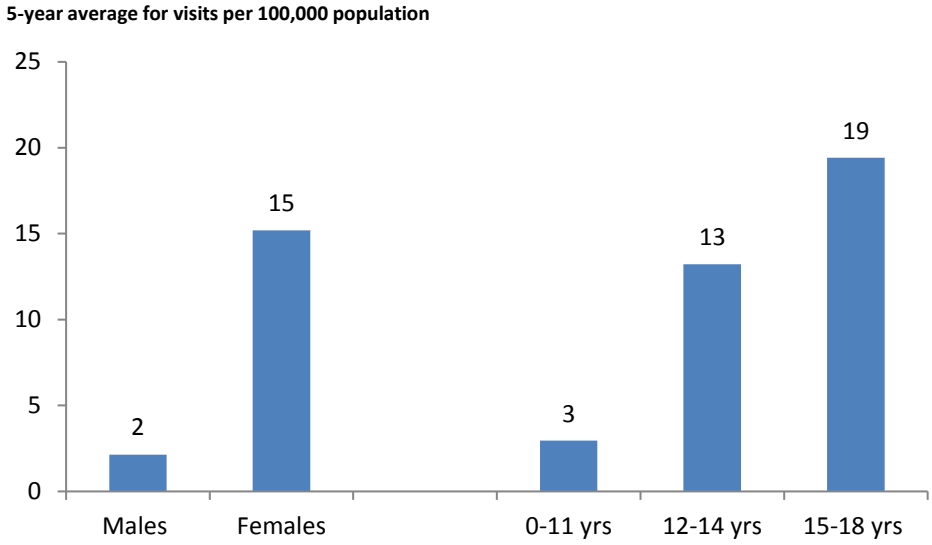
Figure 56
Emergency Department Visits due to Eating Disorders per 100,000 Population 0-18 Years, Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	8	8	8	8	11	15	14	15	13	12
Peel (crude rate)	13	3	2	2	5	7	8	9	10	8

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 57
Emergency Department Visits for Eating Disorders per 100,000 Population 0-18 Years, by Age Group and Sex,
Peel, 2012-2016 Combined

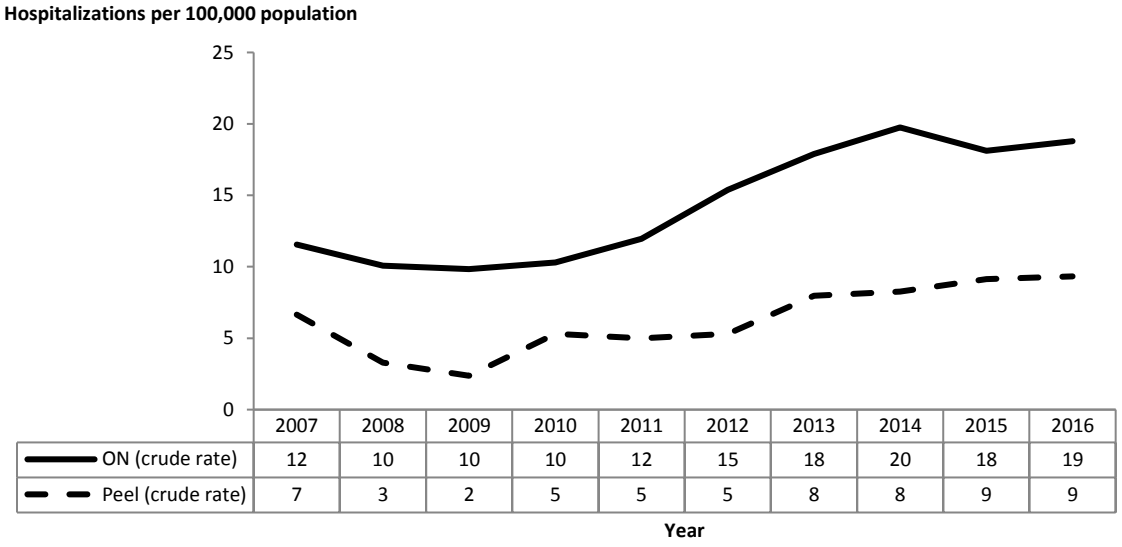


Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Hospitalizations due to eating disorders

- In 2016, there were 32 hospitalizations due to eating disorders among individuals 0-18 years in Peel.[H]
- Between 2007 and 2016, the hospitalization rate for children and youth aged 0-18 years in Peel was:
    - Relatively stable (Figure 58)
    - Lower than Ontario (Figure 58)
    - Higher among females as compared to males (Figure 59)
    - Highest among those 15-18 years old when compared to younger age groups (Figure 59)

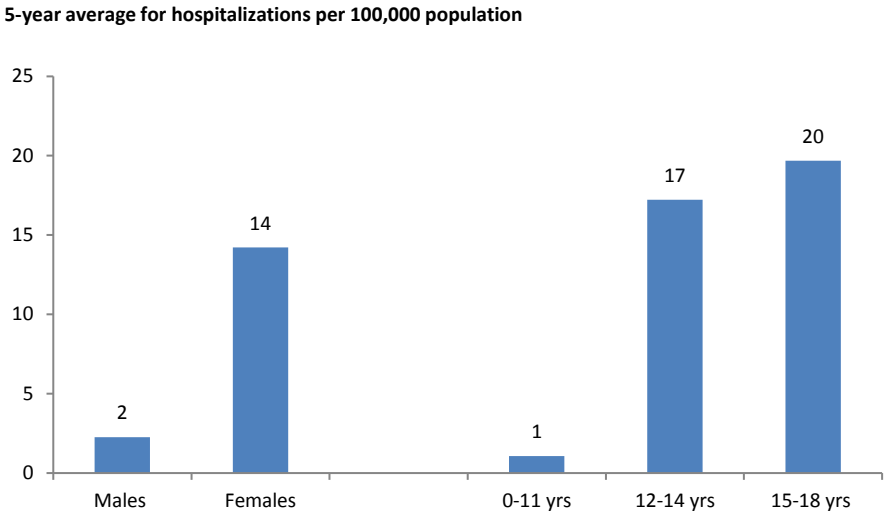
Figure 58
Hospitalizations due to Eating Disorders per 100,000 Population 0-18 Years, Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	12	10	10	10	12	15	18	20	18	19
Peel (crude rate)	7	3	2	5	5	5	8	8	9	9

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 59
Hospitalizations due to Eating Disorders per 100,000 Population 0-18 Years, by Sex and Age Group,
Peel, 2007-2016 Combined



Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Mortality due to eating disorders

- From 2000 to 2012, there were no deaths due to an eating disorder among those 0-19 years old.[l]

6 Suicidal Thoughts and Suicide

Key Messages on Suicidal Thoughts and Suicide

- Suicide is more common among male children and youth in Peel but females engage in more deliberate self-harm resulting in an acute care visit.
- Suicide is uncommon among children and youth in Peel.

This chapter provides an overview of suicidal thoughts and suicide among children and youth in Peel.

