

OPIOID PRESCRIBING BY ONTARIO DENTISTS 2014-2016



Royal College of
Dental Surgeons of Ontario

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1. EXECUTIVE SUMMARY

In 2012 the Royal College of Dental Surgeons of Ontario (RCDSO or “the College”) began work on Guidelines for the Management of Acute and Chronic Pain in Dental Practice to address:

- best practices for the safe and effective use of analgesics, including tools to assist dentists in making appropriate prescribing decisions
- collaboration with physicians, pharmacists and other health care providers in the management of chronic pain
- management of the specific risks for opioid use, misuse and abuse.

The Guidelines were published in November 2015 and a voluntary survey of dental practitioners in Ontario was completed. The Health Analytics Branch of the Ontario Ministry of Health and Long Term Care was asked for data from the Narcotics Monitoring System regarding the opioid prescribing patterns of dentists in Ontario. The College received prescription dispense data for the calendar years 2014, 2015 and 2016. These were analyzed to assess the level of opioid prescribing by dentists, changes to prescribing patterns over the years and the impact of the Guidelines released in late 2014.

The results are encouraging. Dispense events per dentist are about 1.2 dispenses per patient and most patients only get 1 prescription. This strongly suggests that **dental patients in Ontario are getting the right drug, in the right amount and only once.**

Even over a relatively short time span, the data show a statistically significant decrease in opioid prescriptions and the amount of drugs made available via dentists in Ontario since 2014 – about 4.4% over two years.

There are some results that provide a framework for further examination by groups and individuals – the number and type of prescriptions by district shows some variation – but none that suggest problematic prescription patterns. Other results were expected; specialists, for example, prescribe more pain medications because of the type of patients they are treating.

The RCDSO will continue to monitor provider practices in the dental community. We plan to share the data analysis with the profession in Ontario, promote appropriate prescribing practices through the use of our Guidelines, and outline where further education is advisable. The College will work with others to help develop appropriate programs across Ontario.

Key findings:

- Dentists dispense events were 3.3% of the total in 2014 compared to physician’s dispense events of 96.7%
- Dentists prescribed opioids for 12% of all opioid patients with 9% by dentists only (in 2014)
- Dentist dispenses per patient was 1.3 in 2014; physicians’ rate was 5.0
- Tylenol 2/3, Percocet, Tramadol, Meperidine and Oxycodone account for 97.5% of the dentist opioid dispense events
- Tylenol 2/3 was the most (75%) prescribed opioid by dentists
- Dispenses per patient were higher for general dentists
- There were differences in dispense event patterns by dental specialty and by opioid
- Patients generally received prescriptions from one dentist

2. INTRODUCTION

In the Fall of 2010, the Royal College of Dental Surgeons of Ontario (RCDSO) recognized the public health crisis developing with the use, misuse and abuse of opioids and the possible relationship in dental practice with the prescribing of opioids for the management of pain. The College convened a one day symposium in November, 2010 to consider these issues in a dental context. Distinguished experts were invited to speak on related topics including the appropriate and inappropriate use of opioids, the use of chronic opioid therapy in dentistry and the management of the high risk patient.

One major outcome of this symposium was a recommendation to the Council of the College to form a multidisciplinary Working Group to develop a strategy to address the challenges identified in the symposium. The Deans of the Ontario Faculties of Dentistry, a representative from the College of Physicians and Surgeons of Ontario, a representative of the Ontario College of Pharmacists, the Chair of the Quality Assurance Committee, two public members, one dentist from the Executive Committee and one member of Council who was an oral and maxillofacial surgeon plus two members of the College Staff were included in the new group. In 2012 they recommended a new expert Working Group prepare Guidelines for the Management of Acute and Chronic Pain in Dental Practice. The proposed guidelines were to:

- address best practices for the safe and effective use of analgesics, including opioid analgesics
- include tools to assist dentists in making appropriate prescribing decisions, such as an algorithm for prescribing for the management of acute pain, that are supported by the text of the proposed guidelines
- address inter-professional collaboration with physicians, pharmacists and other health care providers in the management of chronic pain
- address the management of risk for opioid use, misuse and abuse, including the management of the high-risk patient.

In addition, the Working Group recommended that the College fund a baseline study to gather statistical information about the current prescribing practices of Ontario dentists.

The new Guidelines were released in November, 2015 and a voluntary survey of dental practitioners in Ontario was completed in 2015. At the same time, Health Analytics Branch of the Ontario Ministry of Health and Long Term Care was asked for data regarding the opioid prescribing patterns of dentists in Ontario and the College received prescription dispense event aggregate anonymous data from the Narcotics Monitor System for the calendar years 2014, 2015 and 2016. These were analyzed to ascertain the level of opioid prescribing by dentists, determine pattern changes over the years and evaluate the impact of the Guidelines released in late 2015.

Although the dental profession in Ontario appears to have the second highest number of prescribers of opioids (not to be confused with dispenses), that view is somewhat misleading as dentists are the only other opioid-prescribing profession besides Nurse Practitioners. As well, the data coding separated physicians into subgroups. For this study all dentists including dental specialists were grouped together for some analyses. Any comparison of professions should be based on the amount of opioids prescribed rather than the number of prescribers.

3. METHODS

In the Summer and Fall of 2015, prior to the release of the final Guidelines, the RCDSO communicated with staff in the Health Analytics Branch of the MOHLTC and requested data from the Narcotics Monitoring System. In particular, the College requested data regarding all opioid prescriptions by Ontario dentists in the 2014 calendar year. The College wished to learn:

- What opioids were prescribed?
- For each opioid, how many prescriptions were made?
- For each opioid, how many tablets were prescribed per prescription?

The College also wished to learn if certain demographic variables had an effect on the opioid prescribing habits of Ontario dentists. Accordingly, the College provided the following demographic information for every Ontario dentist:

- Registration number;
- College electoral district;
- Whether an Ontario dentist had a general certificate of registration and, if so, the year of graduation;
- Whether an Ontario dentist had a specialty certificate of registration and, if so, the type of specialty and the year of graduation.

In October 2015, the College received the initial data in Excel tables. A further request was made to create a row for ASA compounds with codeine, and to report all opioid prescriptions for “in office use” separately. In December 2015, the College received the updated data.

In January 2017, following the release of the final Guidelines and the signing of the Joint Statement of Action to Address the Opioid Crisis, the College again contacted staff in the Health Analytics Branch of the MOHLTC and requested data from the Narcotics Monitoring System. In particular, the College requested data regarding all opioid prescriptions by Ontario dentists in the 2015 and 2016 calendar years. Again, the College provided demographic information for every Ontario dentist for both years.

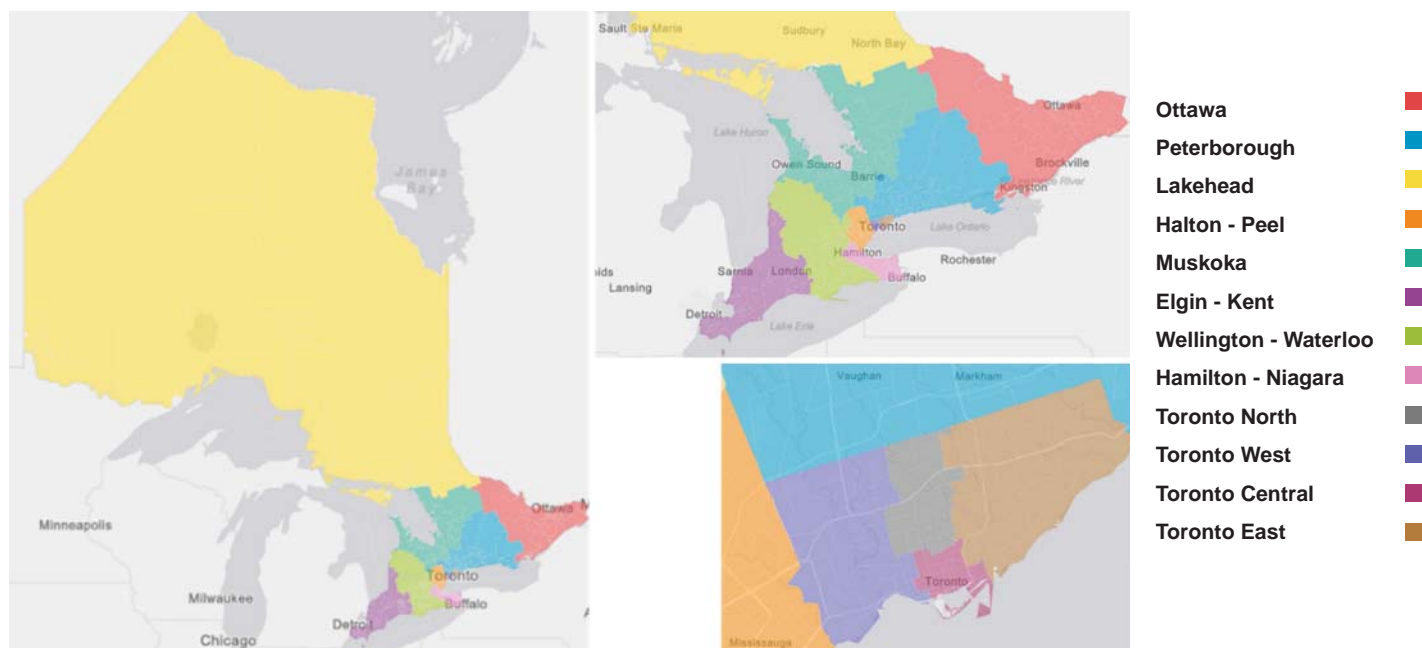
In March 2017, the College received the requested data in aggregated Excel tables.

In April 2017, the College engaged an epidemiologist to analyze the data. Initial analysis determined additional information would be of assistance. In September 2017, a request was made to further stratify certain data sets by type of specialty. In October 2017, the College received the updated data.

Opioid sub-category is a grouping assigned by the Drug Programs Services Branch of the Ontario Ministry of Health and Long-term Care.

The RCDSO received calendar-year prescription dispense-event (a component of defined daily doses) aggregated data using the RCDSO Electoral Districts (Figure 3.1) from the Health Analytics Branch for calendar years 2014, 2015 and 2016. In some cases, data for 2016 was used rather than all three years which demonstrated the most recent data year.

Figure 3.1: RCDSO Electoral Districts



The source data were not available for more detailed analyses. A patient seen by a general dentist and a dental specialist was recorded by the Health Analytics Branch as one patient in the combined analyses for all dentists.

All information, data and analyses are for opioid dispenses provided by Ontario pharmacists. Data provided to the RCDSO primarily utilized opioids that account for 97.5% of the dentist opioid dispense events: for 2016, Tylenol 2/3 (68.1%; 7.0% respectively), Percocet (18.4%), Tramadol (3.0%), Oxycodone (0.8%) and Meperidine (0.3%). The dosage per tablet or capsule were Tylenol 3 (30mg), Percocet (5mg /2.5 mg; 97.4% were 5mg), Tylenol 2 (15 mg), Tramadol (37.5 mg), Meperidine (50 mg) and Oxycodone (5 mg). Minimal data was obtained regarding “in-office use” dispense events, which were relatively insignificant for all years (e.g. for all opioids, there was a total of 1624 in-office use dispense events in 2016). Accordingly, this data was ignored for the purposes of this report. No data are presented on any non-monitored drugs or monitored drugs that are not opioids.

4. PROVINCIAL DATA

The Ontario Narcotics Atlas 2016 reported on opioid dispense events for the fiscal year 2014/2015. There was an overlap of nine months with the dentistry calendar-year data. Since they are comparable time-frames, data from the two twelve-month data sets were used to compare the overall opioid dispense events even though

there was not a complete twelve-month overlap. As noted in Table 4.1, 14.3% of Ontarians received an opioid in 2014. Dentists had the second highest number of prescribers (not to be confused with dispense events).

Table 4.1: Narcotics monitoring system 2014/15 data by all providers of health analytics, health system information management division

Total of 2 million (14.3%) dispensed opioid of 13.7M population;
Total of 9 million dispense events;
Patients—female 55%; ages 45 to 64 years 40%; Ontario Drug Benefit program 41%;
Dispenses—Oxycodone and compounds 29%; Codeine and compounds 27%; hydromorphone 20%; morphine 7%; fentanyl 4%;
Prescribers—number of dentists 16.7% is second after general practice physicians 38.4%;
Total of 9% of recipients were prescribed opioids only by dentists; and
Opioid maintenance treatments highest in Northeast and Northwest

In 2014, dentists provided opioids to 12% of patients who received opioids, which was 1.7% of the population (Table 4.2), 17.0 people per 1,000 population or 170 per 10,000. Dentists prescribed only 3.3% of the opioid dispense events with 16.7% of the prescribers. Physicians (which included all prescribers except dentists) had 5.0 dispense events per patient while dentists had 1.3 with fewer patients. Dental specialists were 9.8% of the dentists and had 48.2% of the opioid patients and 44.7% of the opioid dispense events which changed to 10% of

dentists, 49.5% of patients and 45.5% of dispense events in 2016. General dentists had more dispenses per patient (1.3) with fewer patients (20; 19.2 in 2016) than dental specialists (1.2) who had more patients (170). Oral and maxillofacial surgeons averaged 500 patients (479 in 2016) with 1.1 dispense events per patient.

Table 4.2: Opioid Data 2014

percentage of population receiving opioids 14.3%
percentage of patients receiving opioids from dentists 12.0%; 1.7 % of population
dentists prescribed 3.3% of opioid dispense events with 16.7% of the prescribers
percentage of patients receiving opioids from only dentists 9.0%
dispenses (physicians and dentists) per patient 4.6; average # of patients 45
physician dispenses per patient 5.0; average # of patients 47
dentist dispenses per patient 1.3; average # of patients 34
for dentists, specialists 9.8% of dentists; 48.2% of patients; 44.7% of dispense events
general dentist dispenses per patient 1.3; average # of patients 20
dental specialist dispenses per patient 1.2; average # of patients 170
periodontist dispenses per patient 1.2; average # of patients 54
endodontist dispenses per patient 1.2; average # of patients 55
oral and maxillofacial surgeon dispenses per patient 1.1; average # of patients 500

Not all dentists are (or need to be) in the Narcotics Monitoring System. The numbers decreased from 74.0% in 2014 to 68.4% in 2016 (Table 4.3). There are some dentists who are not accounted for in the Corporate Provider Database but this should not significantly change the provincial data that are available and reflective of the dentist prescription prescribing patterns in the province.

Table 4.3: Dentists in narcotics monitoring system	2014		2015		2016	
	N	%	N	%	N	%
Dentists on RCDSO list	9,306	100.0	9,483	100.0	9,764	100.0
Dentists in Corporate Provider Database	8,670	93.2	8,657	91.3	8,510	87.1
Dentists in Narcotics Monitoring System	6,882	74.0	6,885	72.6	6,678	68.4

The percentage of the population receiving opioids from dentists changed from 1.7% in 2014 to 1.6% in 2016 (Table 4.4).

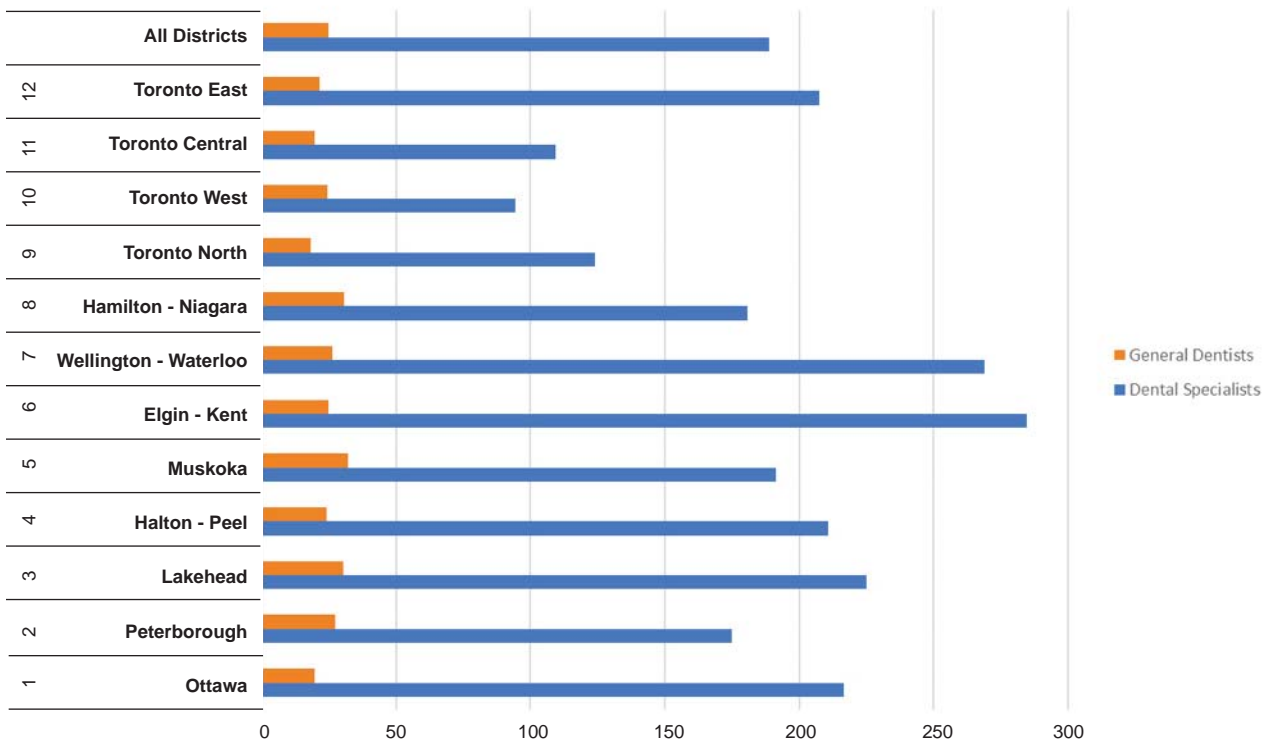
Table 4.4: Percentage of Ontario population receiving opioids from dentists by year			
	2014	2015	2016
Patients	234,168	228,612	219,132
Population	13,680,400	13,789,600	13,976,300
Population %	1.7%	1.7%	1.6%

5. PATIENTS AND DISPENSE EVENTS

With the available data, it was determined that the dispense events (which is the patient source) of prescriptions provided by dentists would be the focus of the evaluation rather than the population data (less than 2%; Table 4.4) which is provided in provincial reports. As the most recent year, data for only 2016 was used to demonstrate the most current data in some analyses.

