

OPIOID POISONING DATA CITY OF BARRIE

By: John Barbaro

Epidemiologist, Population Health Assessment and
Surveillance Team, Simcoe Muskoka District Health Unit

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For: safe Barrie



Objectives

- Data Sources & Definitions
- Trends & Comparisons
- Maps



Data sources

- Opioid-related mortality from the Office of the Chief Coroner of Ontario
- Opioid poisoning emergency department visits from the Canadian Institute for Health Information
- Suspected opioid overdose ambulance calls from the County of Simcoe Paramedic Services

Source:

SMDHU.ORG



Opioid-Related Deaths

- Maintained by the Office of the Chief Coroner of Ontario.
- An acute poisoning death resulting from the direct contribution of consumed substance(s), where one or more of the substances was an opioid, regardless of how the opioid was obtained. Includes intentional and unintentional deaths. Deaths can be attributed to more than one opioid.
- Geography for deaths can be assigned based on the location of the incident/death **OR** the residential address of the decedent.
- Currently the 2018 and 2019 data are considered preliminary and subject to change. Data is available up-to the first quarter of 2019.
- Opioid-related deaths data is not available for geographies smaller than Municipality (i.e. no information available about where these incidents occurred within the City of Barrie).

Opioid-Poisoning Emergency Visits

- Maintained by Canadian Institute of Health Information (CIHI) and accessed through IntelliHEALTH ONTARIO maintained by the Ontario Ministry of Health.
- Includes unscheduled emergency department visits where opioid poisoning was recorded as the main or other problem diagnosis. Includes intentional and unintentional opioid-poisoning visits.
- Geography for emergency visits are assigned based the residential postal code of the patient NOT the location of the incident OR treating hospital.
- Data for 2018 is now considered final. Data is available up-to the first quarter of 2019; however, these counts are subject to change.
- Emergency department visits are available by six-digit postal, which have been used to create maps to show the distribution of opioid-poisoning emergency visits across the City of Barrie.

Suspected Opioid Overdose Paramedic Service Calls

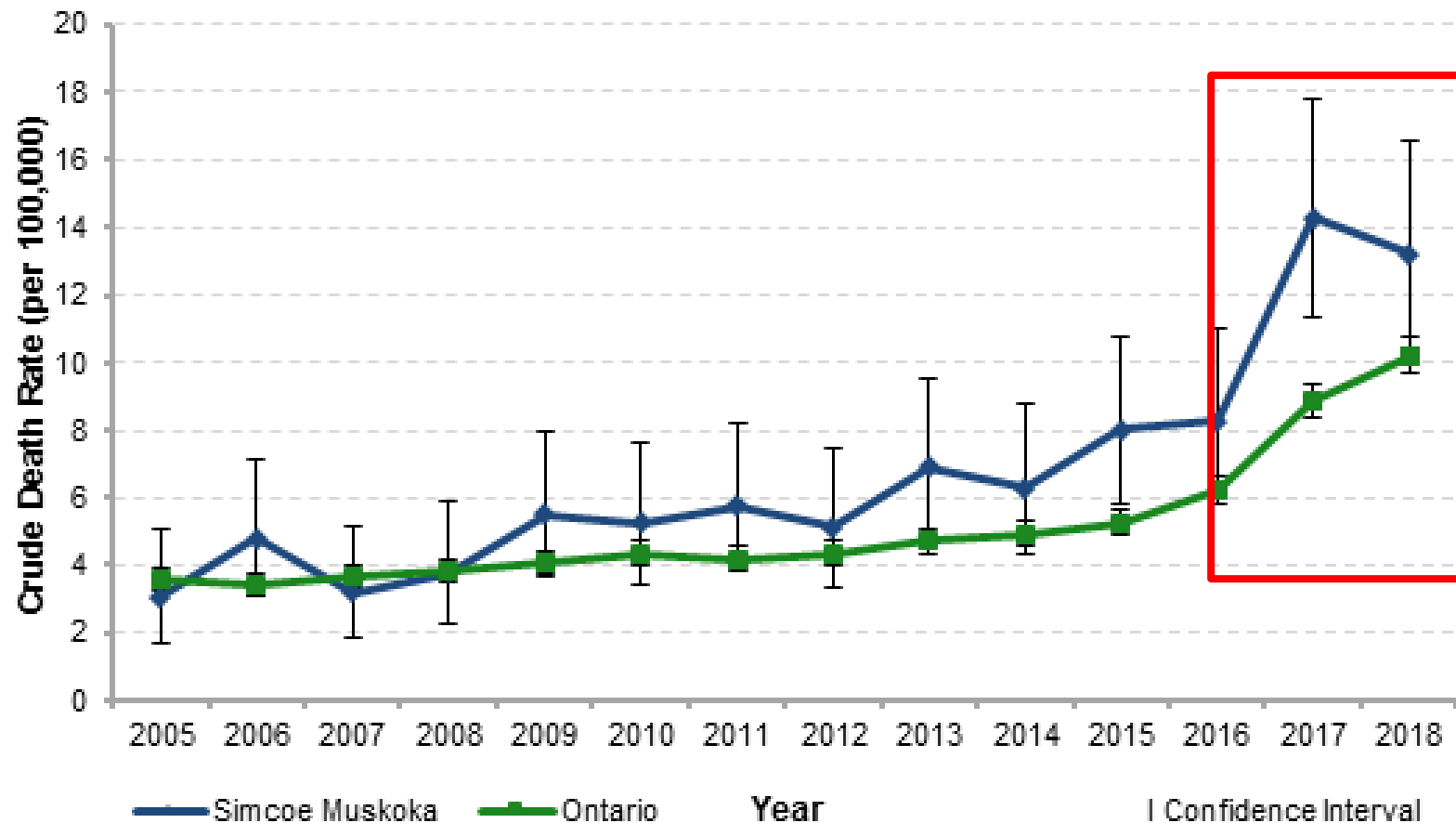
- Maintained by County of Simcoe Paramedic Services. Extracted from the Ambulance Call Record (ACR) system.
- Includes all paramedic calls for service where the final primary and/or secondary problem indicate an opioid specific call.
- Geography is based on the dispatch location of the call.



