

# Health Indicator Report

## Emergency Department Visits for Dental Problems

### Background

Maintaining good oral health is an important component of an individual’s overall health. Brushing, flossing, and visiting a dental care provider regularly can help maintain good oral health.<sup>1</sup> However, many Canadians avoid receiving dental care because of the cost.<sup>2</sup> Untreated oral health problems can lead to visits to the emergency department which are costly for the healthcare system.<sup>3</sup> Furthermore, patients typically only receive prescriptions for antibiotics and/or pain killers at emergency departments, and not the treatment that they need to resolve their oral health problem.<sup>4</sup>

The purpose of this health indicator report is to provide information on emergency department (ED) visits for oral health problems in Halton Region and Ontario. Oral health problems include diseases of the oral cavity, salivary glands, and jaws, such as abscesses and toothaches. Injuries are not included. Data are presented as both counts (number of visits to the ED for oral health problems), and rates (number of ED visits for oral health problems per 100,000 population).

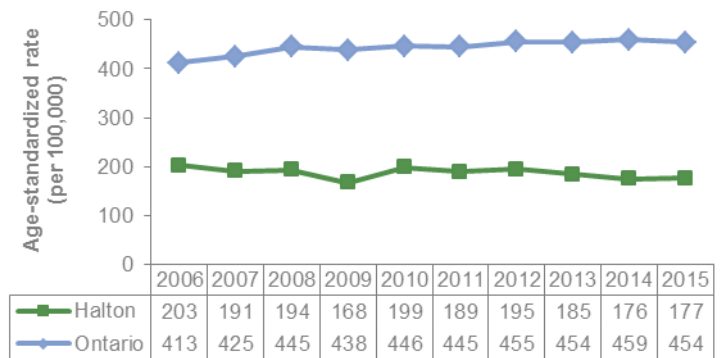
### Trends Over Time

In 2015, there were 968 ED visits for oral health problems in Halton, and 60,020 in all of Ontario.

In 2015, the age-standardized rate of ED visits for oral health problems was two and a half times higher in Ontario compared to Halton, and this difference was **statistically significant**.

From 2006 to 2015 the age-standardized rate of ED visits for oral health problems in Ontario increased from 413 visits per 100,000 to 454 visits per 100,000 and this increase was **statistically significant**.

There were no statistically significant changes in the age-standardized rate of ED visits for oral health problems in Halton from 2006 to 2015.

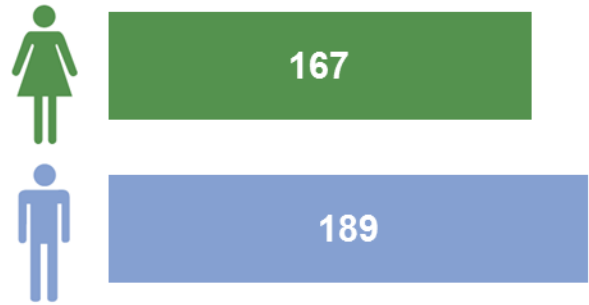


Age-standardized rates (per 100,000) of emergency department visits for oral health problems, Halton Region and Ontario, 2006-2015

## Sex

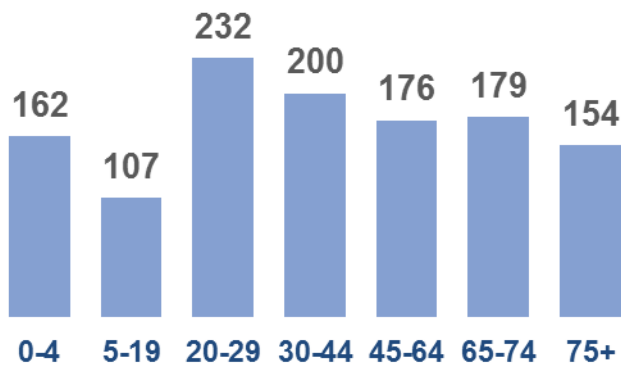
In 2015, there were 491 ED visits for oral health problems among Halton males and 477 ED visits for oral health problems among Halton females.