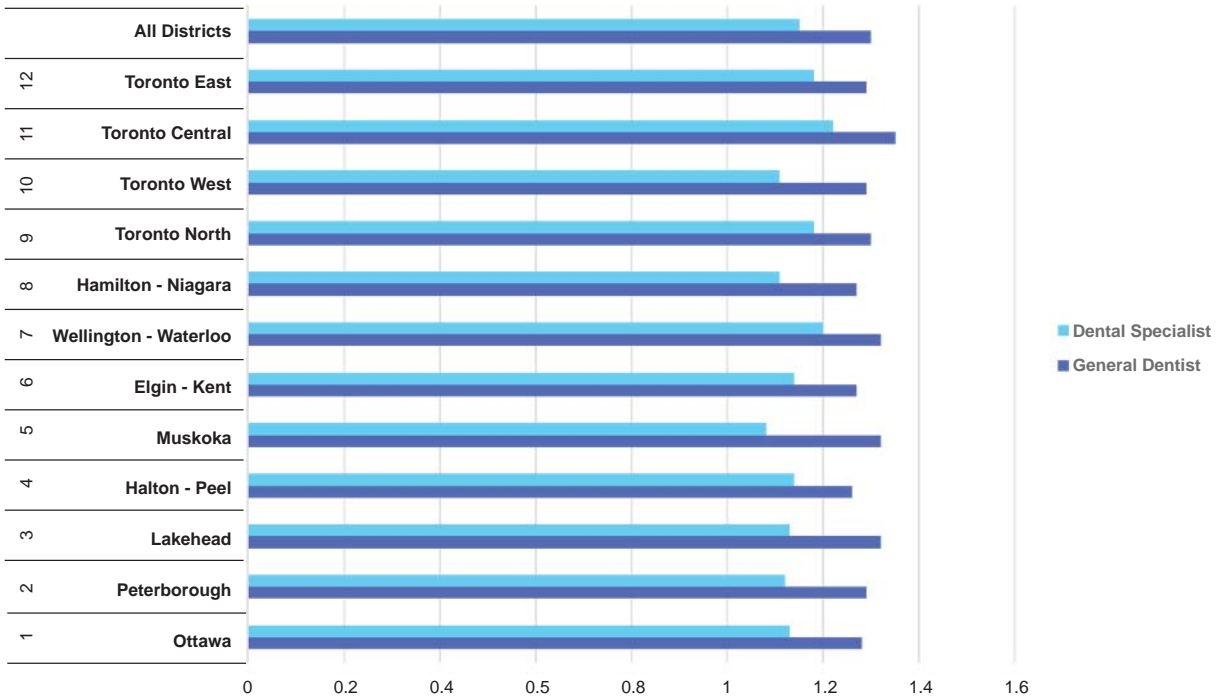
The average dispenses per dental specialist was 7.5 times greater than for general dentists and varied by district each year including 2016 (Figure 5.1).

Figure 5.1: Average dispenses per general dentist and dental specialist by district in 2016



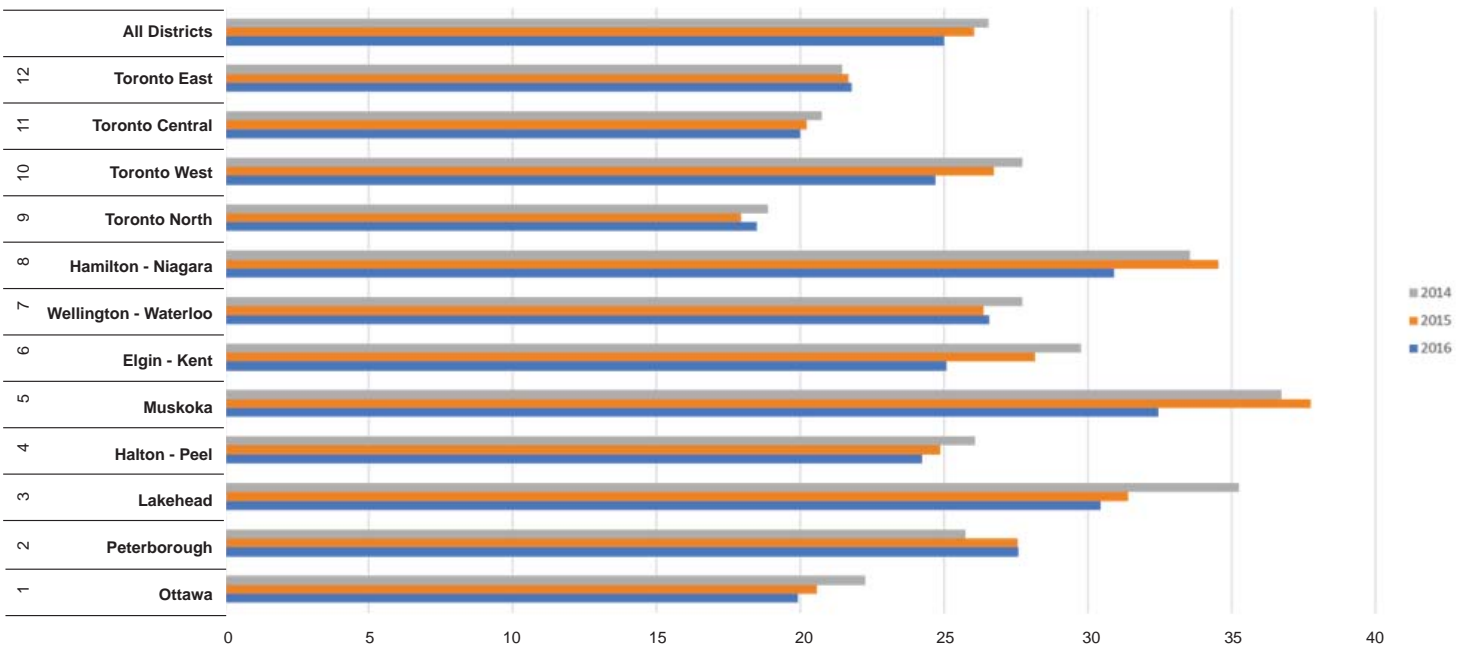
The average dispenses per patient per general dentist was 1.1 times greater than per dental specialist and varied by district each year including 2016 (Figure 5.2).

Figure 5.2: Average dispenses per patient per general dentist and dental specialist in 2016



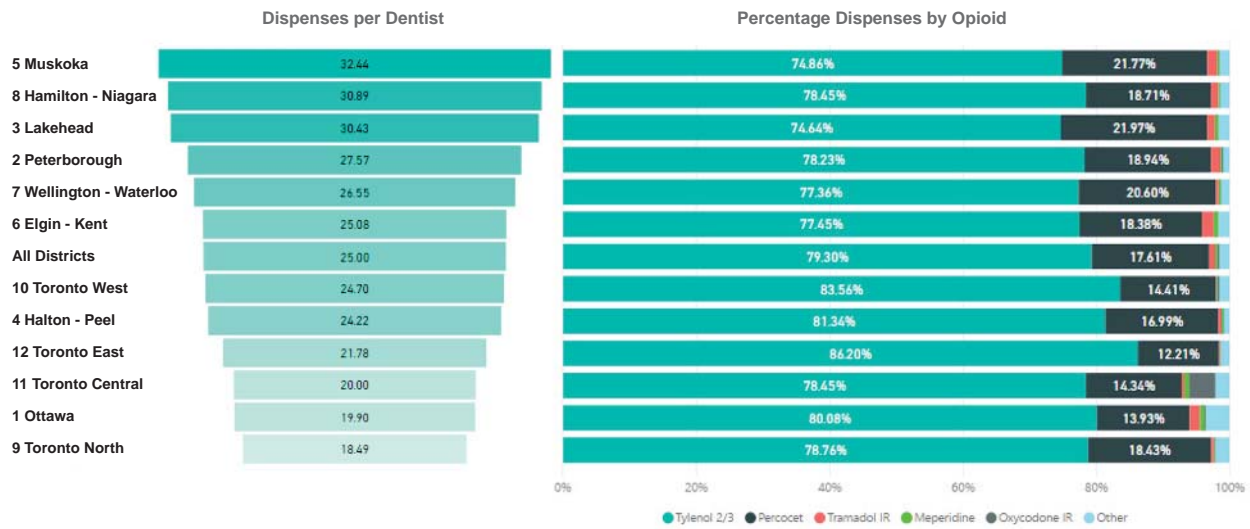
The average dispenses for general dentist varied by district and decreased from 2014 to 2015 to 2016 (Figure 5.3).

Figure 5.3: Average dispense events per general dentist by district and year



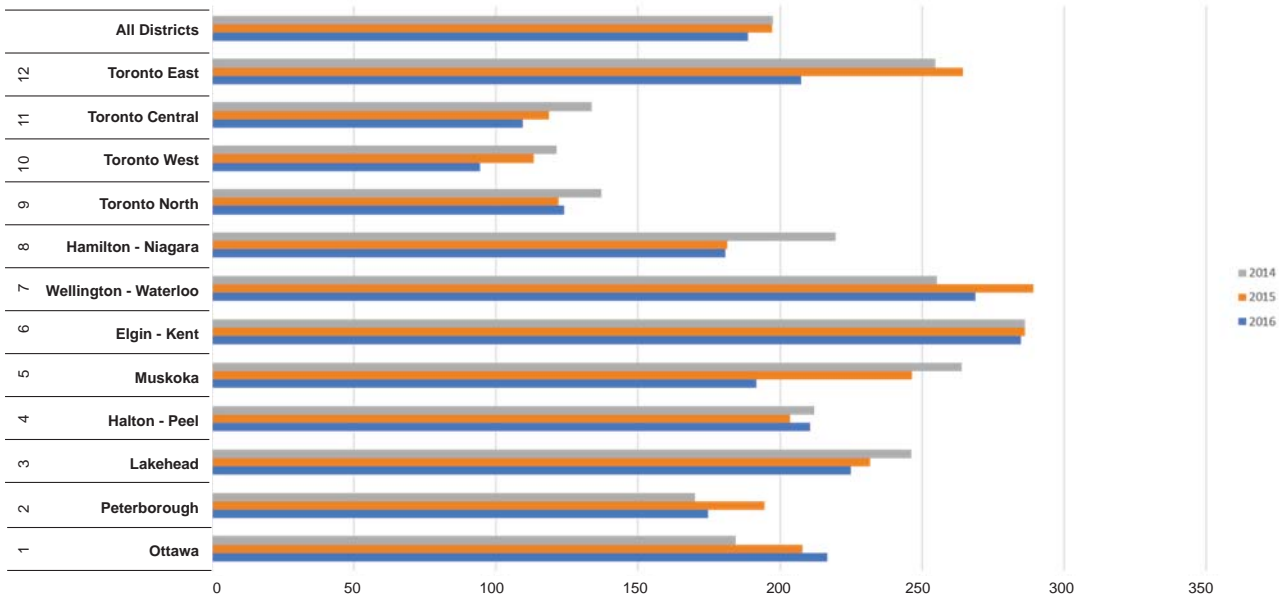
The percentage of specific opioid dispenses per general dentist varied by district (eg. Toronto Central– oxycodone 3.9%) along with the average number of dispense events (Figure 5.4).

Figure 5.4: Average dispense events and percentages of specific opioids by general dentists in 2016



The average dispenses for dental specialists varied by district and decreased from 2015 to 2016 (Figure 5.5).

Figure 5.5: Average dispense events for dental specialists by district and year



The percentage of specific opioid dispenses per dental specialist varied by district (eg. Ottawa Percocet 40.1%; Muskoka Tramadol 54.7%) along with the average number of dispense events (Figure 5.6).

Figure 5.6: Average dispense events and percentages of specific opioids by dental specialists in 2016

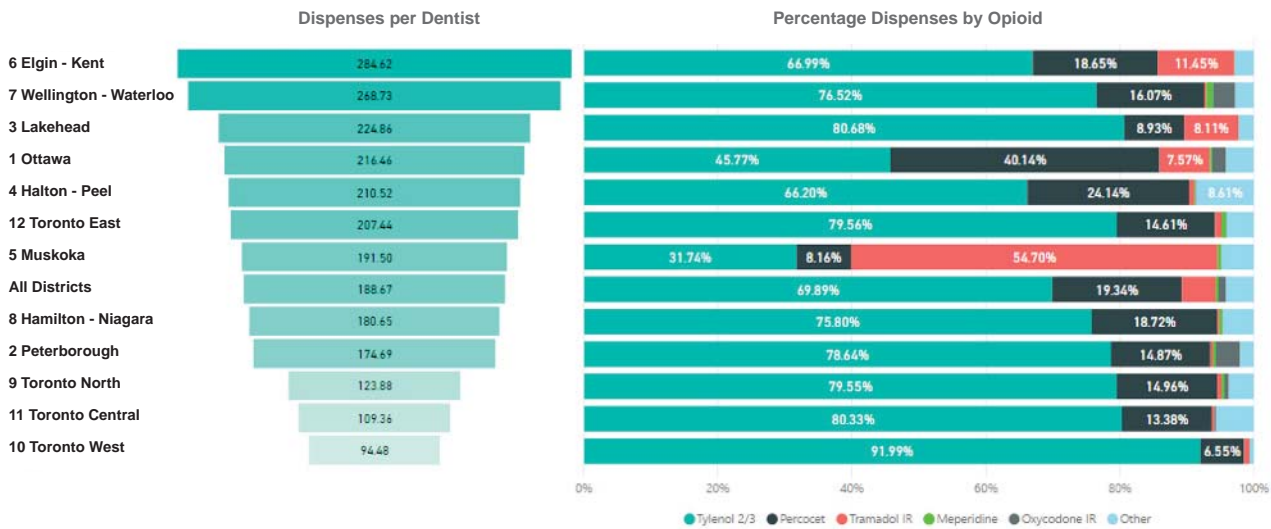
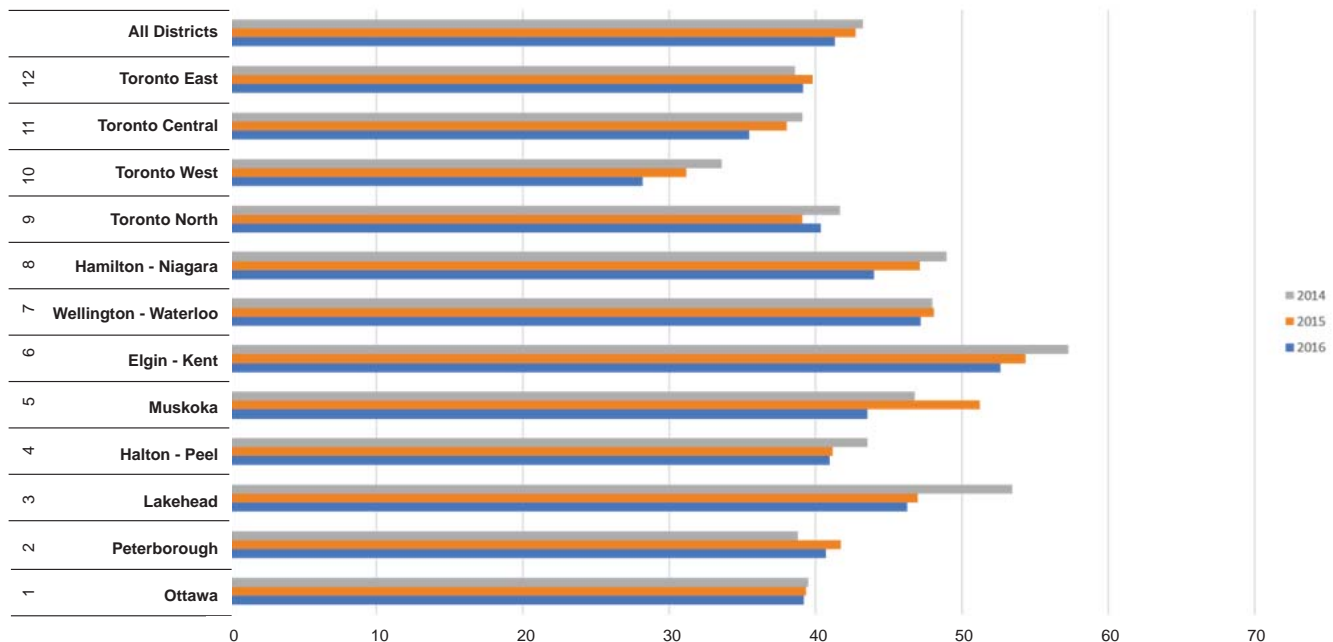
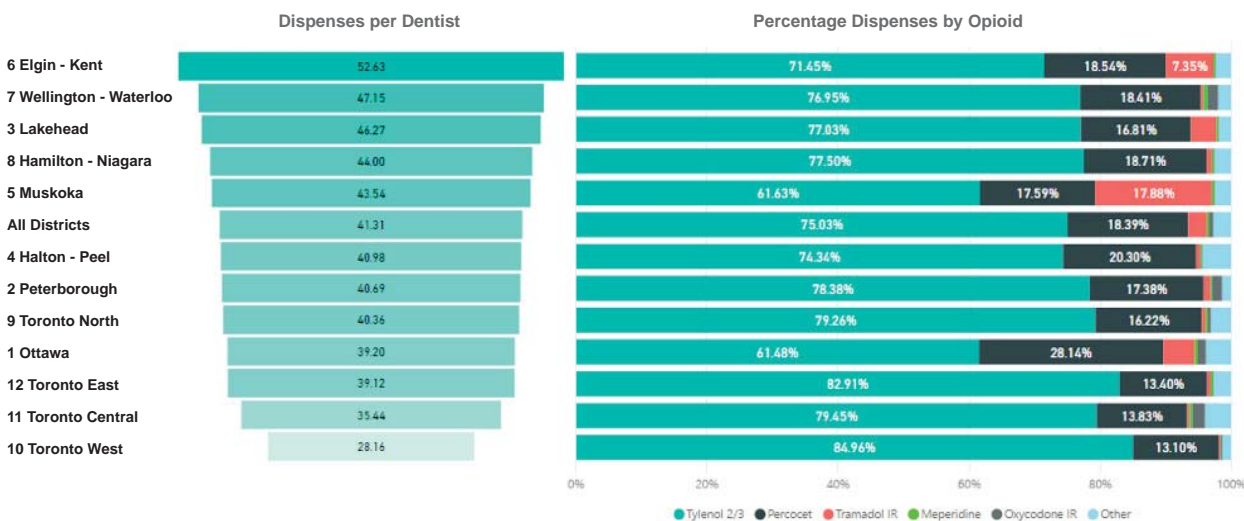


