

HEALTH SURVEILLANCE INDICATORS: 18-MONTH WELL-BABY VISIT



Public Health Relevance

The 18-month well-baby visit is the last in a series of routine immunization visits for children prior to school entry. This visit is a critical point for primary health care providers to assess the developmental progress of children, including motor skills, communicative abilities and behaviour issues. During this visit, primary care providers can also discuss any potential health concerns with parents and/or caregivers and refer children to specialized services, if necessary. Understanding how many children receive the visit is useful for public health service planning because many of the specialized services children are referred to (such as speech and language, hearing and low vision, nutrition and parenting) are provided by public health.

Highlights

1. The rate of 18-month well-baby visits has increased in Toronto since the visit was introduced. In 2013, just over half (52%) of Toronto children received the visit.
2. The rate of 18-month well-baby visits in Toronto was similar to the rest of Ontario and lower than the rest of the Greater Toronto Area.
3. The rate of 18-month well-baby visits ranged from 25.6% to 66.1% across the 140 neighbourhoods in Toronto.
4. Children who live in higher income areas had higher rates of 18-month well-baby visits.

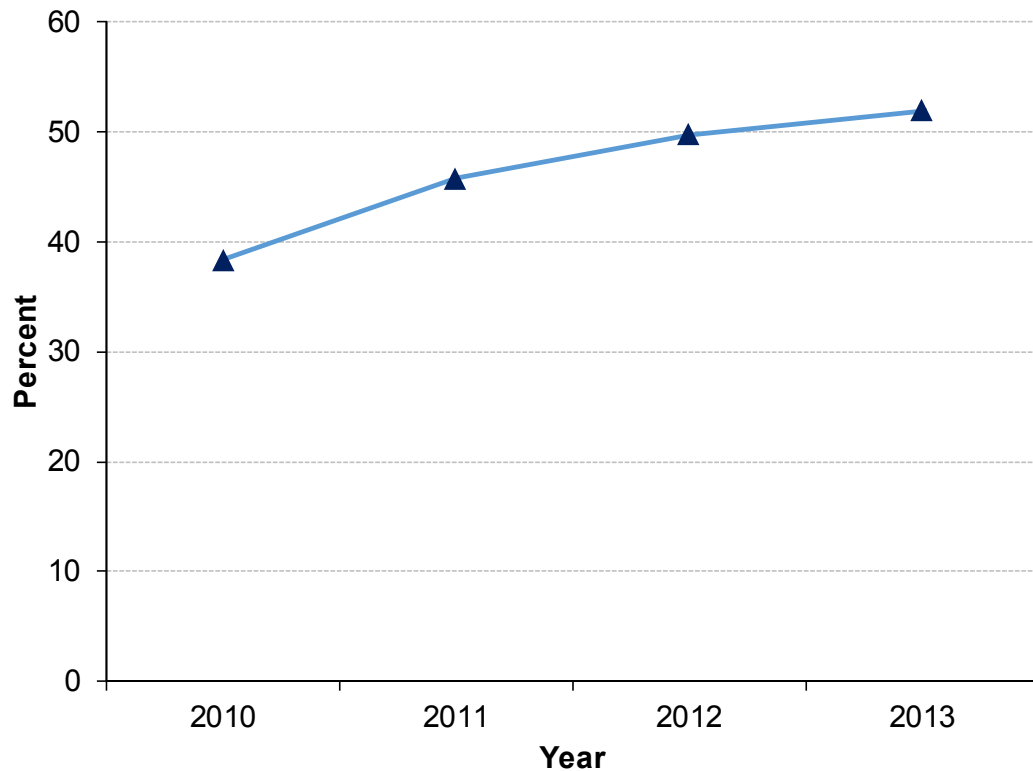
Trends over Time

The rate of 18-month well-baby visits has increased in Toronto since the visit was introduced. In 2013, just over half (52.0%) of Toronto children received the visit.

Figure 1 shows the rate of 18-month well-baby visits for Toronto children aged 1 to 2 years from 2010 to 2013.

The rate of 18-month well-baby visits increased since the visit was introduced in late 2009. In each of the following four years for which data are available, the rate increased significantly compared to the previous year. In 2013, just over half (52.0%) of Toronto children received the 18-month well-baby visit with a primary care physician. This rate is higher than in 2012 (49.8%), 2011 (45.8%), and 2010 (38.4%).