OPIOID-RELATED MORTALITY TRENDS & COMPARISONS

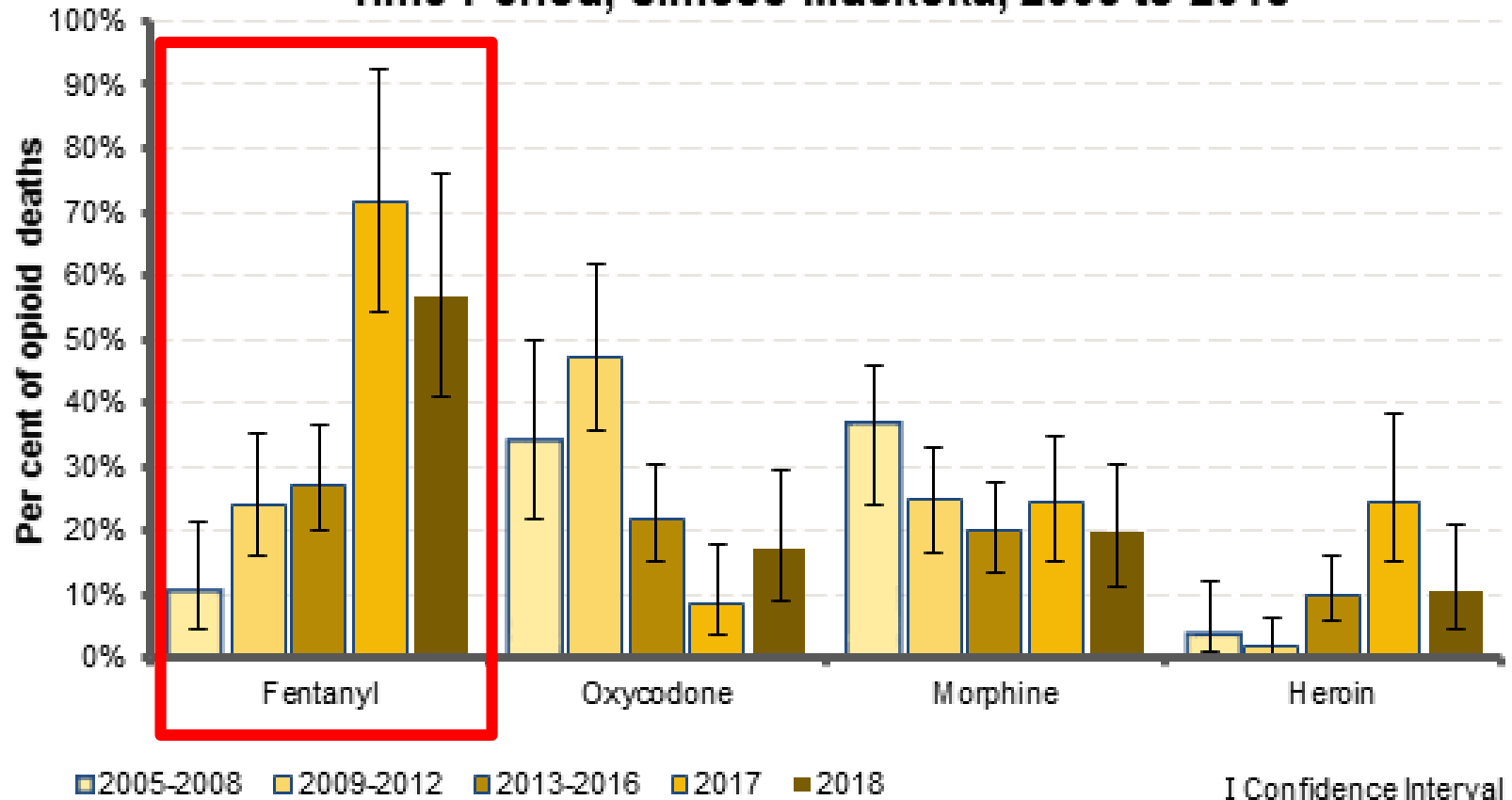


Opioid Poisoning Crude Death Rate (per 100,000), Simcoe Muskoka and Ontario, by Year, 2005-2018



Data source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Interactive Opioid Tool.
 Toronto, ON: Queen's Printer for Ontario; 2019. Available from:
<http://www.publichealthontario.ca/en/DataAndAnalytics/Opioids/Opioids.aspx>. Downloaded September 13, 2019

Per cent of All Opioid Poisoning Deaths by Drug Type & Time Period, Simcoe Muskoka, 2005 to 2018



Data source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Interactive Opioid Tool. Toronto, ON: Queen's Printer for Ontario; 2018. Available from:

<http://www.publichealthontario.ca/en/DataAndAnalytics/Opioids/Opioids.aspx>. Downloaded September 13, 2019; Notes: the total number of opioid deaths represent unique individuals. Deaths may occur from a single opioid or from more than one opioid in combination with other medications/drugs. Therefore, the per cent of deaths by the specific opioids for a given time period may add up to more than 100 per cent.

OPIOID-RELATED DEATHS BY MUNICIPALITIES IN SIMCOE MUSKOKA, 2017 & 2018 (COMBINED)

Municipality	2017-2018 Deaths	2017-2018 Rate	95% C.I. Rate
Barrie	67	22.9	17.7 - 29.0^
Orillia	20	30.6	18.7 - 47.2^
Innisfil	8	10.2	4.4 - 20.2
Collingwood	7	15.1	6.1 - 31.2
Gravenhurst	6	22.9	8.4 - 49.9
Bracebridge	5	14.7	4.8 - 34.3
Midland	5	14.0	4.5 - 32.6
Ontario	2,738	9.6	9.3 - 10.0
Simcoe Muskoka	156	13.7	11.6 – 16.0

**Significantly
higher than
SMDHU &
Ontario**

^Significantly higher than the overall Simcoe Muskoka and overall Ontario rates.

NB: all other Municipalities in Simcoe Muskoka had <5 deaths from 2017-2018

Source: Office of the Chief Coroner - Data effective Aug 16, 2019. *Data notes:* Categorization of cases to census subdivision was prioritized by the postal code of location of incident, followed by location of death and then location of residence. Note this is different than the allocation to geographic regions on the Public Health Ontario Interactive Opioid Tool. -Census subdivision population values are based on 2016 Canadian Census information from Statistics Canada-Census.

Number of opioid-related deaths and rate per 100, 000 by census subdivision in Ontario, 2017 and 2018

HIGHEST RATE OF OPIOID-RELATED DEATHS FOR LARGE MUNICIPALITIES (100,000+ POPULATION), 2017 & 2018 (COMBINED)

Municipality	2017-2018 Deaths	2017-2018 Rate	95% C.I. Rate
Thunder Bay	62	28.2	21.6 - 36.1
Barrie	67	22.9	17.7 - 29.0
St. Catharines	60	21.6	16.5 - 27.8
Oshawa	69	20.6	16.1 - 26.1
Cambridge	54	19.7	14.8 - 25.7
Hamilton	211	18.8	16.4 - 21.5
Greater Sudbury	60	18.2	13.9 - 23.4
Brantford	33	16.4	11.3 - 23.0
Ontario	2,738	9.6	9.3 - 10.0

^Significantly higher than the overall Simcoe Muskoka and overall Ontario rates.