Figure 5.7: Average dispense events for dentists by district and year



The percentage of specific opioid dispenses for dentists varied by district (eg. Ottawa Percocet 28.14%; Muskoka Tramadol 17.88%) along with the average number of dispense events (Figure 5.8).

Figure 5.8: Average dispense events and percentages of specific opioids by dentists in 2016



The changes in dispenses per dentist were different (95% confidence interval; $p < 0.0001$) between 2014 to 2015; 2015 to 2016; and 2014 to 2016 (Table 5.1).

Table 5.1: Comparison of dispense events per dentist by year

2014 43.2 Dispenses
2015 42.7 Dispenses
2016 41.3 Dispenses
2014 to 2015 Change 95% Confidence Interval 0.31 to 0.75 $p < 0.0001$
2015 to 2016 Change 95% Confidence Interval 1.18 to 1.61 $p < 0.0001$
2014 to 2016 Change 95% Confidence Interval 1.62 to 2.05 $p < 0.0001$

6. SPECIFIC OPIOID DISPENSE RATES

The dispense events for some specific opioids changed between 2014 and 2016 (Figures 6.1 to 6.4).

Figure 6.1: Tylenol 2/3 dispense events per dentist by dentist group and year

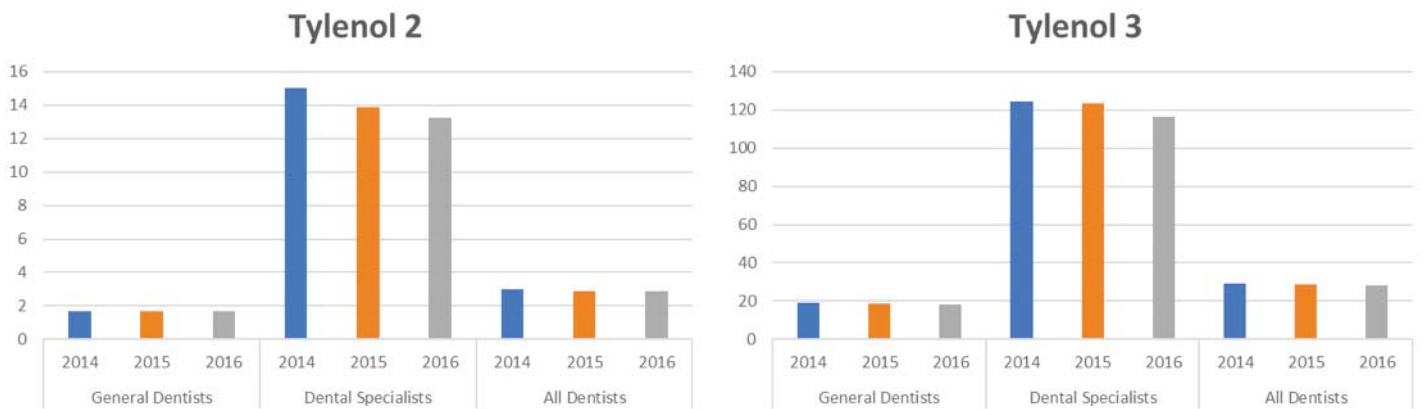


Figure 6.2: Percocet and tramadol dispense events per dentist by dentist group and year

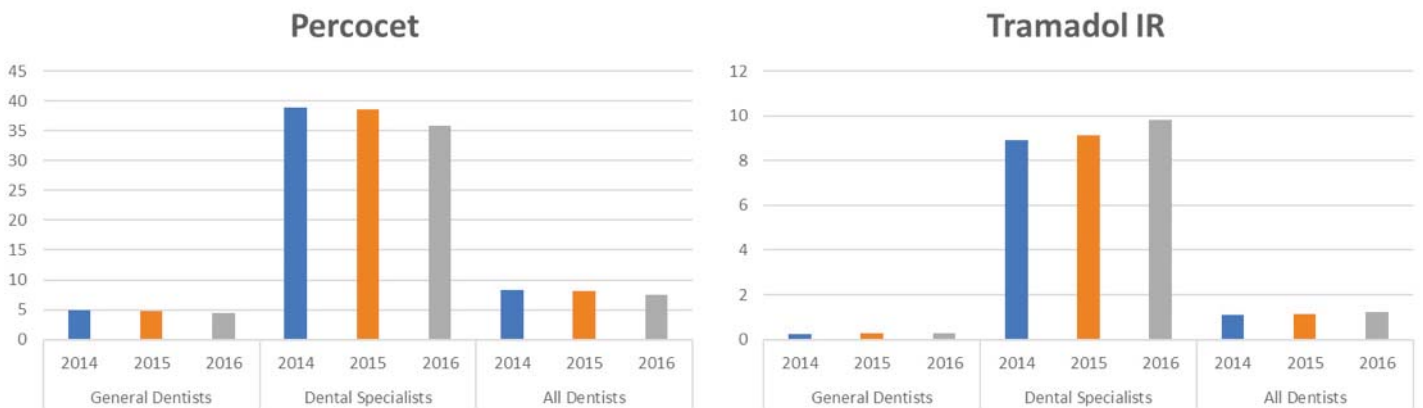


Figure 6.3: Meperidine and oxycodone dispense events per dentist by dentist group and year

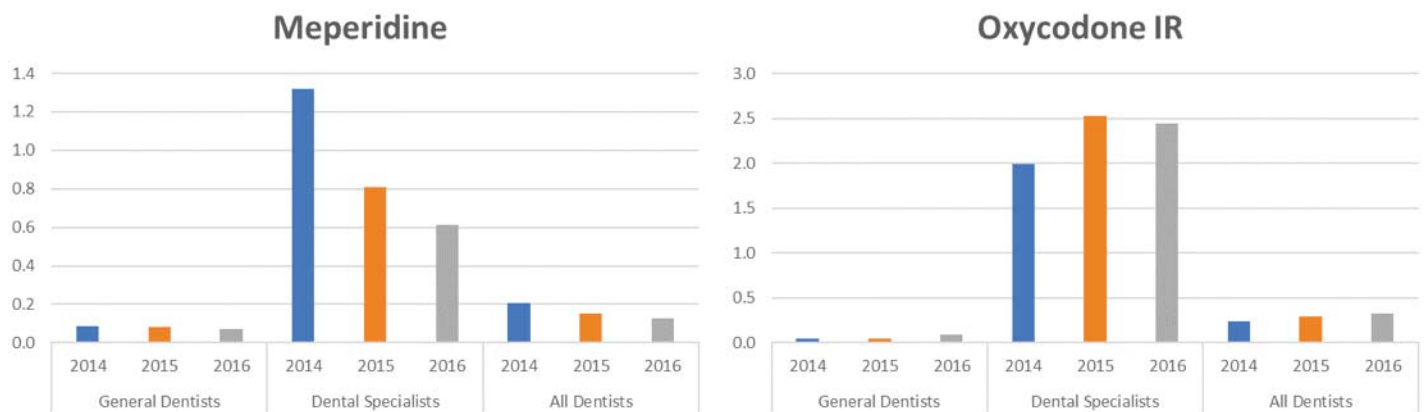
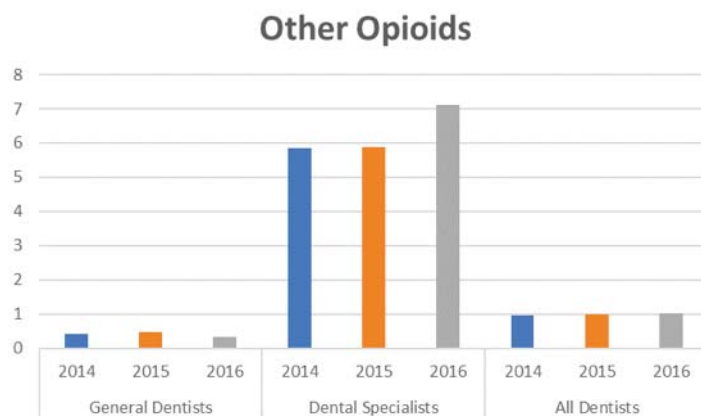


Figure 6.4: Dispense events per dentist for other opioids by dentist group and year

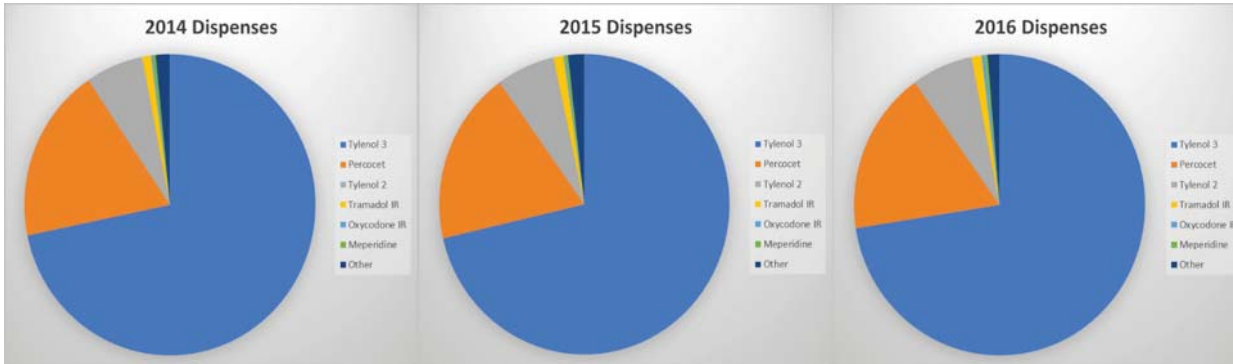


Even though the overall dispense rates for general dentists decreased with time, some opioids such as Oxycodone increased (Table 6.1, Figure 6.5).

Table 6.1 Changes in general dentist dispense events for specific opioids by year

Opioid	2014 Dispenses	2015 Dispenses	2016 Dispenses	2014 to 2015 % Change	2015 to 2016 % Change	2014 to 2016 % Change
Tylenol 3	117,584	114,553	108,365	-3%	-5%	-8%
Percocet	30,805	30,060	26,312	-2%	-12%	-15%
Tylenol 2	10,493	10,438	10,143	-1%	-3%	-3%
Tramadol IR	1,592	1,790	1,673	12%	-7%	5%
Oxycodone IR	306	288	548	-6%	90%	79%
Meperidine	535	505	421	-6%	-17%	-21%
Other	2,576	2,906	1,982	13%	-32%	-23%
Total	163,891	160,540	149,444	-2%	-7%	-9%

Figure 6.5: Specific opioid dispense events for general dentists by year

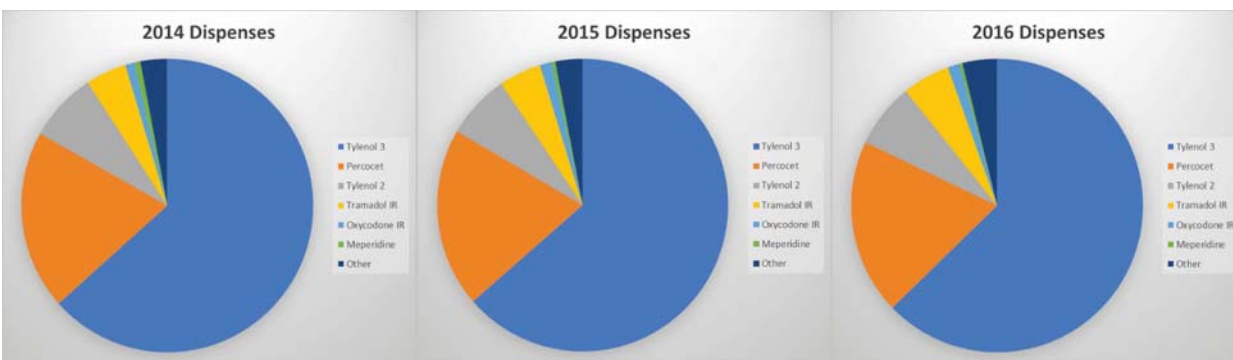


The overall dispense rates for dental specialists decreased by the year but increased for Oxycodone and other opioids (Table 6.2, Figure 6.6).

Table 6.2: Changes in dental specialist dispense events for specific opioids by year

Opioid	2014 Dispenses	2015 Dispenses	2016 Dispenses	2014 to 2015 % Change	2015 to 2016 % Change	2014 to 2016 % Change
Tylenol 3	83,868	83,327	78,388	-1%	-6%	-7%
Percocet	26,196	25,995	24,166	-1%	-7%	-8%
Tylenol 2	10,127	9,374	8,927	-7%	-5%	-12%
Tramadol IR	6,004	6,150	6,596	2%	7%	10%
Oxycodone IR	1,337	1,705	1,646	28%	-3%	23%
Meperidine	888	546	413	-39%	-24%	-53%
Other	3,932	3,974	4,795	1%	21%	22%
Total	132,352	131,071	124,931	-1%	-5%	-6%

Figure 6.6: Specific opioid dispense events for dental specialists by year

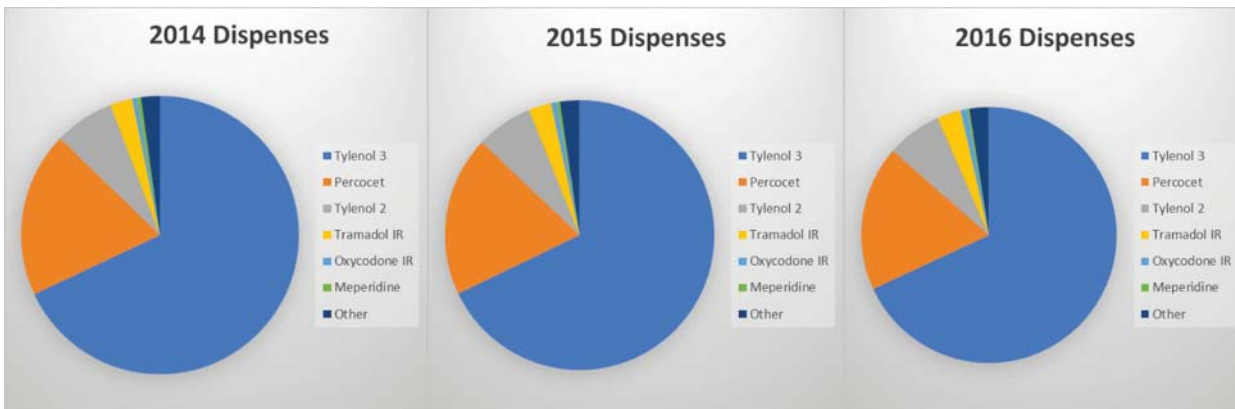


Even though the overall dispense rate for dentists decreased with time, there was an increase for Oxycodone (Table 6.3, Figure 6.7).

