



POPULATION HEALTH STATUS 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 late 2009. In 2015, 58.0% of Toronto children received the visit.
2. The rate of 18-month well-baby visits in Toronto was higher than 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 27.2% to 74.7% across the 140 neighbourhoods in Toronto.
4. Children who live in higher income areas had higher rates of 18-month well-baby visits.

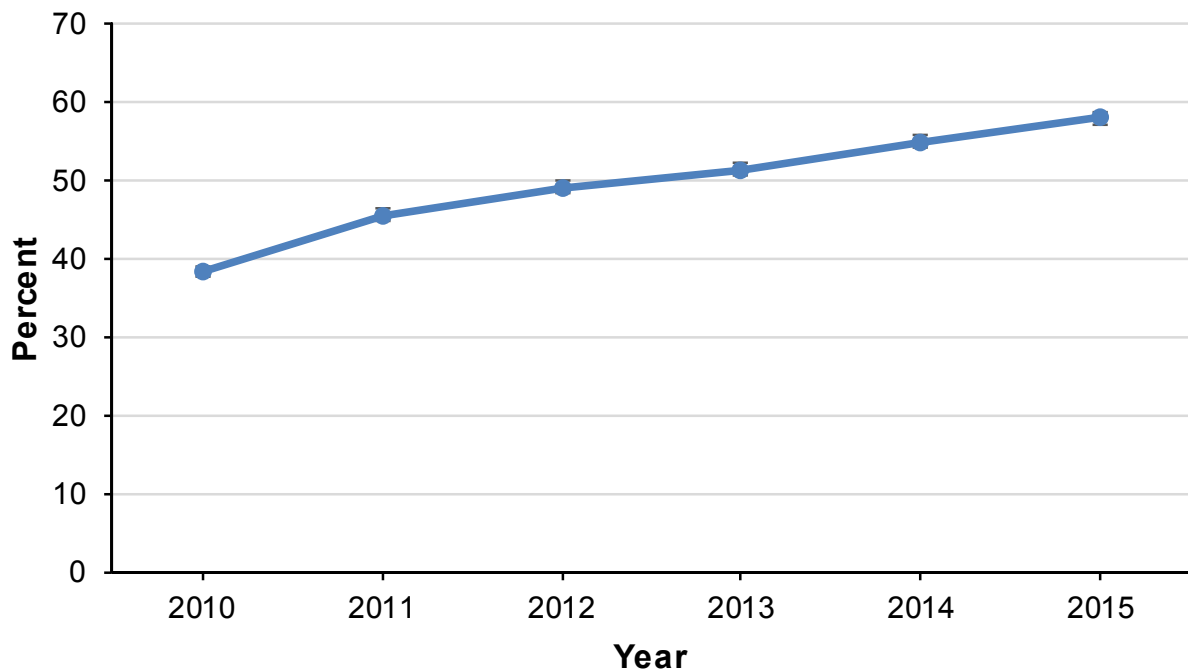
Trends over Time

The rate of 18-month well-baby visits has increased in Toronto since the visit was introduced in late 2009. In 2015, 58.0% of Toronto children received the visit.

Figure 1 shows the rate of 18-month well-baby visits for Toronto children one year of age from 2010 to 2015.

The rate of 18-month well-baby visits increased since the visit was introduced in late 2009. In each of the following six years for which data are available, the rate increased compared to the previous year. In 2015, 58.0% of Toronto children had an 18-month well-baby visit. This rate is higher than the rate in all previous years since the visit was introduced.