There was no statistically significant difference in the age-standardized rate of ED visits for oral health problems between males and females in Halton in 2015 (189 visits per 100,000 for males and 167 visits per 100,000 for females).



Age-standardized rates (per 100,000) of emergency department visits for oral health problems by sex, Halton Region, 2015

## Age



Age-specific rates (per 100,000) of emergency department visits for oral health problems by age group, Halton Region, 2015

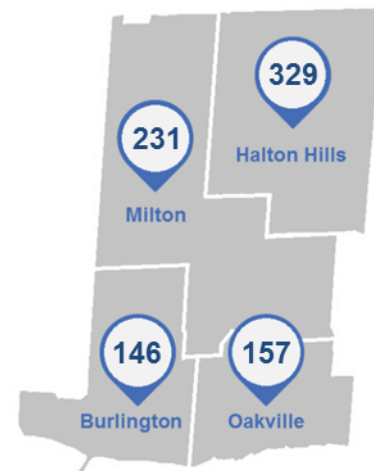
When looking at number of visits in 2015, there were 170 ED visits for children and youth under age 20, 662 ED visits among adults aged 20-64, and 136 ED visits among adults aged 65 and over.

In 2015, the age-specific rate of ED visits for oral health problems was highest among those aged 20-29, and then generally decreased as age increased (see figure).

## Municipality

In 2015, there were 269 ED visits for oral health problems among Burlington residents, 205 ED visits among Oakville residents, 189 visits among Milton residents and 305 visits among Halton Hills residents.

The age-standardized rate of ED visits for oral health issues was highest among residents of Halton Hills (329 visits per 100,000) followed by Milton (231 visits per 100,000), Oakville (157 visits per 100,000), and Burlington (146 visits per 100,000). These differences were statistically significant when comparing Halton Hills to all other municipalities and when comparing Milton to Burlington and Oakville.

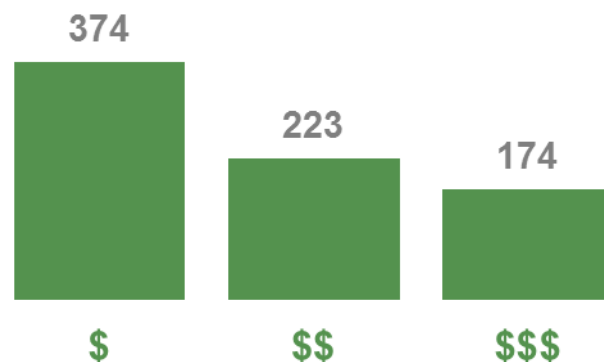


Age-standardized rates (per 100,000) of emergency department visits for oral health problems by municipality, Halton Region, 2015

## Neighbourhood Income

In 2013-2015 combined, the age-standardized rate of ED visits for oral health problems decreased as neighbourhood income increased, and these differences were **statistically significant** (374 visits per 100,000 for the low income group, 223 visits per 100,000 for the middle income group, and 174 visits per 100,000 for the high income group).

While the lowest income group had the highest age-standardized rate of ED visits for oral health problems, there were only an average of 49 ED visits per year from 2013-2015 among residents living in neighbourhoods in the low income group. This is due to the relatively small number of low income neighbourhoods in Halton Region. In comparison, there were an average of 255 ED visits per year among residents in the middle income group and 598 ED visits per year among residents in the high income group.



Age-standardized rates (per 100,000) of emergency department visits for oral health problems by neighbourhood income group, Halton Region, 2013-2015 combined

## Summary Table

The table below summarizes the number of ED visits in 2015 as well as the crude, age-standardized, and age-specific rates of ED visits for oral health problems among Halton residents. Due to small sample size for income, income related data are presented as a three year average from 2013-2015. Refer to the data notes for explanations of each type of rate presented in this report.

Number of cases, crude rates (per 100,000), age-standardized rates (per 100,000), and age-specific rates (per 100,000) of emergency department visits for oral health problems, Halton Region, 2013-2015 (neighbourhood income only) and 2015 (all other counts and rates).