6.1.1 Suicidal thoughts

- In 2015, 14% of Peel students in Grades 7-12 seriously considered attempting suicide in the past 12 months. This was similar to Ontario students (12%).[C1]
- Students that identified as having multiple ethnic backgrounds (38%*) were more likely than White (12%*) and South Asian students (12%*) to seriously consider attempting suicide.[C1]
- In Peel, there were no differences by sex, grade or immigrant status.[C1]
- The 2015 estimates were similar to 2013.[C2]

*Use estimate with caution

6.1.2 Suicidal attempts

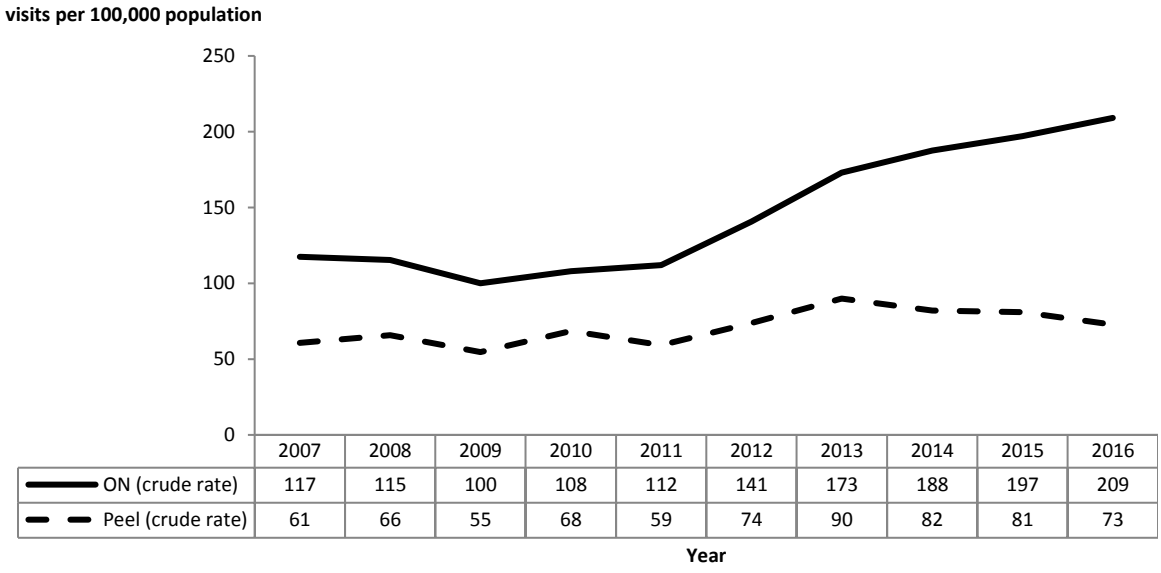
- In 2015, 3% of Ontario students attempted suicide in the past 12 months. Estimates for Peel students are not releasable due to small numbers.[C1]

6.1.3 Deliberate self-harm and suicide

Emergency department visits due to deliberate self-harm and suicide

- In 2016, there were 265 emergency department (ED) visits due to deliberate self-harm and suicide among individuals 0-19 years in Peel.[F]
- Between 2007 and 2016, the ED visit rate for children and youth aged 0-19 years in Peel was:
    - Relatively stable (Figure 60)
    - Lower than Ontario (Figure 60)
    - Higher among females as compared to males (Figure 61)
    - Highest among those 15-19 years old when compared to younger age groups (Figure 62)

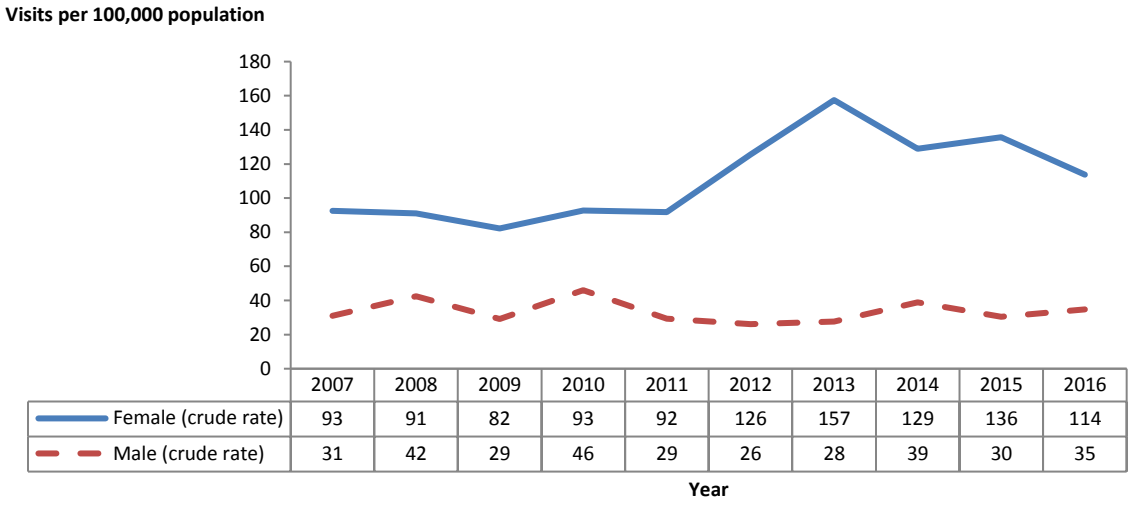
Figure 60
Emergency Department Visits due to Deliberate Self-Harm and Suicide per 100,000 Population 0-19 Years,
Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	117	115	100	108	112	141	173	188	197	209
Peel (crude rate)	61	66	55	68	59	74	90	82	81	73

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

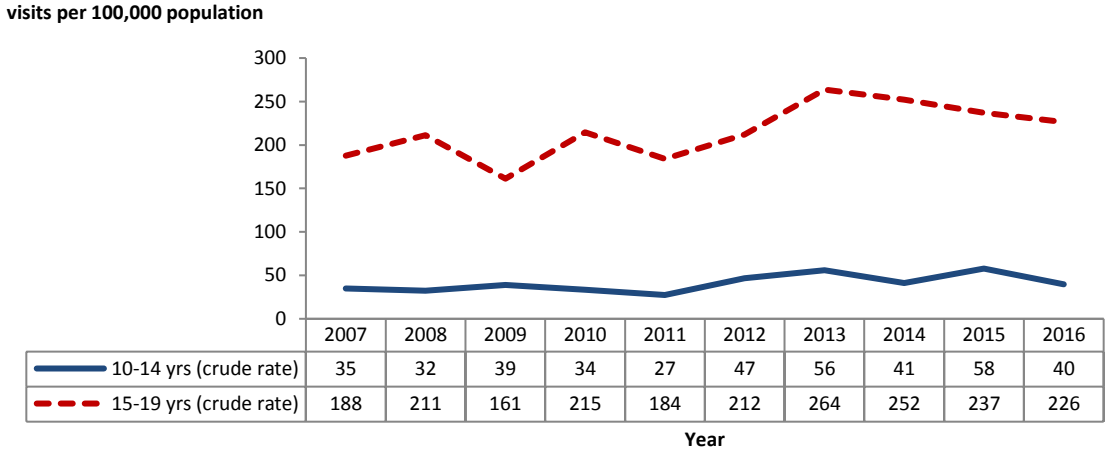
Figure 61
Emergency Department Visits for Deliberate Self-Harm and Suicide per 100,000 Population 0-19 Years, by Sex,
Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	93	91	82	93	92	126	157	129	136	114
Male (crude rate)	31	42	29	46	29	26	28	39	30	35