Figure 1: Rates of 18-Month Well-Baby Visits, Children Aged 1 to 2 Years, Toronto, 2010 to 2013



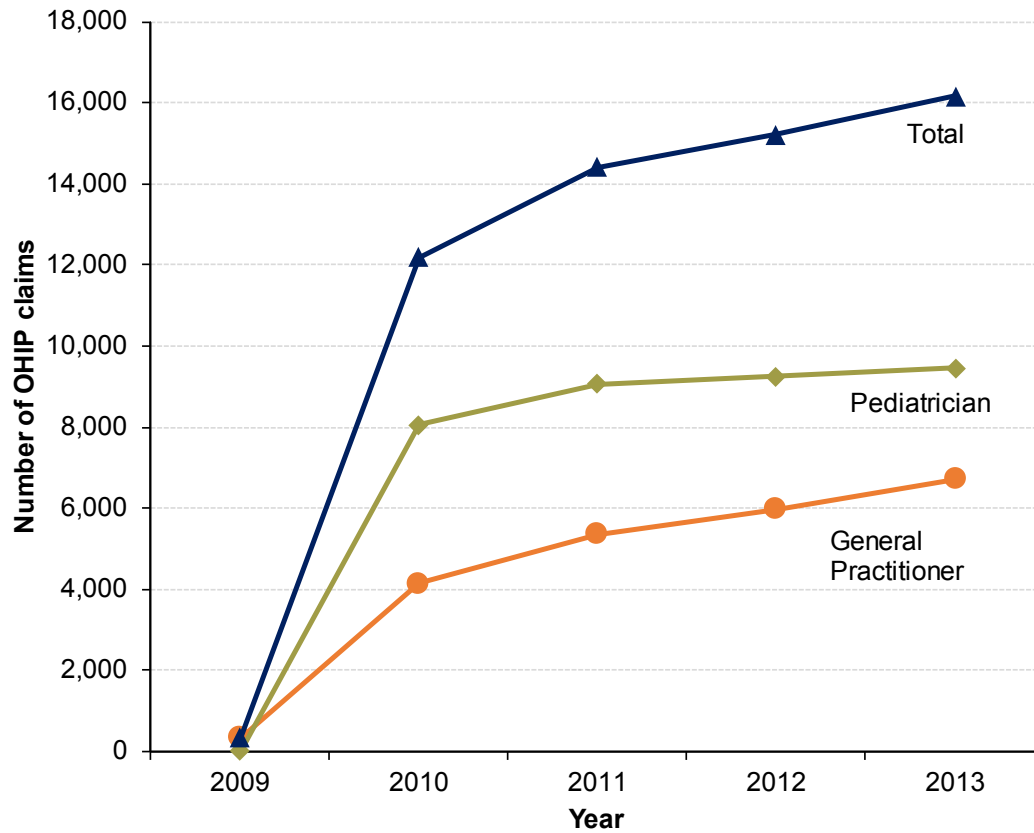
Error bars (I) represent 95% confidence intervals.

Data Source: OHIP and Population, see Data Notes for details.

Further, the absolute number of Ontario Health Insurance Plan (OHIP) claims for the 18-month well-baby visit has increased since the billing code was introduced in late 2009.

Figure 2 shows the number of claims for 18-month well-baby visits conducted between 2009 and 2013. In 2013, a total of 16,160 OHIP claims were made. Of these, general practitioners (GPs) made 6,706 claims, compared to pediatricians who made 9,454. This corresponds to the fact that in Toronto, more young children receive primary care from pediatricians than GPs.

Figure 2: Number of OHIP Claims for 18-Month Well-Baby Visits, Children Aged 1 to 2 Years, Toronto, 2009 to 2013



Data Source: OHIP, see Data Notes for details.