		Number of ED visits	Crude rate	Age-standardized rate	Age-specific rate
All Halton		968	172 per 100,000	177 per 100,000	
Sex	Male	491	179 per 100,000	189 per 100,000	
	Female	477	167 per 100,000	167 per 100,000	
Age	0-4	52			162 per 100,000
	5-19	118			107 per 100,000
	20-29	158			232 per 100,000
	30-44	234			200 per 100,000
	45-64	270			176 per 100,000
	65-74	81			179 per 100,000
	75+	55			154 per 100,000
Municipality	Burlington	269	142 per 100,000		146 per 100,000
	Oakville	205	155 per 100,000		157 per 100,000
	Milton	189	227 per 100,000		231 per 100,000
	Halton Hills	305	298 per 100,000		329 per 100,000
Income (2013-2015 Average)	Low	49	365 per 100,000	374 per 100,000	
	Middle	255	218 per 100,000	223 per 100,000	
	High	598	163 per 100,000	174 per 100,000	

**Definitions:** **Oral health problems** include diseases of the oral cavity, salivary glands and jaws, such as abscesses and toothaches (ICD Codes K00-K14). Injuries are not included. **Emergency department (ED) visits** include only unscheduled visits to the ED.

**Data Source:** National Ambulatory Care Reporting System, Ontario Ministry of Health and Long-Term Care: IntelliHEALTH ONTARIO: extracted June 2016.

**Data Interpretation:** The National Household Survey (NHS) indicator “in the bottom half of the Canadian distribution” was used as a basis for the neighbourhood income groups. The term neighbourhood refers to a single Dissemination Area (DA). This indicator provides the percent of households per DA that were in the bottom half of the Canadian distribution based on adjusted household income. Using this value, all of the DAs in Canada were ranked into 10 equal groups (deciles), and then grouped as low (deciles 1-3), middle (deciles 4-7) or high (deciles 8-10). Since the actual income of individuals is not known, and may vary from their neighbourhood income, misclassification of individuals based on their neighbourhood income instead of household income may diminish the association between income and ED visits for oral health problems.

**Age-standardized rates** are calculated using the 1991 population of Canada as the standard population. This ensures that any differences in rates between populations are not due to differences in the age distributions between populations. **Age-specific rates** are calculated by dividing counts of events by the population in that age group. **Crude rates** are calculated by dividing the total number of events by the total population.

Statistical significance between groups was determined using overlapping confidence intervals. Statistically significant differences are differences that are unlikely to be due to chance alone. Trends over time were tested for significance using linear regression and autocorrelation.

**Limitations:** Data from 2013 to 2015 were combined for ED visits by neighbourhood income group to ensure sufficient sample size for analysis. ED visits do not include visits made by Halton residents to hospitals outside of Ontario. Population counts by dissemination area are only available for 2011, therefore the denominator for the income analysis was the 2011 population of Halton multiplied by three for each year in the analysis (2013-2015). Population counts were also not available by municipality for 2015. 2013 population counts were used for the denominator for rates for each municipality as this was the most recent year of data available. This may result in an overestimation of rates in areas with growing populations, such as Milton. The National Household Survey was prone to non-response bias. Residents with low incomes, very high incomes, new immigrants, and Aboriginals were less likely to respond. Caution should be used when interpreting data for household income. See the [NHS user guide](#) for more information.

### References

1. Canadian Dental Association. 2015. Oral health – good for life. Accessed May 20th 2015, from [http://www.cda-adc.ca/en/oral\\_health/cfyf/good\\_for\\_life/](http://www.cda-adc.ca/en/oral_health/cfyf/good_for_life/)
2. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Report on access to dental care and oral health inequalities in Ontario. Toronto: Queen’s Printer for Ontario; 2012.
3. College of Dental Hygienists of Ontario. 2014. Review of oral health services in Ontario. Accessed June 2016 from <http://www.cdho.org>
4. Quiñonez, C., Gibson, D., Jokovic, A., & Locker, D. (2009). Emergency department visits for dental care of nontraumatic origin. *Community dentistry and oral epidemiology*, 37(4), 366-371.

For more health indicator and health status reports, visit the Halton Health Statistics website at [www.halton.ca/healthstats](http://www.halton.ca/healthstats).

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