HEALTH SURVEILLANCE INDICATORS:
BIRTH AND FERTILITY

Public Health Relevance

Births represent a primary component of population growth, while fertility reflects the reproductive behaviours and attitudes of women. Since birth and fertility trends influence population structure, tracking of these trends can inform service planning and delivery by local public health departments.

Two important public health issues in this area are teen births and the growing trend towards delayed childbearing. Both teenage mothers and older mothers (aged 35 to 40 years and older) are at an increased risk for pregnancy complications, while babies born to these mothers have an increased risk of poor birth outcomes and perinatal mortality.

Highlights

1. General fertility remained relatively stable in Toronto from 2002 to 2011. The age-specific fertility rate was highest for females aged 30 to 34 years throughout this time period.

2. In 2011, Toronto had a significantly lower general fertility rate than the rest of Ontario and the rest of the Greater Toronto Area. Conversely, Toronto had the highest fertility rate in older females, aged 40 to 49, compared to all other Ontario health units.

3. In 2011, areas in northwest Toronto, East York and Scarborough had clusters of neighbourhoods with higher general fertility rates than the city overall.

4. Women in Toronto gave birth to just over 30,500 newborns in 2011. Those with lower incomes tended to have higher general and teen fertility rates. Those with higher incomes tended to have higher fertility rates in females aged 40 to 49.

Trends Over Time

General fertility remained relatively stable in Toronto from 2002 to 2011. The page age-specific fertility rate was highest for females aged 30 to 34 years throughout this time period.

Figure 1 shows the general fertility rate (number of live births per 1,000 females aged 15 to 49 years) for Toronto between 2002 and 2011. The general fertility rate remained relatively stable during this ten year period, at about 42 births per 1,000 females aged 15 to 49 years.

Figure 1: General Fertility Rate, Females Aged 15 to 49 Years, Toronto, 2002 to 2011
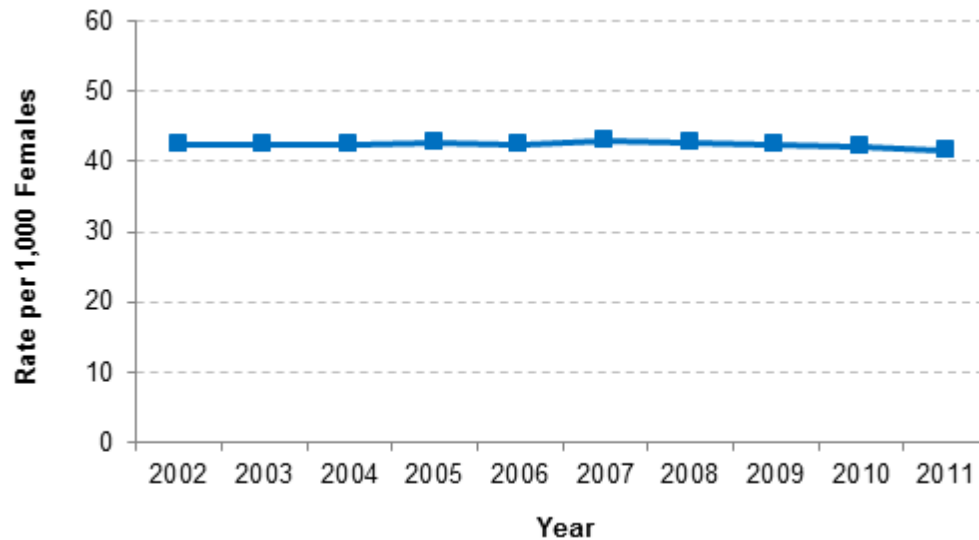
Data Source: see Data Notes.

Figure 2 shows the number of live births per 1,000 females in specific age groups for Toronto between 2002 and 2011. Over this ten year period there were changes in the age-specific fertility rates, reflecting a trend towards delayed childbearing.