Figure 1: Rates of 18-Month Well-Baby Visits, Children One Year of Age, Toronto, 2010 to 2015



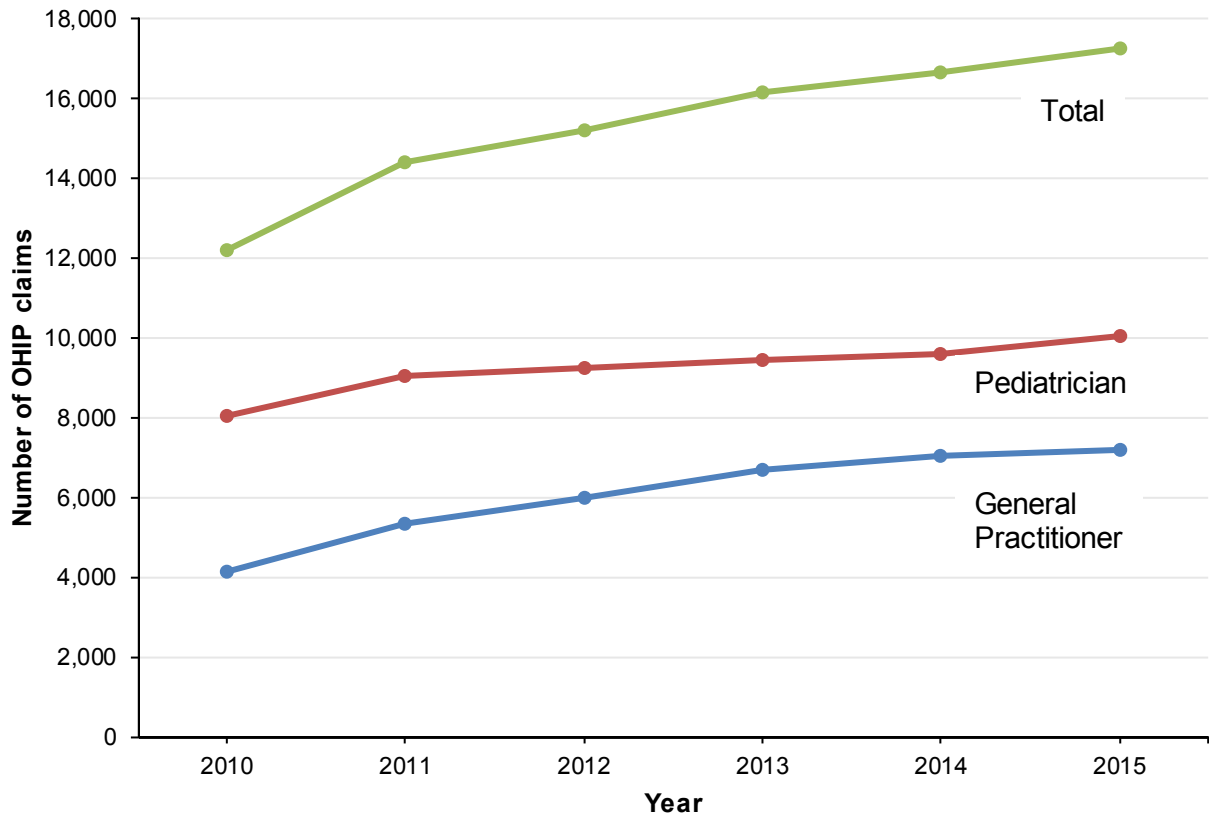
95% confidence intervals not visible due to their small size relative to the scale of the graph

Data Sources: see Data Notes.

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.

Figure 2 shows the number of claims for 18-month well-baby visits conducted between 2010 and 2015. In 2015, a total of 17,242 OHIP claims were made. Of these, general practitioners (GPs) made 7,208 claims, compared to pediatricians who made 10,034. 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 One Year of Age, Toronto, 2010 to 2015



Data Sources: see Data Notes.