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 62
Emergency Department Visits for Deliberate Self-Harm and Suicide per 100,000 Population 0-19 Years, by Age Group,
Peel, 2007-2016



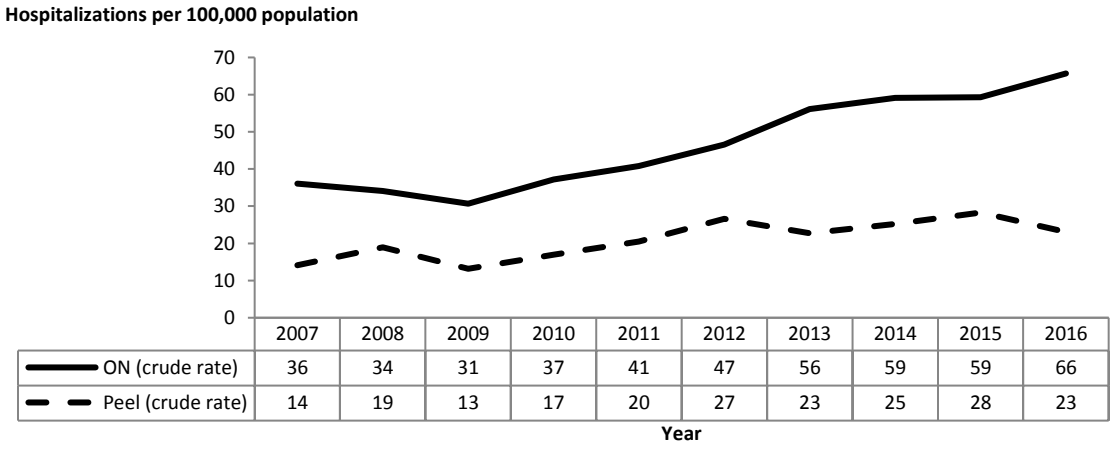
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
10-14 yrs (crude rate)	35	32	39	34	27	47	56	41	58	40
15-19 yrs (crude rate)	188	211	161	215	184	212	264	252	237	226

Sources: National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates, 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Hospitalizations due to deliberate self-harm and suicide

- In 2016, there were 84 hospitalizations due to deliberate self-harm and suicide among individuals 0-19 years in Peel.[H]
- Between 2007 and 2016, the hospitalization rate for children and youth aged 0-19 years in Peel was:
    - Relatively stable (Figure 63)
    - Lower than Ontario (Figure 63)
    - Generally, higher among females as compared to males (Figure 64)
    - Highest among those 15-18 years old when compared to younger age groups (Figure 65)

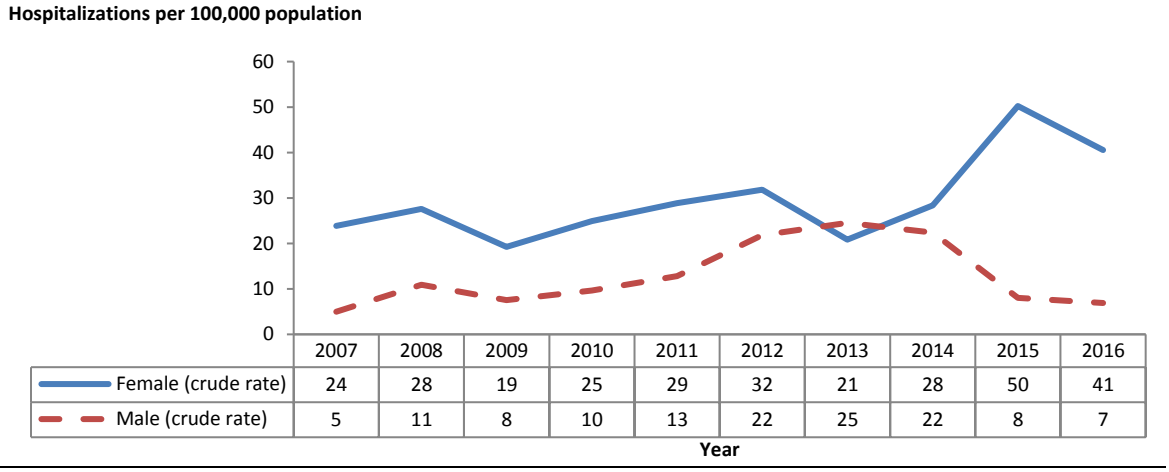
Figure 63
Hospitalizations due to Deliberate Self-Harm and Suicide per 100,000 Population 0-19 Years, Peel and Ontario, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ON (crude rate)	36	34	31	37	41	47	56	59	59	66
Peel (crude rate)	14	19	13	17	20	27	23	25	28	23

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

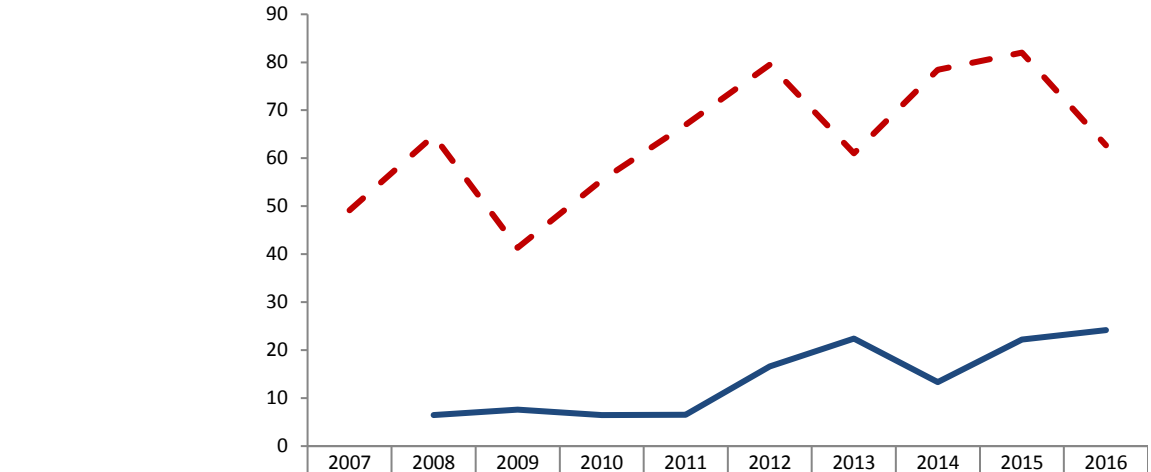
Figure 64
Hospitalizations due to Deliberate Self-Harm and Suicide per 100,000 Population 0-19 Years, by Sex,
Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Female (crude rate)	24	28	19	25	29	32	21	28	50	41
Male (crude rate)	5	11	8	10	13	22	25	22	8	7

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Figure 65
Hospitalizations due to Deliberate Self-Harm and Suicide per 100,000 Population 0-19 Years, by Age Group,
Peel, 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
10-14 yrs (crude rate)		6	8	6	7	17	22	13	22	24
15-19 yrs (crude rate)	49	65	41	55	67	79	61	78	82	63

Sources: Discharge abstract databases, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care, Population Estimates 2007- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

Mortality due to deliberate self-harm and suicide

- Between 2000 and 2012, there were 35 deaths due to suicide among those 0-19 years old. On average, there were three suicides each year (range 1-6). Most suicides occurred among males (80%).[I]

7 Accessing Mental Health Services

Key Messages

- Peel children and youth aged 0-24 years are less likely than Ontario children and youth to visit a physician for a mental health-related problem.
- General practitioner or family physician is the most common mental health-related outpatient visit to a physician.