There was an overall decrease in fertility rates for females under age 30. The rates decreased by:

- 32% among teens (from about 11 to 8 births per 1,000 females).
- 27% among 20 to 24 year olds (from 39 to 29 births per 1,000 females).
- 10% among 25 to 29 year olds (from about 70 to 63 births per 1,000 females).

Conversely, there was an overall increase in fertility rates for women aged 30 and older. The rates increased by:

- 5% among 30 to 34 year olds (from about 89 to 93 births per 1,000 females).
- 19% among 35 to 39 year olds (from about 54 to 64 births per 1,000 females).
- 33% among 40 to 44 year olds (from about 12 to 16 births per 1,000 females).
- 100% (doubled) among 45 to 49 year olds (from about 0.6 to 1.2 births per 1,000 females).

Each year between 2002 and 2011, Toronto's age-specific fertility rate was the highest among 30 to 34 year olds and the lowest among 45 to 49 year olds. For more than a decade from 1996, females aged 25 to 29 had the second highest fertility rate followed by those aged 35 to 39. The gap between these two age groups has narrowed over time with similar rates for these two age groups from 2007 to 2011.

Figure 2: Age-Specific Fertility Rates, Females Aged 15 to 49 Years, Toronto, 2002 to2011
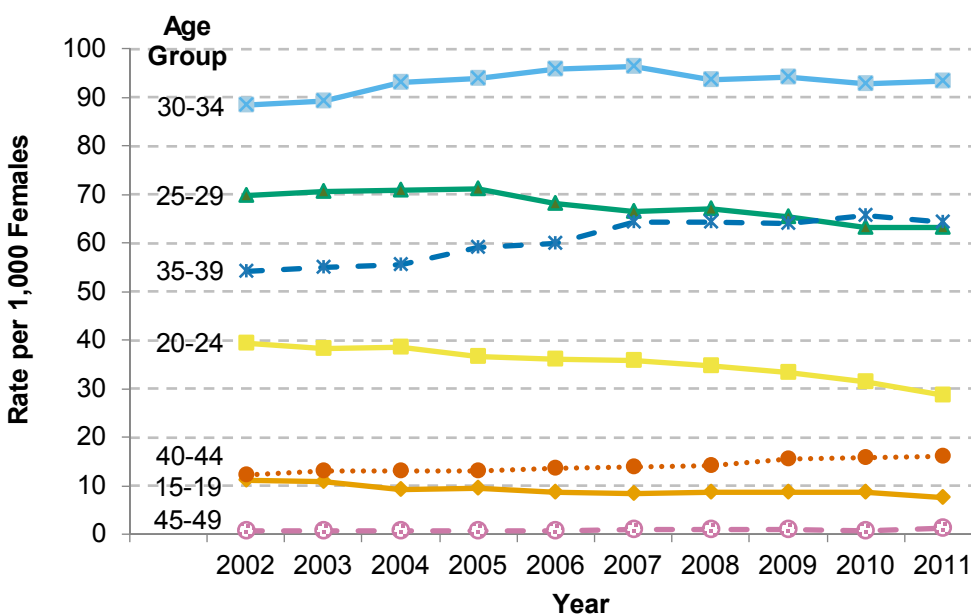
Data Source: see Data Notes.