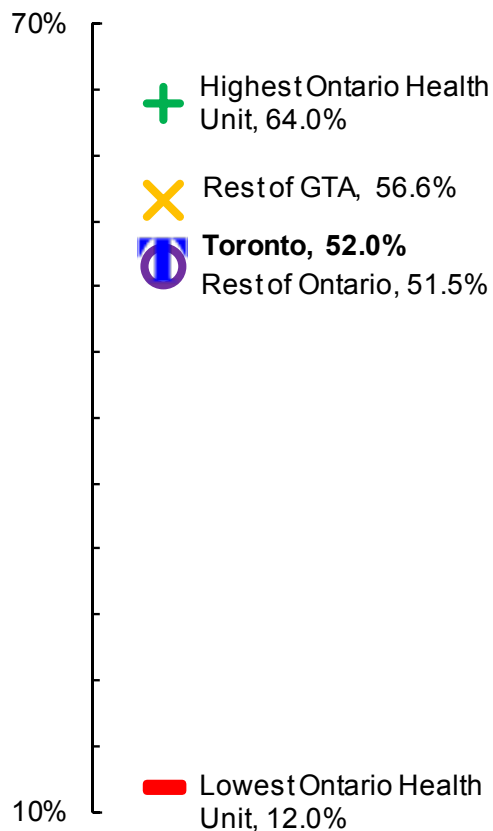
Regional Comparisons

The rate of 18 month well-baby visits in Toronto was similar to the rest of Ontario and lower than the rest of the Greater Toronto Area.

Figure 3 shows the rate of 18-month well-baby visits for Toronto children aged 1 to 2 years in 2013, compared to the rest of Ontario (Ontario excluding Toronto), the rest of the Greater Toronto Area (GTA excluding Toronto) and the Ontario health units with the highest and lowest rates.

Toronto's rate was not significantly different compared to the rest of Ontario. Compared to the rest of the GTA, Toronto's rate was significantly lower. Toronto ranked 12th of the 36 health units in Ontario, with the first ranked health unit having the highest (most favourable) rate.

Figure 3: Rate of 18-Month Well-Baby Visits, Children Aged 1 to 2 Years, Ontario, 2013



Data Source: OHIP and Population, see Data Notes for details.

