

ORAL HEALTH-RELATED DAY SURGERIES AMONG CHILDREN

Crude Oral Health-related Day Surgeries among Children Rate:

The rate of oral health-related day surgeries made by children aged 17 years or younger in a given year and region.

Data sources:

1) Day surgeries: Ambulatory Emergency External Cause [2004-2013], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: [2014/08/26] & Inpatient Discharges [2004-2013], IntelliHEALTH ONTARIO, Ontario Ministry of Health and Long-Term Care, Date Extracted: [08/26/2014].

Population estimates: Population Estimates [2004-2012], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH Ontario, Date Extracted: [2014/08/26].

Estimate Calculations:

Oral health-related day surgeries were defined as those with ICD-10 CA codes of K02 (dental cavities) & K04.7 (periapical abscess without sinus), and with an identified surgical procedure (Canadian Classification of Health Interventions (CCI) codes of 1.FE.57.JA (tooth extraction), 1.FF.56 (removal of foreign body, root of tooth), 1.FF.89 (excision total, root of tooth), 1.FE.89 (excision total, tooth), 1.FE.29 (tooth restoration), 1.FE.53.JA-RV (implantation of internal device, tooth), 1.FF.59.JA (destruction, root of tooth), 1.FD.52 (gingival drainage), 1.FE.87.JA-H (excision partial, tooth), 1.FF.53 (implantation of internal device, root of tooth), 1.FF.80 (repair, root of tooth), and 1.FF.87 (excision partial, root of tooth). This definition of day surgeries associated with childhood caries was originally presented in a report entitled "Treatment of Preventable Dental Cavities in Preschoolers: A Focus on Day Surgery Under General Anesthesia" (Canadian Institute for Health Information, 2013). The crude rate were calculated by dividing the number of day surgeries by the appropriate population estimate.

Of note, 2013 population estimates were unavailable, therefore 2012 population estimates were used instead to calculate 2013 rates.

Oral Health-Related Day Surgeries Among Children, 2004-2013

The rate of oral health-related day surgeries among children has decreased significantly between 2004 and 2013 ($p < 0.05$; see Figure 1 & Table 1). The Ontario trend for rates has remained stable of the same 10 year period, while the rate within the North East LHIN has remained higher than the rate for the North Bay Parry Sound District Health Unit (NBPSDHU) region since 2008.

The majority (86.9%) of visits between 2011 and 2013 were due to dental caries, while 13.1% were due to periapical abscess without sinus).

Figure 1. Oral Health-Related Day Surgery Counts & Rates, by Health Region, 2004-2013

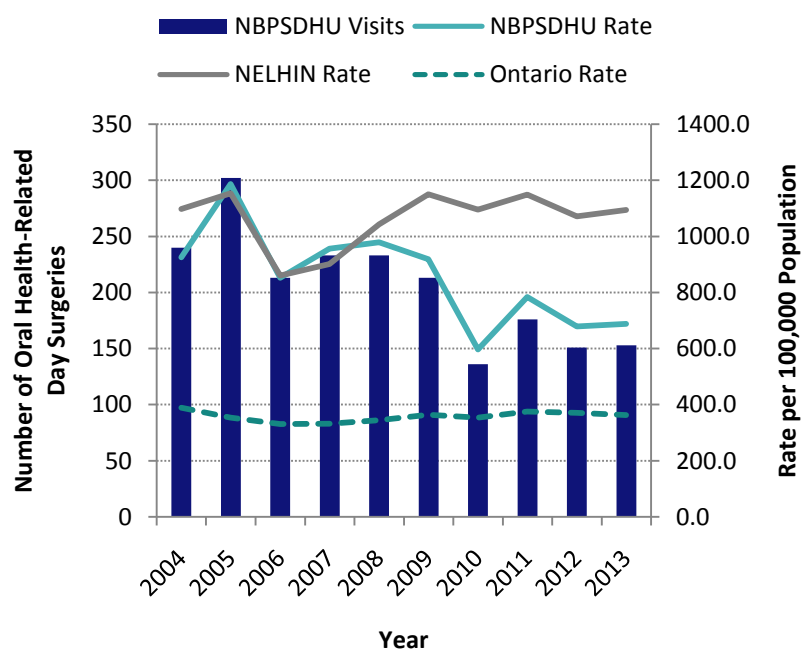


Table 1. Oral Health-Related Day Surgery Counts & Rates, by Health Region, 2004-2013