This chapter provides an overview of the burden of mental health disorders on health care use among children and youth.

7.1 Consultation with medical professional about mental health

- In 2015, 21% of Peel students reported visiting a health professional about their mental or emotional health in the past 12 months (Table 20). This was similar to Ontario (21%).[C1]
- Students in Grade 12 (30%) were twice as likely to report a mental health care visit compared to students in Grade 8 (13%*) (Table 20). The prevalence of Grade 12 students that visited a medical professional about mental health increased from 13%* in 2013 to 30% in 2015.[C1, C2]
- There was no difference by sex, immigrant status or ethnicity.[C1]

*Use estimate with caution

Table 20
Grade 7 – 12 Students who Saw a Mental Health Professional at Least Once in the Last 12 Months by Sex and Grade,
Peel, 2013 - 2015

	Per cent of all students (95% CI)	
Visit to a mental health professional	**2013** n=1,041	**2015** n=574
Sex		
Male	15.5 (12.1 - 19.8)	18.7 (13.8 - 24.9)
Female	22.9 (19.4 - 26.7)	22.8 (16.4 - 30.9)
Grade		
7	28.8 (22.2 - 36.5)	25.8 (19.3 - 33.5)
8	22.5 (17.3 - 28.7)	12.8* (7.1 - 21.9)
9	14.7* (9.5 - 22.0)	16.4* (10.4 - 24.9)
10	18.5* (13.0 - 25.6)	20.9* (13.0 - 31.8)
11	21.7* (14.4 - 31.2)	14.6* (8.7 - 23.7)
12	12.6* (7.1 - 21.5)	29.7 (22.4 - 38.2)

*Use estimate with caution
95% CI reflects the 95% confidence interval of the estimate
Source: Ontario Student Drug Use and Health Survey, 2013 - 2015, Centre for Addiction and Mental Health.
Peel Public Health.

7.2 Psychiatrist visits

- On average, from 2012 to 2014, there were 17.4 psychiatrist visits per 1,000 standard population aged 0-24 years in Peel. This was lower than Ontario (21 per 1,000 population).[6]

7.3 Mental health-related outpatient visits to a physician

- On average, from 2012 to 2014, there were 22 mental health-related outpatient visits to a physician per 100 standard population aged 0-24 years in Peel (Table 21). This was lower than Ontario (32.4 per 100 population).[8]
- The most common mental health-related outpatient visits to a physician is to a general practitioner or family physician, as compared to a psychiatrist or a paediatrician (Table 21).[8]

Table 21
Mental Health-Related Outpatient Visits to a Physician per 100 Population Aged 0-24 Years, Peel and Ontario, 2012-2014, Combined

	Three-year average per 100 population, age- and sex-standardized			
			Range†	
Mental health-related outpatient visits to:	**Peel**	**Ontario**	**Min**	**Max**
A general practitioner/family physician	11.7	16.5	11.7	24.1
A psychiatrist	5.8	8.1	1.5	15.0
A paediatrician	4.5	7.8	1.7	15.3
Any physician specialty	22.0	32.4	17.6	47.4

†Range of rates across child and youth mental health service regions (33 regions)
Source: The Mental Health of Children and Youth in Ontario: 2017 Scorecard. Chart Pack. Toronto, ON: Institute for Clinical Evaluative Sciences; 2017.

7.4 Use of crisis help-line or online help site

- In 2015, approximately 5%* of Peel students and 3% of Ontario students reported using a crisis help-line/online help in the 12 months prior to the survey.[C1]
- For Peel students, the estimates for subgroups were too small to assess for patterns.[C1]
- The 2015 estimates were similar to 2013.[C1, C2]

*Use estimate with caution

8 Quality of the Mental Health Care System

Key Messages

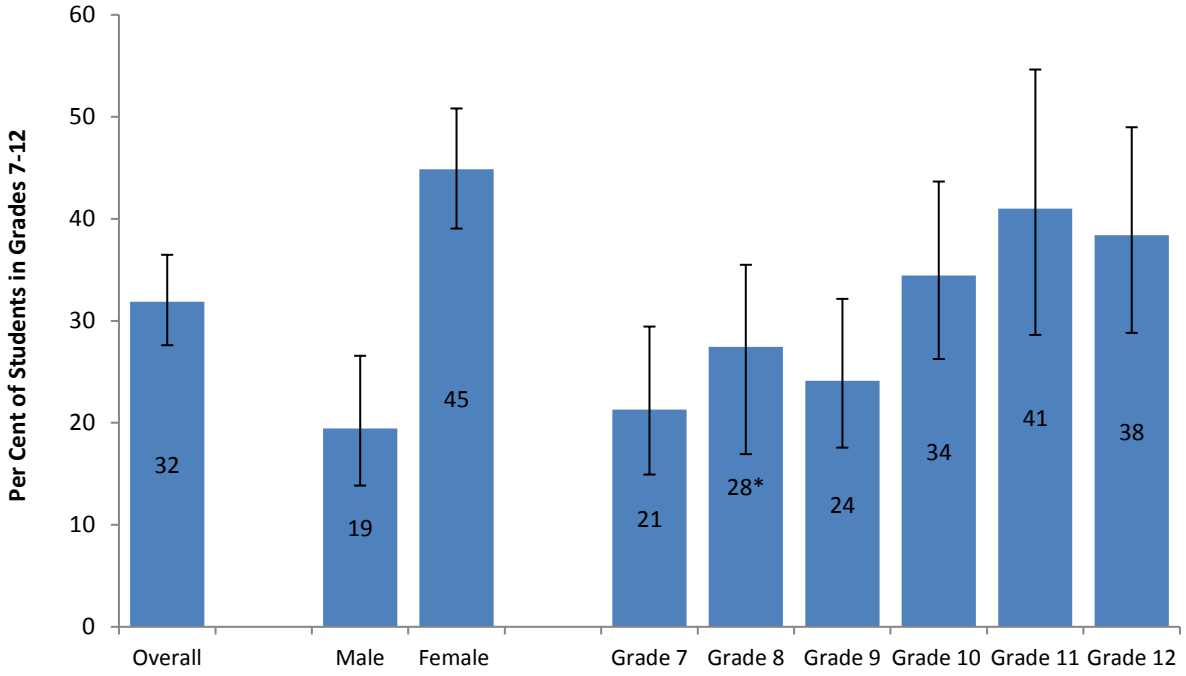
- One in three Peel students do not know where to turn to discuss a mental or emotional health issue.
- Compared to the provincial average, children and youth aged 0-24 years in Peel have a higher rate of re-admission within thirty days of a mental health-related hospital discharge and are more likely to visit the ED as their first point of contact for mental health care.

This chapter provides data on the accessibility of the mental health care services in the community and the quality of the mental health care system for children and youth in Peel.