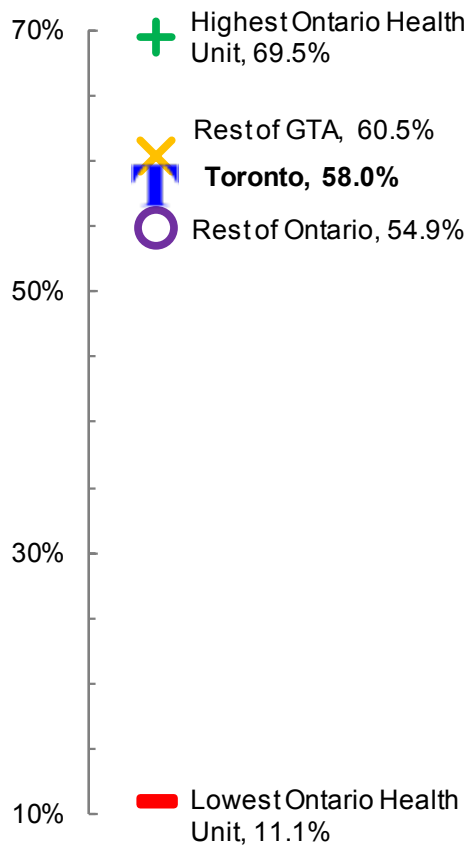
Regional Comparisons

The rate of 18-month well-baby visits in Toronto was higher than 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 one year of age in 2015, 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 significantly higher than the rest of Ontario. Compared to the rest of the GTA, Toronto's rate was significantly lower. Toronto ranked 7th 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 One Year of Age, Toronto Compared to Other Selected Regions in Ontario, 2015



Data Sources: see Data Notes.