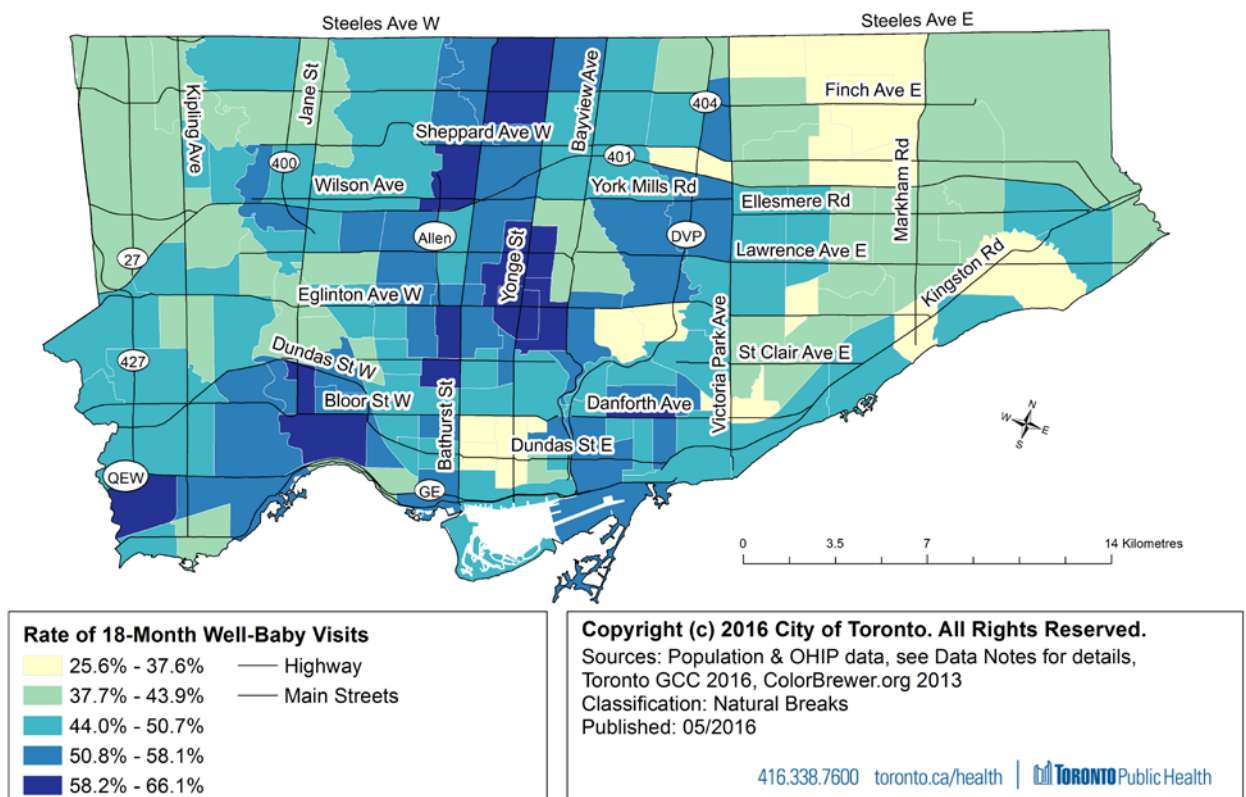
Toronto Neighbourhood Comparisons

The rate of 18-month well-baby visits ranged from 25.6% to 66.1% across the 140 neighbourhoods in Toronto.

Map 1 shows the rate of 18-month well-baby visits for children aged 1 to 2 years, from 2010 to 2013 combined by Toronto neighbourhood.

The rate ranged from 25.6% to 66.1% across the 140 neighbourhoods in Toronto. Higher rates were observed in neighbourhoods in Midtown, North York and parts of the West. Lower rates were observed in parts of Scarborough and parts of the Downtown Core.

Map 1: Rates of 18-Month Well-Baby Visits by Neighbourhood, Children Aged 1 to 2 Years, Toronto, 2010 to 2013 Combined



Rates also varied by Toronto Public Health's Child Health and Development Service Delivery Areas (SDAs). Table 1 shows the rate of 18-month well-baby visit by SDA. The Northeast and Northwest SDAs had statistically significantly higher rates than the rate for Toronto as a whole for 2010 to 2013 combined. Only the East SDA had a significantly lower rate.

Table 1: Rates of 18-Month Well-Baby Visits, Children Aged 1 to 2 Years by Service Delivery Area*, Toronto, 2010 to 2013 Combined

Service Delivery Area	Rate of Well-Baby Visits
East	39.9% L
Northeast	49.6% H
Northwest	49.7% H
Southeast	46.0%
Southwest	46.2%
West	46.9%
Toronto	46.4%

L Significantly lower than the Toronto total indicating a less favourable result for that group.

H Significantly higher than the Toronto total indicating a more favourable result for that group.

* Toronto Public Health's service delivery areas for Child Health and Development.

Data Source: OHIP and Population, see Data Notes for details.

Socio-demographics

Children who live in higher income areas had higher rates of well-baby visits.

Table 2 shows the rates of 18-month well-baby visits in Toronto by income quintile for 2010 to 2013 combined. Quintile 1 includes areas in Toronto with the highest percent of people living below the low income measure (LIM), making it the lowest income quintile. Quintile 5 contains areas in Toronto with the lowest percent of people living below the LIM, making it the highest income quintile.

A socio-economic gradient is observed with children living in lower income quintiles having lower rates. Rates in quintiles 1 to 4 were significantly lower than in quintile 5, the highest income quintile.

Table 2: Rates of 18-Month Well-Baby Visits, Children Aged 1 to 2 Years by Income Quintile, Toronto, 2010 to 2013 Combined

Income Quintile	Rate of Well-Baby Visits
1 (Lower Income)	39.2% L
2	42.5% L
3	45.9% L
4	50.5% L
5 (Higher Income)	56.0%

L Significantly lower than Quintile 5, the higher income quintile, indicating a less favourable result for that group.

H Significantly higher than Quintile 5, the higher income quintile, indicating a more favourable result for that group.

Please see Definitions for income level.

Data Source: OHIP, Population and Income Quintiles, see Data Notes for details.

