

Non-Traumatic Oral Health-Related Emergency Department Visits Among Adults in the Health Unit Region

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Key Highlights

- Between 2010 and 2018, the non-traumatic oral health-related emergency department visit rate among adults living in the Health Unit region was more than three times higher than the rate among adults living in Ontario as a whole.
- In 2018, the rate of non-traumatic oral health-related emergency department visits made by North Bay adults dropped significantly compared to the previous year by about 21.3% with 170 fewer visits made in 2018 compared to 2017.
- In 2018, the rate of adults residing in West & North Nipissing combined who visited the emergency department for non-traumatic oral health-related reasons was over four times the Ontario rate.
- Between 2005 and 2018, the non-traumatic oral health-related emergency department visit rate was highest among adults aged 25 to 34 years for adults living in the Health Unit region.

Higher rate of non-traumatic oral health-related visits made by adults in the Health Unit region

Between 2010 and 2018, the age-standardized rate of non-traumatic oral health-related emergency department visits made by adults in the Health Unit region was over three times higher than the Ontario rate between the same time period (Figure 1; Table 1).

This rate steadily increased in the Health Unit region from 2005 until 2013, plateaued between 2013 and 2015, and dropped slightly in 2018.

Figure 1. Age-standardized Rate per 100,000 Population of Non-Traumatic Oral Health-Related Emergency Department Visits, By Year and Health Region, 2005 - 2018

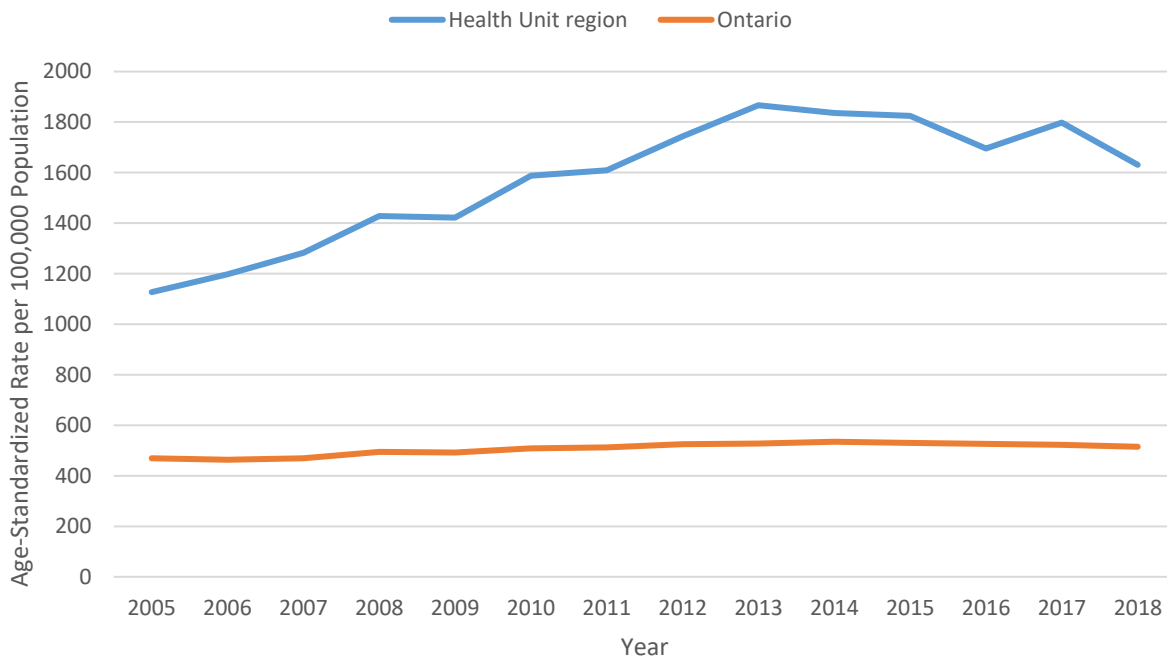


Table 1. Age-standardized Rate per 100,000 Population of Non-Traumatic Oral Health-Related Emergency Department Visits, By Year and Health Region, 2005 – 2018