NB: all other Municipalities in Simcoe Muskoka had <5 deaths from 2017-2018

Source: Office of the Chief Coroner - Data effective Aug 16, 2019. Data notes: Categorization of cases to census subdivision was prioritized by the postal code of location of incident, followed by location of death and then location of residence. Note this is different than the allocation to geographic regions on the Public Health Ontario Interactive Opioid Tool. -Census subdivision population values are based on 2016 Canadian Census information from Statistics Canada-Census.

Number of opioid-related deaths and rate per 100, 000 by census subdivision in Ontario, 2017 and 2018

OPIOID-RELATED MORTALITY DETAILED DATA

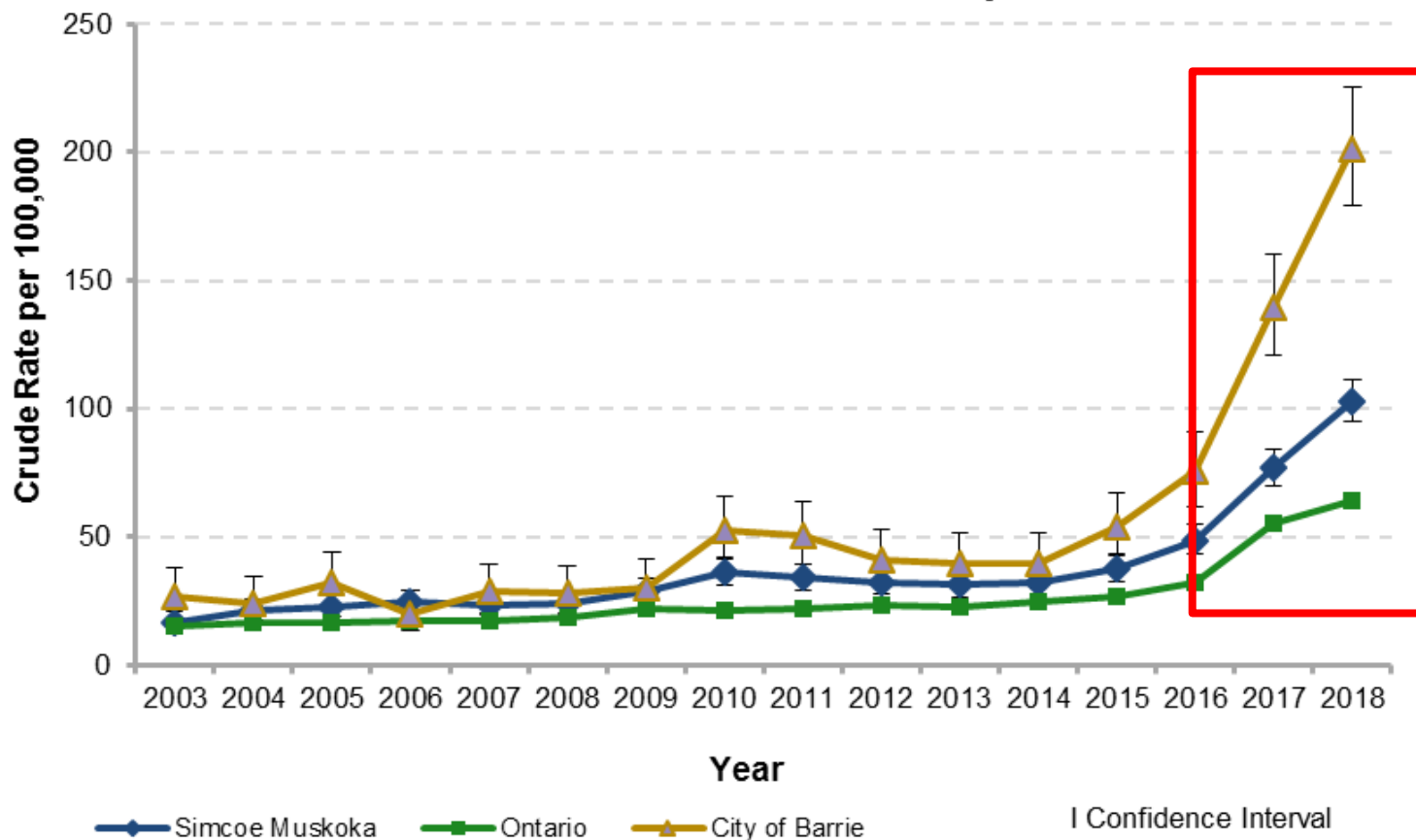
- Between May of 2017 and March of 2019 in Simcoe Muskoka, there were 134 accidental opioid-related deaths (89%):
 - 88 (66%) were males between 25 and 64 years of age;
 - 92 (69%) listed fentanyl as directly contributing to the death;
 - 59 (44%) were unemployed and the employment status of 49 (37%) was unknown;
 - 20 (15%) lived in a collective dwelling and another 9 (7%) were homeless;
 - 56 (42%) were alone at the time of the incident and for 42 (31%) this information was not known;
 - 5 (4%) incidents occurred outdoors and 29 (22%) occurred indoors but not in a private residence;
 - 42 (31%) incidents had evidence of injection drug use;
 - naloxone was used to attempt resuscitation in 35 (26%) incidents

Source: Coroner's Opioid Investigative Aid, May 2017 to March 2019, Office of the Chief Coroner for Ontario, extracted August 8, 2019.

OPIOID-POISONING EMERGENCY DEPARTMENT VISIT TRENDS & COMPARISONS



Crude Opioid Poisoning Emergency Visit Rate (per 100,000), City of Barrie, Simcoe Muskoka and Ontario, by Year, 2003-2018



Data Source: Ambulatory Visits [2003-2018], IntelliHealth Ontario, Ministry of Health and Long-Term Care, extracted on July 12, 2019. Population Estimates [2003-2018] Statistics Canada (Table 1 Annual population estimates by age and sex, July 1, 2006 to 2018, Census Subdivisions, Ontario).