Data Notes

Notes

- In October 2009, the Ontario Ministry of Health and Long Term Care (MOHLTC) and the Ministry of Children and Youth Services introduced new fee codes for the Enhanced 18-Month Well-Baby Visit (otherwise referred to as '18-month well-baby visit' in this document). This included a separate code for family physicians and paediatricians. Medical services information is obtained from the Claims History Database which is based on Ontario Health Insurance Plan (OHIP) billing codes.
- The 18-month well-baby visit includes the completion of well-baby care and additional documentation of a discussion of the child's development using screening tools (i.e. Rourke Baby Record and Nipissing District Developmental Screen) completed by the caregiver and the physician.
- The Claims History Database contains service and payment information for fee-for-service claims submitted by physicians and other licensed health professionals. It also includes some of the "shadow billings" by providers in organizations covered by alternate payment arrangements. Since only some of the claims from the MOHLTC's various alternate payment programs or "shadow billers" are included, there may be undercounting of the total volume of certain services. This could include physicians who do not use fee-for-service billing, such as those who work in community health centres. In 2014, the 21 CHCs in Toronto provided services to approximately 2,704 or 9% of the children aged 1 to 2 years (Association of Ontario Health Centres, 2016).
- Data counts include the number of distinct patients with a valid health card number during this time period. Children without a fixed address and recent newcomers may be missed. These children represent vulnerable populations in Toronto.
- Residence is determined by where the patient lives not where the service was provided.
- Denominator data was calculated using population estimates for children aged 1 to 2 years in the Registered Persons Database (RPDB) from IntelliHEALTH ONTARIO. This database includes all children registered for health services in Ontario.
- Significant differences were estimated using overlapping confidence intervals. Although this method is conservative ($\alpha \sim < 0.01$) and most appropriate when comparing mutually exclusive groups, it was chosen as an objective means of making conclusions on population-based data.
- Toronto is compared to the rest of Ontario (Ontario with Toronto removed) as opposed to the Ontario total because Toronto comprises a large proportion of the Ontario population. Toronto is also compared to the rest of the Greater Toronto Area (GTA) for the same reason.

- Data used for regional comparisons normally shows the rates for the Ontario health units with the highest and the lowest rates. The purpose of these comparisons is to show the rate for Toronto relative to other areas in Ontario. If data for the health unit with the lowest rate is suppressed due to small numbers, the rate for the next lowest health unit with sufficient numbers is shown instead.
- In rural communities in Ontario, where a larger proportion of children may receive primary health care from providers other than physicians (i.e. nurse practitioners or registered nurses who do not use fee-for-service billing), there may be undercounting of the total volume of visits. As such, rates in the rest of Ontario may be underestimated.
- For analyses using smaller geographic areas (i.e. neighbourhood and income analyses), data was summed across 2010 to 2013 to mitigate the effect of inconsistencies in how the children in the numerator and denominator were selected from IntelliHEALTH.

Definitions

18-Month Well-Baby Visits are the services rendered when a physician performs all of the following for a child aged 17 to 24 months: (1) those services defined as "well-baby care"; (2) an 18-month age appropriate developmental screen; and (3) review with the child's guardian of a brief standardized tool that aids in the identification of children at risk of development disorder.

95% Confidence Interval is the range within which the true value lies, 19 times out of 20.

Income Quintiles: Five groups, each containing approximately 20% of the population, were created by ranking Toronto's census tracts based on the percent of residents living below the Statistics Canada after-tax Low Income Measure (LIM). Quintile 1 includes the census tracts with the highest percent of people living below the LIM and is therefore the lowest income quintile. Quintile 5 includes the census tracts with the lowest percent of people living below the LIM, making it the highest income quintile. LIM is an income level set at 50% of the median income in Canada in a given year, adjusted for household size.

Rate of 18-Month Well-Baby Visits is the number of children receiving the visit divided by the total population of children aged 1 to 2 years who were registered for the Ontario Health Insurance Plan (OHIP).

Sources

OHIP: Medical Services Claims History Database 2009 to 2013, Ontario Ministry of Health and Long Term Care, IntelliHEALTH ONTARIO, Date Extracted: February 2016. Used in:

- Figure 1, 2 and 3
- Map 1
- Table 1 and 2

Income Quintiles: Income Estimates for Census Families and Individuals (T1 Family File), Table F-18, Statistics Canada, 2010-2013. Used in:

- Table 2

Denominator Data:

Population: Registered Persons Database 2010 to 2013, Ontario Ministry of Health and Long Term Care, IntelliHEALTH ONTARIO, Date Extracted: February 2016. Used in:

- Figure 1, 2 and 3
- Map 1
- Table 1 and 2

Health Surveillance Indicator: 18-Month Well-Baby Visit

Category: Child Health

Prepared: December, 2016

This indicator report is part of a series that informs the ongoing assessment of Toronto's health status. For a full list of the indicators, please go to: www.toronto.ca/health.