8.1 Unmet mental health care needs

- In 2015, 32% of students in Peel felt like they "*did not know who to turn to*" when they wanted to discuss mental health or emotional health issues (Figure 66). This was similar to Ontario (28%).[C1]
- Among students in Peel, females (45%) were twice as likely to report feeling like they "*did not know where to turn to*", compared to males (20%). The proportion of females that *"did not know who to turn to"* increased from 34% in 2013 to 45% in 2015.[C1]
- There were no differences by grade, immigrant status or ethnicity.[C1]

Figure 66
Students In Grades 7 - 12 who Did Not Know Who To Turn To when Wanting to Discuss a Mental or Emotional Health Issue by Sex and Grade,
Peel, 2015



n=572
*Use estimate with caution.
Error bars represent 95% confidence interval.
Source: Ontario Student Drug Use and Health Survey 2015, Centre for Addiction and Mental Health. Peel Public Health.

8.2 Outpatient visits to a physician after hospital discharge

- An outpatient visit following a hospital discharge for a mental health-related episode is an indicator of the transition between in- and outpatient care for mental health disorders.[8]
- On average, from 2012-2014, there were 41.5 outpatient visits to a physician within seven days of a mental health-related hospital discharge per 100 standard population aged 0- 24 years in Peel. This was higher than Ontario (36.2 per 100 population).[8]
- An outpatient visit to a psychiatrist within seven days of a mental health-related hospital discharge was most common, as compared to a paediatrician and a general practitioner/family physician (Table 22).[8]

Table 22
Outpatient Visits to a Physician within Seven Days of a Mental Health-Related Hospital Discharge per 100 Population Aged 0-24 Years,
Peel and Ontario, 2012-2014, Combined

	Three-year average per 100 population, age- and sex-standardized			
			Range†	
Within 7 days of a mental health-related hospital discharge, outpatient visits to:	**Peel**	**Ontario**	**Min**	**Max**
A general practitioner/family physician	10.8	10.8	3.9	19.0
A psychiatrist	22.3	14.5	2.0	23.5
A paediatrician	3.2	6.6	1.5	14.6
A psychiatrist and either a general practitioner/family physician or paediatrician	5.1	3.9	0.3	8.1
Any physician specialty	41.5	36.2	14.0	49.5

†Range of rates across child and youth mental health service regions (33 regions)
Source: The Mental Health of Children and Youth in Ontario: 2017 Scorecard. Chart Pack. Toronto, ON: Institute for Clinical Evaluative Sciences; 2017.

8.3 Repeat unscheduled ED visits

- Unscheduled repeat ED visits are an indicator of inadequate support from community-based and outpatient mental health services.[8]
- Approximately 7% of Peel children and youth had a repeat ED visit within one of an ED visit related to mental health (Table 23). This was lower than Ontario (7.8 per 100 population).[8]

8.4 Hospital readmissions

- Readmissions are an indicator of inadequate support from community-based and outpatient mental health services.[8]
- Approximately, 12% of Peel children and youth were readmitted to the hospital within 30 days following a discharge related to mental health (Table 23). This was higher than Ontario (8.1 per 100 population).[8]

8.5 ED visits as first point of contact

- An ED visit as the first point of contact for mental health care is an indicator of unmet mental health care needs in the community.[8]
- Approximately, half of Peel children and youth that present to the emergency department for a mental health-related problem had no previous contact with the health care system (Table 23). This was higher than Ontario (45.1 per 100 population).[8]

Table 23
Quality of the Mental Health Care System Indicators, per 100 Population Aged 0-24 Years
Peel and Ontario, 2012-2014, Combined

	Three-year average per 100 population, age- and sex-standardized	
Indicator	**Peel**	**Ontario**
Repeat unscheduled ED visit [a]	6.8	7.8
Hospital readmission [b]	11.5	8.1
ED visits as first point of contact [c]	51.9	45.1

[a] Emergency department revisits within 30 days of mental health-related emergency department visit
[b] Readmission within 30 days of a mental health-related hospital admission
[c] Emergency department visit which was the first point of contact for mental health care
Source: The Mental Health of Children and Youth in Ontario: 2017 Scorecard. Chart Pack. Toronto, ON: Institute for Clinical Evaluative Sciences; 2017.

9 Acknowledgements

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10 Data Sources and Limitations

Numerous data sources were used in this report and are described in this section. For additional details about the method of analysis used in each of the chapters of this report, please refer to the Data Methods chapter.

Canadian Community Health Survey

The Canadian Community Health Survey (CCHS) is a Statistics Canada survey designed to provide health information at the provincial, regional and public health unit levels. The target population of the CCHS includes household residents in all provinces and territories. Excluded are Aboriginal people living on reserves and settlements, Canadian Forces and those living in institutions or remote areas. There is one randomly selected respondent per household, with an over-sampling of youths resulting in a second member of certain households being interviewed. The CCHS sample is primarily a selection of dwellings drawn from the Labour Force Survey area sampling frame. For the regional-level survey, the sample is supplemented with a random digit-dialling sample in some health regions.

The interview for the health region-level survey includes common content asked of all sample units, optional content determined by each health region from a predefined list of questionnaire modules, and socioeconomic and demographic content.

A focused provincial-level survey consists of some general health content and one focus topic per cycle. Focus content is intended to be an in-depth treatment of topic issues (e.g., mental health, nutrition).

Data collection for the CCHS is done either computer assisted personal or telephone interviewing for the area sample or telephone interviewing for the random digit-dialling sample. Data are weighted to reflect the population of Peel.

All computations, use and interpretations of these data are entirely that of Peel Public Health.

Limitations:

- Depending upon the question, data may be subject to recall bias, social desirability bias and errors from proxy reporting.
- Individuals and/or households without a telephone would be excluded from the sampling frame.
- Some analyses are limited by sample size.

Census Data

The Census is conducted every five years to all Canadian residents and data are provided by Statistics Canada.

Limitations:

- The Census undercounts some groups, such as the homeless, young adults, and Aboriginal people or reserves or settlements.
- Comparison between censuses is affected by changes in question wording and in the definition of the population concerned

Early Development Instrument

The Early Development Instrument (EDI) is a tool that helps communities understand how well they are preparing children for Grade 1. Results can show community strengths and weaknesses in supporting their children and can be useful in assessing community gaps and assets.

The EDI was developed by the Offord Centre for Child Studies at McMaster University. It is a teacher-completed, community-based population measure. The EDI is completed in Peel on a three-year cycle in the second half of the kindergarten year. It allows teachers to get to know the children and children to adjust to their new school environment.

The EDI is comprised of five developmental domains that represent critical components of child development: communication and general knowledge, emotional maturity, language and cognitive development, physical health and wellbeing, and social competence. Each domain is scored on a scale of one to ten, with a higher score indicating greater developmental readiness. EDI scores are computed as percentiles, with those scoring below the 10^{th} percentile on one or more domains considered 'vulnerable', those scoring between the lowest 10^{th} and 25^{th} percentiles on one or more domains considered 'at risk', and those scoring above the 75^{th} percentile on one or more domains being considered 'ready'.

Limitations:

- The EDI can be used for service planning purposes but should be used in conjunction with other data such as census, family, health and community indicators
- The EDI is meant to be used at the population level, not individual.
- As students who do not live in Peel but attend Peel schools are excluded from the analysis, the results presented are not reflective of all students attending Peel schools.
- Children identified as having special needs by the teacher are not included in the EDI results.