HIGHEST RATE OF OPIOID-POISONING EMERGENCY DEPARTMENT (ED) VISITS BY MUNICIPALITIES IN SIMCOE MUSKOKA, 2017 & 2018 (COMBINED)

Municipality	2017-2018 Count of Opioid Overdose Visits	2017-2018 Crude Rate (per 100,000)	95% Confidence Interval for the Crude Rate (per 100,000)
Barrie	500	170.6	155.9 - 186.2
Orillia	106	162.0	132.6 - 196.0
Penetanguishene	29	152.0	101.8 - 218.4
Midland	42	117.3	84.5 - 158.6
Collingwood	37	79.9	56.3 - 110.2
Severn	23	79.9	50.7 - 119.9
Gravenhurst	20	76.5	46.7 - 118.1
Bracebridge	24	70.5	45.2 - 104.9
Innisfil	51	65.3	48.6 - 85.9
Ontario	16,918	59.6	58.7 – 60.5
Simcoe Muskoka	1,038	89.9	84.6 - 95.6

Source: Office of the Chief Coroner - Data effective September 13, 2019. *Data notes:* Categorization of cases to census subdivision was prioritized by the postal code of location of incident, followed by location of death and then location of residence. Note this is different than the allocation to geographic regions on the Public Health Ontario Interactive Opioid Tool. -Census subdivision population values are based on 2016 Canadian Census information from Statistics Canada-Census.

Number of opioid-related deaths and rate per 100, 000 by census subdivision in Ontario, 2017 and 2018

HIGHEST RATE OF OPIOID-POISONING ED VISITS FOR LARGE MUNICIPALITIES (100,000+ POPULATION), 2017-2018 (COMBINED)

Municipality	2017-2018 Count of Opioid Overdose Visits	2017-2018 Crude Rate (per 100,000)	95% Confidence Interval for the Crude Rate (per 100,000)
Barrie	500	170.6	155.9 - 186.2
St. Catharines	471	170.1	155.1 - 186.2
Oshawa	512	152.3	139.4 - 166.1
Brantford	304	146.9	130.9 - 164.4
Cambridge	309	113.5	101.2 - 126.9
Hamilton	1,071	93.1	87.6 - 98.8
London	720	87.8	81.5 - 94.5
Kitchener	415	82.5	74.8 - 90.9
Windsor	337	74.0	66.3 - 82.3
Toronto	3,389	58.1	56.1 - 60.1
ONTARIO	16,918	59.6	58.7 – 60.5

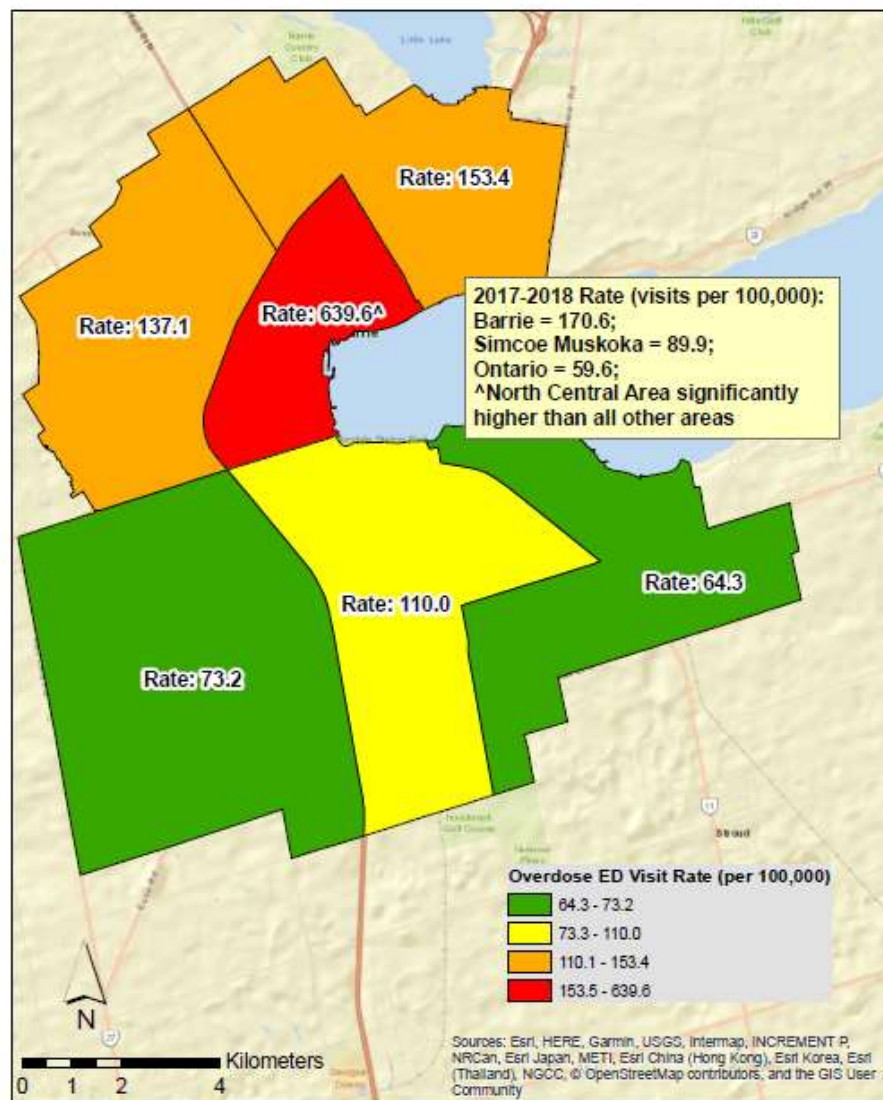
Data Source: Ambulatory Visits [2017-2018], IntelliHealth Ontario, Ministry of Health and Long-Term Care, extracted on September 11, 2019. Population Estimates [2018] Statistics Canada (Table 1 Annual population estimates by age and sex, July 1, 2017 to 2018, Census Subdivisions, Ontario).