Table 6.3: Changes in dentist dispense events for specific opioids by year

Opioid	2014 Dispenses	2015 Dispenses	2016 Dispenses	2014 to 2015 % Change	2015 to 2016 % Change	2014 to 2016 % Change
Tylenol 3	201,452	197,880	186,753	-2%	-6%	-7%
Percocet	57,001	56,055	50,478	-2%	-10%	-11%
Tylenol 2	20,620	19,812	19,070	-4%	-4%	-8%
Tramadol IR	7,596	7,940	8,269	5%	4%	9%
Oxycodone IR	1,643	1,993	2,194	21%	10%	34%
Meperidine	1,423	1,051	834	-26%	-21%	-41%
Other	6,508	6,880	6,777	6%	-1%	4%
Total	296,243	291,611	274,375	-2%	-6%	-7%

Figure 6.7: Specific opioid dispense events for dentists by year



7. PRESCRIPTION PATTERNS

The prescriptions by dentists were generally single dispenses (Table 7.1).

Table 7.1: Multiple prescriptions by dental group for 2016

Dentist group	% of patients by number of prescribers visited			
	1	2	3	4+
General Dentists	97.1	2.7	0.1	0.0
Dental Specialists	98.7	1.2	0.0	0.0
All Dentists	97.9	2.0	0.2	0.0

The range of tablets/capsules varied by opioid (Table 7.2) and dentist group with general dentists having an average quantity of 20 and dental specialists 25 (Table 7.3).

Table 7.2: Range of tablets/capsules by opioid in 2016

Dentist group	Opioid	% of dispense events by range of tablets or capsules prescribed					Median quantity prescribed
		1 to 10	11 to 20	21 to 30	31 to 40	40 or more	
Generalists	Tylenol 3_30mg	6.6	52.5	35.6	4.3	1.0	20
	Percocet_5mg	22.1	52.5	20.0	4.0	1.3	20
	Tylenol 2_15mg	5.6	49.6	33.3	8.7	2.9	20
	Tramadol_IR_37.5mg	3.7	36.3	44.7	10.6	4.7	24
	Percocet_2.5mg	11.3	76.3	11.8	0.0	0.6	12
	Meperidine_50mg	19.5	51.5	23.0	5.0	1.0	20
	Oxycodone_IR_5mg	18.6	19.6	60.1	1.3	0.4	30
	Total	9.3	52.1	32.8	4.6	1.2	20
Specialists	Tylenol 3_30mg	2.0	36.7	55.4	5.3	0.7	25
	Percocet_5mg	6.5	44.1	38.2	10.1	1.2	20
	Tylenol 2_15mg	2.4	54.3	41.0	2.2	0.1	20
	Tramadol_IR_37.5mg	11.6	31.1	53.7	3.4	0.2	24
	Percocet_2.5mg	2.8	50.8	35.8	10.6	0.0	20
	Meperidine_50mg	4.2	45.7	45.7	2.9	1.5	24
	Oxycodone_IR_5mg	17.5	55.1	24.7	2.4	0.3	20
	Total	3.6	39.5	50.3	5.9	0.7	24
All dentists	Tylenol 3_30mg	4.7	45.8	43.9	4.7	0.8	20
	Percocet_5mg	14.7	48.6	28.6	6.9	1.3	20
	Tylenol 2_15mg	4.1	51.8	36.9	5.6	1.6	20
	Tramadol_IR_37.5mg	10.1	32.1	52.0	4.7	1.1	24
	Percocet_2.5mg	4.9	57.0	30.0	8.0	0.1	20
	Meperidine_50mg	12.0	48.7	34.2	4.0	1.2	20
	Oxycodone_IR_5mg	17.7	46.3	33.5	2.1	0.4	20
	Total	6.8	46.4	40.6	5.2	1.0	20

The rank of quantity prescribed for specific opioids varied by opioid and dentist group (Table 7.3).

Table 7.3: Opioid dispense quantities in 2016

Dentist group	Opioid	Rank of quantity prescribed					
		1		2		3	
		Qty	%	Qty	%	Qty	%
General Dentists	Tylenol 3_30mg	20	32.5	30	17.6	15	9.5
	Percocet_5mg	20	25.9	10	13.5	30	10.5
	Tylenol 2_15mg	20	31.8	30	17.1	15	8.7
	Tramadol_IR_37.5mg	20	28.7	30	23.2	24	14.3
	Percocet_2.5mg	20	25.8	30	10.5	15	10.5
	Meperidine_50mg	20	23.8	16	15.7	30	13.8
	Oxycodone_IR_5mg	30	57.4	10	11.1	15	6.9
Specialists	Tylenol 3_30mg	30	35.9	20	21.9	25	9.4
	Percocet_5mg	20	32.8	30	24.6	40	7.8
	Tylenol 2_15mg	20	33.7	30	27.6	15	12.6
	Tramadol_IR_37.5mg	30	26.6	20	23.5	25	15.3
	Percocet_2.5mg	30	28.3	15	24.9	20	22.7
	Meperidine_50mg	30	31.2	20	24.1	15	15.2
	Oxycodone_IR_5mg	20	39.4	30	22.1	10	11.8
All dentists	Tylenol 3_30mg	20	28.0	30	25.3	24	8.4
	Percocet_5mg	20	29.1	30	17.1	10	9.5
	Tylenol 2_15mg	20	32.7	30	22.0	15	10.5
	Tramadol_IR_37.5mg	30	26.0	20	24.5	25	13.4
	Percocet_2.5mg	30	22.7	20	20.6	15	20.1
	Meperidine_50mg	20	23.9	30	22.3	15	11.0
	Oxycodone_IR_5mg	20	31.5	30	30.9	10	11.6

The rates for opioid dispense events were independent of the year of graduation for general dentists, dental specialists and all dentists (Table 7.4).

Table 7.4: Opioid by years since graduation in 2016

Dentist group	Years since graduation	% of dispense events by opioid					
		Tylenol 2/3	Percocet	Tramadol IR	Meperidine	Oxycodone IR	Other
General Dentists	0-10 yrs	79.4	16.5	1.6	0.1	0.9	1.5
	11-20 yrs	78.8	18.7	0.8	0.3	0.1	1.3
	21-30 yrs	79.6	17.8	0.5	0.4	0.2	1.5
	31-40 yrs	80.5	16.5	0.8	0.4	0.1	1.8
	>40 yrs	75.3	20.9	1.8	0.3	0.1	1.7
Specialists	0-10 yrs	66.3	25.2	2.6	0.1	0.4	5.4
	11-20 yrs	68.9	17.9	7.5	0.3	1.3	4.0
	21-30 yrs	73.7	13.5	8.3	0.5	1.6	2.4
	31-40 yrs	68.0	22.5	1.8	0.5	1.4	5.7
	>40 yrs	80.7	17.7	0.4	0.1	0.0	1.1
All Dentists	0-10 yrs	74.3	19.9	2.0	0.1	0.7	3.0
	11-20 yrs	73.9	18.3	4.2	0.3	0.7	2.7
	21-30 yrs	77.1	16.0	3.9	0.4	0.8	1.9
	31-40 yrs	74.1	19.5	1.3	0.5	0.8	3.8
	>40 yrs	77.6	19.5	1.2	0.2	0.1	1.4

8. OPIOID DISPENSE MAPPING BY DISTRICT

The average dispenses for each district are outlined for 2016 for general dentists in figure 8.1, dental specialists in figure 8.2 and both groups combined for all dentists in Figure 8.3. Each map provides the colour for each district (including an insert for the four Toronto districts) and

in the upper right hand corner the colour bar includes different gradient levels, the average or mean (\bar{x}), and the distribution of the District dispense events. The values for each of the districts are listed in the lower right-hand corner.

Figure 8.1: Dispenses per general dentist by district in 2016

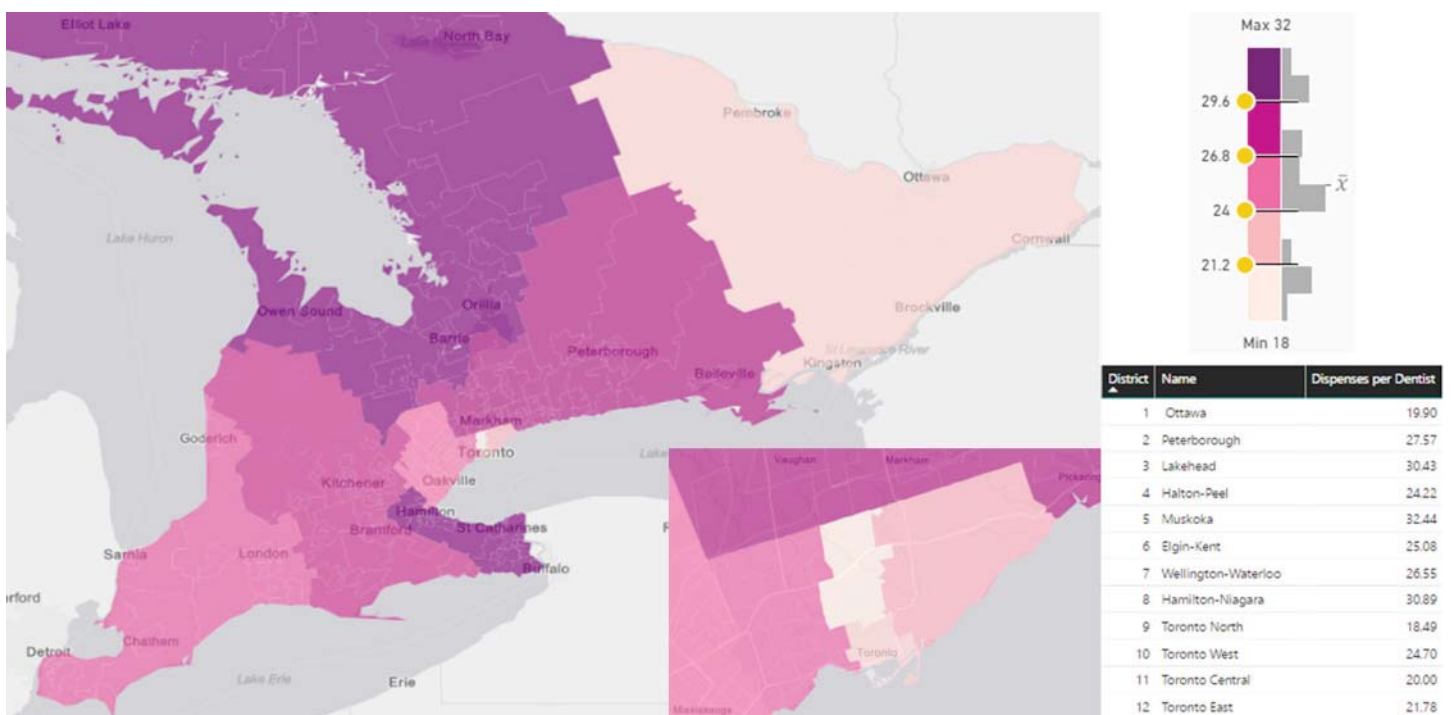


Figure 8.2: Dispenses per dental specialist by district in 2016

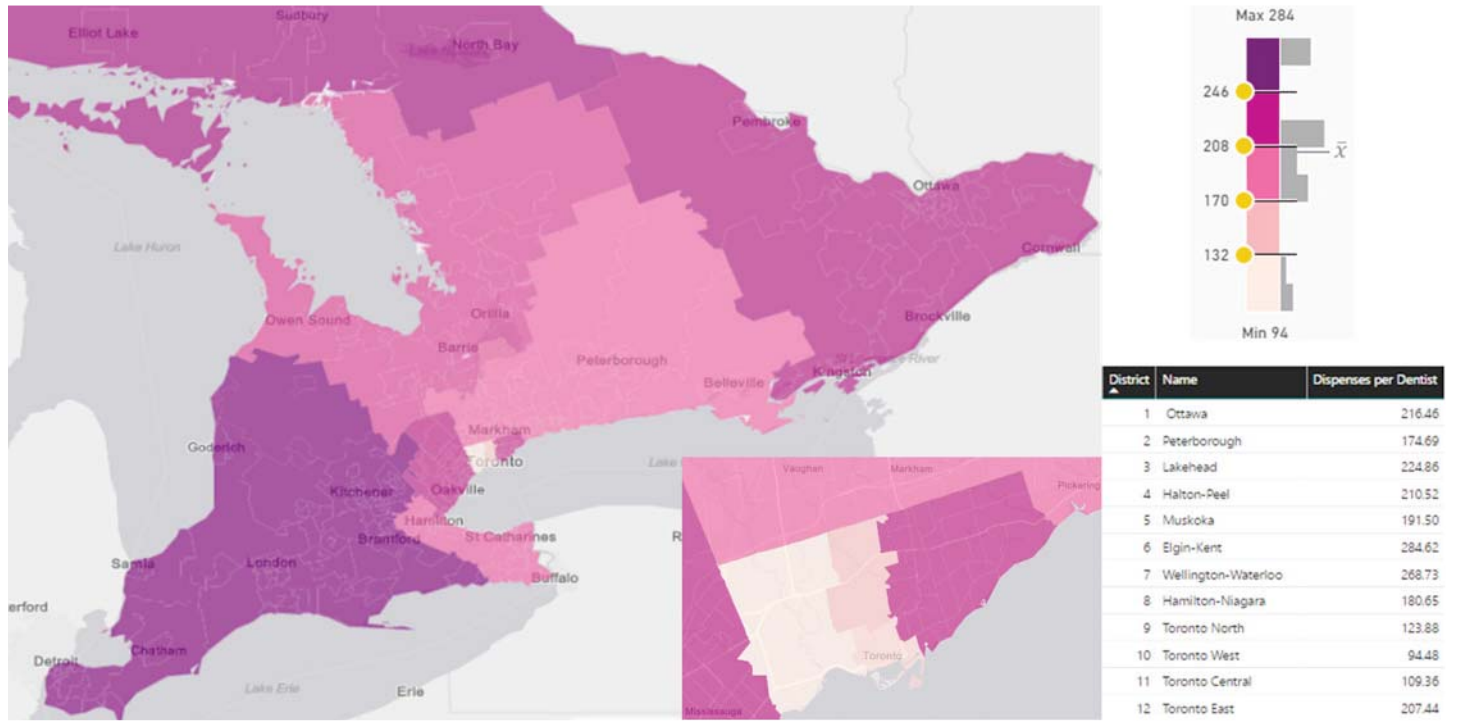
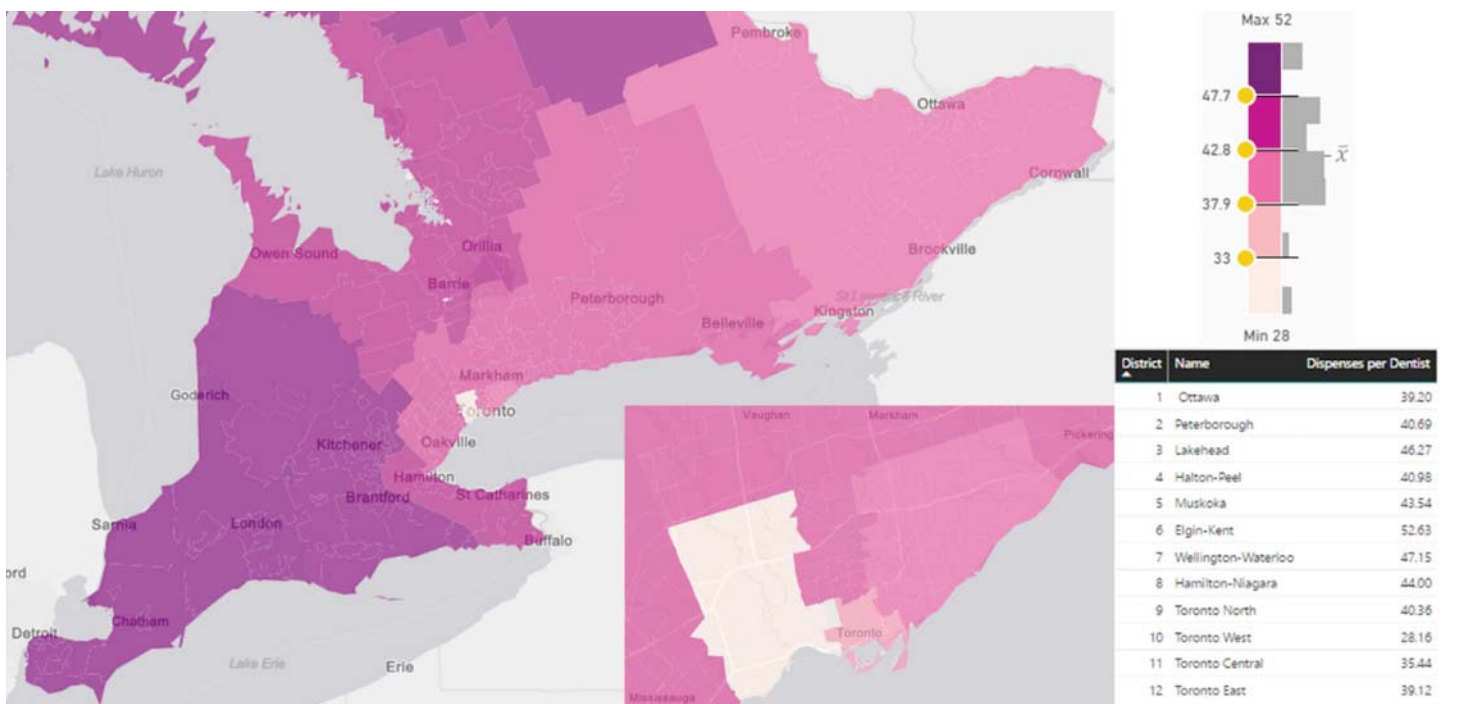


Figure 8.3: Dispenses per dentist by district in 2016



The dispenses per dentist for specific opioids varied by district (Figures 8.4 to 8.18).