Year	Health Unit Region Number of ED Visits	Health Unit Region Age-standardized rate (95% CI)	Ontario Age- standardized rate (95% CI)
2005	1,088	1,127.0 (1060.5, 1196.6)	473.0 (468.8, 477.3)
2006	1,159	1,197.9 (1,129.3, 1,269.6)	467.7 (463.5, 472)
2007	1,236	1,282.2 (1,211.1, 1,356.3)	473.1 (468.9, 477.4)
2008	1,383	1,428.6 (1,353.7, 1,506.5)	498.8 (494.5, 503.1)
2009	1,367	1,421.4 (1,346.4, 1,499.4)	496.6 (492.3, 500.9)
2010	1,547	1,588.3 (1,509.5, 1,670.1)	512.5 (508.2, 516.8)
2011	1,568	1,609.3 (1,529.9, 1,691.6)	516.6 (512.3, 520.9)
2012	1,695	1,743.8 (1,660.9, 1,829.7)	529.0 (524.6, 533.3)
2013	1,799	1,866.8 (1,780.5, 1,956.0)	531.6 (527.2, 535.9)
2014	1,789	1,836.3 (1,751.0, 1,924.5)	539.1 (534.7, 543.4)
2015	1,759	1,824.4 (1,738.8, 1,913.0)	534.1 (529.8, 538.4)
2016	1,643	1,695.6 (1,613.1, 1,781.2)	531.1 (526.8, 535.3)
2017	1,731	1,798.2 (1712.8, 1886.5)	526.9 (522.6, 531.1)
2018	1,584	1,630.3 (1,549.4, 1,714.2)	518.7 (514.4, 522.9)

*Age-standardized rate (ASR) for the Health Unit region is significantly higher compared to Ontario rate during the corresponding calendar year

Drop in non-traumatic oral health-related emergency department visits made by North Bay adults

In 2018, significantly fewer North Bay adults made visits to the emergency department for non-traumatic oral health-related reasons compared to in 2017 (Figure 2 & Table 2). This represents a 21.3% decrease in the rate from 2017 to 2018, and about \$87,210 in averted spending towards non-traumatic oral health-related emergency department visits (170 fewer visits made, with an estimated minimum cost of \$513 per visit¹).

In 2018, the crude rate of adults residing in West and North Nipissing combined who visited the emergency department for non-traumatic oral health-related reasons was over four times the Ontario rate.

Figure 2. Crude Rate per 100,000 Population of Non-Traumatic Oral Health-Related Emergency Department Visits, By Region Below the Health Unit Region Level, 2005-2018