MAPS



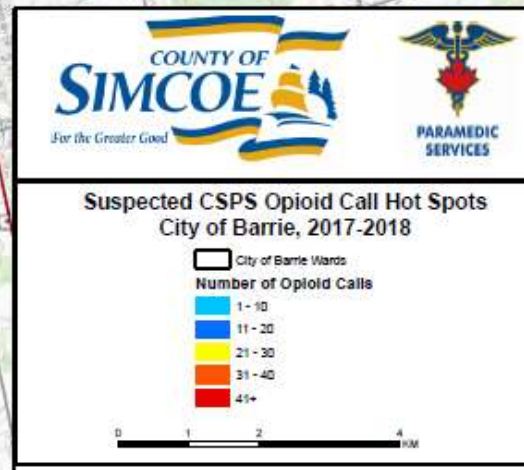
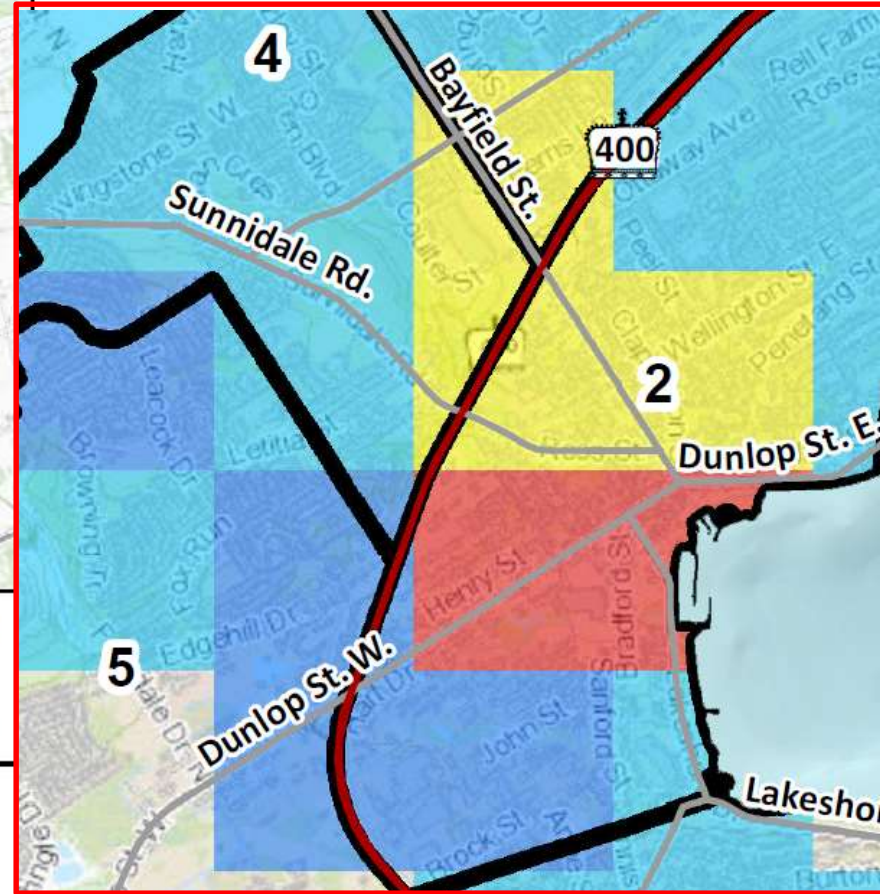
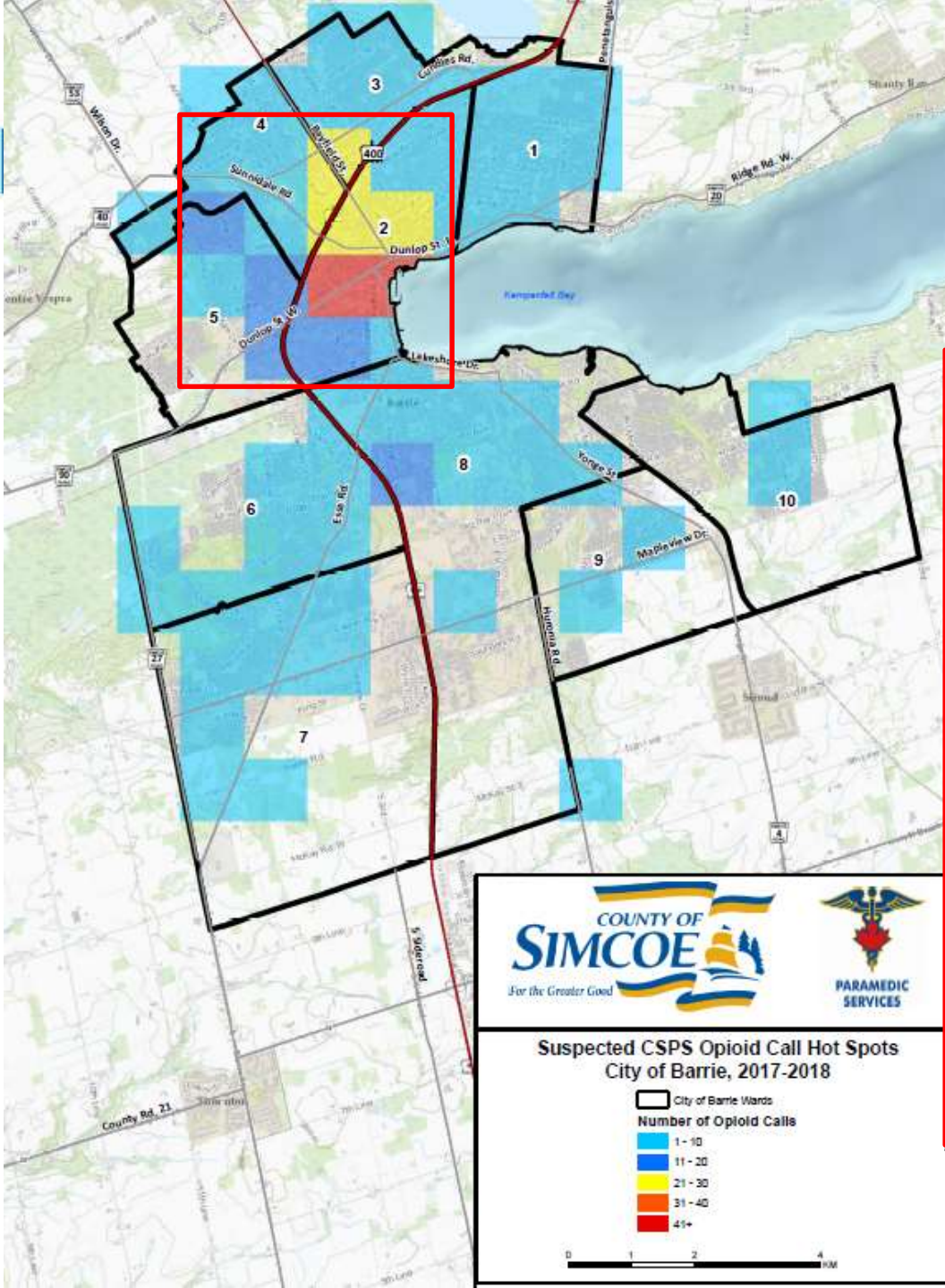
- North Central Barrie had 10 times the rate of opioid poisoning when compared with Ontario overall.
- This includes 64 emergency visits among those with a missing postal code that were flagged as homeless.
 - If these visits were excluded the rate would be 411 visits per 100,000 which is nearly 7 times higher than the provincial rate and more than double any other planning area in Barrie.
- Trends can be explored online using [Simcoe Muskoka HealthMAPS](http://www.simcoemuskokahealth.org/MicroSites/Media/Health%20Stats/Instant%20Atlas/substanceuseinjury/index.html)