	Year									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
NBPSDHU region count	240	302	213	233	233	213	136	176	151	153
NBPSDHU region rate	926.1	1,187.0	852.8	956.7	979.3	919.5	597.5	784.5	679.8	688.8
NELHIN rate	1,097.7	1,154.1	860.9	901.5	1,043.1	1,151.2	1,095.9	1,149.9	1,071.8	1,094.9
Ontario rate	389.2	354.1	331.2	332.8	345.0	364.1	354.5	376.0	371.4	363.4

Oral Health-Related Day Surgeries Among Children, By Age & Sex

The three-year (2011-2013) pooled oral health-related day surgery rate was highest among children aged 5 to 9 years old, and children aged 1 to 4 years old (see Table 2; Figure 9). Rates were slightly higher among males compared to females across all age groups.

Table 2. Oral Health-Related Day Surgery Pooled Counts & Rates, by Age & Sex, NBPSDHU Region, 2011-2013

Age group (years)	Gender					
	Female		Male		Total	
	Cases	Rate	Cases	Rate	Cases	Rate
Less than 1	0	0.0	1	60.4	1	29.4
1 to 4	393	5,783.7	419	6,014.9	812	5,900.7
5 to 9	510	6,137.2	563	6,298.2	1,073	6,220.7
10 to 14	63	669.7	67	672.6	130	671.2
15 to 17	14	216.9	17	256.8	31	237.1
Total	980	2,995.3	1067	3,125.2	2,047	3,061.6

Hospitals Visited for Oral Health-Related Day Surgeries Made By Children

The majority of oral health-related day surgeries were performed at the North Bay Regional Health Centre, across all years between 2011 and 2013 (see Table 4). A significant percentage of day surgeries were performed at the Royal Victoria Regional Health Centre in Barrie, ON, and the Stevenson Memorial Hospital in Tecumseth, ON (e.g., 12.4% and 15.0% in 2013, respectively). Of those children who underwent day surgeries performed in Barrie, 22.5% were residents of North Bay, 11.3% were residents of West Nipissing, and 9.9% were residents of Parry Sound. Among those who underwent day surgery at the Stevenson Memorial Hospital, 32.0% were from North Bay, 17.3% were from Parry Sound, and 8.0% were from West Nipissing.

Table 4. Percentage of Oral Health-Related Day Surgeries Among Children, by Hospital, NBPSDHU Region, 2011-2013

Hospital	Year		
	2011	2012	2013
North Bay Regional Health Centre	57.4	61.6	56.2
Stevenson Memorial Hospital (New Tecumseth, ON)	19.9	11.3	15.0
Royal Victorial Regional Health Centre (Barrie, ON)	13.1	19.2	12.4
West Parry Sound Health Centre	2.3	5.3	7.8
Other hospitals	7.4	2.6	8.5

Seasonality for Oral Health-Related Day Surgeries Made By Children

In 2013, the number of oral health-related day surgeries among children was highest during the months of June and November (see Figure 12). The 2013 monthly counts exceeded the 2008-2012 average in April, May, June, and November. None of the 2013 monthly counts exceeded the 2008-2012 average plus 2 standard deviation threshold.

Table 5. Oral Health-Related Day Surgeries Among Children Count, by NBPSDHU Regional Hospitals, NBPSDHU Region, 2013

Month	Measure		
	2013 Count	2008-2012 Average	2008-2012 Average + 2 standard deviations
January	7	16.2	35.9
February	10	14.6	27.3
March	13	16.4	22.7
April	16	15.0	26.6
May	16	14.6	22.7
June	22	18.2	24.7
July	6	12.6	25.9
August	8	11.2	13.4
September	9	14.4	27.3
October	9	18.4	33.3
November	22	14.2	26.5
December	15	16.0	26.9