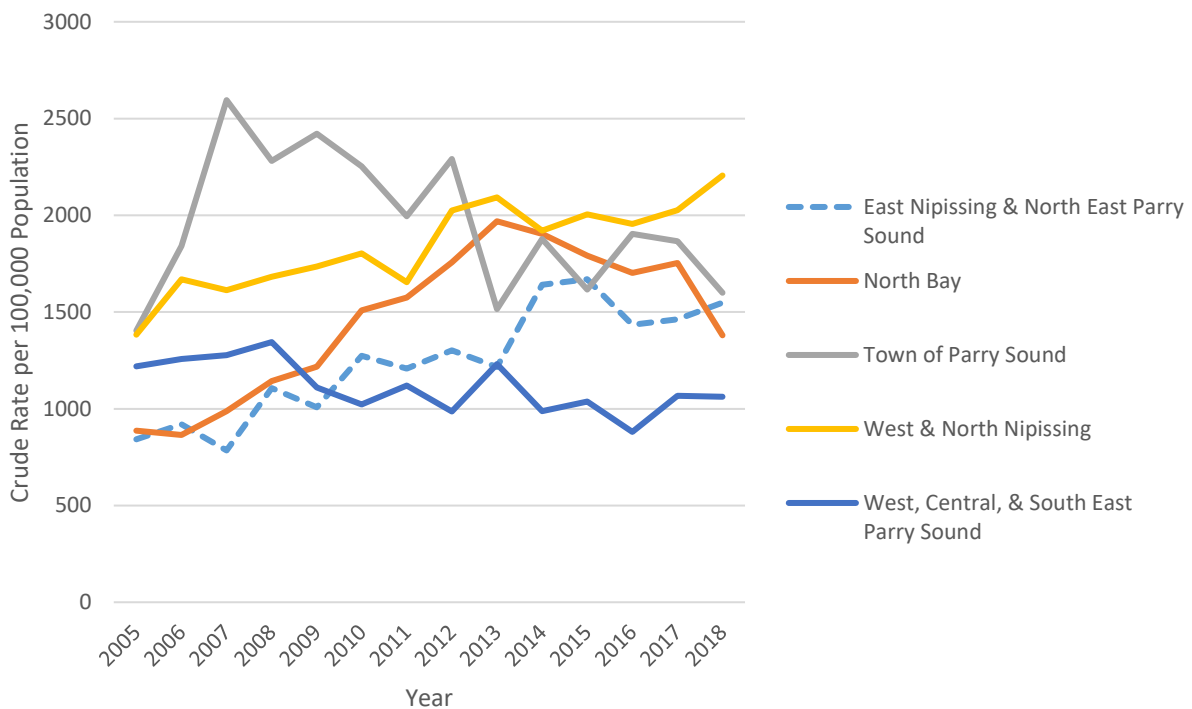


Table 2. Crude Rate per 100,000 Population of Non-Traumatic Oral Health-Related Emergency Department Visits, By Region Below the Health Unit Region Level, 2005-2018

Year	City of North Bay	City of Parry Sound ¹	West & North Nipissing ²	East Nipissing & North East Parry Sound ³	Central, West, and South East Parry Sound ⁴	Health Unit region	Ontario
2005	886.3 (801.0, 978.5)	1,403.6 (1,092.0, 1,776.3)	1,383.0 (1,197.0, 1,589.6)	841.3 (707.0, 994.0)	1,218.7 (1,076.0, 1,375.0)	1,071.6 (1,009.0, 1,137.2)	488.8 (484.0, 493.2)
2006	864.5 (780.0, 955.3)	1,840.5 (1,480.0, 2,262.3)	1,668.9 (1,464.0, 1,893.9)	920.3 (780.0, 1,078.7)	1,257.5 (1,114.0, 1,415.0)	1,133.3 (1,069.0, 1,200.5)	482.5 (478.0, 486.8)
2007	987.4 (897.0, 1,084.1)	2,595.1 (2,167.0, 3,083.5)	1,612.1 (1,412.0, 1,832.5)	784.6 (656.0, 931.0)	1,276.8 (1,132.0, 1,435.1)	1,202.9 (1,137.0, 1,271.9)	485.7 (481.0, 490.0)
2008	1,143.6 (1,046.0, 1,247.3)	2,280.3 (1,884.0, 2,735)	1,681.8 (1,479.0, 1,905.1)	1,106.8 (954.0, 1,277.3)	1,344.6 (1,197.0, 1,506.0)	1,336.2 (1,267.0, 1,408.5)	510.3 (506.0, 514.7)
2009	1,218.4 (1,118.0, 1,325.2)	2,421.9 (2,014.0, 2,887.6)	1,735.9 (1,530.0, 1,961.1)	1,007.9 (863.0, 1,170.2)	1,110.4 (976.0, 1,257.8)	1,315.1 (1,246.0, 1,386.7)	506.2 (502.0, 510.6)