Emergency Department Data

Hospital emergency departments were the first centres to report to the National Ambulatory Care Reporting System (NACRS) in fiscal year 2002/2003. Ambulatory visit data provide only a crude measure of the prevalence of a cause for the following reasons:

- A person may not visit the emergency department or may visit several times for the same disorder, disorder or injury event.
- A person may visit more than one hospital for the same disease, disorder or injury event.
- A person may not seek care at a hospital emergency department.

All data presented for emergency department visits on this site are based on the patients 'main problem or diagnosis as determined by the emergency department.' All visits have one main problem (and up to nine other problems). The main problem variable is coded using International Statistical Classification of Diseases and Related Health Problems, Canada, Version 10, 2007 (ICD-10-CA) codes starting with A through U.

Limitations:

- Ontario residents visiting hospitals outside of the province are excluded. Areas bordering other provinces may be more affected.

Inpatient Hospital Separation Data

A hospital separation may be due to death, discharge home, or transfer to another facility. Since a person may be hospitalized several times for the same disease, disorder or injury event, be discharged from more than one hospital (when transferred) for the same event, or not seek care at a hospital, hospitalization data provide only a crude measure of the condition being quantified.

The most responsible diagnosis code gives the primary reason for a hospital stay. The main diagnostic code gives the primary reason for the hospital stay or 'most responsible diagnosis' (MRD). The "most responsible diagnosis" code gives the primary reason for the hospital stay and is coded using the International Statistical Classification of Diseases and Related Health Problems, Canada, Version 10, 2007 (ICD-10-CA) from the Canadian Institute of Health Information started with A through U.

A second set of codes, external causes or ‘e-codes’ are used to classify the environmental events, circumstances and conditions that cause an injury for example, motor vehicle traffic injury. While the e-codes are the principle means for classifying injury deaths, they are not used as a most responsible diagnosis for hospitalizations.. Ontario residents treated outside of the province are excluded.

Limitations:

- Co-morbidity contributes uncertainty to classifying the most responsible diagnosis.
- Data are influenced by factors that are unrelated to health status such as availability and accessibility of care and administrative policies and procedures. This may influence comparisons between areas and over time.
- Effective April 1, 2006 hospitalizations for adult patients (aged 18 years or older) with mental health codes are now being collected in the Ontario Mental Health Reporting System (OHMRS) when an adult requires a stay in a designated bed in a hospital. This change will result in a

reduction of hospitalizations captured in the hospital separation data, under the Mental Health ICD-10, Chapter V – Mental and Behavioural Disorders (F00-F99). There may be some children and youth that are admitted to a adult mental health bed. As a result, those individuals would not be captured in the hospitalization data presented in this report.

Mortality Data

The Office of the Registrar General obtains information about mortality from death certificates, which are completed by physicians. All deaths within Ontario are registered in the office of the division registrar within which the death occurs. A Statement of Death must be filed with the division registrar before a Burial Permit can be issued.

The Death Certificate records: the immediate cause of death; antecedent causes, if any, giving rise to the immediate cause, stating the underlying cause last; and other significant conditions contributing to the death but not causally related to the immediate cause (1). However, the mortality files include only the underlying cause of death. The underlying cause of death is:

- the disease or injury which initiated the train of events leading directly to death, or
- the circumstances of the accident or violence which produced the fatal injury.

Since January 1, 2000, deaths were coded using the Tenth Revision of the International Classification of Diseases Canada (ICD-10).

Limitations:

- Co-morbidity contributes to uncertainty to classifying the underlying cause of death.
- Determining the true cause of death may require further investigation in some instances. For example, when the cause of death could have social and legal ramifications (e.g., suicide).
- Ontario residents who died outside of the province are excluded. This may affect areas bordering Quebec and Manitoba.

National Household Survey

The National Household Survey (NHS) was implemented for the first time between May and August 2011. It was a voluntary household survey that replaced the mandatory long-form census for that census cycle. The reference date for the survey is May 10, 2011 (the same day as Census Day). Target population for the NHS was all persons who usually live in Canada, in the provinces and territories, at the time of the survey. This includes those on Indian reserves or settlements, permanent residents and non-permanent residents (including refugees and work permit holders and their families). The NHS excludes the following groups:

- Those who live in collective dwellings (e.g., hospitals, nursing homes, penitentiaries)
- Canadian citizens living in other countries
- Full-time members of the Canadian Forces stationed outside of Canada
- Those living in non-institutional dwellings (e.g., work camps, hotels and motels, student residences)
- Foreign residents in Canada (e.g., representatives of foreign governments, members of armed forces of another country stationed in Canada).

Limitations:

- Due to the voluntary nature of the NHS, there is a possibility of non-response bias if those who chose not to respond to the survey are systematically different than those who respond.
- Caution must be used when comparing NHS estimates to the 2006/2016 long-form census information because it is impossible to determine with certainty whether differences are due to actual changes in the population or due to non-response bias.

Ontario Student Drug Use and Health Survey

The Ontario Student Drug Use and Health Survey (OSDUHS) is a survey of over 10,000 grade 7 to 12 students in Ontario, run by the Centre for Addiction and Mental Health (CAMH). The survey collects information about health and substance use, including physical and mental wellbeing, and perceptions, awareness and use of alcohol, tobacco and drugs.

The survey is conducted every two years and has been running since 1977. Peel Public health purchased an additional regional sample starting in 2013. This allows more precise regional estimates on key health measures of interest.

OSDHUS uses a stratified two-stage cluster sample design to recruit Ontario students. The sampling frame is a list of all publicly-funded schools in Ontario with any student in grade 7 to 12, provided by the Ontario Ministry of Education. Grade 7 and 8 schools with less than 20 students and secondary schools with less than 80 students, were not eligible for selection. Schools were divided into strata geographically. Within each stratum schools were selected with probability proportional to size, using systematic sampling. This type of survey draws a sample from the population of interest, and collects responses from students in the sample. By applying population weights provided by CAMH, measures such as percentages and totals are therefore estimates of the total population.

The target population for the OSDUHS is students in Grades 7 to 12 enrolled in Ontario's four publicly funded school systems (English public; English Catholic; French public; French Catholic). This captures approximately 92% of Ontario students in Grades 7 to 12. The following students are not covered by the sampling frame (8% of all students):

- Students enrolled in private schools or those who are homeschooled;
- Youth who are institutionalized for correctional or health reasons;
- Students schooled in First Nation reserves, military bases or in remote northern regions of Ontario;
- Students who have dropped out and are no longer enrolled in school.

Within a selected school, classes were randomly selected within grades and students were asked to complete a self-administered paper-and-pencil questionnaire during a regularly-scheduled classroom period. Additional details about the OSDHUS including instrument design, sampling and other measurement concepts can be found on the CAMH website.

Participation in OSDHUS requires both parental and student consent. The consent form required both a parent and student signature. If the student was over 18 years old, no parental consent was required.