Figure 8.4: Tylenol 2/3 dispenses per general dentist by district in 2016

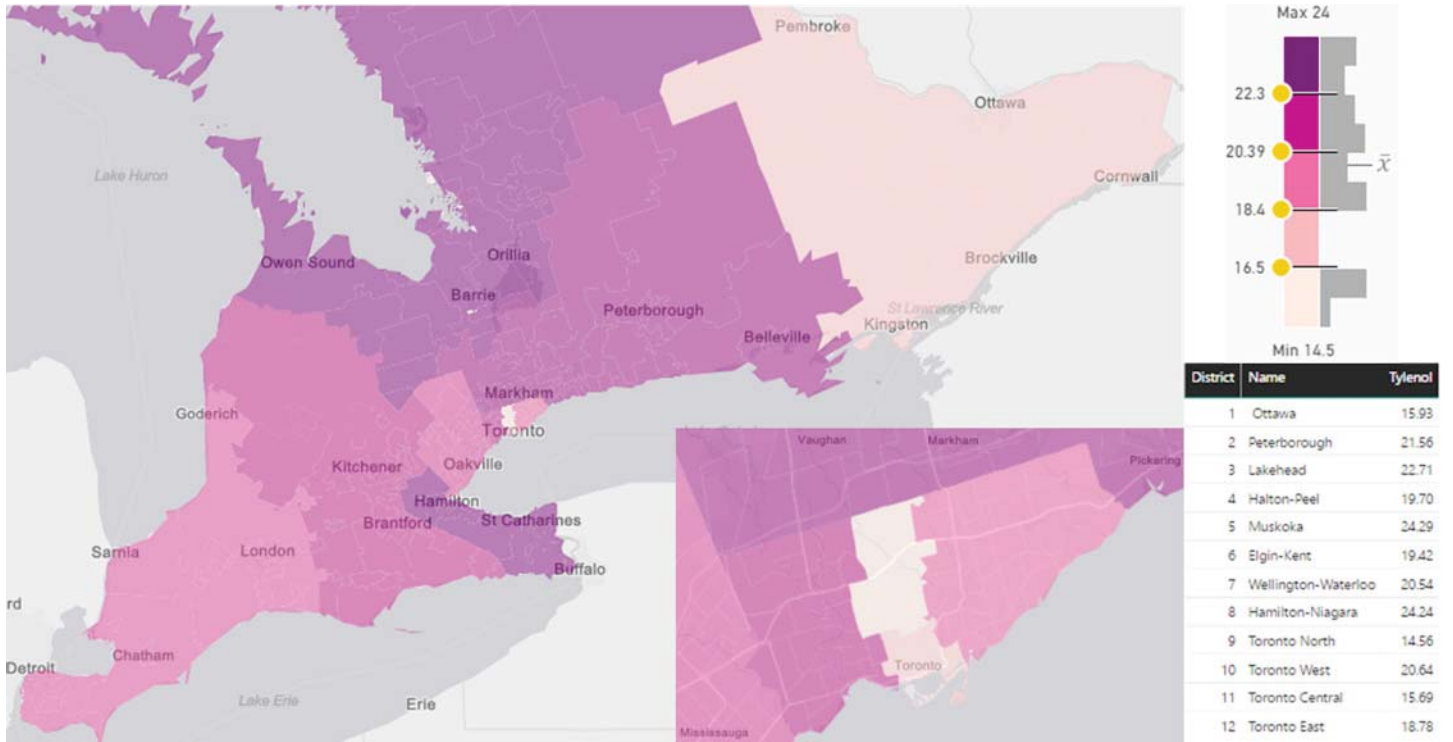


Figure 8.5: Tylenol 2/3 dispenses per dental specialist by district in 2016

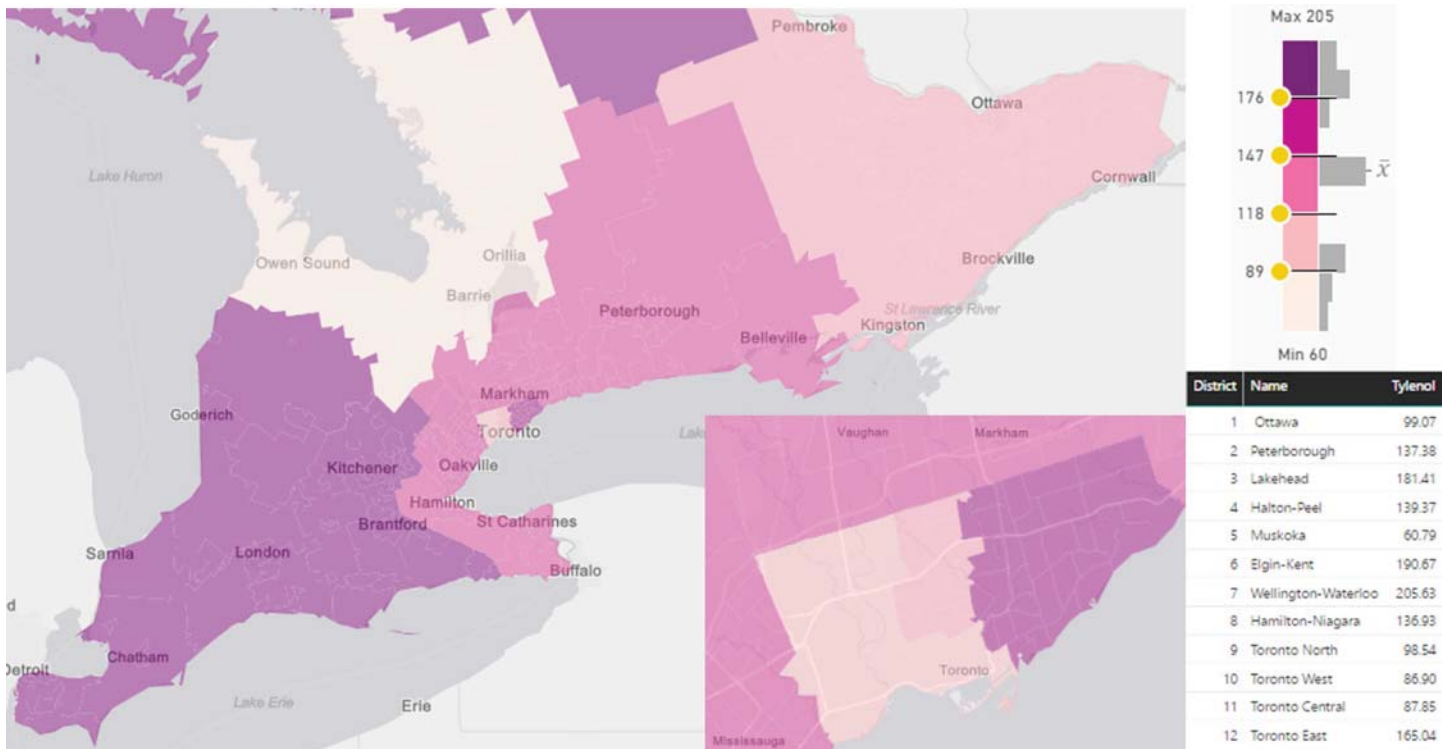


Figure 8.6: Tylenol 2/3 dispenses per dentist by district in 2016

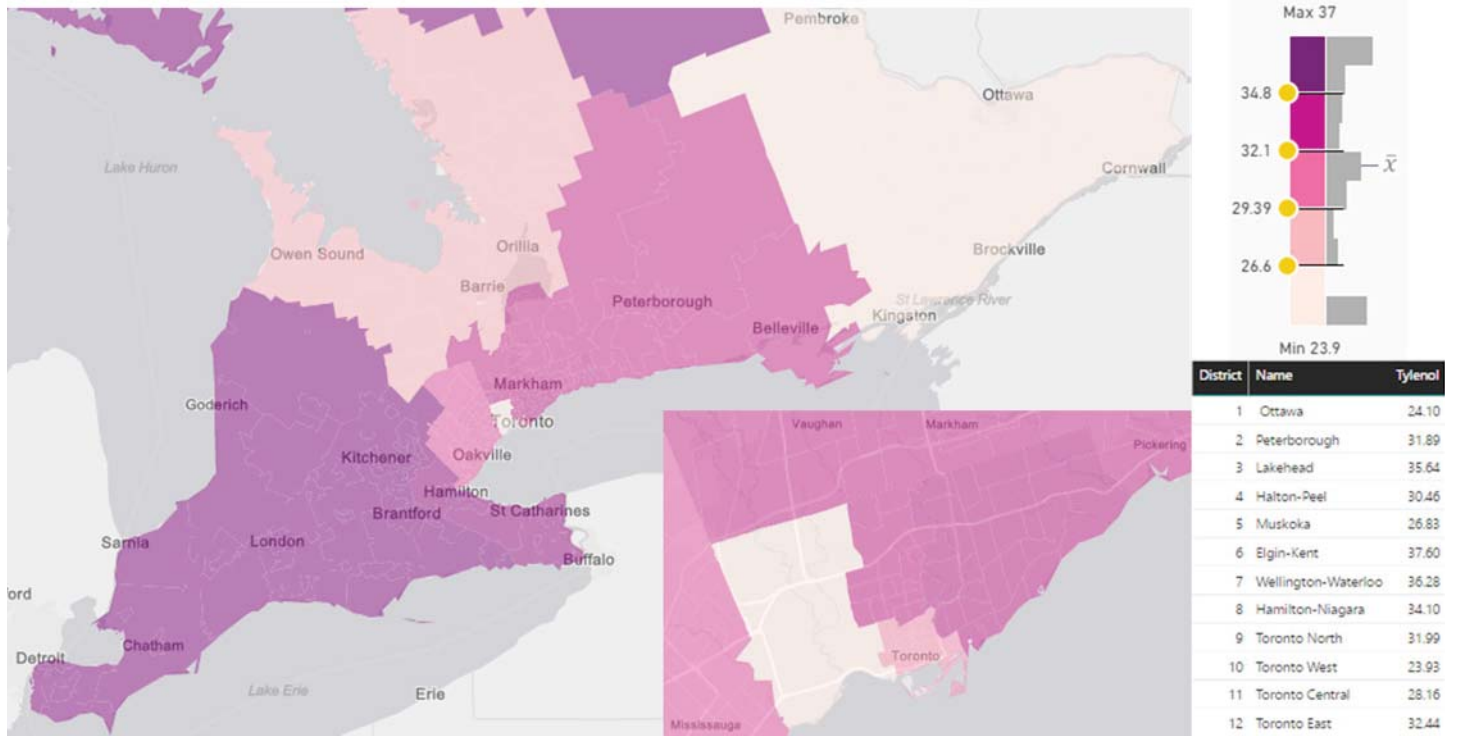


Figure 8.7: Percocet dispenses per general dentist by district in 2016

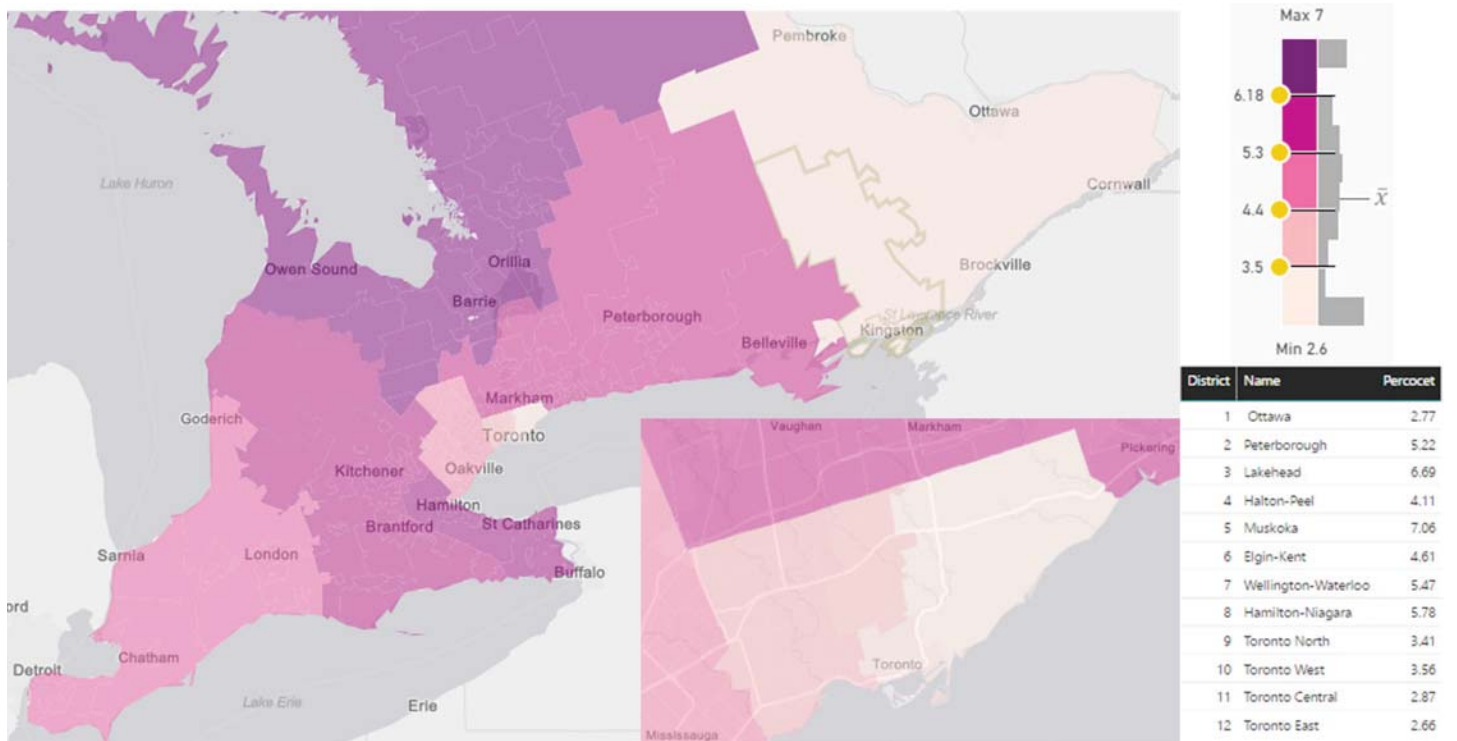


Figure 8.8: Percocet dispenses per dental specialist by district in 2016

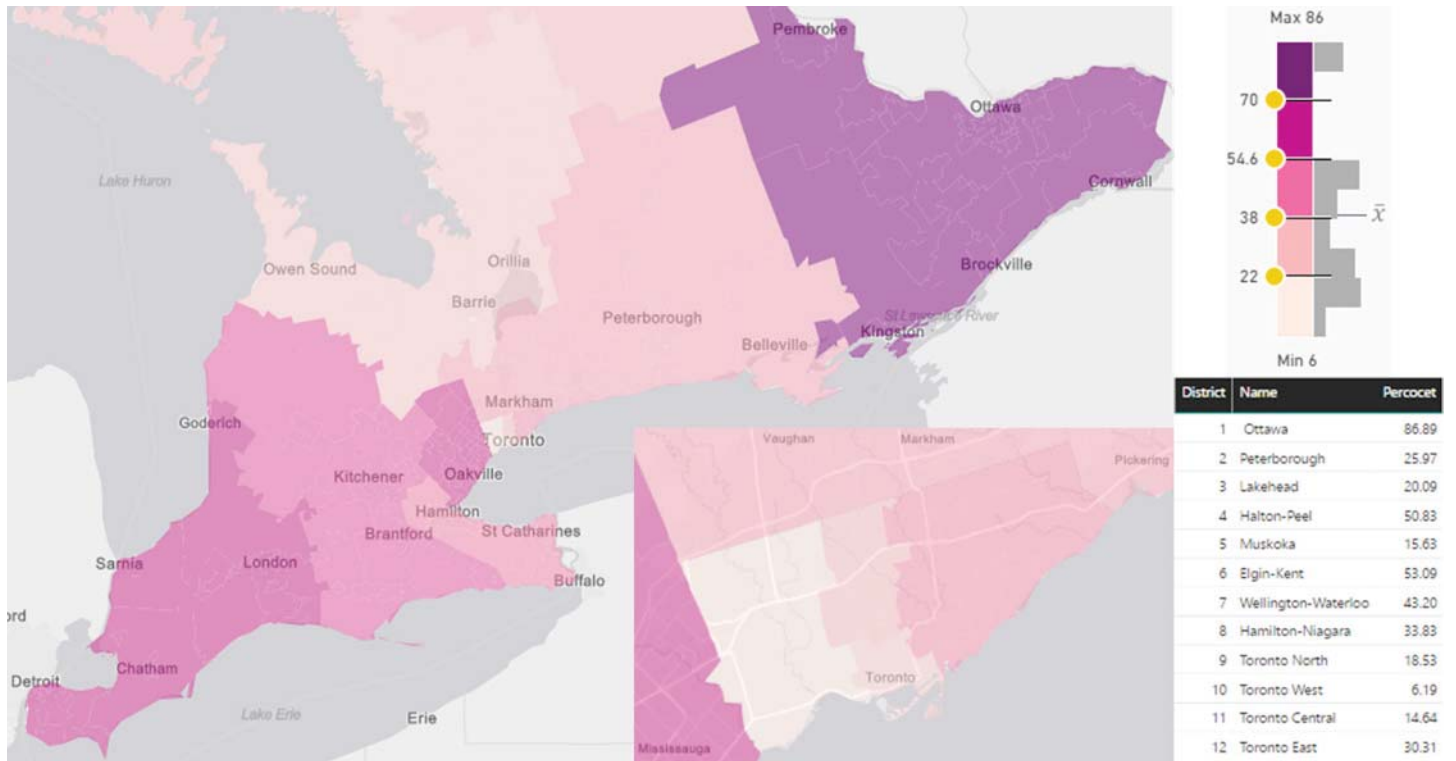


Figure 8.9: Percocet dispenses per dentist by district in 2016