2010	1,508.8 (1,397.0, 1,626.8)	2,252.2 (1,863.0, 2,699.2)	1,802.3 (1,594.0, 2,029.7)	1,273.1 (1,110.0, 1,452.9)	1,023.1 (895.0, 1,164.6)	1,474.9 (1,402.0, 1,550.3)	520.3 (516.0, 524.7)
2011	1,574.4 (1,461.0, 1,694.7)	1,995.4 (1,632.0, 2,415.6)	1,654.8 (1,457.0, 1,871.8)	1,207.5 (1,050.0, 1,382.3)	1,119.4 (985.0, 1,266.8)	1,487.7 (1,415.0, 1,563.2)	522.6 (518.0, 527.0)
2012	1,755.9 (1,636.0, 1,882.4)	2,290.8 (1,901.0, 2,737.2)	2,024.6 (1,806.0, 2,262.6)	1,302.1 (1,138.0, 1,483.0)	986.3 (861.0, 1,125.0)	1,601.2 (1,526.0, 1,679.3)	533.7 (529.0, 538.1)
2013	1,969.1 (1,842.0, 2,102.5)	1,516.0 (1,202.0, 1,886.8)	2,091.8 (1,870.0, 2,332.9)	1,215.5 (1,057.0, 1,390.6)	1,230.9 (1,090.0, 1,384.4)	1,694.8 (1,617.0, 1,775.0)	534.7 (530.0, 539.0)
2014	1,903.8 (1,779.0, 2,034.8)	1,877.8 (1,526.0, 2,286.2)	1,920.6 (1,709.0, 2,151.5)	1,641.7 (1,457.0, 1,843.0)	987.0 (862.0, 1,125.4)	1,681.3 (1,604.0, 1,761.1)	540.8 (536.0, 545.2)
2015	1,790.9 (1,670.0, 1,918.1)	1,616.9 (1,292.0, 1,999.3)	2,004.8 (1,788.0, 2,240.0)	1,669.5 (1,483.0, 1,872.8)	1,036.5 (908.0, 1,178.2)	1,653.4 (1,577.0, 1,732.5)	534.4 (530.0, 538.7)
2016	1,702.5 (1,585.0, 1,826.5)	1,904.4 (1,549.0, 2,316.3)	1,955.5 (1,742.0, 2,187.7)	1,433.6 (1,261.0, 1,622.7)	880.4 (762.0, 1,011.6)	1,542.3 (1,469.0, 1,618.7)	530.8 (527.0, 535.1)