Regional Comparisons

In 2011, Toronto had a significantly lower general fertility rate than the rest of Ontario and the rest of the Greater Toronto Area. Conversely, Toronto had the highest fertility rate in older females, aged 40 to 49, compared to all other Ontario health units.
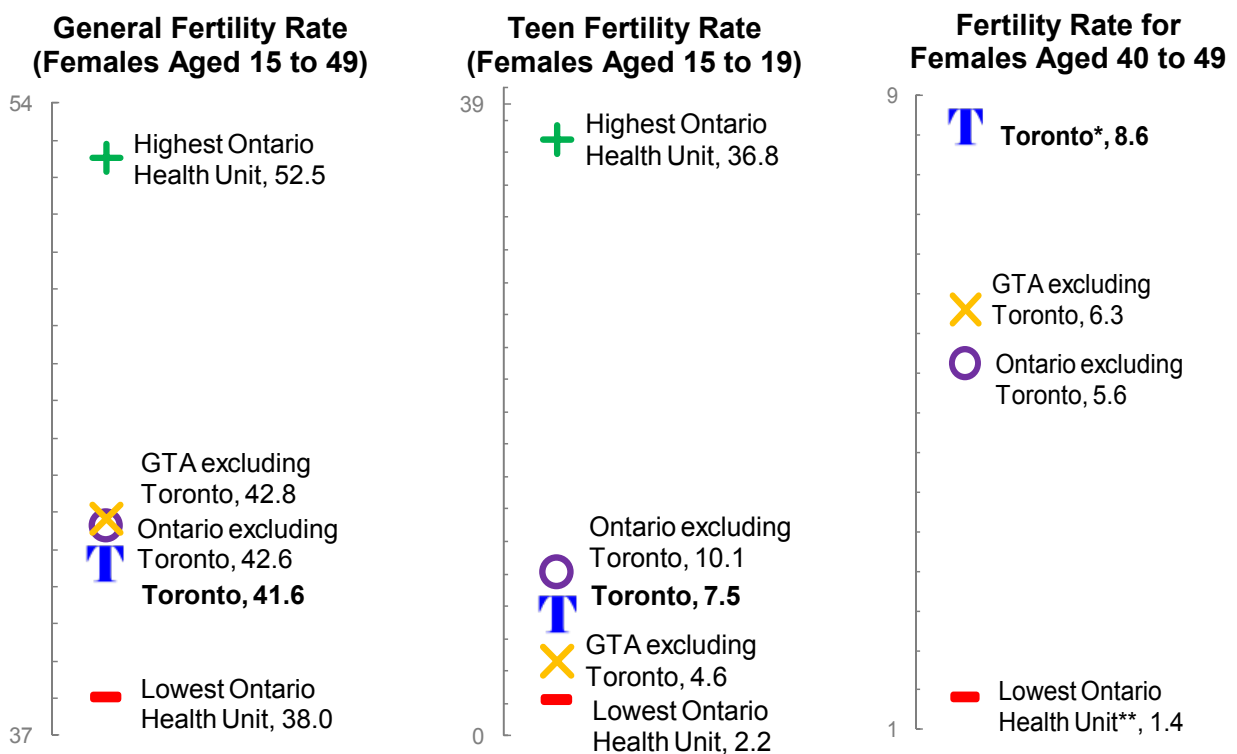
Figure 3 shows the general fertility rate, teen fertility rate, and fertility rate for females aged 40 to 49 years for Toronto in 2011, compared to the rest of Ontario (Ontario excluding Toronto), the rest of the Greater Toronto Area (GTA excluding Toronto), and the Ontario health units with the highest and lowest rates.

The general fertility rate for Toronto was significantly lower than the rest of the GTA and rest of Ontario. Toronto ranked 13th of the 36 health units in Ontario, with the first ranked health unit having the lowest rate.

The teen fertility rate for Toronto was significantly lower than rest of Ontario but significantly higher than the rest of the GTA. Toronto ranked 6th of the 36 health units in Ontario, with the first ranked health unit having the lowest rate.

The fertility rate for females aged 40 to 49 years for Toronto was the highest in Ontario. The Toronto rate was significantly higher than the rest of the GTA and rest of Ontario.

Figure 3: Fertility Rates, per 1,000 Females for Three Age Groups, Selected Regions in Ontario, 2011

General Fertility Rate (Females Aged 15 to 49)

54

+ Highest Ontario Health Unit, 52.5

GTA excluding Toronto, 42.8
Ontario excluding Toronto, 42.6
Toronto, 41.6

— Lowest Ontario Health Unit, 38.0

37

Teen Fertility Rate (Females Aged 15 to 19)

39

+ Highest Ontario Health Unit, 36.8

Ontario excluding Toronto, 10.1
Toronto, 7.5

GTA excluding Toronto, 4.6
— Lowest Ontario Health Unit, 2.2

0

Fertility Rate for Females Aged 40 to 49

9

T **Toronto*, 8.6**

X GTA excluding Toronto, 6.3
O Ontario excluding Toronto, 5.6

— Lowest Ontario Health Unit**, 1.4

1

* Toronto had the highest fertility rate for females aged 40 to 49 among Health Units in Ontario.
**Data for the lowest Ontario health unit is suppressed due to small numbers (i.e., fewer than five births). The next lowest rate that can be reported is shown in the graph. Data Source: See Data Notes.

Toronto Neighbourhood Comparisons

In 2011, areas in northwest Toronto, East York and Scarborough had clusters of neighbourhoods with higher general fertility rates than the city overall.

Map 1 shows the general fertility rate by Toronto neighbourhood for 2011.
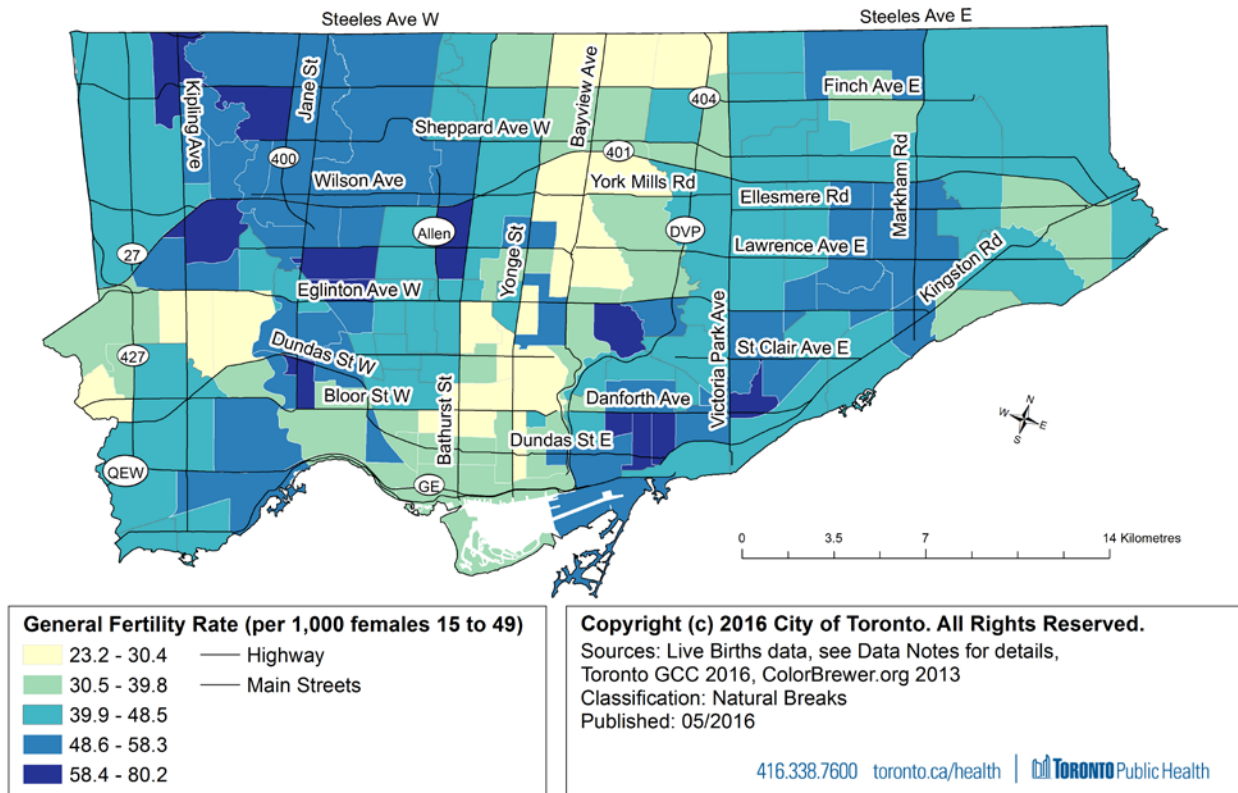
Areas in northwest Toronto, East York and Scarborough had clusters of neighbourhoods with higher rates than the city overall. Some neighbourhoods with significantly higher rates included:

- Blake-Jones
- Brookhaven-Amesbury
- Englemount-Lawrence

- Oakridge
- Runnymede-Bloor West Village
- Thorncliffe Park.