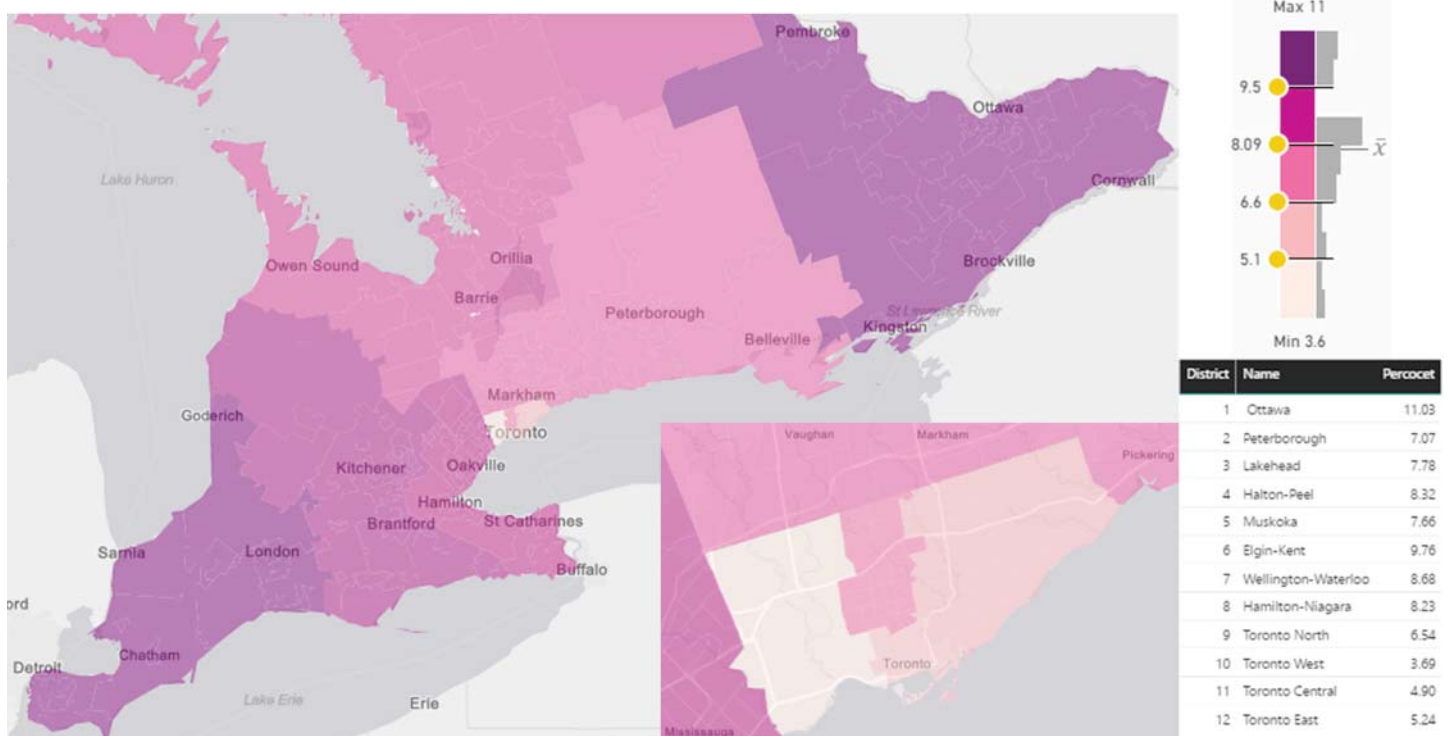


Figure 8.10: Tramadol dispenses per general dentist by district in 2016

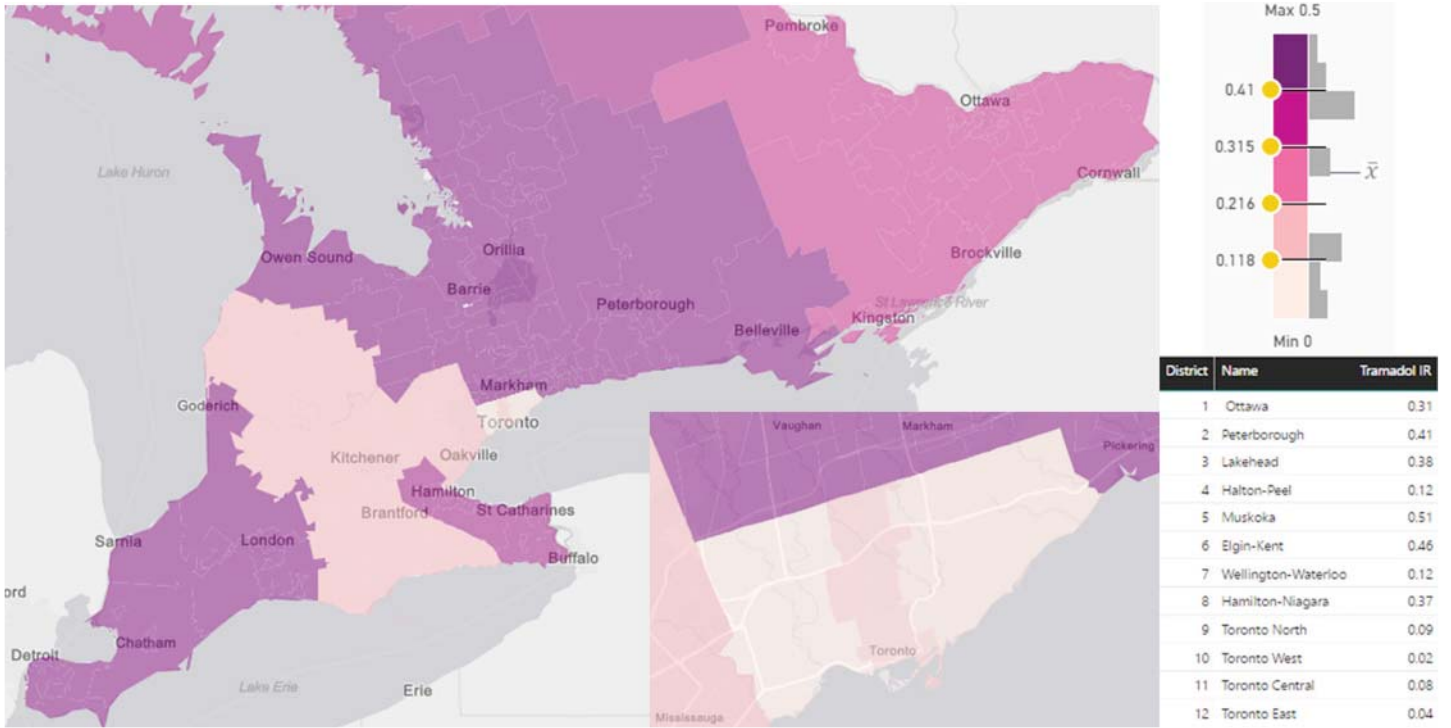


Figure 8.11: Tramadol dispenses per dental specialist by district in 2016

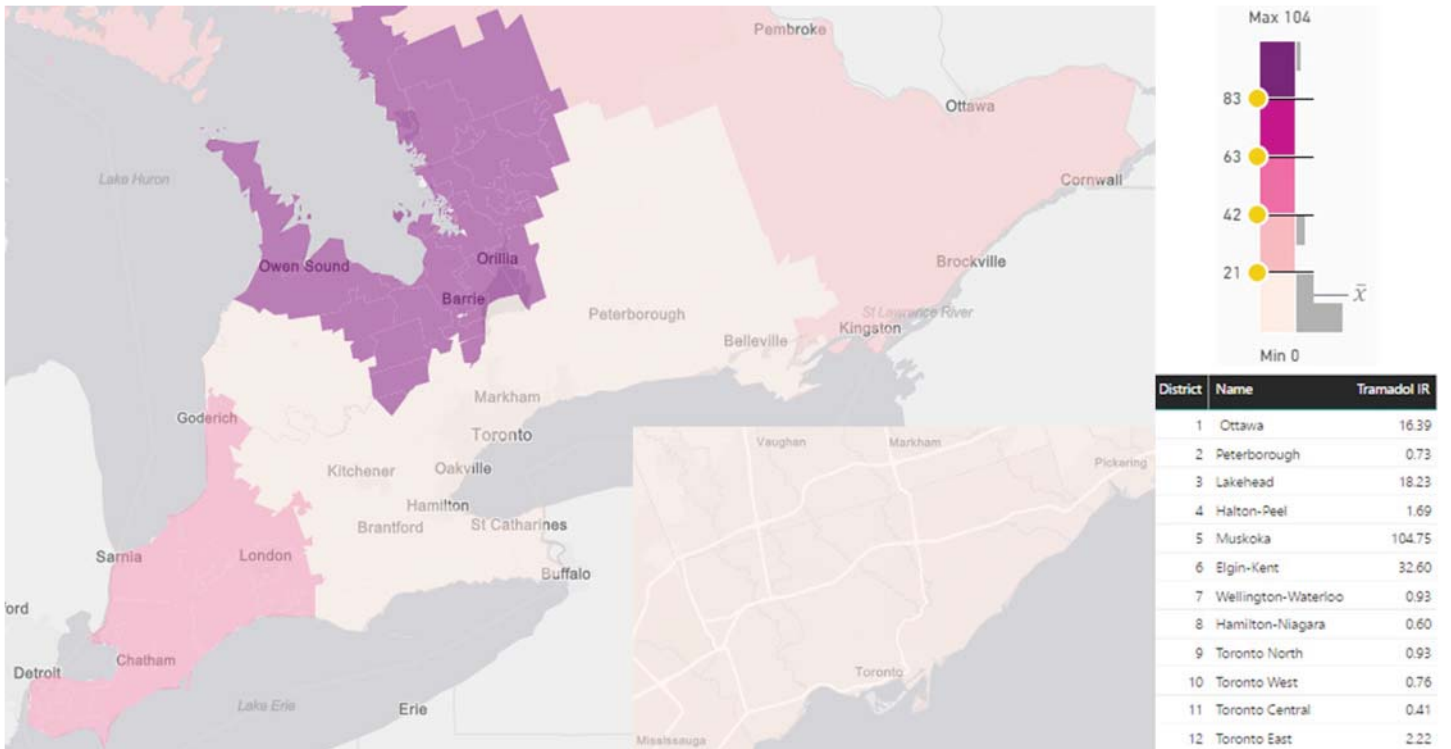


Figure 8.12: Tramadol dispenses per dentist by district in 2016

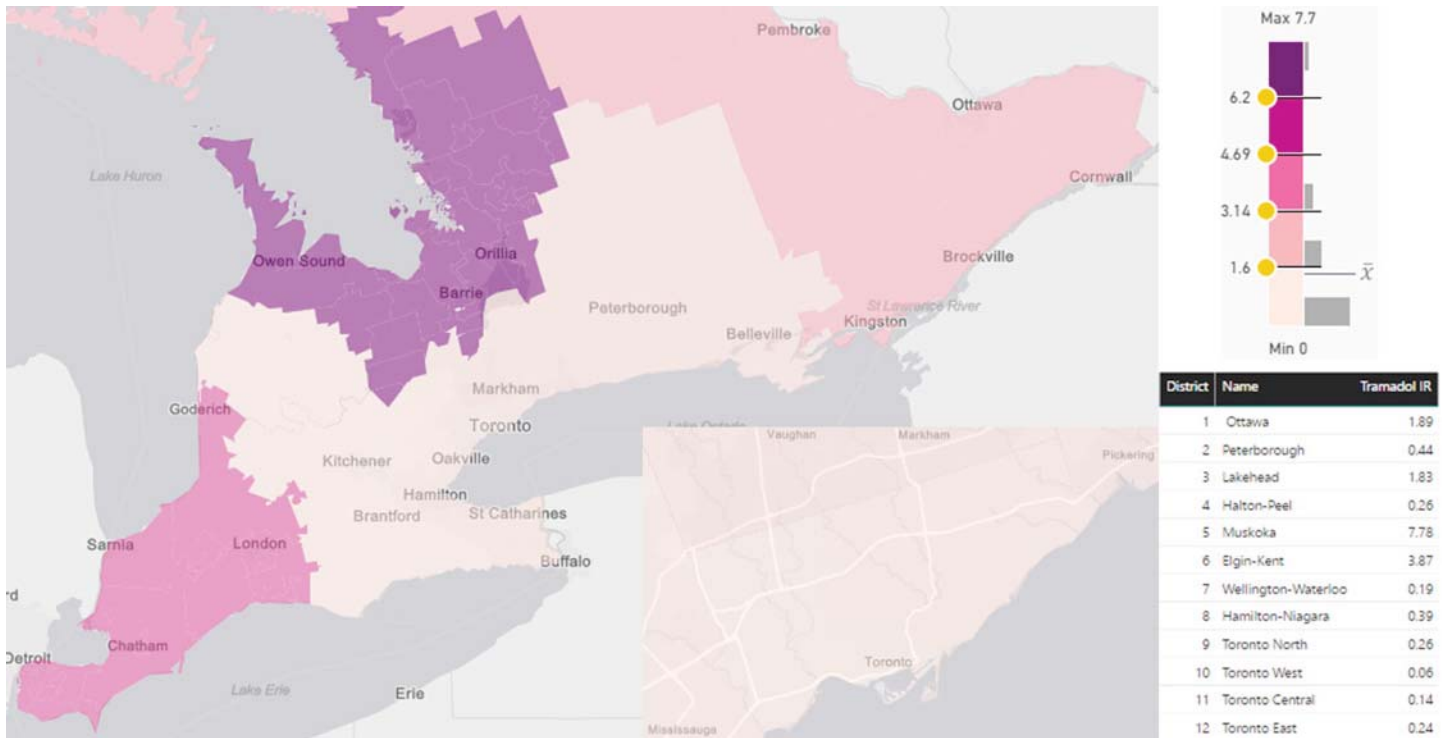


Figure 8.13: Oxycodone dispenses per general dentist by district in 2016

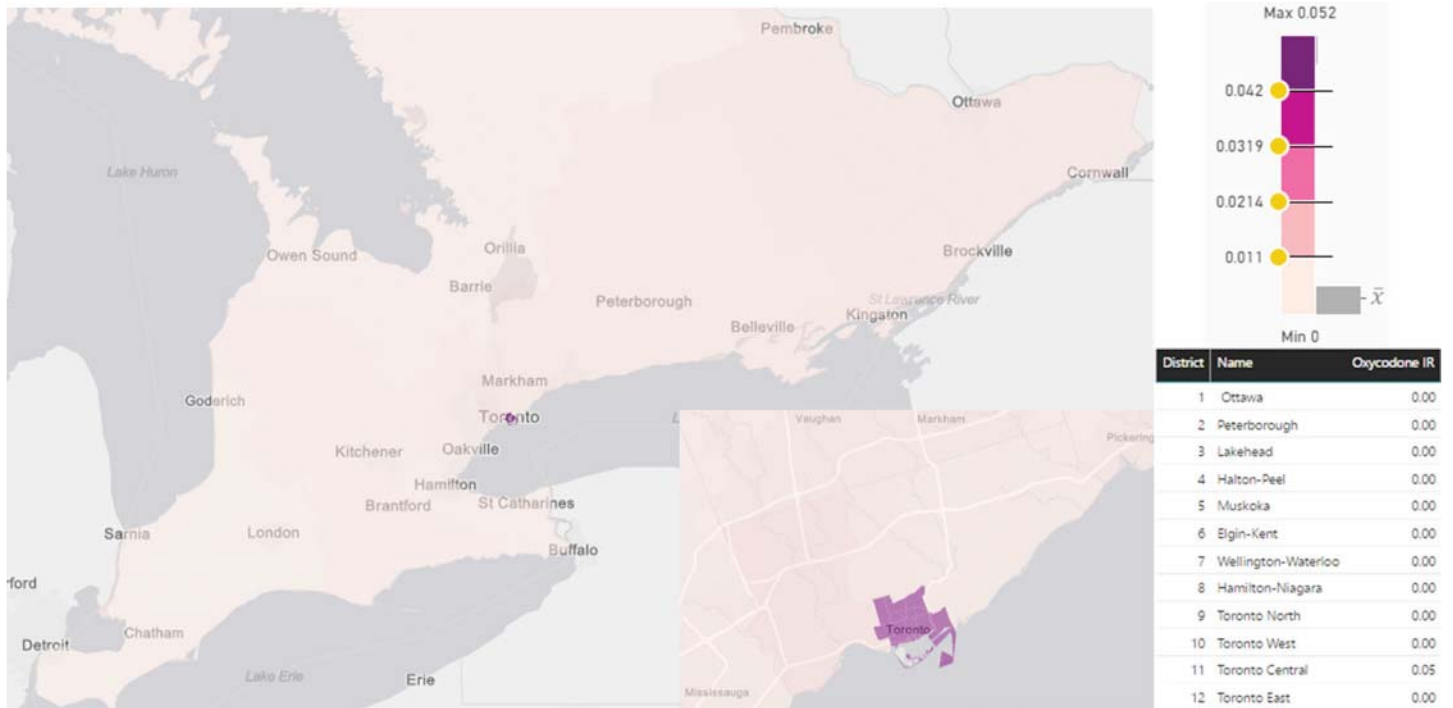


Figure 8.14: Oxycodone dispenses per dental specialist by district in 2016

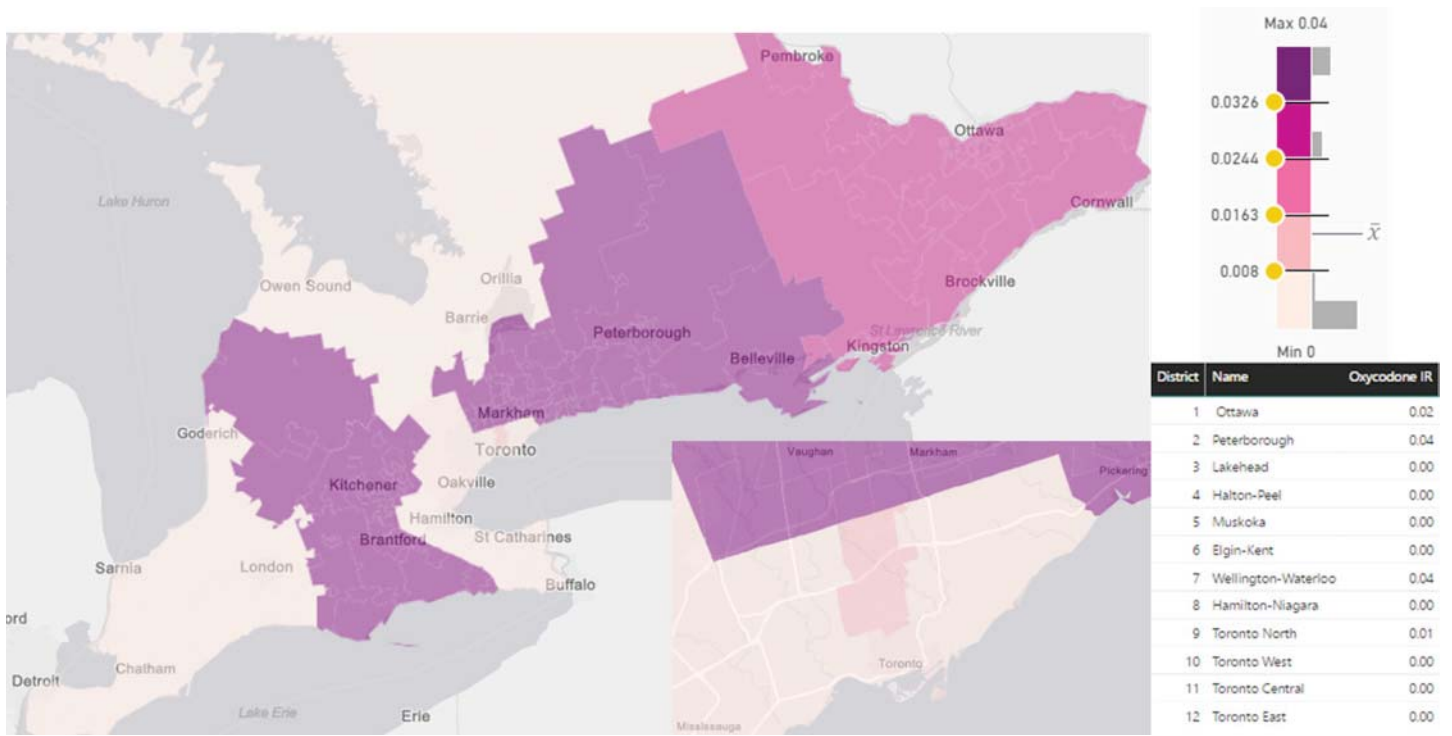