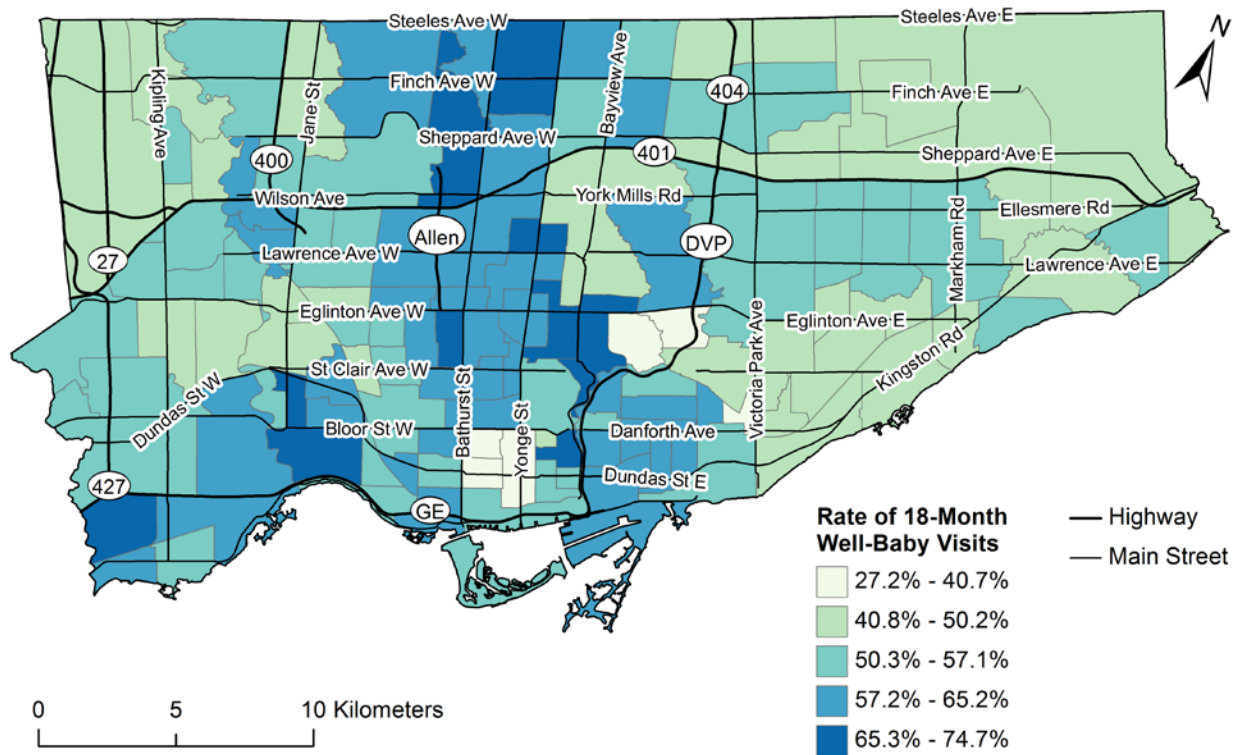
Toronto Neighbourhood Comparisons

The rate of 18-month well-baby visits ranged from 27.2% to 74.7% across the 140 neighbourhoods in Toronto.

Map 1 shows the rate of 18-month well-baby visits for children one year of age, from 2012 to 2015 combined by Toronto neighbourhood.

The rate ranged from 27.2% to 74.7% across the 140 neighbourhoods in Toronto. Higher rates were observed in neighbourhoods in Midtown, North York, and the South-West area of the city. Lower rates were observed in the North-West area of the city, parts of Scarborough, and parts of the Downtown Core.

Map 1: Rates of 18-Month Well-Baby Visits by Neighbourhood, Children One Year of Age, Toronto, 2012 to 2015 Combined



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Data Sources: see Data Notes.

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. In 2015, The Northeast and Northwest SDAs had significantly higher rates than the rate for Toronto as a whole. Only the East SDA had a significantly lower rate.

Table 1: Rates of 18-Month Well-Baby Visits, Children One Year of Age by Service Delivery Area*, Toronto, 2015

Service Delivery Area	Rate of Well-Baby Visits
West	60.0%
Northwest	62.8% ^H
Southwest	58.9%
Northeast	61.4% ^H
Southeast	55.1%
East	50.2% ^L
Toronto	58.0%

^L Significantly lower than the Toronto total.

^H Significantly higher than the Toronto total.

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

Data Source: see Data Notes.

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 2015. 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 areas having lower rates. Rates in the four lower income quintiles (Quintiles 1 to 4) were significantly lower compared to the highest income quintile (Quintile 5).

Table 2: Rates of 18-Month Well-Baby Visits, Children One Year of Age by Income Quintile, Toronto, 2015

Income Quintile	Rate of Well-Baby Visits
1 (Lower Income)	49.2% ^L
2	55.0% ^L
3	56.9% ^L
4	63.8% ^L
5 (Higher Income)	68.3%

^L Significantly lower than Quintile 5, the highest income group.

Data Source: see Data Notes.

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 (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 on 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 (CHCs). 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 one year of age 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. Also note that multiple comparisons performed in the analysis were not taken into consideration when choosing the level of significance to test.

- 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.
- 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 Map 1 the Natural Breaks (Jenks) classification was used.
- For analyses using smaller geographic areas (i.e. neighbourhood analysis), data were summed across multiple years (2012 to 2015) 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 disorders.

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

Income Quintiles are five groups, each containing approximately 20% of the population. They 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), using the 2015 income tax filer data. 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 one year of age who were registered for the Ontario Health Insurance Plan (OHIP).

Sources

OHIP: Medical Services Claims History Database 2010 to 2015, Ontario Ministry of Health and Long Term Care, IntelliHEALTH ONTARIO, Date Extracted: January 5, 2018. Used in:

- Figures 1, 2, and 3
- Map 1
- Tables 1 and 2

Income Quintiles: Statistics Canada – Table F-18 annual income estimates for census families and individuals (T1 Family file), 2015. Used in:

- Table 2

Denominator Data:

Population: Ontario Registered Persons Database 2010 to 2015, Ontario Ministry of Health and Long Term Care, IntelliHEALTH ONTARIO, Date Extracted: January 9, 2018. Used in:

- Figures 1, 2, and 3
- Map 1
- Tables 1 and 2

Population Health Status Indicator: 18-Month Well-Baby Visit

Category: Child and Adolescent Health

Prepared: April, 2018

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