Areas in central Etobicoke, downtown and central Toronto, and North York had clusters of neighbourhoods with lower rates than the city overall. Some neighbourhoods with significantly lower rates included:

- Bridle Path-Sunnybrook-York Mills
- Church-Yonge Corridor
- Hillcrest Village

- Palmerston-Little Italy
- St. Andrew-Windfield
- University

Map 1: General Fertility Rate by Neighbourhood, Females Aged 15 to 49 Years, Toronto 2011

General Fertility Rate (per 1,000 females 15 to 49)

	General Fertility Rate
	23.2 - 30.4
	30.5 - 39.8
	39.9 - 48.5
	48.6 - 58.3
	58.4 - 80.2

— Highway
— Main Streets

Map 2 shows the teen fertility rate by Toronto neighbourhood for 2007 to 2011 combined.
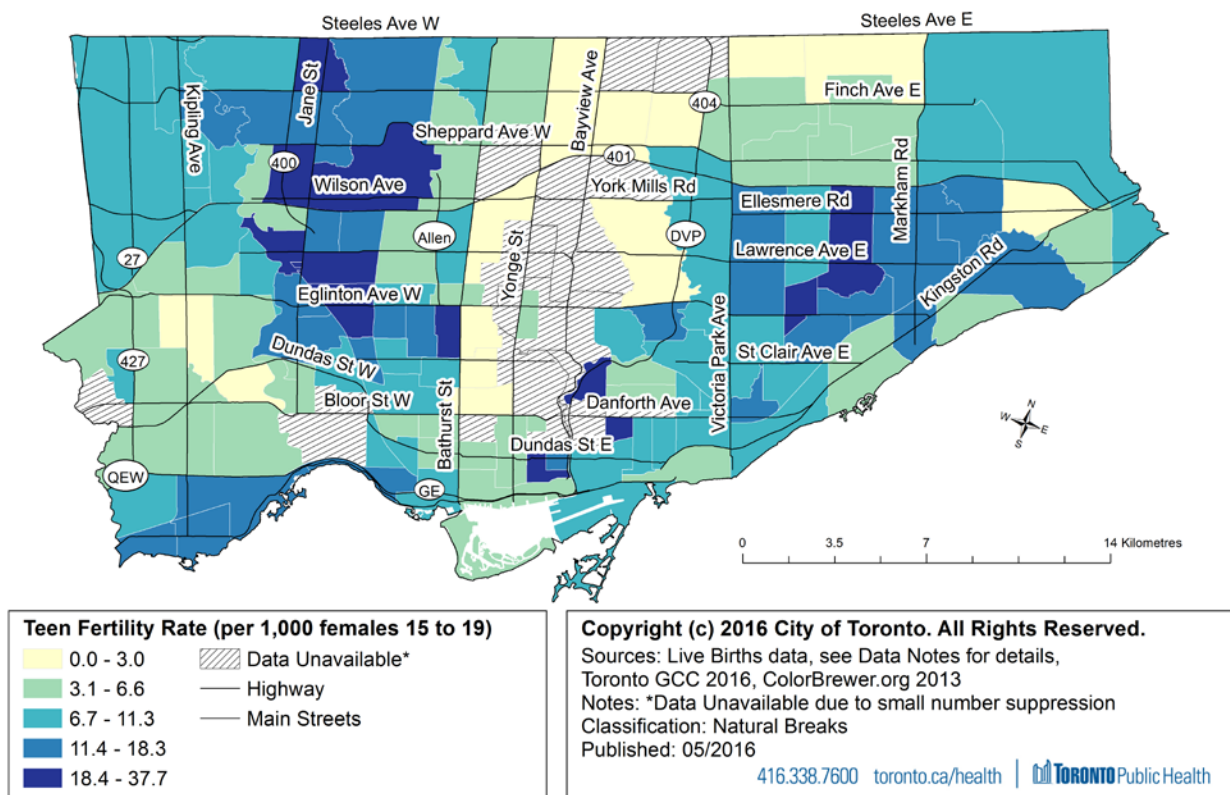
Areas in northwest Toronto and central Scarborough had clusters of neighbourhoods with higher rates than the city overall. Some neighbourhoods with significantly higher rates included:

- Bendale
- Black Creek
- Broadview North

- Humewood-Cedarvale
- Keelesdale-Eglinton West
- Moss Park

Areas in central Etobicoke, downtown Toronto, and North York had clusters of neighbourhoods with lower rates than the city overall. Some neighbourhoods with significantly lower rates included:

- Banbury-Don Mills
- Bedford Park-Nortown
- Casa Loma

- Forest Hill South
- Kingsway South
- Willowdale East

Map 2: Teen Fertility Rate by Neighbourhood, Females Aged 15 to 19 Years, Toronto, 2007 to 2011 Combined

Teen Fertility Rate (per 1,000 females 15 to 19)

0.0 - 3.0	Data Unavailable*
3.1 - 6.6	Highway
6.7 - 11.3	Main Streets
11.4 - 18.3	
18.4 - 37.7	

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Sources: Live Births data, see Data Notes for details,
Toronto GCC 2016, ColorBrewer.org 2013
Notes: *Data Unavailable due to small number suppression
Classification: Natural Breaks
Published: 05/2016

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Map 3 shows the fertility rate for females aged 40 to 49 by Toronto neighbourhood for 2009 to 2011 combined.

Areas in downtown and midtown Toronto, North York and South-Central Toronto had clusters of neighbourhoods with higher rates than the city overall. Some neighbourhoods with significantly higher rates included:

- Bedford Park-Nortown
- Casa Loma
- Lawrence Park North

- Runnymede-Bloor West Village
- The Beaches
- Yonge-Eglinton

Areas in Etobicoke and Scarborough had clusters of neighbourhoods with lower rates than the city overall. Some neighbourhoods with significantly lower rates included:

- Caledonia-Fairbanks
- Etobicoke West Mall
- Humber Summit

- Kennedy Park.
- O'Conner-Parkview
- West Humber-Clairville

Map 3: Fertility Rate for Females Aged 40 to 49 Years by Neighbourhood, Toronto, 2009 to 2011 Combined
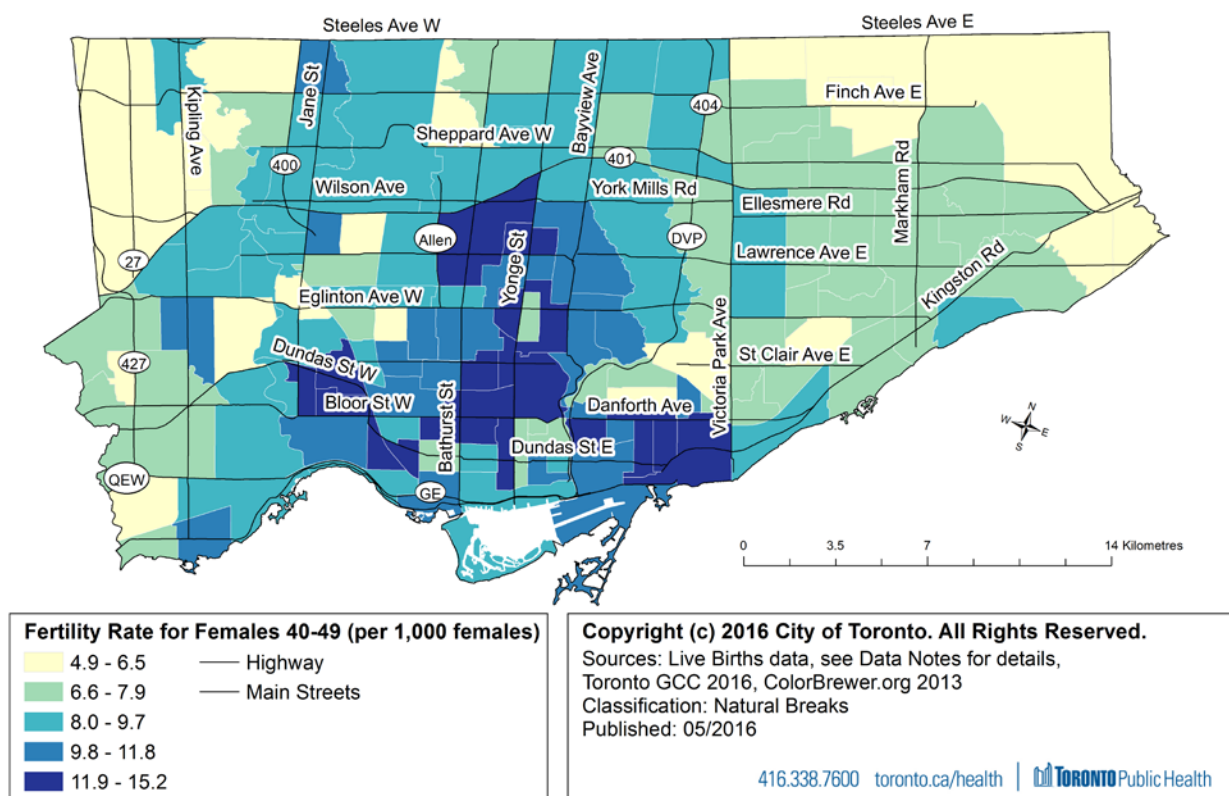
Socio-demographics

Women in Toronto gave birth to just over 30,500 newborns in 2011. Those with lower incomes tended to have higher general and teen fertility rates. Those with higher incomes tended to have higher fertility rates in females aged 40 to 49.

Women in Toronto gave birth to just over 30,500 newborns in 2011.Tables 1, 2 and 3 show the distribution of these births by mother's age group and selected birth characteristics. Over 80% of babies were born to females in their late twenties and thirties. The sex ratio at birth was about 106 baby boys to 100 baby girls. The vast majority of newborns were singletons (97%); born with a healthy birth weight (92%); and full-term at birth (92%). The indicators for preterm births, multiple births, and low birth weight are reported separately to allow for more in-depth analysis.

Table 1: Distribution of Live Births by Mother's Age Group, Toronto, 2011

Mother's Age Group	Number of Births	Percent of Total)
15 to 19 years	559	1.8%
20 to 24 years	2,826	9.3%
25 to 29 years	7,367	24.1%
30 to 34 years	10,910	35.8%
35 to 39 years	6,966	22.8%
40 to 44 years	1,744	5.7%
45 to 49 years	136	0.4%

Data Source: see Data Notes.

Table 2: Distribution of Live Births by Sex, Toronto, 2011

Baby's Sex	Number of Births	Percent of Total
Female	14,836	48.6%
Male	15,692	51.4%

Data Source: see Data Notes

Table 3: Distribution of Live Births by Birth Type, Toronto, 2011

Birth Type	Number of Births	Percent of Total
Singleton	29,455	96.5%
Multiple	1,073	3.5%

Data Source: see Data Notes

Table 4 shows the general fertility rate, teen fertility rate, and fertility rate for females aged 40 to 49 years by income quintile for 2007 to 2009 combined. Quintile 1 contains the 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 the areas in Toronto with the lowest percent of people living below the LIM, making it the highest income quintile.

A socio-economic gradient was observed in the general and teen fertility rates with lower income quintiles having higher rates. For general fertility, rates in the three lowest income quintiles (Quintiles 1 to 3) were significantly higher than the highest income quintile (Quintile 5). For teen fertility, rates in quintiles 1 to 4 were all significantly higher than quintile 5.

Conversely, fertility rates for females aged 40 to 49 in lower income quintiles (Quintiles 1 to 4) were all significantly lower than the highest income quintile (Quintile 5).

Table 4: Fertility Rates per 1,000 Females for Three Age Groups, by Income Quintile, Toronto, 2009 to 2011 Combined

IncomeQuintile	General Fertility Rate (Females 15 to 49)	Teen Fertility Rate (Females 15 to 19)	Fertility Rate for Females Aged 40 to 49
Quintile 1 (Lowest)	51.1 **H**	12.2 **H**	8.8 **L**
Quintile 2	44.8 **H**	9.8 **H**	7.5 **L**
Quintile 3	45.0 **H**	9.6 **H**	7.9 **L**
Quintile 4	40.3	7.5 **H**	9 1 **L**
Quintile 5 (Highest)	40.9	2.4	10.4

H Significantly higher than Quintile 5, the highest income group.

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

Source: see Data Notes.

Births to Parents without Access to Permanent Housing

Every year a small percentage of babies in Toronto are born into families without access to permanent housing. These children often live in poverty and lack access to adequate nutrition, which in turn put them at higher risks for numerous acute and chronic physical and mental health disorders.

A 2013 study by the Young Parents No Fixed Address (YPNFA) initiative estimated that in 2012, approximately 300 babies were born to parents without access to safe, secure and affordable housing. For more information about the YPNFA initiative or the study, please visit: http://www.ypnfa.com.

Data Notes

Notes

- Significant differences were estimated using overlapping confidence intervals. Although this method is conservative ($\alpha < 0.01$) and most appropriate when comparing mutually exclusive groups, it was chosen as an objective means of making conclusions on population-based data. Also note that the multiple comparisons performed in the analysis were not taken into consideration when choosing the level of significance to test.

- Time trend analysis is based on data from the most recent 10 year period or, when there are fewer than 10 years of data, from the earliest available year of complete and reliable data.

- Fertility rates for 2009 to 2011 are based on preliminary population estimates and therefore subject to minor adjustments in the future.

- Toronto is compared to Ontario excluding Toronto and to the Greater Toronto Area (GTA) excluding Toronto rather than to Ontario and the GTA including Toronto because Toronto comprises such a large proportion of these two areas. Excluding Toronto therefore results in more meaningful comparisons.

- Distribution by mother's age group excluded births to females under 15 and older than 49 years. There were 18 births to these females in 2011.

- Totals from Tables 1, 2, and 3 may not match overall total because analyses excluded birth records with missing information.

Definitions

Age-Specific Fertility Rate is the number of live births to females of particular age group per 1,000 females in the age group**.**

General Fertility Rate is the number of live births during a given period per 1,000 females aged 15 to 49 years.

GTA excluding Toronto means the Greater Toronto Area (GTA) with Toronto removed from the GTA data.

Income Quintiles: 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 2010 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 family income in Canada in a given year, adjusted for household size.

Ontario excluding Toronto means Ontario with Toronto removed from the Ontario data.

Sex defines people based on their biological characteristics, whereas gender is a socially constructed concept. From a social determinants of health perspective, certain health conditions can be associated with gender, and from a biological perspective, health conditions can be associated with sex. Although reporting based on both concepts would be preferable, the data source used here only collects information on sex, and not gender.

Sources

Income data: Statistics Canada - Table F-18 annual income estimates for census families and individuals (T1 Family File), 2010. Used in:

- Table 4

Live Births, Vital Statistics 2002 to 2011, Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO. Date Extracted: March 2013. Used in:

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

Denominator data:

Population for Toronto and Larger Areas: Population Estimates 2002 to 2011, Ontario Ministry of Health and Long term Care, IntelliHEALTH ONTARIO. Date extracted: July 2013 Used in:

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

Population for Neighbourhood or Service Delivery Areas: 2011 Canada Census, Statistics Canada. Used in:

- Maps 1, 2 and 3
- Table 4

Health Surveillance Indicator: Birth and Fertility

Category: Reproductive Health

Prepared: July, 2017

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