Figure 8.15: Oxycodone dispenses per dentist by district in 2016

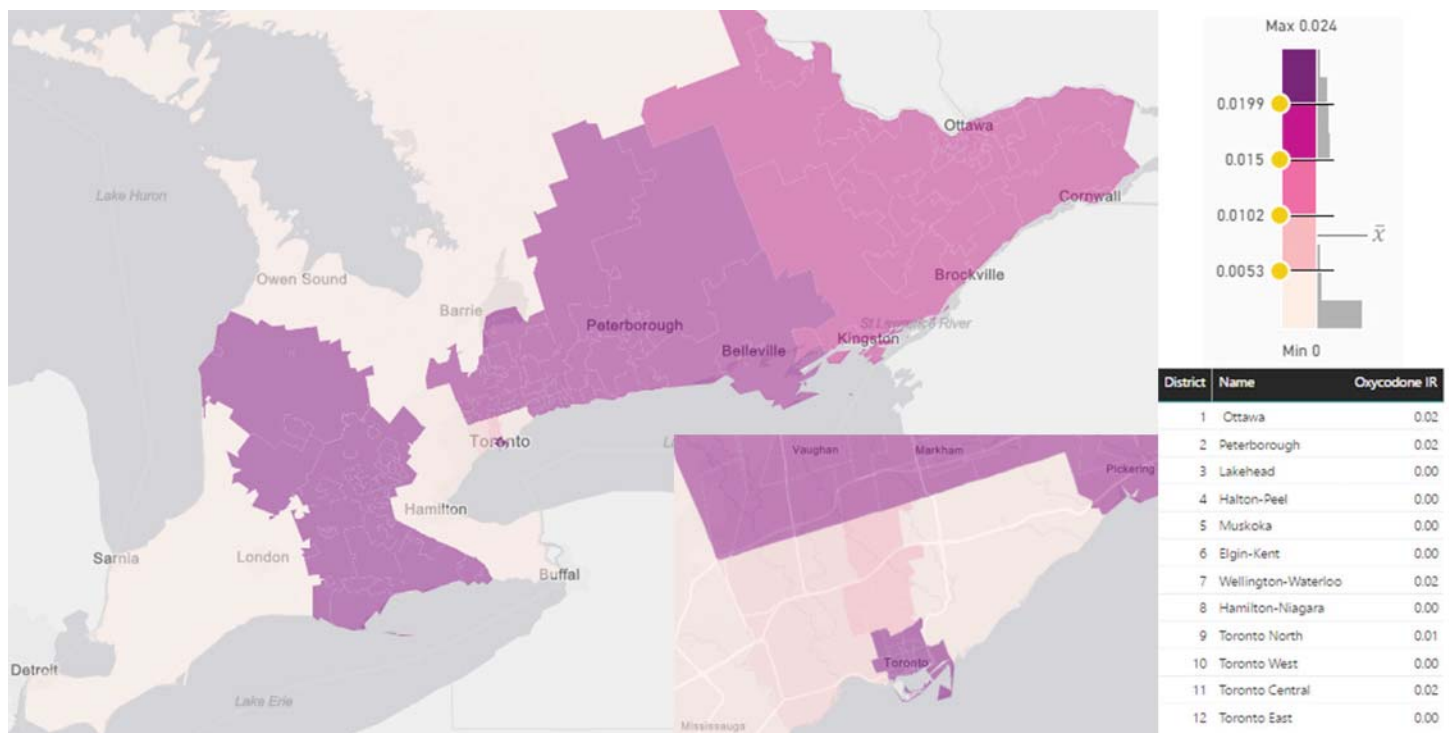


Figure 8.16: Other opioid dispenses per general dentist by district in 2016

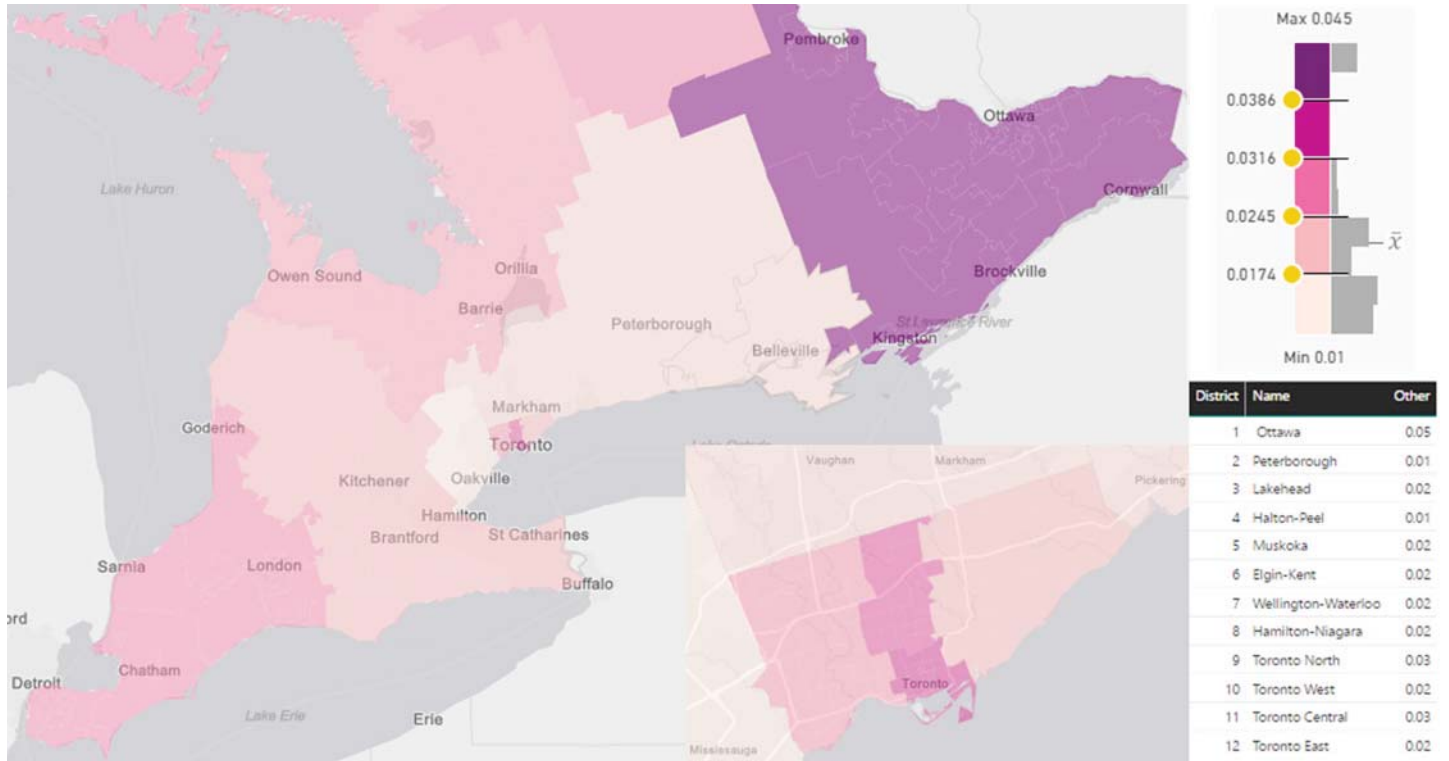


Figure 8.17: Other opioid dispenses per dental specialist by district in 2016

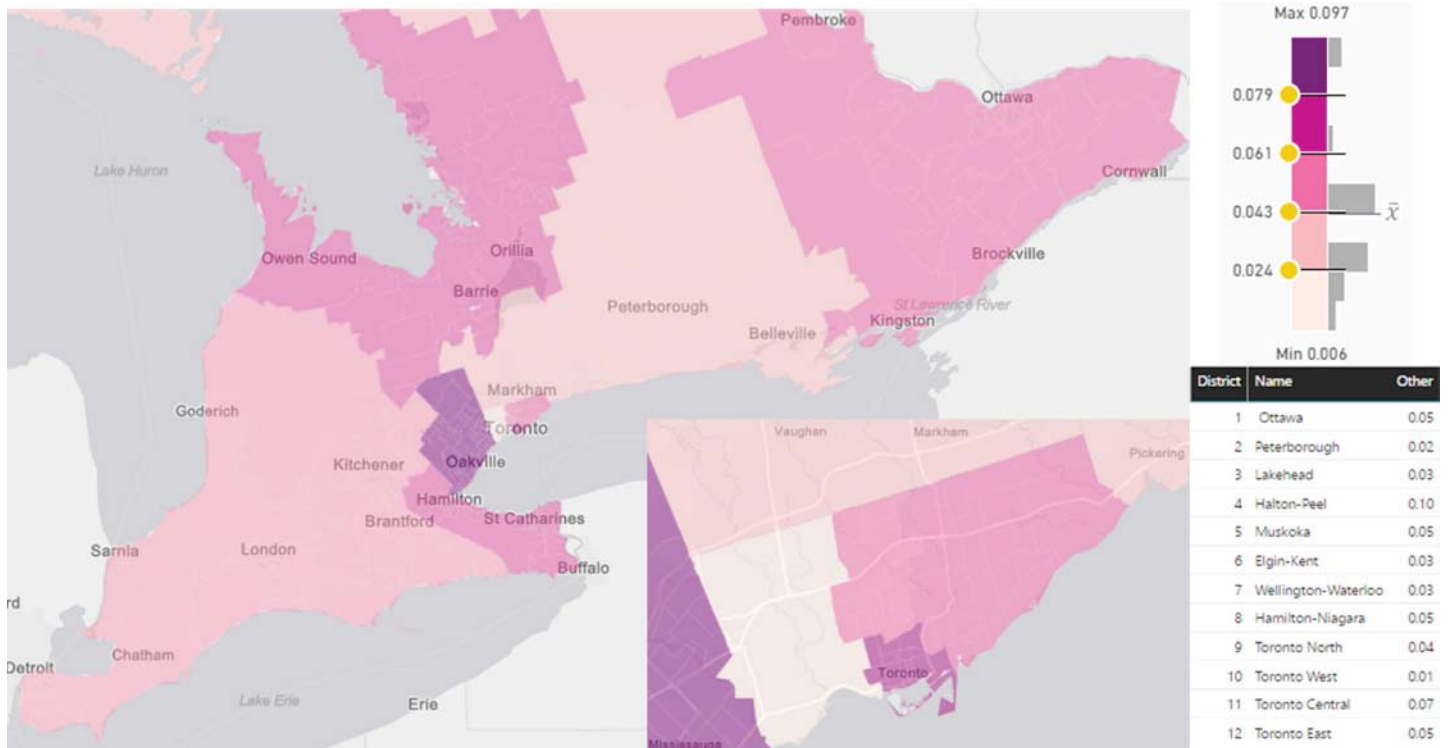
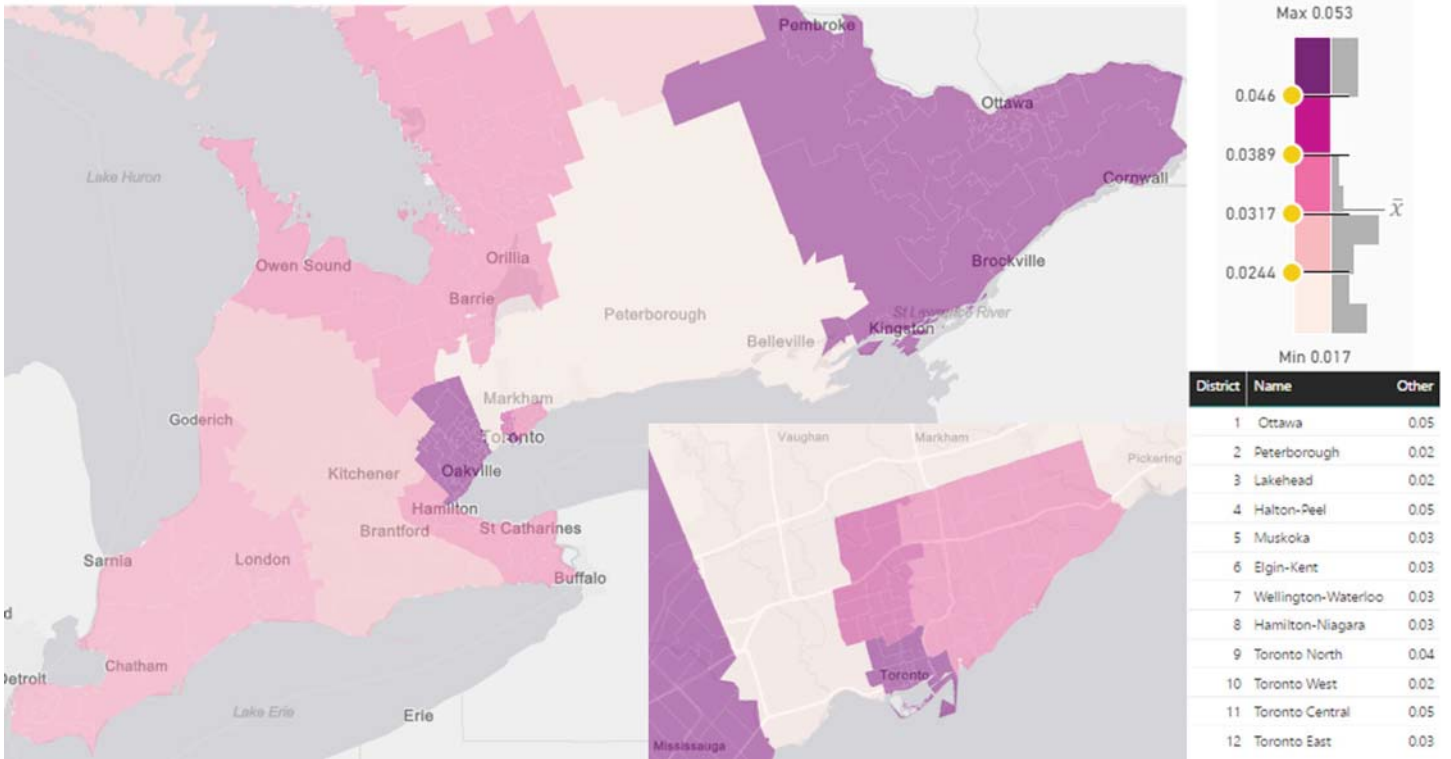


Figure 8.18: Other Opioid dispenses per dentist by district in 2016



The opioid dispense rates were mapped for endodontists, periodontists, and oral and maxillofacial surgeons and

varied by dental specialty and district (Figures 8.19 to 8.21).