Year	City of North Bay	City of Parry Sound ¹	West & North Nipissing ²	East Nipissing & North East Parry Sound ³	Central, West, and South East Parry Sound ⁴	Health Unit region	Ontario
2017	1,752.9 (1,634.0, 1,878.7)	1,866.3 (1,515.0, 2,274.4)	2,026.0 (1,809.0, 2,262.2)	1,462.2 (1,288.0, 1,653.2)	1,066.2 (936.0, 1,209.7)	1,624.9 (1,549.0, 1,703.3)	526.8 (523.0, 531.0)
2018	1,380.4 (1,275.0, 1,492.5)	1,599.7 (1,276.0, 1,980.5)	2,205.6 (1,979.0, 2,451.4)	1,548.3 (1,369.0, 1,744.4)	1,061.8 (932.0, 1,205.0)	1486.9 (1,415.0, 1,562.0)	519.1 (515.0, 523.3)

¹The City of Parry Sound includes regions whose postal codes are not linked to other municipalities, and excludes outlying regions with links to nearby municipalities (e.g., Seguin).

²West & North Nipissing includes the Municipality of West Nipissing, Nipissing 10 First Nations reserve, and the Unorganized North Part of the Nipissing region.

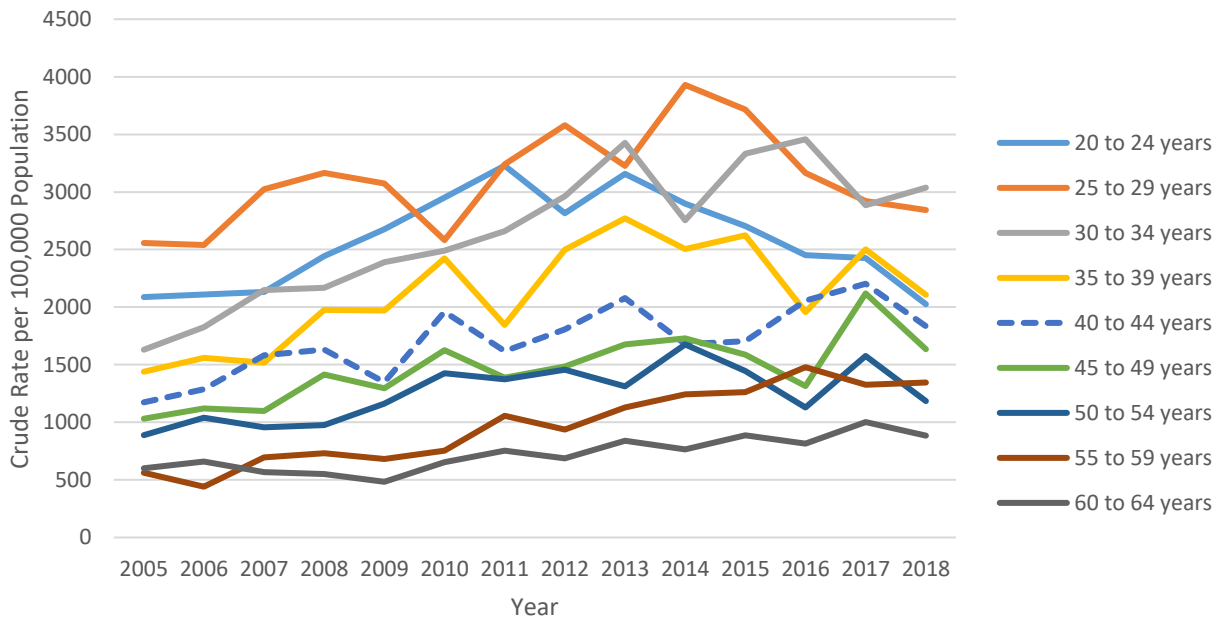
³The East Nipissing & North East Parry Sound region includes Bonfield, Callander, Powassan, Nipissing, East Ferris, Calvin, Mattawa, Mattawan, Papineau-Cameron, Chisholm, Unorganized South Part of Nipissing, and the Unorganized North East Part of Parry Sound.

⁴The Central, West, and South East Parry Sound region includes outlying areas of the Town of Parry Sound, The Archipelago, Henvey Inlet 2 First Nations reserve, Magnetawan 1 First Nations reserve, French River 13 First Nations reserve, Seguin, McDougall, Shawanaga 17 First Nations reserve, McKellar, Carling, Machar, Whitestone, Magnetawan, Joly, Sundridge, Strong, South River, Kearney, Perry, Ryerson, Burk's Falls, McMurrich/Monteith, Armour, and the Unorganized Centre Part of Parry Sound.

Highest rates of oral health-related emergency department visits among adults aged 25 to 34 years

Between 2005 and 2018, the non-traumatic oral health-related emergency department visit rate was highest among adults aged 25 to 34 years for adults living in the Health Unit region (Figure 3). Since 2005, the oral health-related emergency department visit rate more than doubled among adults aged 55 to 59 years, and has almost doubled among adults aged 30 to 34 years.

Figure 3. Crude Rate per 100,000 Population of Non-Traumatic Oral Health-Related Emergency Department Visits, By Age Group (Years) and Year, Health Unit Region, 2005 – 2018



Definitions and data sources

Definition

Oral health-related emergency department visit:

Emergency department visits that included unscheduled visits to the emergency department with main problem diagnoses of all non-traumatic oral health conditions (ICD-10 CA codes from K00 to K14 – Diseases of the oral cavity, salivary glands, and jaws). Visits only include residents of Ontario who are aged 18 years or older.

Data sources:

1. Emergency department visits: Ambulatory Emergency External Cause [2005-2017], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: [2019/07/04]
2. Population estimates: Population Estimates [2005-2016], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH Ontario, Date Extracted: [2019/05/12].
3. Population projections: Population Projections [2017-2018], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH Ontario, Date Extracted: [2019/05/12].

Analysis:

Age-standardized rate:

The age-standardized rate was calculated by using the Direct Method and standard 2011 Canadian population.

Confidence intervals:

Confidence intervals (CI) and variances were estimated using the Poisson distribution in STATA IC/14.2 (2014) for all regions.

Interpretation of a significant difference:

A statistic interpreted as 'significantly different' from another is an estimate found to be statistically meaningful; the difference is unlikely due to chance. Error ranges noted in tables within this report illustrate 95% confidence intervals. If there is no overlap in range between confidence intervals, the difference can be described as statistically significant.

References

1. Ontario Oral Health Alliance. (2019). *Lack of access to dental care: The costs to our healthcare system*. Retrieved from <https://www.allianceon.org/sites/default/files/documents/OOHA%20Fact%20Sheet%20ER%20and%20DR%20visits%20for%20dental%20problems%20March%202019.docx>