Opioid Poisoning Emergency Department Visits Barrie Aggregated Census Tracts, 2017-2018

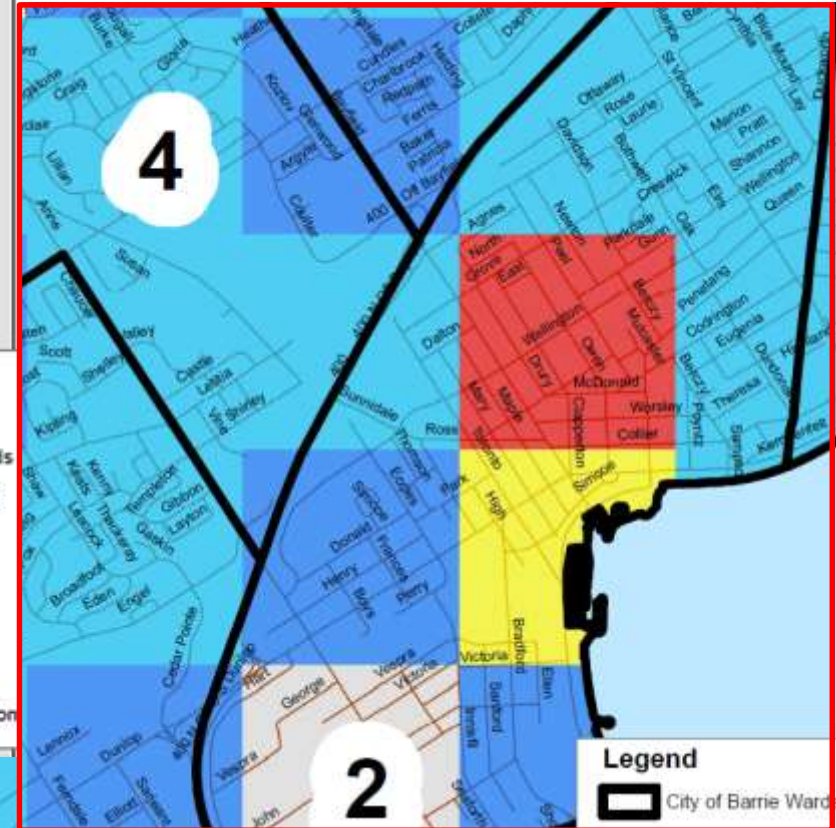
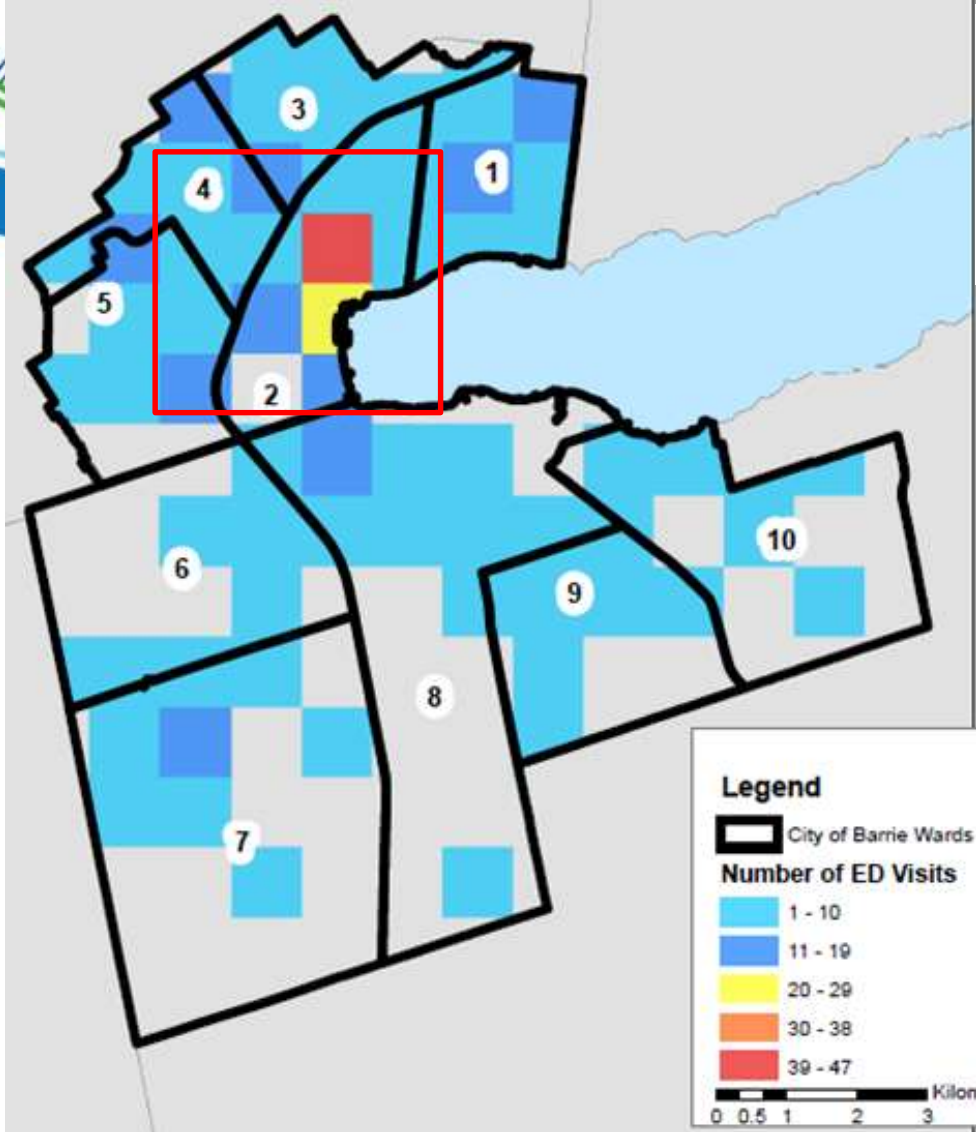


Data source: Ambulatory Visits [2017-2018], IntelliHealth ONTARIO, MOHLTC extracted July 12, 2019; Census 2016, Statistics Canada. NB: 64 emergency visits by those identified as homeless with no postal code available in Barrie were assigned to the North Central Barrie Planning Area.