Figure 8.19: Dispenses per endodontist by district in 2016

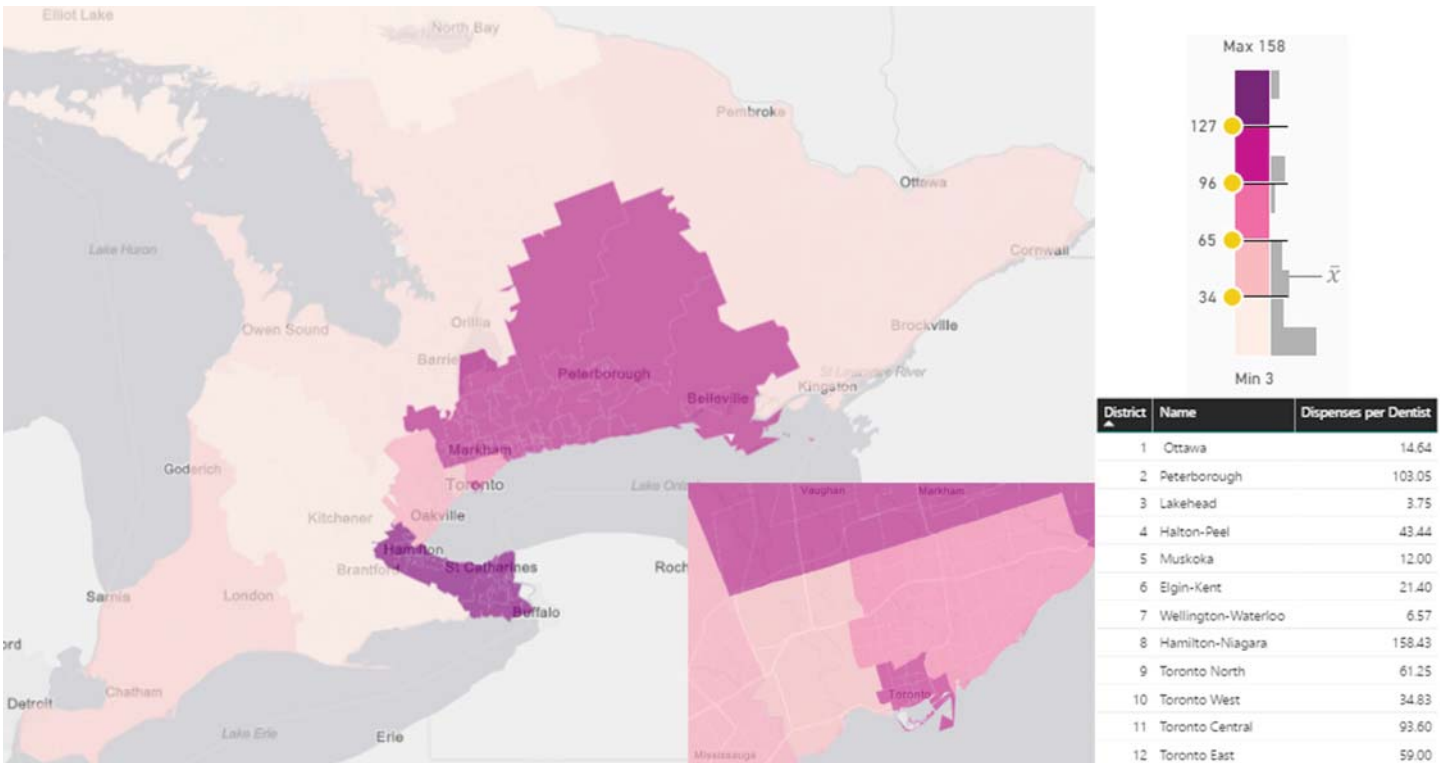


Figure 8.20: Dispenses per periodontist by district in 2016

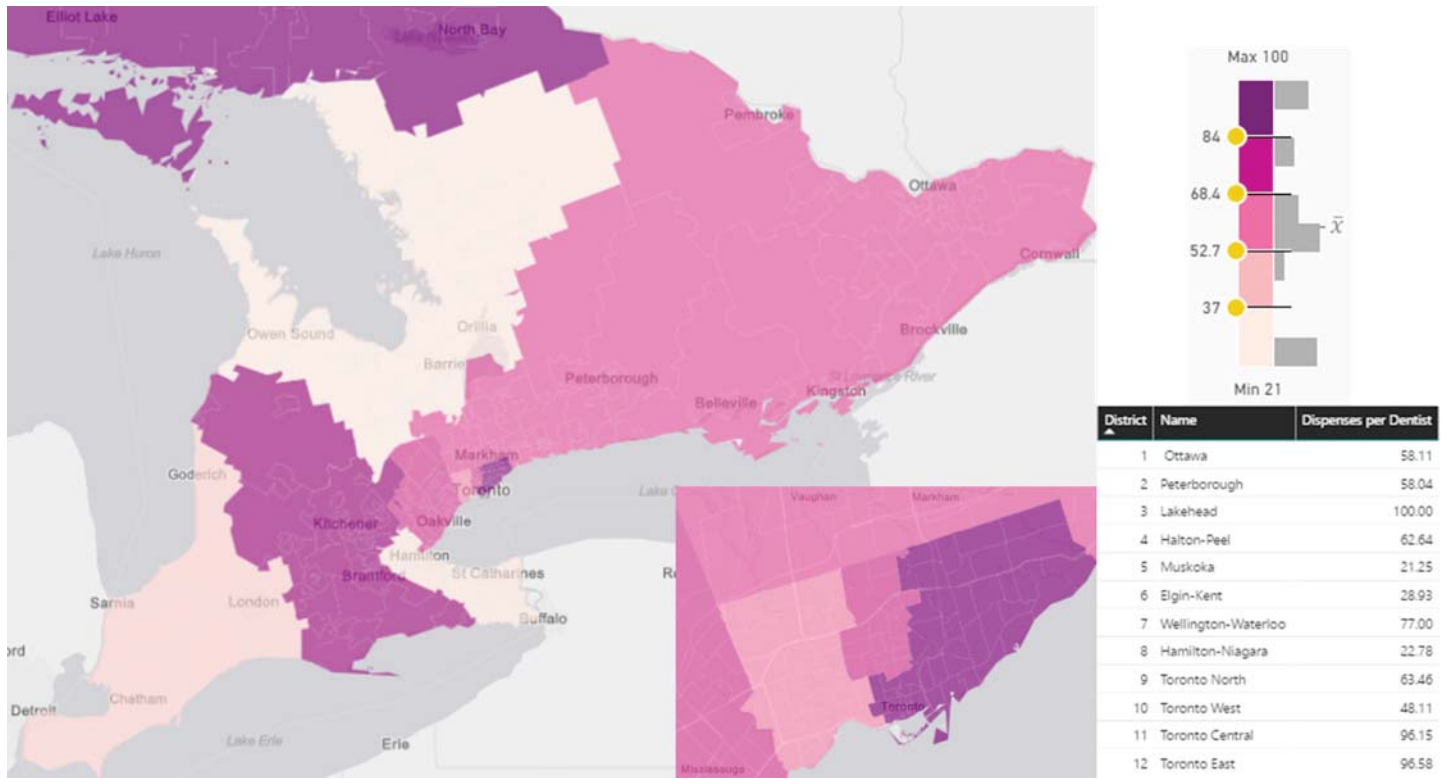
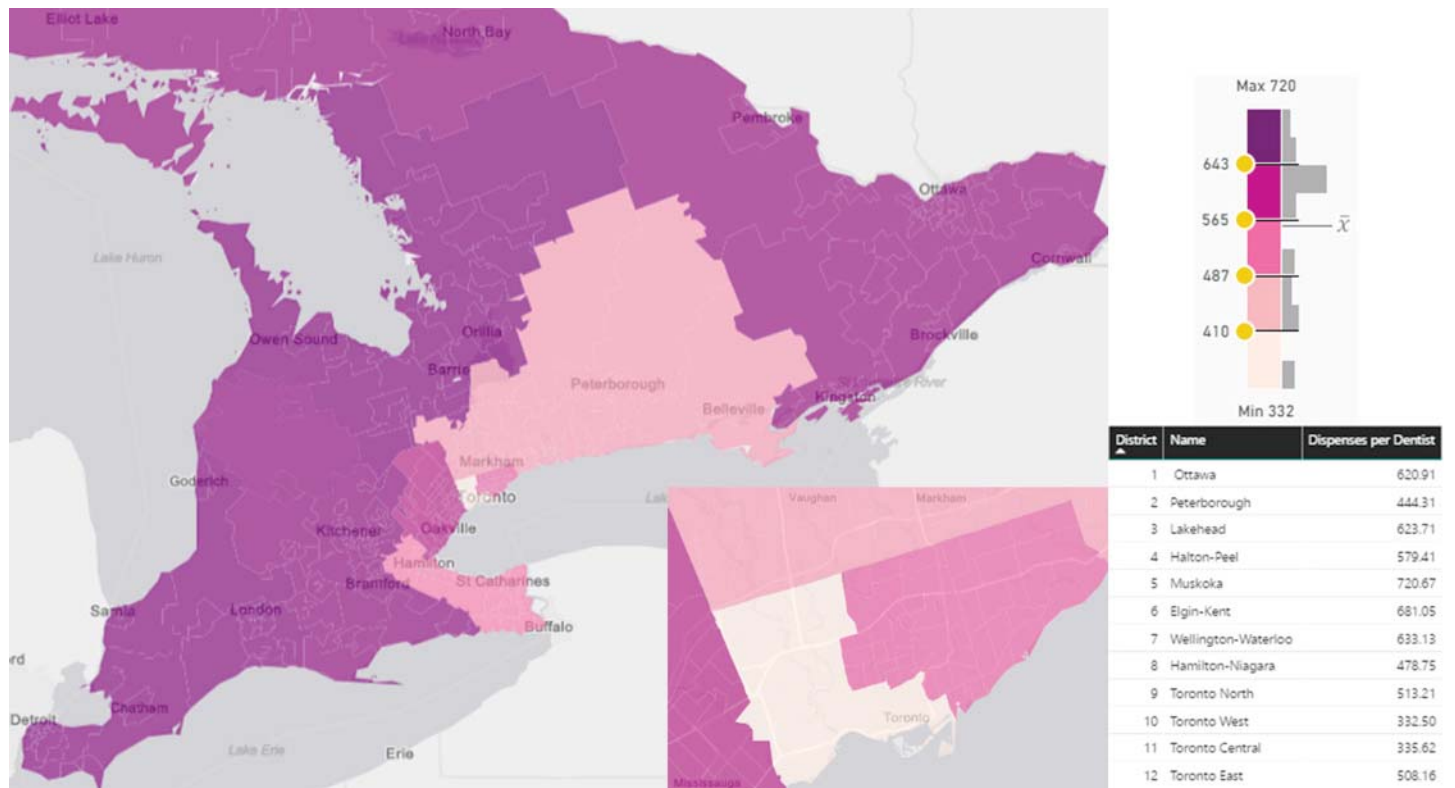


Figure 8.21: Dispenses per oral & maxillofacial surgeon by district in 2016



9. SUMMARY AND CONCLUSIONS

The RCDSO began its work on opioid prescribing patterns among dentists after recognizing the need for a comprehensive response to a public health crisis. The work done in this area continues to inform continuing education efforts for practitioners and helps us raise awareness of the concerns surrounding opioid prescription and guidelines for effective controlled use.

The Ontario Narcotics Atlas provides an overview of the patients and scope of opioid dispensing in Ontario in 2014/15:

- Total of 2 million (14.3%) dispensed opioid of total population of 13.7 million;
- Total of 9 million dispense events for the total population;
- Patients were mainly female (55%); ages 49 to 64 years (40%); and utilization of the Ontario Drug Benefit program (41%); and
- The opioid dispense rates were oxycodone and compounds (29%); codeine and compounds (27%); hydromorphone (20%); morphine (7%) and fentanyl (4%).

In comparison, the opioid dispense rates for dentists were codeine and compounds (75.1%); Percocet (18.4%); Tramadol (3.0%); oxycodone and compounds (0.8%) and Meperidine (0.3%) which was 97.5% of the total opioids prescribed by dentists.

The Health Analytics Branch codes their prescriber data by specialty rather than by professional group. Their data shows that physicians have 81.4% of the prescribers, dentists have 16.7% and nurse practitioners 1.9%. However, they compare family physicians at 38.4% of prescribers with dentists at 16.7% and conclude that “family physicians and dentists were the top prescribers of opioids”. This is all based on potential prescribers and does not reflect actual patients or dispense events. Dentists were responsible for just 3.3% of the opioid dispense events with 16.7% of the registered prescribers (in 2014). Dentists prescribed opioids for 1.6% of the Population (in 2016).

There are significant decreases in opioid dispense events from 2014 to 2015 to 2016. The number of dispenses per dentist decreased by 1.2% between 2014 to 2015; decreased by 3.3% between 2015 to 2016; and decreased by 4.4% from 2014 to 2016. These changes are statistically significant, but more importantly are of practical significance over a short period of time. These changes are in keeping with current trends and the awareness of prescribers which includes the RCDSO Guidelines of 2015.

Dental specialists were 10.0% of the dentist prescribers; had 49.5% of the patients; provided 45.5% of dispenses (in 2016). Oral and maxillofacial surgeons had an average of 479 opioid patients while general dentists averaged 19.2 (in 2016). These data reflect the types of opioid prescribing by the various dental groups for the treatment of acute pain and anticipatory prescribing for after-treatment pain management.

The number of dispense events per dentist and patients per dentist varied between electoral districts. The prescribing patterns demonstrated that dentists are by and large prescribing appropriately. The electoral district mapping and charts provide an educational format for the RCDSO and individual dentists.

Other key findings:

- dentists prescribed opioids for 12% of opioid patients with 9% by dentists only (in 2014)
- dentist dispenses per patient was 1.3 and physicians rate was 5.0 (in 2014)
- physicians had more patients with 47 while dentists had 34
- Tylenol 2/3 was the most (75%) prescribed opioid by dentists
- dispenses per patient were higher for general dentists
- dispense-event patterns varied by opioid
- there were differences in dispense event patterns by dental specialty
- patients generally received prescriptions from one dentist
- average quantity per opioid dispense event was 20 tablets or capsules for general dentists and 25 for dental specialists
- dentist dispensing patterns were independent of the year of graduation

The RCDSO is committed to an evidence-based approach to identify critical issues and developing solutions. We will continue to monitor opioid provider practices in the dental community using the provincial data available to us. We plan to share this and subsequent data analysis with the profession in Ontario. We promote appropriate prescribing practices through the use of our Guidelines. Decisions on what further education and training may be needed will be made following further study of the data to date. The College will work with others to help develop appropriate programs across Ontario.

As reflected in the methodology section, this work is only possible through collaboration with the Ontario Ministry of Health and Long Term Care. We are grateful to colleagues in the Health Analytics Branch for their assistance and for the use of data sets from the Narcotics Monitoring System.

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Ontario Narcotics Atlas
Government of Ontario
<https://goo.gl/8qfBxp>

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The management of acute pain
The management of chronic pain
The management of risk for opioid use
The management of risk for opioid use

Prevention of prescription opioid abuse: The role of the dentist
Journal of the American Dental Association
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