Limitations:

- The sampling frame excludes students not enrolled in Ontario's four publicly funded school systems. This represents approximately 8% of students between Grades 7 to 12.
- Classrooms excluded included special education classes, English as a Second Language classes, and classes with fewer than five students.
- The list of schools used to select the sampling frame would not include any schools built after the date that the most current list was produced. This would have the largest impact on high growth areas.
- Response rates have decreased since the OSDHUS inception in 1977 and are due to both non-consent and absenteeism. Students who did not have consent to complete the survey, or who were absent from class on the day of the survey may be different than students who complete the survey. As well, OSDUHS requires consent to participate from the student and their parent/legal guardian. This process of active consent can lead to higher non-response bias.
- In 2015, a number of school refusals were due to ongoing labour strike/unrest among school boards across Ontario between October 2014 and June 2015. These circumstances likely contributed to the low school participation rate observed in Peel (47%) in 2015, compared with the relatively high rate in 2013 (72%).
- Student responses may be subject to social desirability bias, especially for questions addressing sensitive topic areas, including suicidality, alcohol and drug use.

Tax Filer Data

The tax filer data (T1 Family File – T1FF) contains annual information on Canadians who filed a personal tax return in the reference year or who received Canada Child Tax Benefits. The data presented in this report include the number of tax filers, the average income of tax filers, their median total income, their median employment income and the percentage of tax filers by age group and income group.

Limitations:

- There is limited direct information on the number and characteristics on non-filing individuals, therefore this information must be derived.
- Demographic information about tax filers is not available.

Vital Statistics Birth Registration (Live Births)

The Office of the Registrar General (ORG) provides data on all live births and stillbirths in Ontario. The information within the birth registration dataset is provided by both the parents (birth registration form) and the birth attendant (Notice of Live Birth or Stillbirth form). Both forms must be received by the ORG for the birth to be registered.

Limitations:

- Known data quality issues exist within the live birth and stillbirth registration data.
- Although live birth registration is required by law, changes in registration practices and the institution of registration fees have decreased the proportion of births which are registered.
- The most current year of data available at the time of this report was 2011.

11 Data Methods

Rounding

Within the majority of tables of this report, values are presented to one decimal of precision. Values in the text and figures of the report are rounded to the nearest whole number. Due to rounding, some values may sum to more or less than 100%.

Statistical Significance

The following terms have been used to imply statistical significance between groups: “significantly” “more likely” and “less likely”. For survey information, ninety-five per cent confidence intervals were used to determine the significance of differences between groups.

To test for trend across grades using Ontario Student Drug Use and Health Survey (OSDUHS), a simple logistic regression was applied where grade was the independent variable and the dichotomous outcome was the dependent variable. The trend was considered significant if the 95% confidence interval for the regression coefficient did not include zero.

Data Releasability

To ensure confidentiality and to meet reporting requirements, data are presented as follows:

- Canadian Community Health Survey (CCHS) and Ontario Student Drug Use and Health Survey (OSDHUS)
    - “NR = not releasable due to small numbers”: The coefficient of variation is greater than or equal to 33.4 and/or the unweighted numerator was less than 10 individuals.
    - “*Use estimate with caution”: When the coefficient of variation is between 16.6 and 33.3, the results should be interpreted with caution due to high sampling variability.
- Mortality Data
    - Cell counts with less than five individuals were supressed.

International Classification of Diseases (ICD) Codes

Causes of death or illness are coded using a standard system called the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10). The Ninth Revision of the International Classification of Diseases (ICD-9) was used to code cause of death between 1979 and 1999 and hospital separations between 1986 and 2002. The ICD-10 system was used to code mortality data from 2000 forward. Hospitalization data from 2003 forward were coded using the ICD-10 system, with codes provided by the Canadian Institute of Health Information. As changes in the coding system may cause artificial changes in the number of cases of a particular cause of illness, trends in specific causes must be interpreted with caution.

The ICD-10 codes were used to present emergency department, hospitalization and mortality data in this report. The following table identifies the ICD-10 codes for each type of mental health disorder in this data overview. The classifications follow the same codes used by the Institute of Clinical Evaluative Sciences (ICES) as part of their 2017 scorecard on the mental health of children and youth in Ontario.[9]

Table 24
Mental health disorders with associated ICD-10 codes

Mental Health Disorder	ICD-10 Codes
Anxiety disorders	**F40:** Phobic anxiety disorders **F41:** Other anxiety disorders **F42:** Obsessive-compulsive disorder **F43:** Reaction to severe stress and adjustment disorders **F48.8:** Other specified neurotic disorders **F48.9:** Neurotic disorder, unspecified **F93.1:** Phobic anxiety disorder of childhood **F93.2:** Social anxiety disorder of childhood
Eating disorders	**F50.0:** Anorexia nervosa **F50.1:** Atypical anorexia nervosa **F50.2:** Bulimia nervosa **F50.3:** Atypical bulimia nervosa **F50.4:** Overeating associated with other psychological disturbances **F50.5:** Vomiting associated with other psychological disturbances **F50.8:** Other eating disorders **F50.9:** Eating disorder, unspecified
Mood disorders	**F30:** Manic episode **F31:** Bipolar affective disorder **F32:** Depressive episode **F33:** Recurrent depressive disorder **F34:** Persistent mood [affective] disorders **F38:** Other mood [affective] disorders **F39:** Unspecified mood [affective] disorder **F53.0:** Mild mental and behavioural disorders associated with the puerperium, not elsewhere classified
Neurodevelopmental and personality disorders	**F60**: Specific personality disorders **F61**: Mixed and other personality disorders **F62**: Enduring personality changes, not attributable to brain damage and disease **F68**: Other disorders of adult personality and behaviour **F69**: Unspecified disorder of adult personality and behaviour **F21**: Schizotypal disorder **F80**: Specific developmental disorders of speech and language **F81**: Specific developmental disorders of scholastic skills **F82**: Specific developmental disorder of motor function **F83**: Mixed specific developmental disorders **F84**: Pervasive developmental disorders **F88**: Other disorders of psychological development **F89**: Unspecified disorder of psychological development **F90**: Attention-deficit hyperactivity disorders **F91**: Conduct disorders **F92**: Mixed disorders of conduct and emotions **F93**: Emotional disorders with onset specific to childhood (excluding **F93.1, F93.2**) **F94**: Disorders of social functioning with onset specific to childhood and adolescence **F95**: Tic disorder **F98**: Other behavioral and emotional disorders with onset usually occurring in childhood and adolescence

Table 24 (continued) **Mental health disorders with associated ICD-10 codes**	
Eating disorders	**F20:** Schizophrenia (excluding **F20.4**) **F22:** Persistent delusional disorders **F23:** Acute and transient psychotic disorders **F24:** Induced delusional disorder **F25:** Schizoaffective disorders **F28:** Other nonorganic psychotic disorders **F29:** Unspecified nonorganic psychosis **F53.1:** Severe mental and behavioural disorders associated with the puerperium, not elsewhere classified
Substance-related mental health disorders	**F10:** Mental and behavioural disorders due to use of alcohol **F11:** Mental and behavioural disorders due to use of opioids **F12:** Mental and behavioural disorders due to use of cannabinoids **F13:** Mental and behavioural disorders due to use of sedatives or hypnotics **F14:** Mental and behavioural disorders due to use of cocaine **F15:** Mental and behavioural disorders due to use of other stimulants, including caffeine **F16:** Mental and behavioural disorders due to use of hallucinogens **F17:** Mental and behavioural disorders due to use of tobacco **F18:** Mental and behavioural disorders due to use of volatile solvents **F19:** Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances **F55:** Abuse of non-dependence-producing substances

12 Glossary

Attention-deficit hyperactivity disorder (ADHD) is described as a neurobehavioural developmental disorder characterized by inattention, hyperactivity, and impulsivity. The disorder is often identified during school ages and symptoms may continue into adulthood.

Attention-deficit/hyperactivity disorder (ADHD) Self-Report Scale (ASRS): This instrument was designed to screen for symptoms of ADHD and not intended for clinical diagnosis. Students were asked about the frequency of six symptoms in the past six months. The responses for all six items are summed into a score ranging from 0 to 24. Students with a score of 14 or higher were considered to have ADHD symptoms.

Anxiety disorders refer to a condition of excessive anxiety, fear or worry, causing either avoidance of situations that might precipitate the anxiety or development of compulsive rituals that lessen the anxiety. Examples of anxiety disorders include generalized anxiety disorder, post-traumatic stress disorder, obsessive-compulsive disorder, panic disorder and social phobia.

Cannabis dependence is measured by the Marijuana Severity of Dependence Scale. The scale is a validated five item instrument used to screen for dependence in adolescent populations. Each question was scored on a four-point scale and the scores were summed. A score of four or more (out of 15) indicates potential cannabis dependence.

Census families are defined as a married couple, a common-law couple (with or without children) or a lone parent family with children. Children may be of any age and are without their own child or spouse living with them.

Couple families are those in which a member of either a married or common-law couple is the economic family reference person.

Early Development Instrument is a questionnaire completed by teachers to measure the ability of children in senior kindergarten to meet age appropriate developmental expectations in five general domains: physical health and wellbeing, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge. Scores are calculated for each domain. Children scoring at or below the 10^{th} percentile were classified as 'Vulnerable'.

Eating disorders are categorized by a persistent disturbance of eating or eating-related behaviour resulting in altered consumption or absorption of food and which significantly impairs physical health or psychosocial functioning. Examples of eating disorders for which diagnostic criteria are available include pica, rumination disorder, avoidant/restrictive food intake disorder, anorexia nervosa, bulimia nervosa, and binge-eating disorder.

Hazardous or harmful drinking was measured by the World Health Organization Alcohol Use Disorders Identification Test (AUDIT) scale screening tool. Hazardous drinking is a pattern of drinking that increases the likelihood of future physical and mental health problems. It is indicated by a score of eight or more out of 40 on the screener survey questions.

Lone parent families are those in which either a male or female lone-parent is the economic family reference person.

Low-income family: A census family is considered low-income when their income is below the low-income measure after tax (LIM-AT) for their family type and size. The *low income measure after tax (LIM-AT)* is a fixed percentage (50%) of median adjusted household income, where "adjusted" indicates that household needs are taken into account.

Major depressive episodes are characterized by specific changes in affect, cognition, and neuro-vegetative functions and inter-episode remissions with distinct episodes lasting for at least 2 weeks in duration although most episodes last considerably longer.

Median is a descriptive statistical value at which half of the population has a higher value and half of the population has a lower value. For example, the median age of a population is the age at which half of the population has an older age and half of the population has a younger age.

Mood disorders are mental health disorders that include depression (i.e., unipolar or major depression), bipolar disorder (i.e., "manic depressive illness" which combines episodes of both mania and depression), and dysthymia. Individuals who suffer from mood disorders experience significant distress or impairment in social, occupational, educational, or other important areas of functioning.

Neurodevelopmental disorders are conditions which develop and manifest in the developmental period and consist of developmental deficits that impair personal, social, academic, or occupational functioning ranging from very particular limitations of learning or control of executive functions to global impairments of social skills or intelligence.

Perceived elevated stress was assessed by asking students "In the last 4 weeks, did you feel that you were under any stress, strain or pressure". Students responding "Yes, almost more than I could take" or "Yes, a lot" are categorized as having elevated levels of stress.

Personality disorders are characterized by personality traits that are used inappropriately and become maladaptive. Some deviations may be quite mild and interfere very little with their life, while others may cause great disturbance. Typical personality disorders include borderline personality disorder, narcissistic personality disorder and dependant personality disorder.

Prevalence is the proportion of individuals in the population having a disease or condition at a specific time.

Problem drug use is assessed by CRAFFT, a six item behavioural screening tool. Students responding "yes" to two or more of the six items are classified as having a potential drug use problem that may require intervention. The questions are specifically about the use of illegal and prescription drugs (not alcohol).

Psychological distress was assessed using the Kessler 6-Item Psychological Distress Scale (K6), a validated screening tool that assesses feelings and behaviours of students over the previous four weeks in order to detect non-specific psychological distress.

Schizophrenia spectrum and other psychotic disorders are characterized by disturbances of thought and the experience of delusions and hallucinations that might lead to atypical behaviour. These signs and symptoms are severe enough to cause dysfunction in daily life.

Self-esteem was measured using the following five questions adapted from the 20-Question *Rosenberg Self-Esteem Scale.*

Subjective social status is measured by the MacArthur Scale of Subjective Social Status. This scale is used to assess student's self-perceived status at school. Students are shown a 10-rung ladder that represented the social hierarchy at school. They were told that at the top are the people in school with the most respect and the '*highest standing*', while at the bottom are the people who no one respects and no one wants to hang out with. Students were asked to place themselves on this scale. Scores on the *ladder* were categorized by levels of SSS: 1) *Low*: 1st – 3rd rung; 2) *Average*: 4th – 7th rung; and 3) *High*: 8th – 10th rung.

Subjective socio-economic status was measured using the family socio-economic ladder, an adolescent-specific measure of subjective family social status. Students were shown a ladder that was meant to represent the Canadian society (with numbers ranging from 1 to 10). They were told that at the top are the people who are 'best off- they have the most money, most education and the jobs that bring the most respect' while at the bottom are the people who are "worst off- they have the least money, little education no job or jobs that nobody want". Students were asked to place their family on this scale. Scores on the family socio-economic ladder were categorized as Low (1st – 6th rung) or High (7th – 10th rung).

Substance-related mental health disorders involve a cluster of cognitive, behavioural, and physiological symptoms which indicate that one continue to use a substance even though he or she is experiencing prominent substance-related issues. Substances may include: alcohol, caffeine, cannabis, hallucinogens, inhalants, opioids, sedatives, hypnotics, anxiolytics, stimulants, tobacco, and other substances.

13 Data References

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B National Household Survey, 2011, Statistics Canada

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C2 Ontario Student Drug Use and Health Survey (OSDUHS) 2013, Centre for Addiction and Mental Health, Peel Public Health

D1 Canadian Community Health Survey (CCHS) 2013/2014 Share File, Statistics Canada, Ontario Ministry of Health and Long Term Care

D2 Canadian Community Health Survey (CCHS) 2009/2010 Share File, Statistics Canada, Ontario Ministry of Health and Long Term Care

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F National Ambulatory Care Reporting System Data, 2007-2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care

G Population Estimates, 2003- 2016, IntelliHEALTH Ontario, Ministry of Health and Long Term Care.

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I Ontario Mortality Database, 2000 – 2012, Ontario Registrar General IntelliHEALTH Ontario, Ontario Ministry of Health and Long-Term Care

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9. MHASEF Research Team. *The Mental Health of Children and Youth in Ontario: 2017 Scorecard. Technical Appendix*. Toronto, ON: Institute for Clinical Evaluative Sciences; 2017.