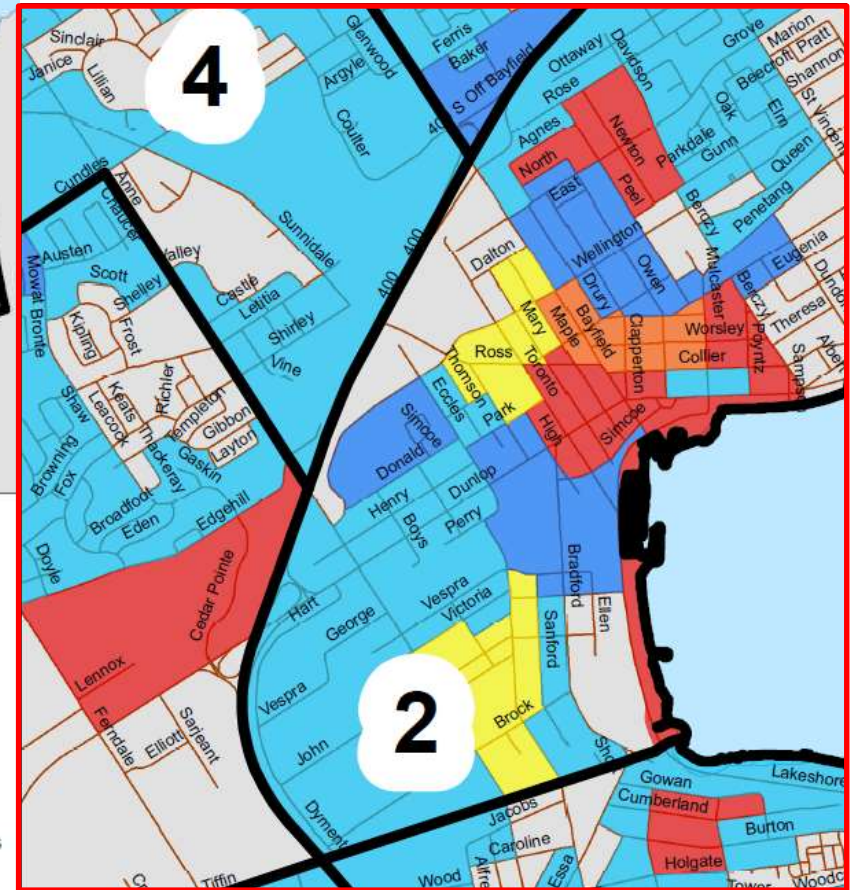
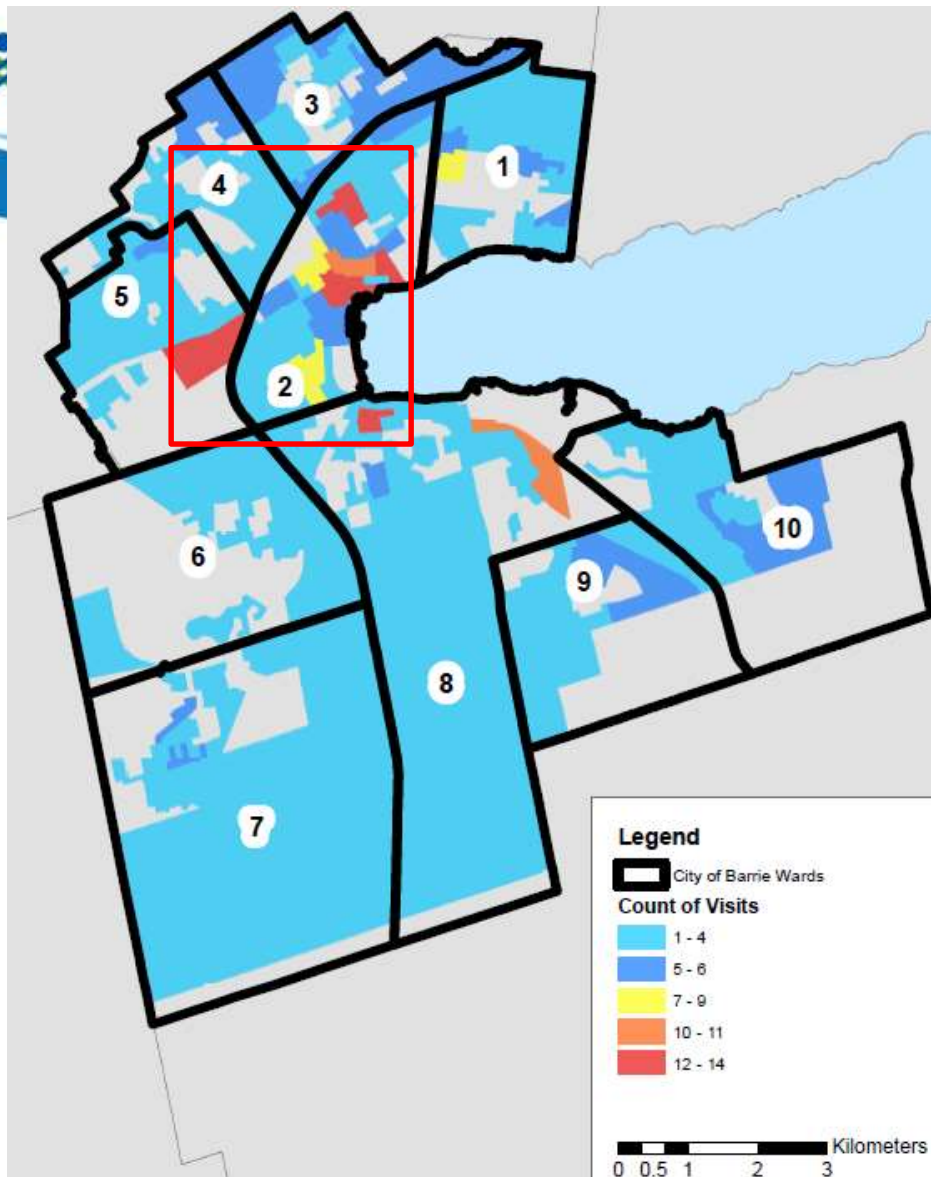
SUSPECTED OPIOID AMBULANCE CALLS 1 KM² GRID, 2017-2018



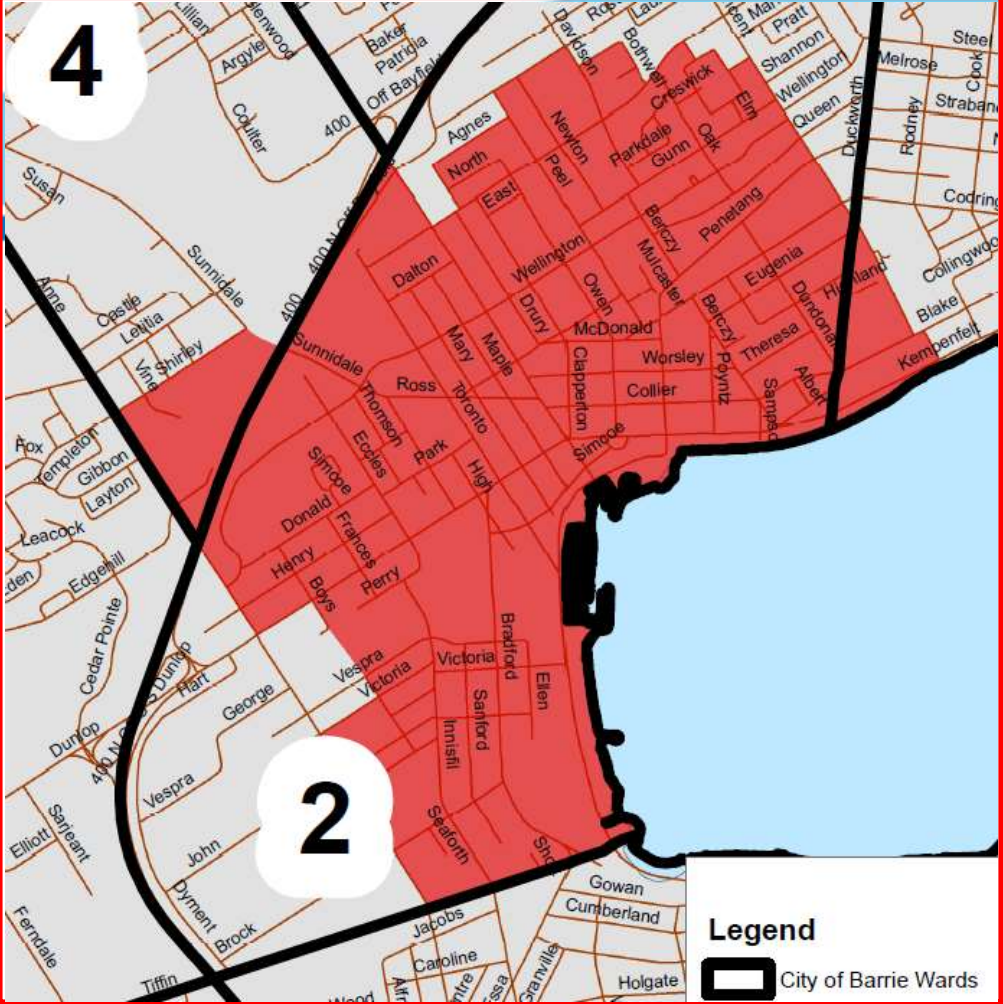
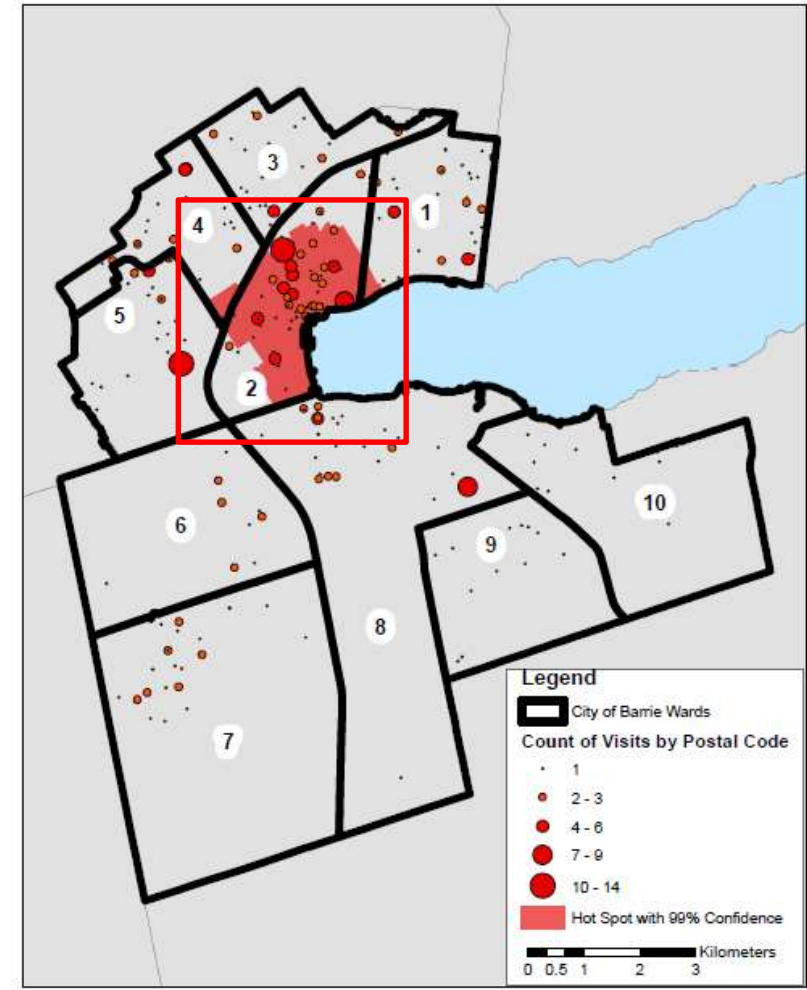
OPIOID-POISONING EMERGENCY DEPARTMENT (ED) VISITS, 1 KM² GRID, 2017-2018



OPIOID-POISONING EMERGENCY DEPARTMENT (ED) VISITS, BY DISSEMINATION AREA (DA), 2017-2018



Opioid Poisoning ED Visits with Hot Spot, Barrie Residents, 2017-2018



Data Source: Ambulatory Visits [2017-2018], IntelliHealth Ontario, Ministry of Health and Long-Term Care, extracted on July 12, 2019.
Definition: unscheduled emergency department visits where opioid poisoning (ICD 10 Codes T40.0-T40.4; T40.6) was recorded as main or other problem. Unconfirmed diagnoses are excluded. Visits were assigned to the center of the six-digit postal code using the single-linkage postal code conversion file (2017 version provided by the Community Data Program).
Excludes 89 visits among those with no postal code information (64 or 72% were flagged as homeless on the hospital record).
Hot spot analysis was done using the Optimized Hot Spot analysis tool in ArcGIS 10 for more information see:
<http://desktop.arcgis.com/en/arcmap/10.3/tools/spatial-statistics-toolbox/how-optimized-hot-spot-analysis-works.htm>.

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Summary

- Opioid-poisoning deaths and emergency department visits have increased sharply starting in 2017 across Ontario, with Simcoe Muskoka having significantly higher rates than the provincial average.
- The City of Barrie had among the highest rates of opioid deaths and emergency department visits among large municipalities for 2017-2018 (combined).
- Paramedic and emergency department data suggest that opioid overdoses are concentrated in Ward 2, centered around the downtown.

Source:

