

2015
**ALBERTA
TRIPLICATE
PRESCRIPTION
PROGRAM
ATLAS**

The Alberta Triplicate Prescription Program (TPP) was established in 1986 to monitor the use of certain medications prone to misuse and abuse.

The mandate of the TPP is:

- To monitor prescribing, dispensing and utilization practices regarding targeted medications;
- To provide timely and relevant information on targeted medications to prescribers, dispensers, consumers, regulatory bodies and stakeholders;
- To work with stakeholders to enable system level change to ensure appropriate use of targeted medications;
- To ensure efficient and effective functioning of the TPP program.

Funded primarily by the provincial government, the TPP is a partnership administered by the College of Physicians & Surgeons of Alberta. The full list of partners are:

Alberta College of Pharmacists

Alberta Dental Association and College

Alberta Health

Alberta Health Services

Alberta Medical Association

Alberta Pharmacists' Association

Alberta Veterinary Medical Association

College and Association of Registered Nurses of Alberta

College of Physicians & Surgeons of Alberta

College of Podiatric Physicians of Alberta

Yukon Medical Council

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This work was produced by OKAKI™ for the Alberta Triplicate Prescription Program.

Suggested Citation:

Ellehoj E, Niruban SJ, Oreopoulos A, McDermott C, Samanani S. 2015 Alberta Triplicate Prescription Program Atlas. Edmonton, Alberta: The College of Physicians & Surgeons of Alberta; 2016. 41 p.

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Background

About the Atlas

The purpose of the Triplicate Prescription Program (TPP) Atlas is to provide an overview of provincial TPP medication utilization for the year 2015. As with the 2014 Atlas, provincial utilization will be summarized for two analytic classes of medications: opioids and benzodiazepines. New to the 2015 Atlas, however, is the addition of codeine containing medications to the opioid analytic class. The source of information on medication utilization continues to be dispenses from community pharmacies found within Alberta's Pharmaceutical Information Network (PIN).

Atlas Geography

The 2014 TPP Atlas used Alberta subzones (with a minimum population of approximately 50,000) as the geographic unit of analysis. For the 2015 Atlas, this has been changed to local geographies, which have a minimum population of approximately 5,000. Appendix A provides an explanation of the maps and graphs used to present prescription drug utilization data at the local geography level. TPP prescriptions and their corresponding patients were assigned to a specific local geography based on the location of the pharmacy where the prescriptions were dispensed. Patients who were dispensed prescriptions from pharmacies in more than one local geography were counted in each local geography where they received prescription dispenses.

TPP Data Source

2015 PIN data were used for the analyses. On January 1, 2013, the TPP officially switched from physical triplicate prescriptions to PIN as the primary data source for prescription monitoring, with the exception of methadone and other opioid compounds because of PIN data limitations with compound drugs. The primary source for methadone information switched from triplicate prescriptions to PIN data in August 2015, when it was found that virtually all methadone, which was previously prescribed as a compound, switched to Methadose™, a pre-compounded liquid with a Drug Identification Number (DIN) captured in PIN.

PIN data consist of dispense records from most community pharmacies in Alberta. PIN data prior to 2011 are limited by less complete levels of record submission for opioids. Incomplete data were received for benzodiazepines prior to 2012. Incomplete data were received for codeine prior to 2013. Ongoing gaps within PIN data include dispensing information from hospital pharmacies and facilities such as hospices. All prescriber types are included in the analyses, although in 2015, physicians prescribed 78.3% of all opioid prescriptions (including codeine) and 96.8% of all benzodiazepine prescriptions.

As PIN records consist of dispenses (not prescriptions), prescriptions were determined using the unique combination of pharmacy license and prescription numbers. PIN prescription numbers were used for missing pharmacy license numbers. PIN data does not discriminate between medications actually dispensed from those awaiting release to the patient. As pharmacy records may be modified or reversed, if needed, before the actual dispense, PIN data is dynamic. In an effort to capture actual dispensing as closely as possible, data is usually analyzed at least one month after the dispense date, by which time, generally, 90% of reversals would have occurred.

Analytic Drug Class

Analyses of medication utilization were carried out by analytic drug classes, based on the main ingredient of interest within each drug. In the case where a drug had two ingredients of interest, one was chosen as the main ingredient. The two analytic drug classes included in the Atlas are opioids and benzodiazepines. Opioids consist of all opioids and some non-opioid drugs (with a potential for misuse or harm) currently requiring a triplicate prescription. New in this year's Atlas, the opioid analytic class includes codeine-containing medications that were dispensed from a regular prescription or available over the counter (8 mg codeine formulations). Benzodiazepines consist of all benzodiazepines and "z-drugs" (e.g., zopiclone) currently monitored by TPP but not requiring a triplicate prescription. Appendix B shows 2015 TPP prescriptions for opioids by primary ingredient and route of administration. Appendix C shows 2015 TPP prescriptions for benzodiazepines by primary ingredient and route of administration.

Atlas Measures

TPP utilization is presented in this Atlas using population counts and rates. Rates were calculated using age and sex specific population estimates at the local geography level, obtained from Alberta Health. Population rates used for comparison, were directly standardized using the 2015 Alberta population. Patient age was calculated at July 1, 2015.

Opioids

For the opioid analytic class, oral morphine equivalents (OME) were used as the standardized measure of dosing. A major review of OME conversion factors assigned to all opioid drug/form/route combinations was conducted in 2015. This led to dispenses of certain opioid drugs or drug/route combinations having their OME values reduced or assigned a value of zero. This was done to reduce the risk of misclassifying patient and prescriber dose measurements above various high risk thresholds used in regulatory interventions. The result of this adjustment is that population consumption of opioids was slightly lowered.

Drug OME values were obtained primarily from the Canadian Opioid Guidelines¹ and the Compendium of Pharmaceuticals². Some drugs within the opioid analytic class have an OME of zero (i.e., they do not contribute towards a patient’s total measured dose of opioids). These include compound drugs (because dose and route were unknown), methadone (used for treatment of opioid dependence), buprenorphine (used for treatment of opioid dependence), naloxone (used for treatment of opioid overdose), and other drugs for which the OME was unknown. The drugs with an OME of zero did still contribute to measures examining use of multiple ingredients. The OME for a specific drug dispense was calculated as follows:

Dispense OME = strength x quantity x drug OME

A patient’s total OME per day was calculated as follows:

Patient OME/day = the sum of the OME for all drug dispenses to the patient in the time period analyzed / days in the time period analyzed³

Population utilization of opioids was presented using the three measures below. Population rates were age and sex standardized to allow comparison between local geographies.

Opioid consumption = the sum of all patient OME/day in the time period analyzed / 1000 population

Opioid patients = the number of patients who received at least one opioid prescription in the time period analyzed / 1000 population

High dose opioid patients = the number of patients who received 200 OME/day or greater in the time period analyzed / 1000 population.

The Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain published in 2010 established a watchful opioid dose of 200 OME/day⁴. Based on revised guidelines published by the CDC in 2016⁵, and new Canadian guidelines to be published in early 2017, future versions of the Atlas may present a reduced threshold of 90 OME/day.

Benzodiazepines

The defined daily dose (DDD), as defined by the World Health Organization (WHO), is the assumed average daily maintenance dose for a drug used for its main indication in adults⁶. Drug DDD values were obtained primarily from the WHO DDD/ATC Index⁷. The number of DDDs (i.e., the multiple of the DDD) was used as the standard measure of dosing across all drugs and routes of administration within the benzodiazepines (BDZ) analytic class. The DDDs for a specific drug dispense was calculated as follows:

Dispense DDDs = strength x quantity / drug DDD

A patient’s total DDDs was calculated as follows:

Patient DDDs = the sum of the DDDs for all drug dispenses to the patient in the time period analyzed / days in the time period analyzed³

Population utilization of BDZ (including “z-drugs”) was presented using the four measures below. Population rates were age and sex standardized for comparison between local geographies.

BDZ consumption = the sum of all patient DDDs received in the time period analyzed / 1000 population

BDZ patients = the number of patients who received at least one BDZ prescription in the time period analyzed / 1000 population

High dose BDZ patients = the number of patients who received 2 DDDs⁸ or greater in the time period analyzed / 1000 population.

High dose elderly BDZ patients = the number of patients 65 years and older who received 2 DDDs or greater in the time period analyzed / 1000 population.

¹ http://nationalpaincentre.mcmaster.ca/opioid/cgop_b_app_b08.html

² <https://www.e-therapeutics.ca/login.action?language=en>

³ “Days in time period analyzed” is used because the “days of supply” information in the dispense record is often inaccurate within PIN data.

⁴ <https://www.nationalpaincentre.mcmaster.ca/opioid>

⁵ Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016. MMWR Recomm Rep 2016;65(No. RR-1):1–49. DOI: <http://dx.doi.org/10.15585/mmwr.rr6501e1>

⁶ Norwegian Institute of Public Health. WHOCC - Definition and General Considerations [Internet]. WHO Collaborating Centre for Drug Statistics Methodology. 2009 [cited 2014 Oct 7]. Available from: http://www.whocc.no/ddd/definition_and_general_considera/

⁷ http://www.whocc.no/atc_ddd_index/

⁸ For the purposes of this Atlas, 2 DDDs was used as the watchful dose of BDZ

Medication Use – Opioids

Table 1. Opioid Prescriptions, Patients, Prescribers and Pharmacies, 2012 - 2015

All Opioids				
Year	Prescriptions	Patients	Prescribers	Pharmacies
2012	576,297	182,580	8,642	1,255
2013	1,708,792	547,854	12,028	1,247
2014	1,670,025	553,754	12,568	1,156
2015	1,752,261	563,775	13,305	1,228

Codeine Only

Year	Prescriptions	Patients	Prescribers	Pharmacies
2012	131,094	101,356	7,451	986
2013	1,226,181	490,463	11,689	1,055
2014	1,157,716	490,267	12,156	1,121
2015	1,195,796	495,557	12,789	1,194

Opioids Without Codeine*

Year	Prescriptions	Patients	Prescribers	Pharmacies
2012	445,203	92,524	5,229	1,137
2013	482,611	99,010	5,554	1,208
2014	512,312	106,338	5,822	1,141
2015	556,465	113,316	6,280	1,217

*Codeine information became available for analysis through PIN in 2014

Table 2. Opioid Prescriptions by Prescriber Type, 2015

All Opioids				
Prescriber Type	Prescriptions	Patients	Prescribers	Pharmacies
Physician	1,371,924	443,957	9,644	1,225
Pharmacist	266,689	95,316	3,308	1,085
Dentist	94,076	78,596	289	1,154
Nurse Practitioner	4,512	2,703	64	514

Codeine Only

Prescriber Type	Prescriptions	Patients	Prescribers	Pharmacies
Physician	827,505	372,382	9,162	1,190
Pharmacist	266,662	95,294	3,301	1,084
Dentist	90,046	76,702	284	1,153
Nurse Practitioner	2,205	1,611	42	402

Opioids Without Codeine

Prescriber Type	Prescriptions	Patients	Prescribers	Pharmacies
Physician	544,420	108,772	6,193	1,217
Pharmacist	27	25	24	23
Dentist	4,030	3,320	24	791
Nurse Practitioner	2,307	1,157	39	400

Table 3. Opioid Prescriptions, Patients and Prescribers by Main Ingredient, 2015

Ingredient	Prescriptions	Percent	Patients	Prescribers
Codeine	1,195,796	68.2	495,504	12,790
Oxycodone	285,987	16.3	71,808	5,429
Hydromorphone	100,237	5.7	24,317	4,558
Morphine	65,018	3.7	16,286	3,948
Methadone Hydrochloride	47,270	2.7	5,027	456
Buprenorphine	23,264	1.3	5,592	1,519
Fentanyl	22,183	1.3	5,218	2,130
Tapentadol (Tapentadol Hydrochloride)	4,665	0.3	1,281	619
Meperidine	3,169	0.2	986	701
Butalbital	2,810	0.2	993	740
Hydrocodone	1,013	0.1	745	416
Butorphanol	479	0.0	116	133
Pentazocine	296	0.0	63	57
Ketamine	34	0.0	13	13
Normethadone Hydrochloride	28	0.0	26	16
Sufentanil (Sufentanil Citrate)	11	0.0	3	3
Remifentanil	1	0.0	1	1
Total	1,752,261			

Table 4. Opioid Patients and Associated Prescribers by Dose, 2015

All Opioids			Codeine Only			Opioids Without Codeine		
Dose	Patients	Prescribers	Dose	Patients	Prescribers	Dose	Patients	Prescribers
≥ 100 OME/day	13,406	6,103	≥ 100 OME/day	394	818	≥ 100 OME/day	13,044	3,962
≥ 200 OME/day	7,206	4,526	≥ 200 OME/day	43	112	≥ 200 OME/day	7,165	3,147
≥ 400 OME/day	2,989	2,660	≥ 400 OME/day	2	10	≥ 400 OME/day	2,987	1,990
≥ 600 OME/day	1,501	1,661	≥ 600 OME/day			≥ 600 OME/day	1,501	1,268
≥ 1,000 OME/day	567	696	≥ 1,000 OME/day			≥ 1,000 OME/day	567	582
≥ 2,000 OME/day	97	120	≥ 2,000 OME/day			≥ 2,000 OME/day	97	105

Table 5. Opioid Patients and Associated Prescribers by Number of Ingredients, 2015

All Opioids			Opioids Without Codeine		
Number of Ingredients	Patients	Prescribers	Number of Ingredients	Patients	Prescribers
2+	54,471	10,134	2+	16,018	4,751
3+	8,156	6,758	3+	2,658	2,605
4+	1407	2,914	4+	436	829
5+	220	777	5+	51	134
6+	20	90	6+	6	20

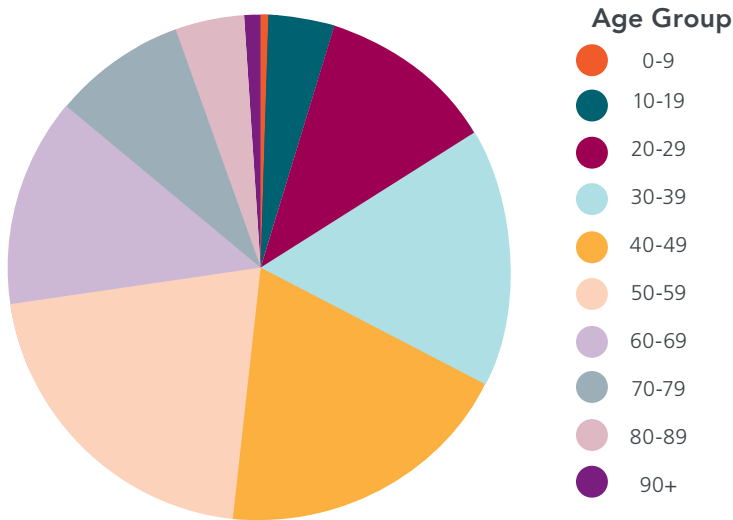
Table 6. Opioid Patients by Age and Sex, 2015

All Opioids

Age Group	Females	Percent	Males	Percent	Total Patients	Percent
0-9	1,145	0.4	1,296	0.5	2,441	0.4
10-19	14,307	4.7	12,457	4.8	26,764	4.7
20-29	41,150	13.6	32,444	12.4	73,594	13.1
30-39	52,198	17.3	43,312	16.5	95,510	16.9
40-49	51,370	17.0	45,642	17.4	97,012	17.2
50-59	58,256	19.3	54,700	20.9	112,956	20.0
60-69	42,522	14.1	40,805	15.6	83,327	14.8
70-79	23,512	7.8	20,615	7.9	44,127	7.8
80-89	13,458	4.5	9,304	3.6	22,762	4.0
90+	3,767	1.2	1,455	0.6	5,222	0.9
Total	301,698	100.0	262,077	100.0	563,775	100.0

13 female patients of unknown age, 47 male patients of unknown age, one 40-49 patient of unknown sex

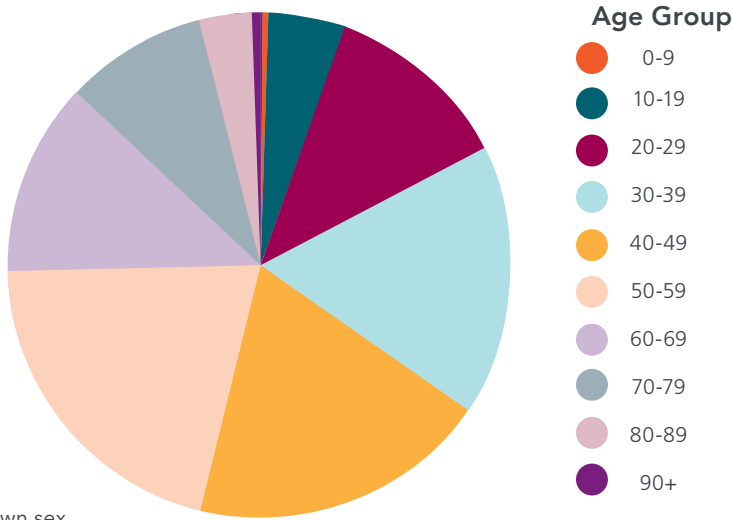
Figure 1. Opioid Patients by Age Group, 2015



Codeine Only

Age Group	Females	Percent	Males	Percent	Total Patients	Percent
0-9	931	0.4	998	0.4	1,929	0.4
10-19	13,525	5.1	11,768	5.1	25,293	5.1
20-29	38,678	14.6	30,123	13.1	68,801	13.9
30-39	47,747	18.0	39,136	17.0	86,883	17.5
40-49	46,323	17.5	40,839	17.7	87,162	17.6
50-59	50,608	19.1	47,550	20.6	98,158	19.8
60-69	36,063	13.6	34,821	15.1	70,884	14.3
70-79	19,032	7.2	17,179	7.4	36,211	7.3
80-89	9,709	3.7	7,357	3.2	17,066	3.4
90+	2,122	0.8	993	0.4	3,115	0.6
Total	264,749	100.0	230,808	100.0	495,557	100.0

11 female patients of unknown age, 44 male patients of unknown age, one 40-49 patient of unknown sex



Opioids Without Codeine

Age Group	Females	Percent	Males	Percent	Total Patients	Percent
0-9	217	0.4	302	0.6	519	0.5
10-19	1,166	1.9	967	1.9	2,133	1.9
20-29	4,428	7.2	3,899	7.6	8,327	7.3
30-39	8,128	13.2	7,066	13.7	15,194	13.4
40-49	9,483	15.4	8,345	16.2	17,828	15.7
50-59	13,327	21.6	12,305	23.9	25,632	22.6
60-69	10,874	17.6	9,887	19.2	20,761	18.3
70-79	6,928	11.2	5,405	10.5	12,333	10.9
80-89	5,164	8.4	2,818	5.5	7,982	7.0
90+	2,007	3.3	593	1.1	2,600	2.3
Total	61,724	100.0	51,592	100.0	113,316	100.0

Two female patients of unknown age, five male patients of unknown age

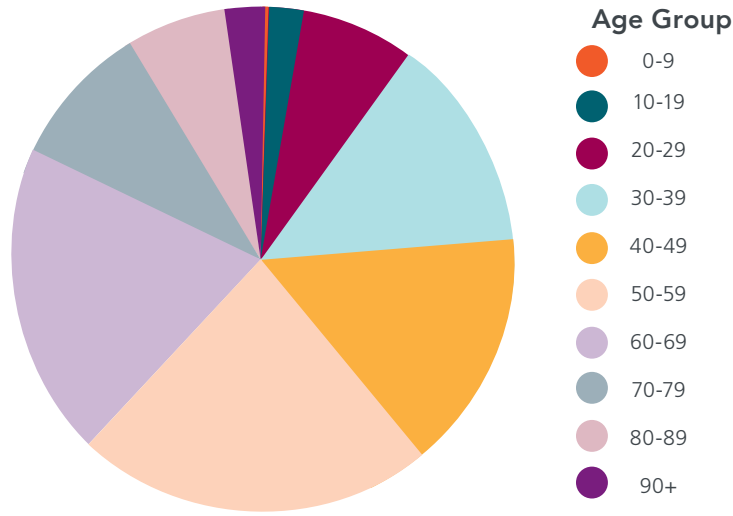


Table 7. Opioid Patients by Number of Prescribers, 2015

All Opioids

Number of Prescribers	Patients
2+	139,533
3+	61,846
4+	33,922
5+	20,411
6+	13,011
7+	8,463
8+	5,697

Codeine Only

Number of Prescribers	Patients
2+	107,220
3+	47,971
4+	27,496
5+	17,145
6+	11,254
7+	7,416
8+	5,038

Opioids Without Codeine

Number of Prescribers	Patients
2+	29,691
3+	9,714
4+	3,337
5+	1,255
6+	515
7+	228
8+	102

Table 8. Methadone and Buprenorphine Patients by Ingredient and Quarter, 2015

Ingredient(s)	Q1	Q2	Q3	Q4
Buprenorphine	1,889	2,038	2,139	2,280
Buprenorphine, Naloxone	676	808	903	1,022
Methadone Hydrochloride	3,824	3,938	3,890	3,968

Figure 2a. Methadone Patients by Pharmacy City, 2015

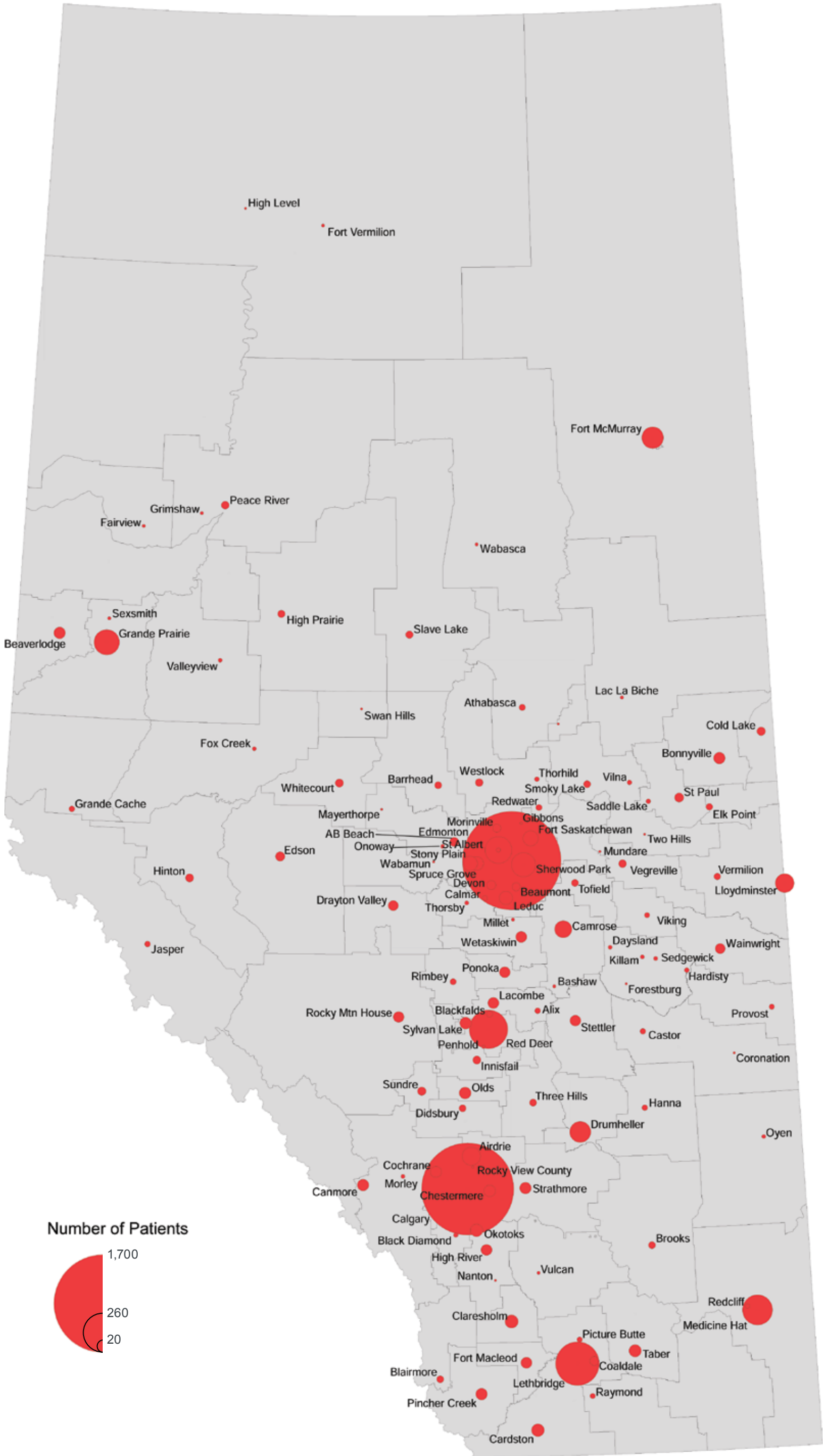


Table 9. Methadone and Buprenorphine Patients by Ingredient and Year, 2012 - 2015

Ingredient(s)	2012	2013	2014	2015
Buprenorphine	2,552	3,105	3,533	4,187
Buprenorphine, Naloxone	312	643	941	1,473
Methadone Hydrochloride	4,086	4,427	4,691	5,027

Figure 2b. Buprenorphine Patients by Pharmacy City, 2015

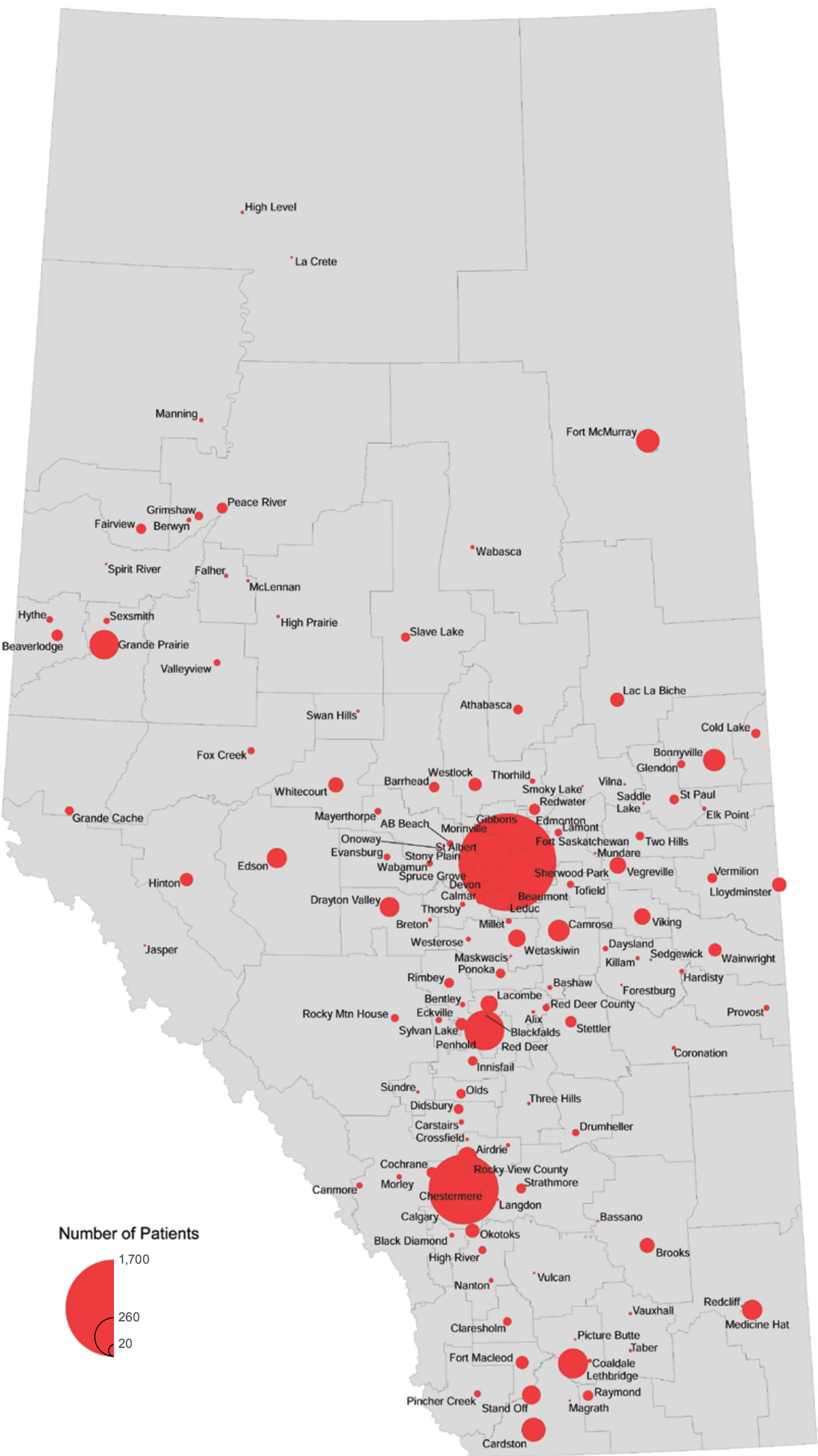
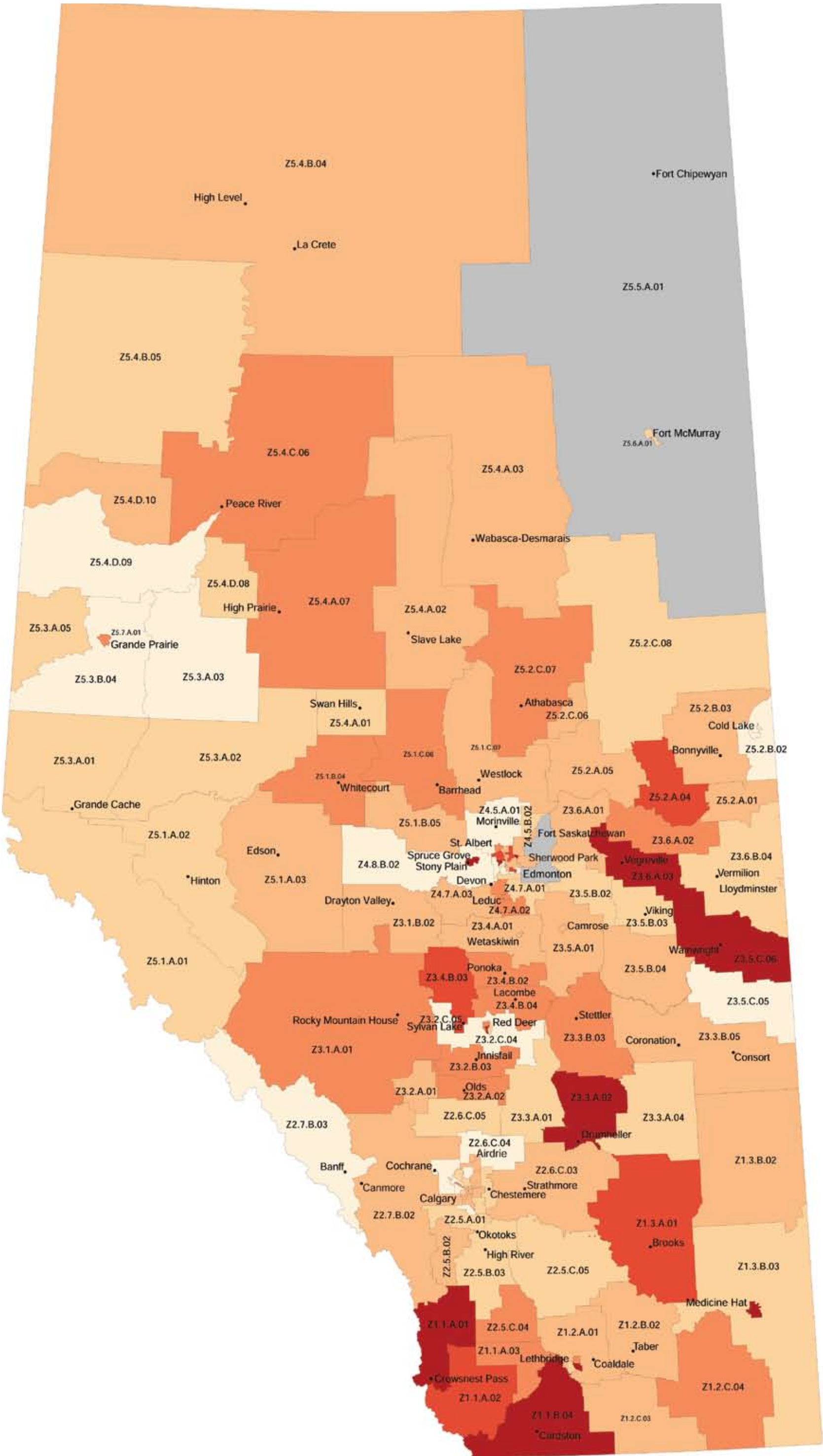


Figure 3a. Age and Sex Standardized, Total OME per Day per 1,000 Population, by Local Geography, 2015



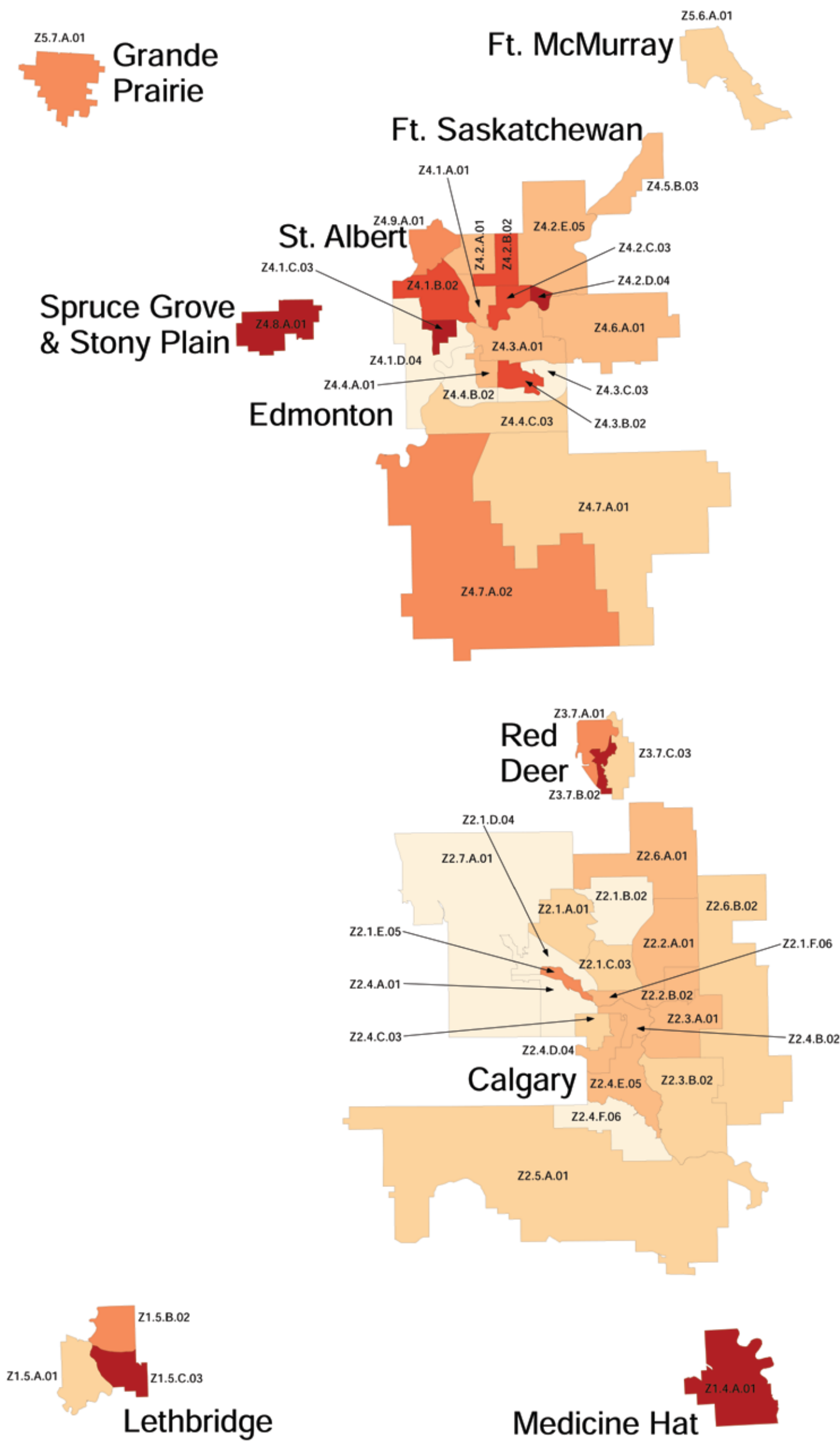
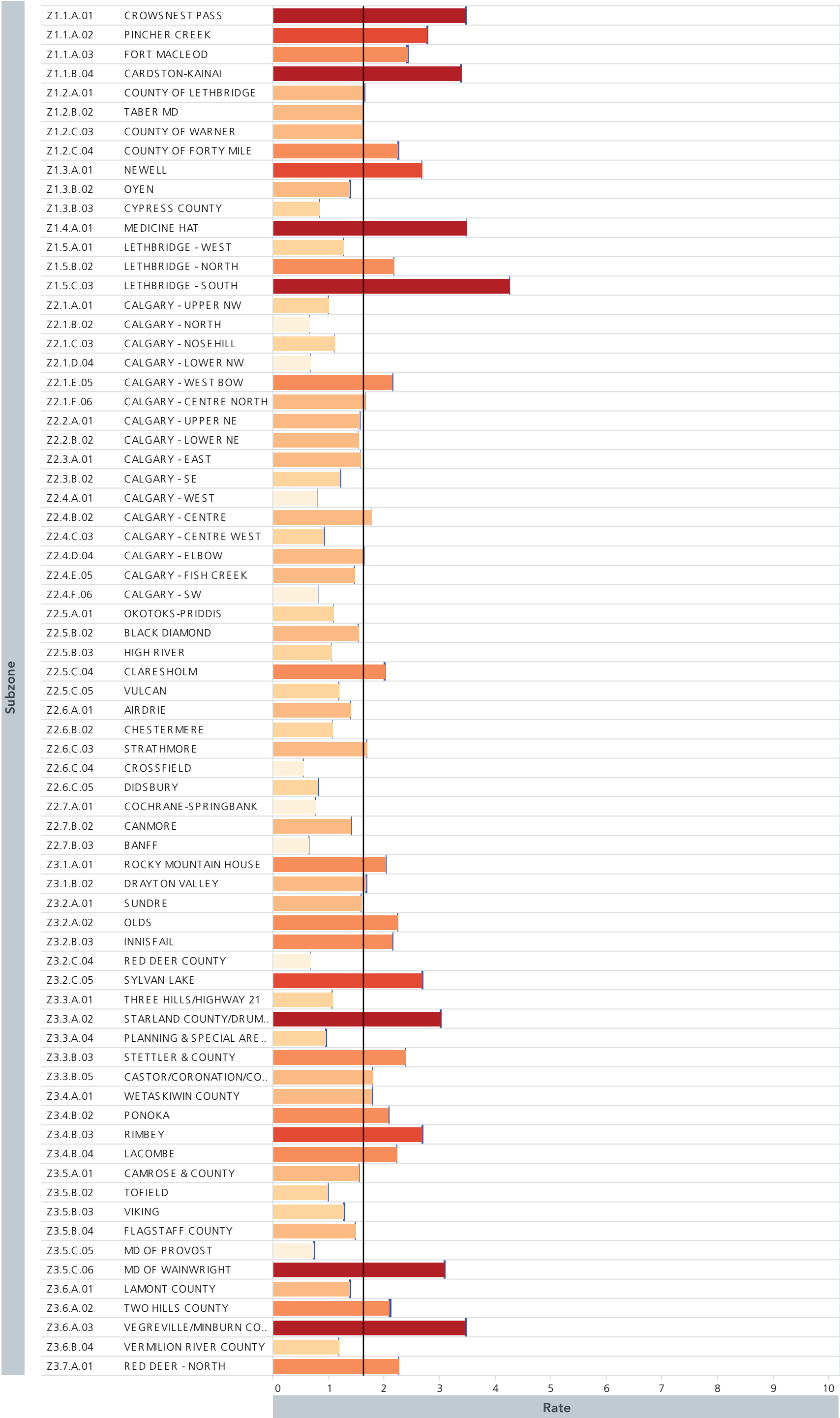


Figure 3b. Age and Sex Standardized, Total OME per Day per 1,000 Population, by Local Geography, 2015



Subzone

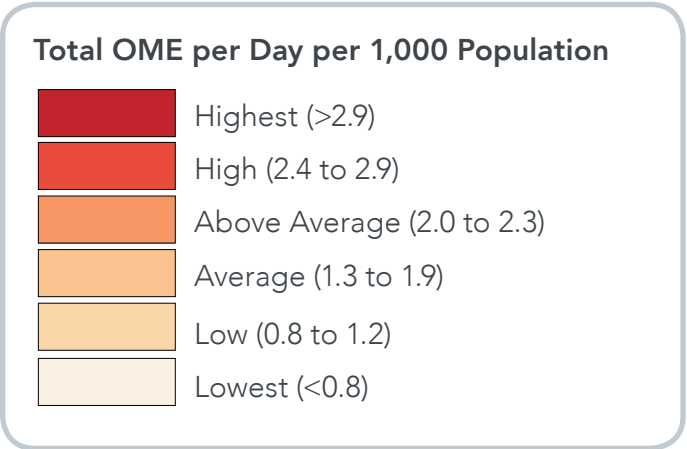
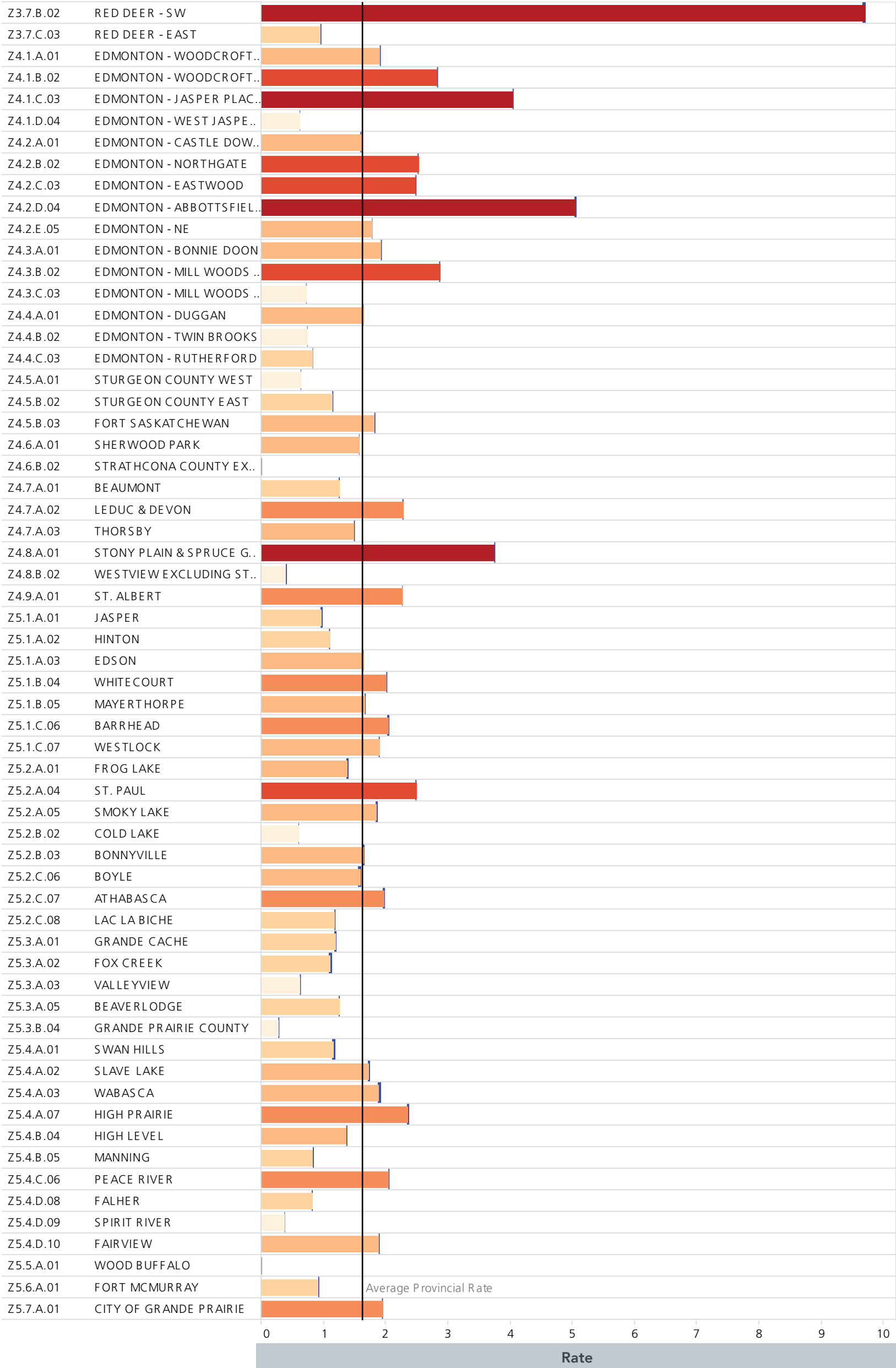
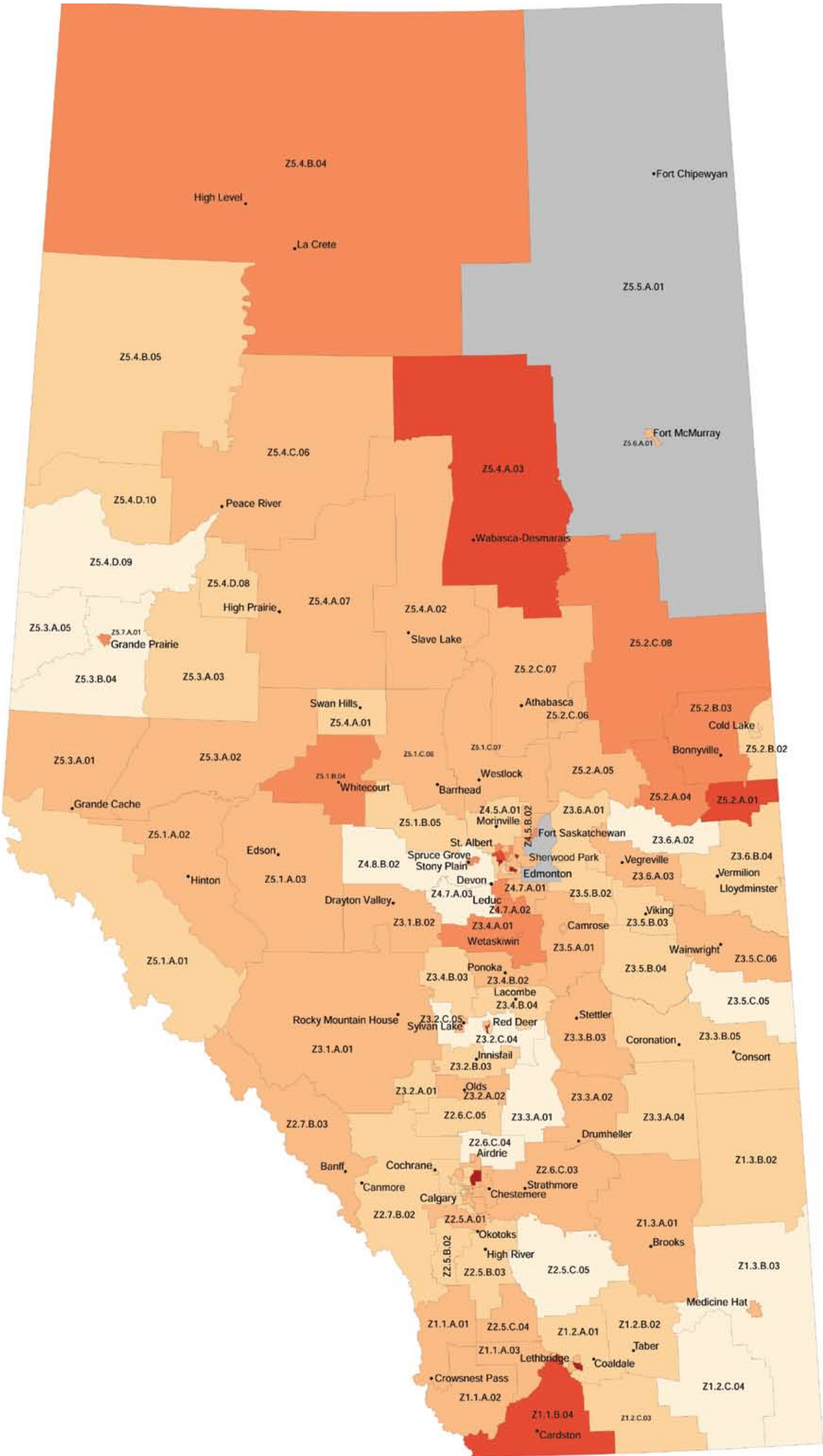


Figure 4a. Age and Sex Standardized, Opioid Patients per 1,000 Population, by Local Geography, 2015



Legend: Provincial and Urban Maps

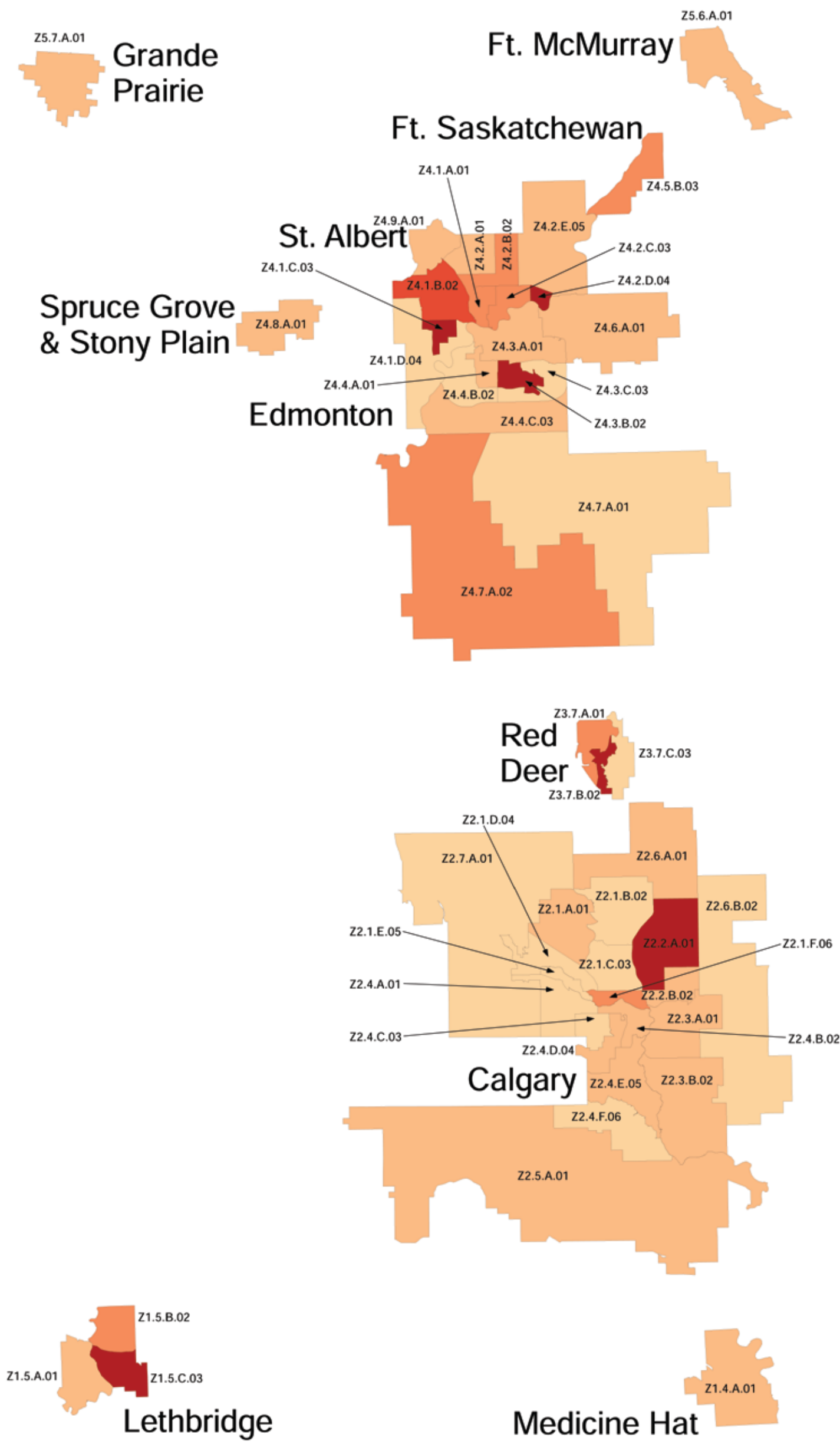
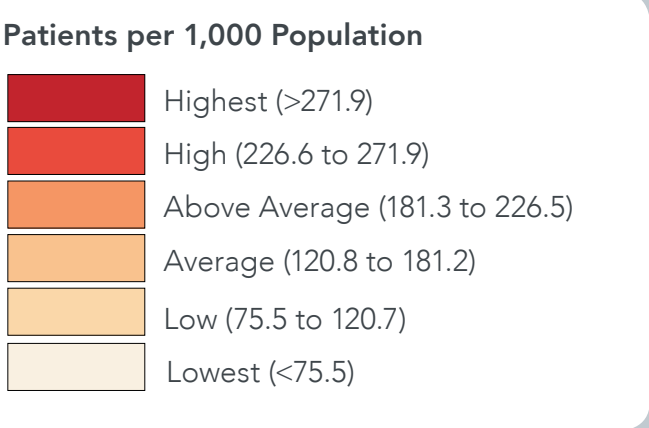
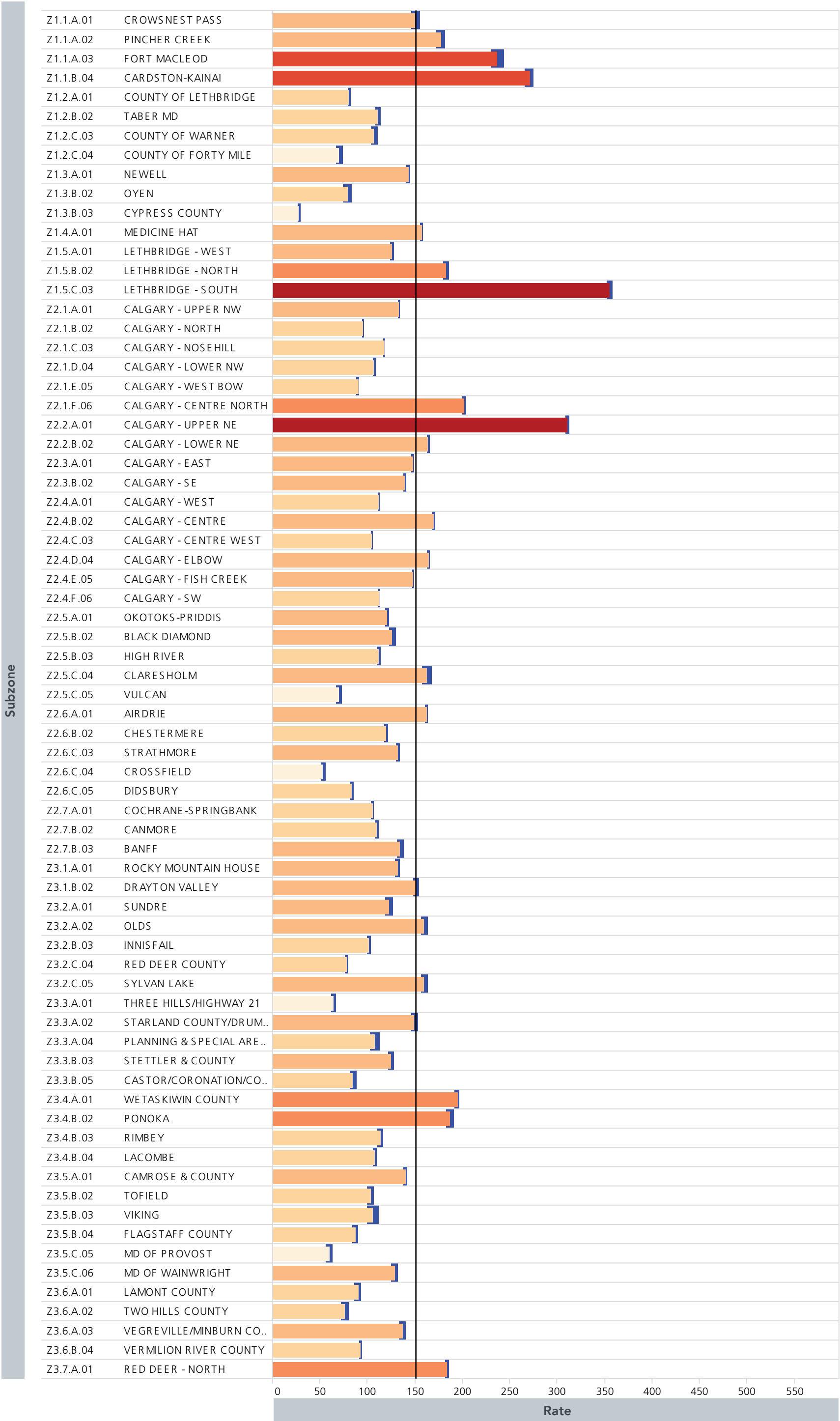


Figure 4b. Age and Sex Standardized, Opioid Patients per 1,000 Population, by Local Geography, 2015



Subzone

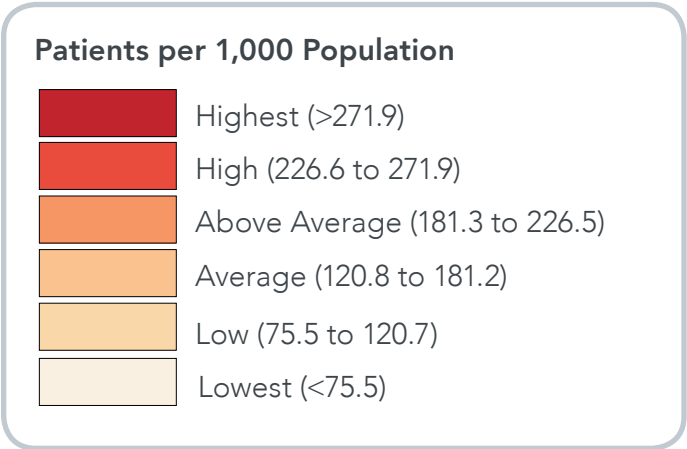
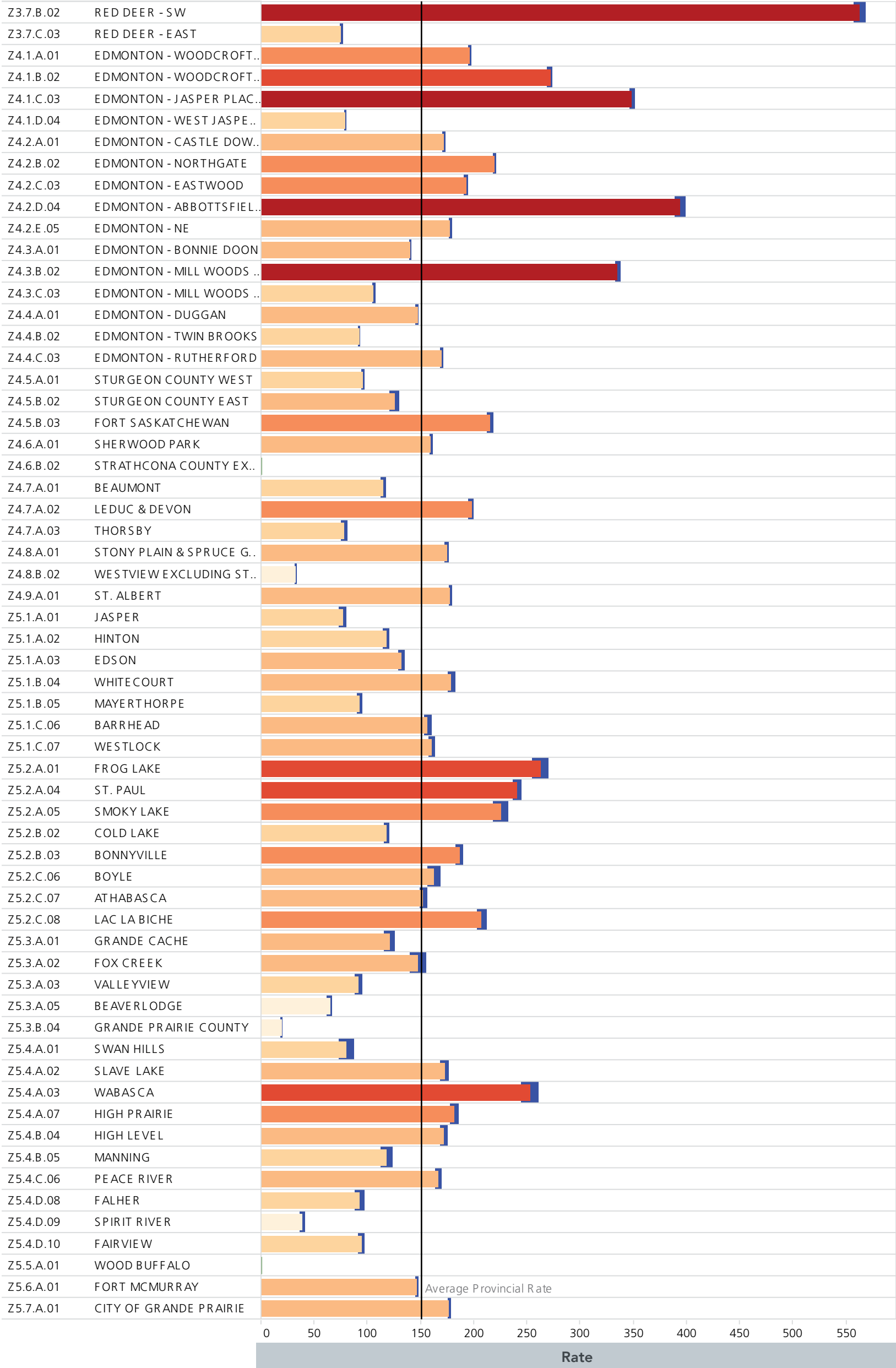
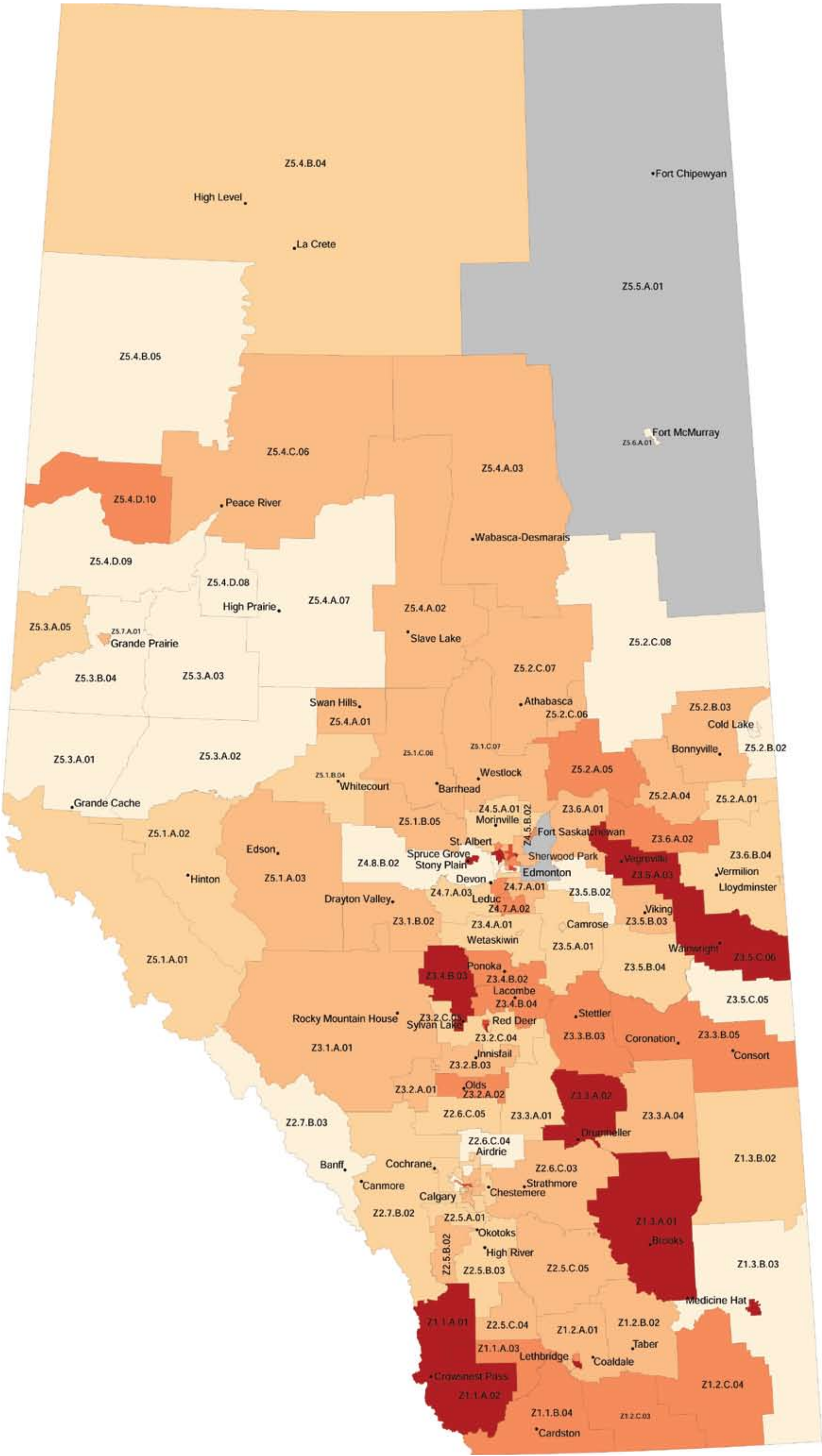


Figure 5a. Age and Sex Standardized, Opioid Patients Who Received 200 OME per Day or Greater per 1,000 population, by Local Geography, 2015



Legend: Provincial and Urban Maps

Patients ≥200 OME per Day per 1,000 Population

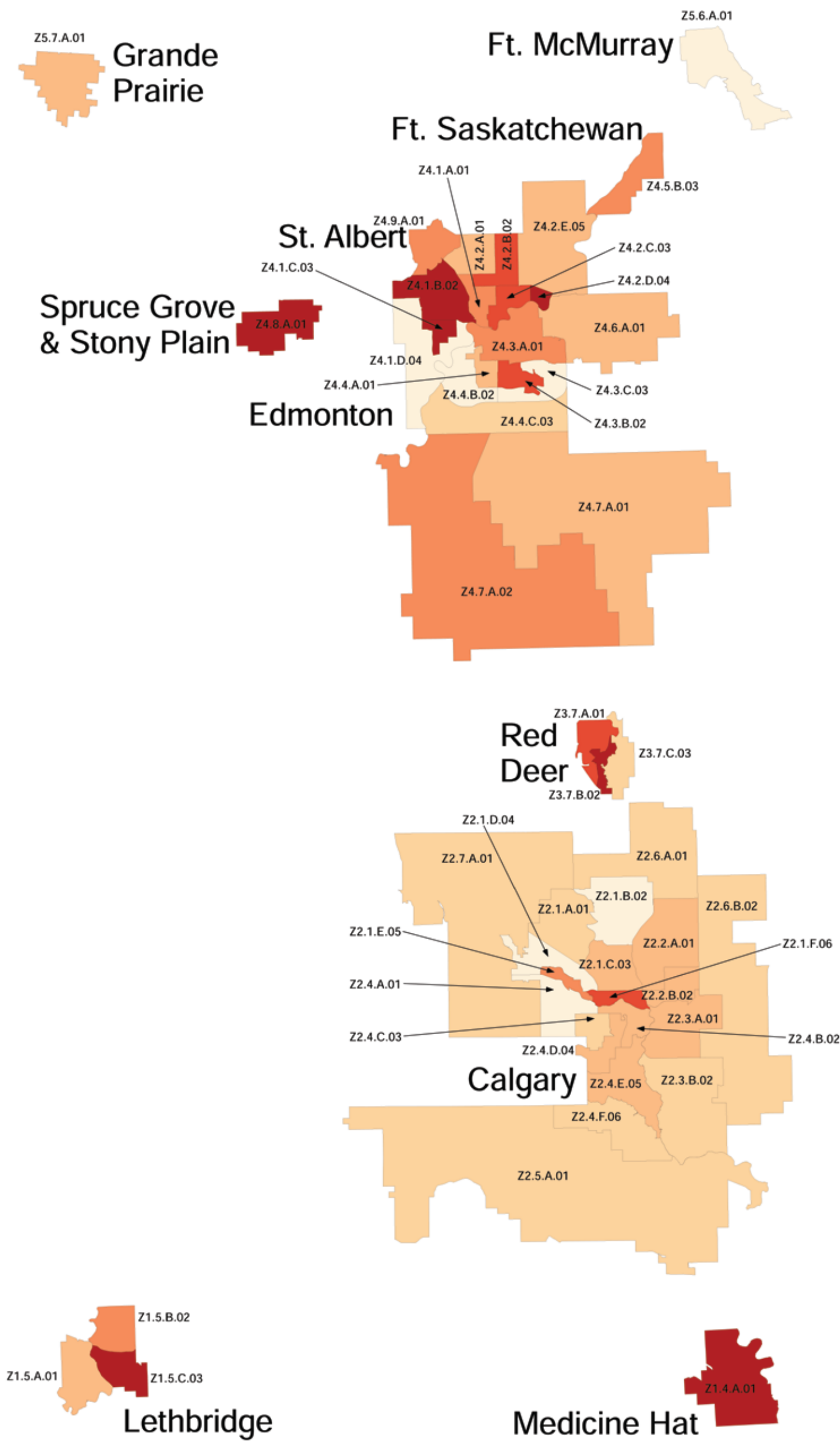
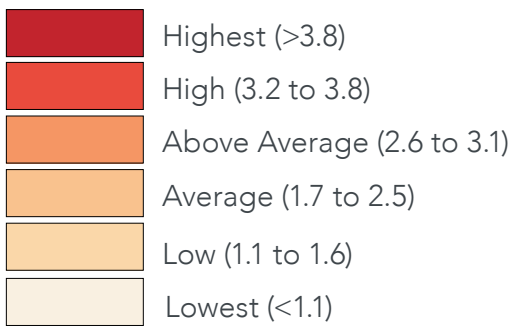
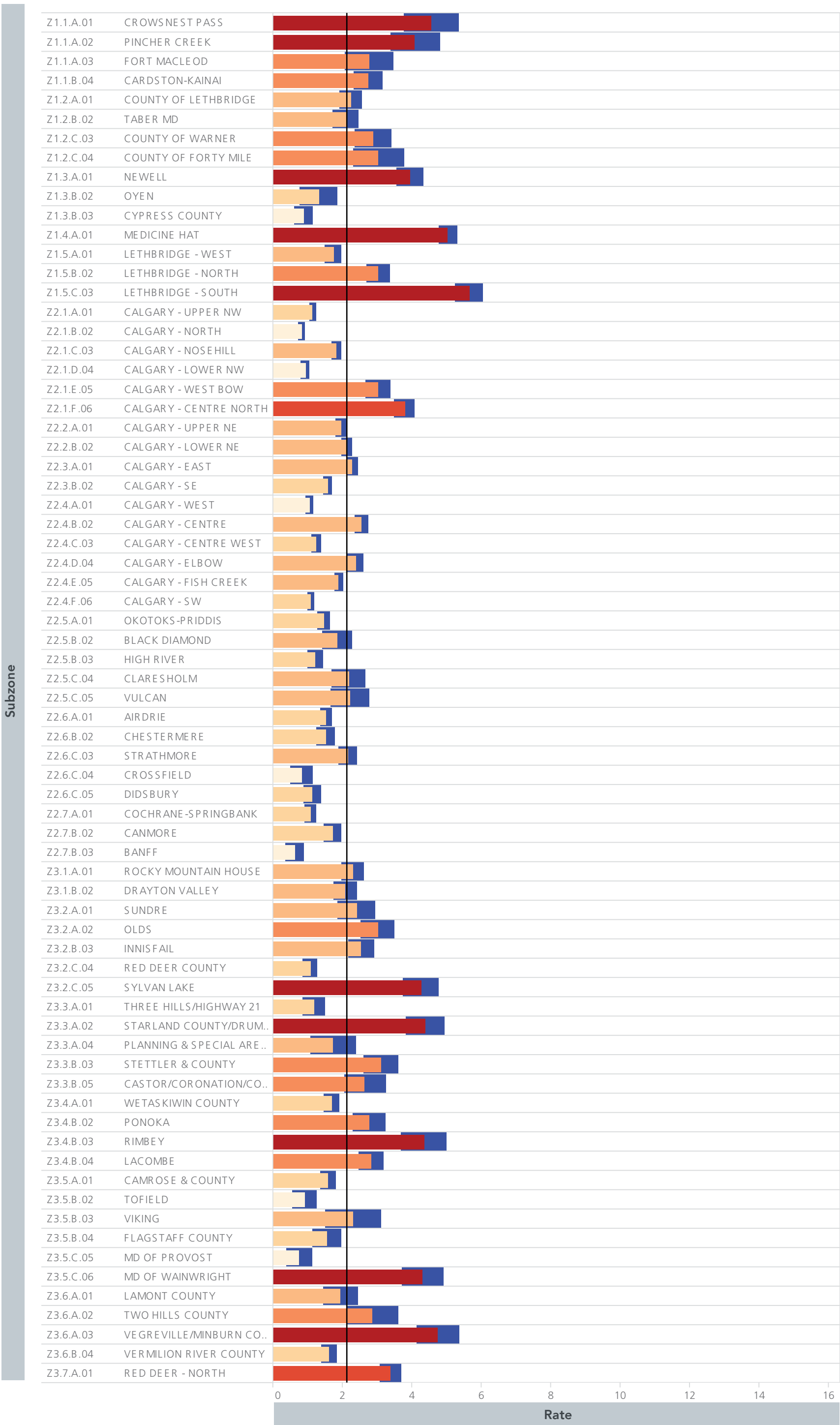
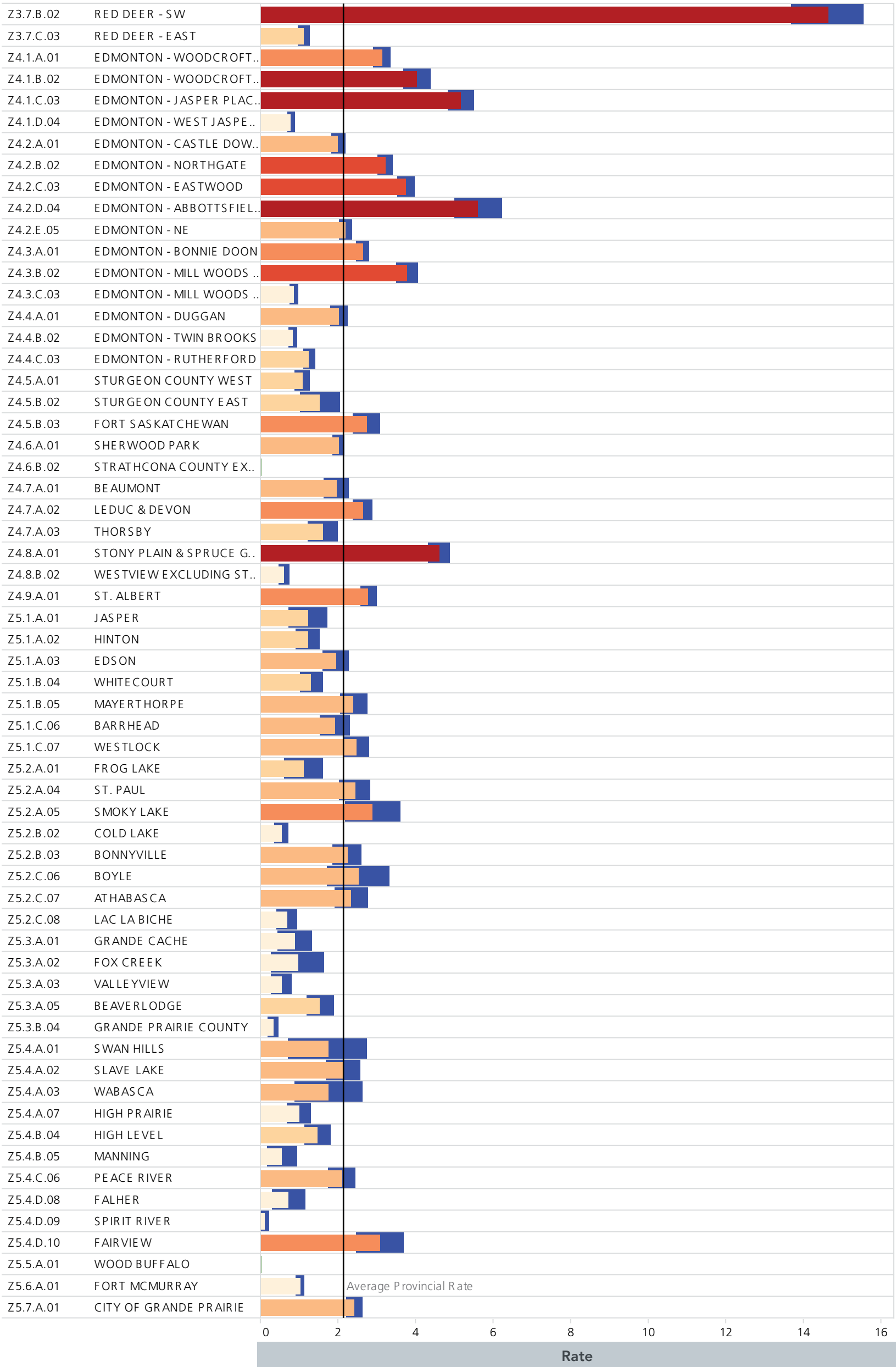


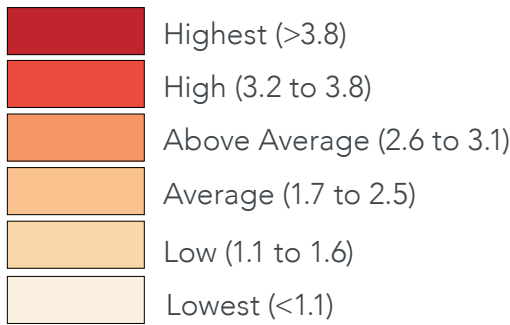
Figure 5b. Age and Sex Standardized, Opioid Patients Who Received 200 OME per Day or Greater per 1,000 population, by Local Geography, 2015



Subzone



Patients ≥200 OME per Day per 1,000 Population



Medication Use – Benzodiazepines

Table 10. Benzodiazepine Prescriptions, Patients, Prescribers and Pharmacies, 2012-2015

Year	Prescriptions	Patients	Prescribers	Pharmacies
2012	1,034,975	325,545	9,668	1,016
2013	1,102,800	341,298	10,784	1,060
2014	1,168,187	357,786	11,352	1,154
2015	1,220,321	374,010	12,026	1,195

Table 11. Benzodiazepine Prescriptions, Patients and Prescribers by Ingredient, 2015

Ingredient	Prescriptions	Percent	Patients	Prescribers
Zopiclone	483,414	39.6	186,830	10,295
Lorazepam	308,757	25.3	143,386	7,647
Clonazepam	164,602	13.5	52,295	5,691
Temazepam	91,741	7.5	25,440	3,813
Diazepam	43,245	3.5	15,207	3,768
Zolpidem	35,085	2.9	16,701	3,387
Alprazolam	28,432	2.3	10,119	3,118
Bromazepam	22,342	1.8	4,350	1,595
Nitrazepam	16,328	1.3	3,646	1,273
Clobazam	8,854	0.7	3,234	1,859
Oxazepam	6,636	0.5	2,419	1,508
Triazolam	4,903	0.4	3,043	678
Chlordiazepoxide	2,856	0.2	1,422	849
Midazolam	1,862	0.2	1,350	231
Flurazepam	1,263	0.1	513	414
Zaleplon	1	0.0	1	1
Total	1,220,321	100.0	373,995	12,027

Figure 6. Benzodiazepine Prescriptions, Patients and Prescribers by Ingredients, 2015

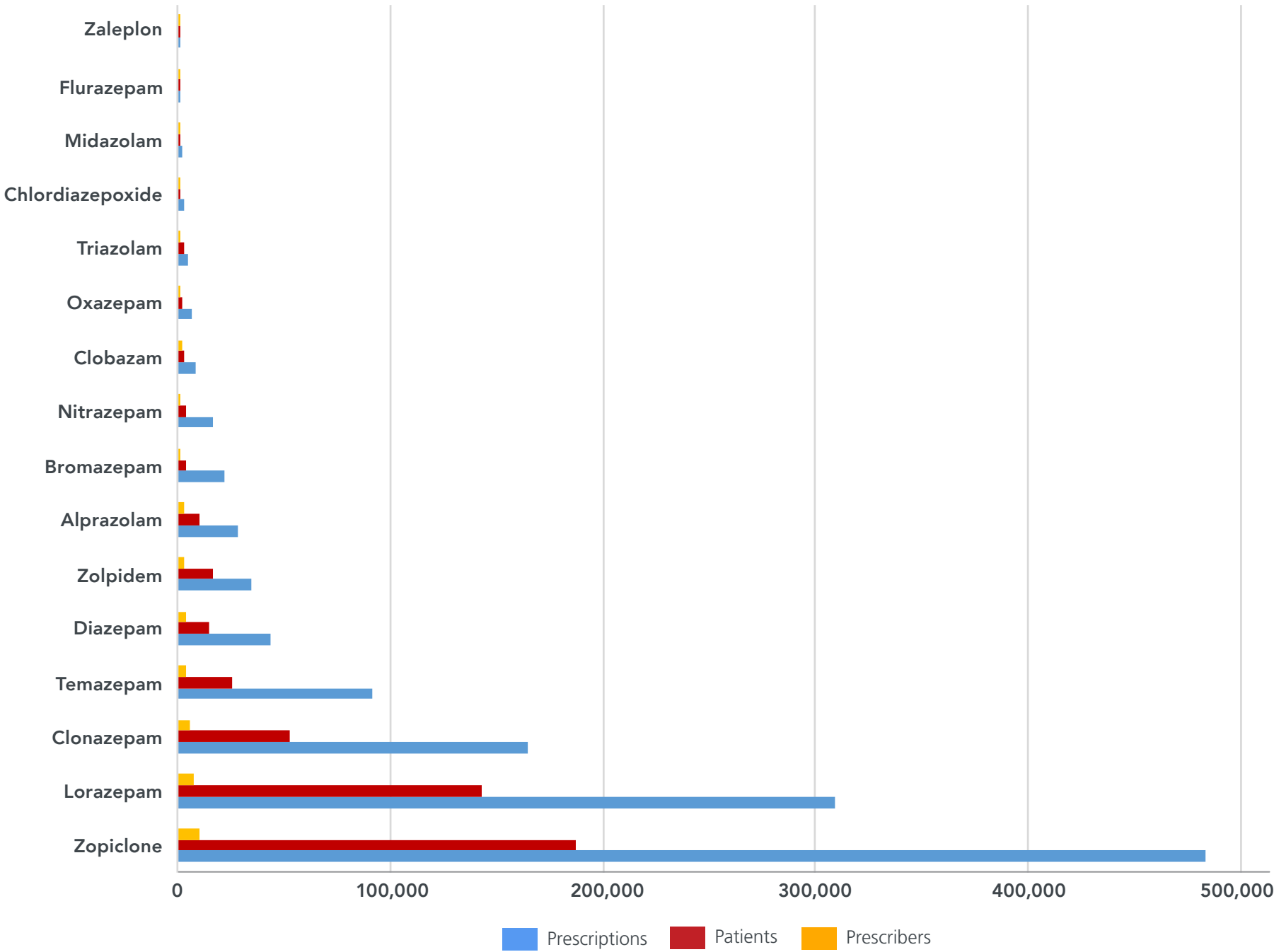


Table 12. Benzodiazepine Patients by Age and Sex, 2015

Age Group	Females	Percent	Males	Percent	Total Patients	Percent
0-9	395	0.2	512	0.4	907	0.2
10-19	4,264	1.8	2,324	1.7	6,588	1.8
20-29	20,600	8.8	11,401	8.2	32,001	8.6
0-39	31,309	13.3	19,380	13.9	50,689	13.6
40-49	36,794	15.7	22,823	16.4	59,617	15.9
50-59	51,077	21.8	30,518	21.9	81,595	21.8
60-69	41,844	17.8	25,925	18.6	67,769	18.1
70-79	26,582	11.3	15,729	11.3	42,311	11.3
80-89	16,942	7.2	8,930	6.4	25,872	6.9
90+	4,890	2.1	1,729	1.2	6,619	1.8
Total	234,712	100.0	139,298	100.0	374,010	100.0

15 female patients of unknown age, 27 male patients of unknown age, one 40-49 year old patient of unknown sex

Figure 7. Benzodiazepine Patients by Age Group, 2015

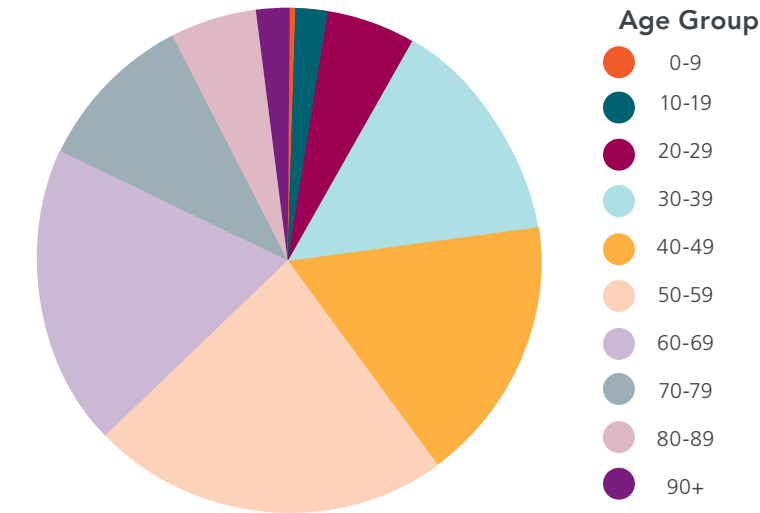


Table 13. Benzodiazepine Patients and Associated Prescribers by Dose, 2015

Dose	Patients	Prescribers
≥ 2 DDDs	15,253	5,724
≥ 4 DDDs	2,114	2,274
≥ 6 DDDs	517	835
≥ 8 DDDs	155	329
≥ 10 DDDs	63	128

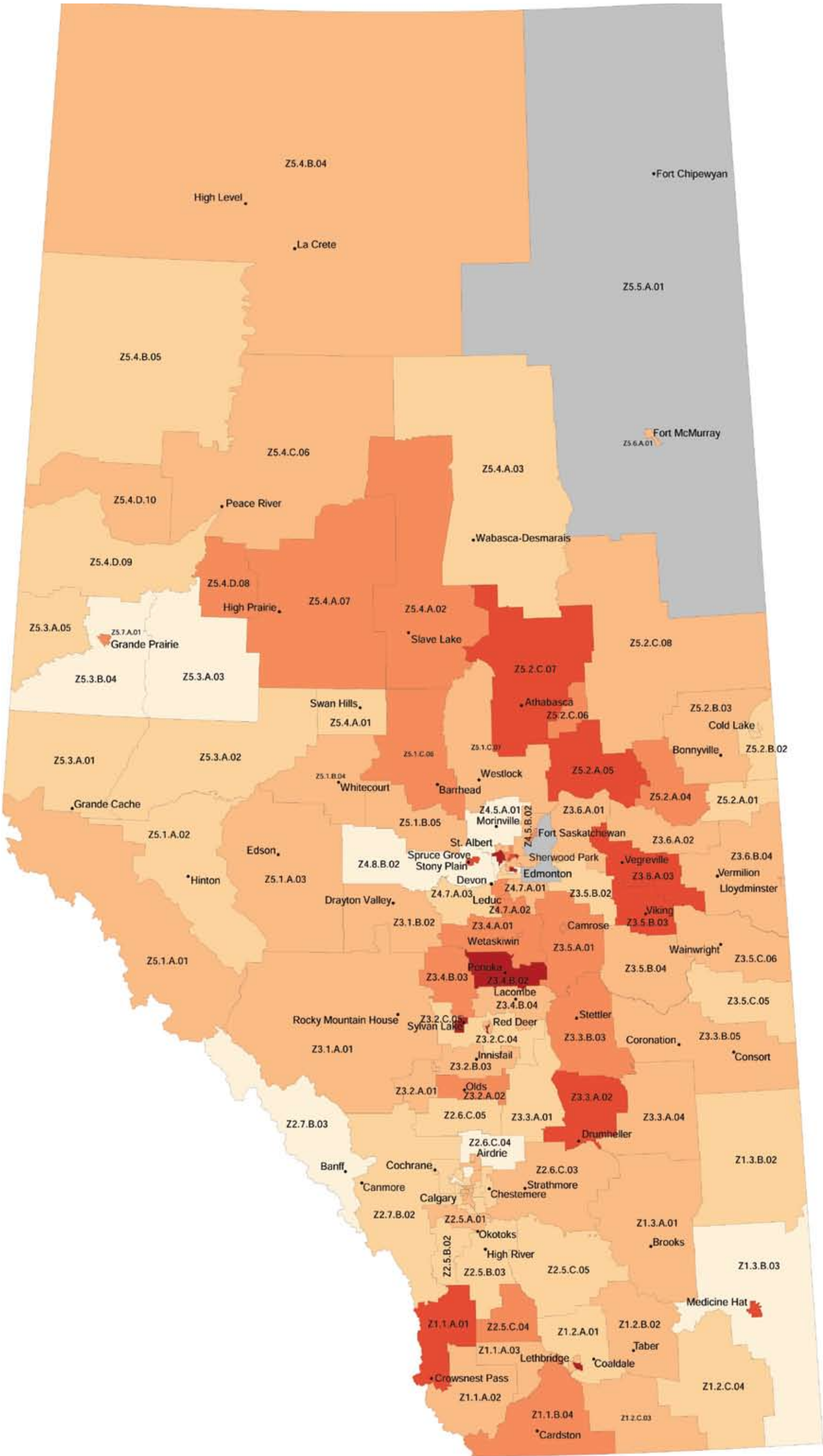
Table 14. Benzodiazepine Patients and Associated Prescribers by Number of Ingredients, 2015

Number of Ingredients	Patients	Prescribers
2+	77,919	9,360
3+	14,578	6,188
4+	2,780	3,233
5+	551	1,333
6+	117	500

Table 15. Benzodiazepine Patients by Number of Prescribers, 2015

Number of Prescribers	Patients
2+	94,311
3+	30,944
4+	11,937
5+	5,303
6+	2,692
7+	1,539
8+	926

Figure 8a. Age and Sex Standardized, Total DDDs per 1,000 Population, by Local Geography, 2015



Legend: Provincial and Urban Maps

Total DDDs per 1,000 Population

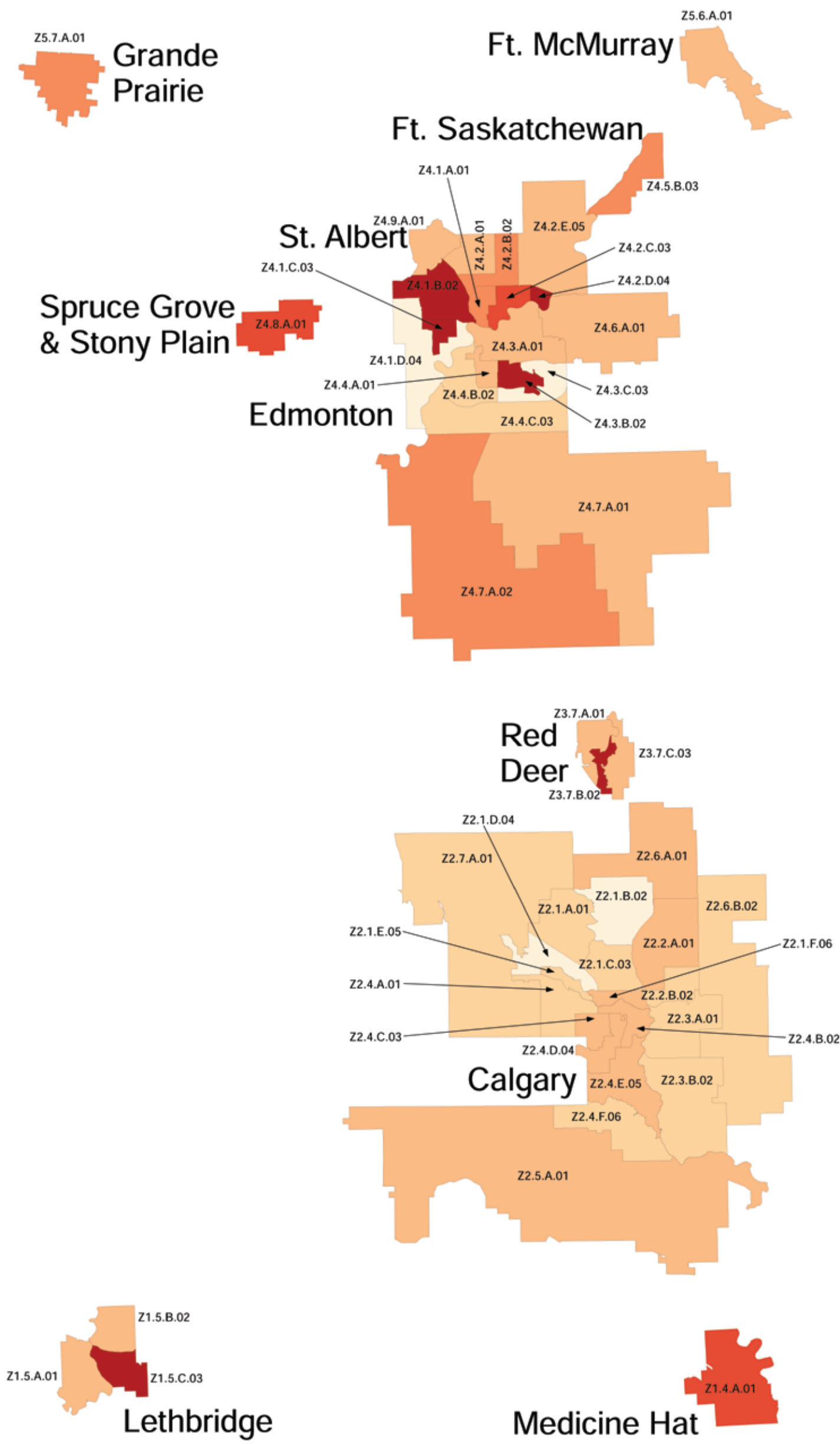
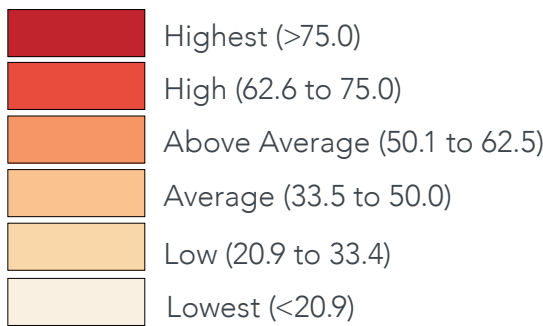
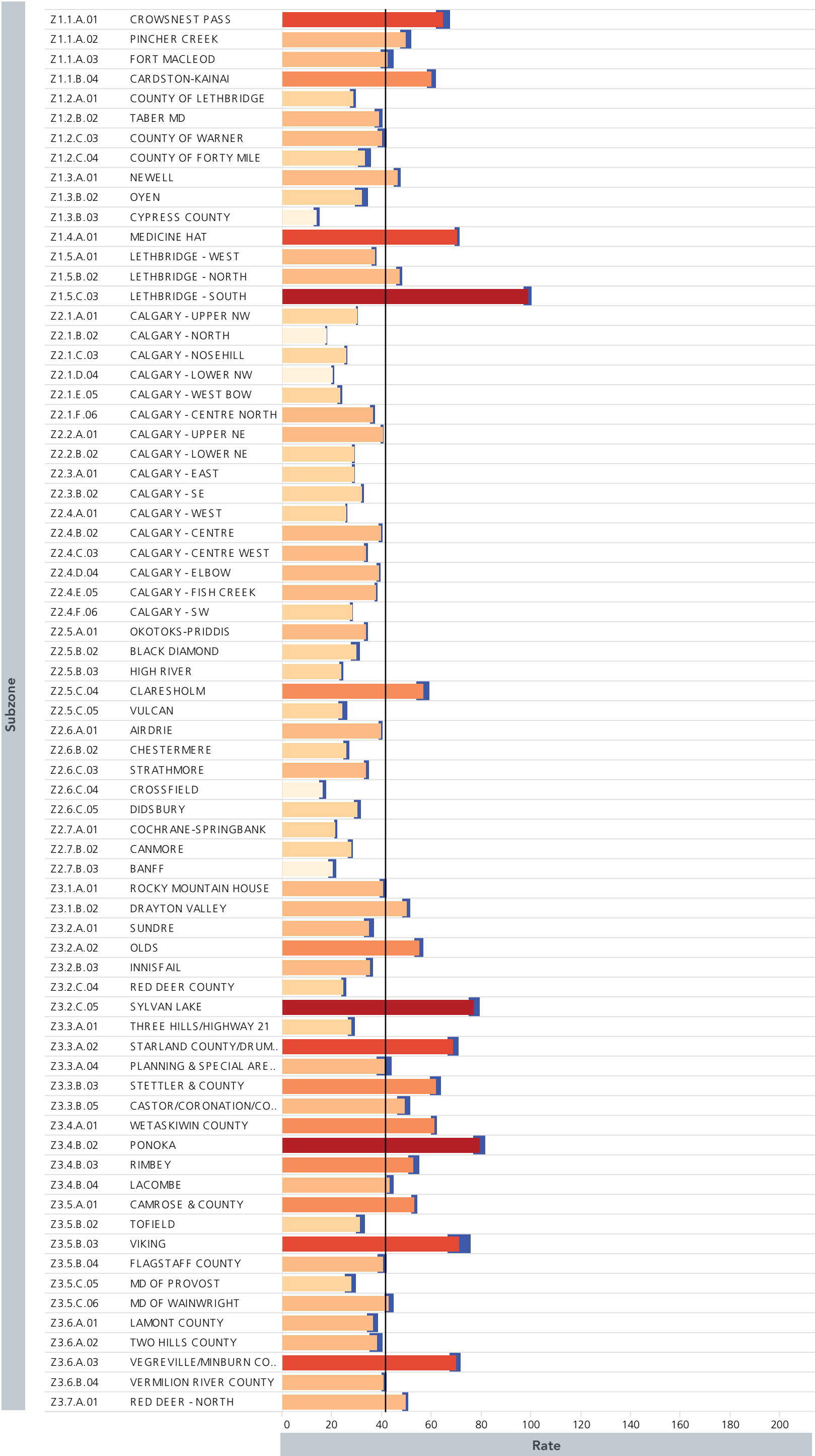


Figure 8b. Age and Sex Standardized, Total DDDs per 1,000 Population, by Local Geography, 2015



Subzone

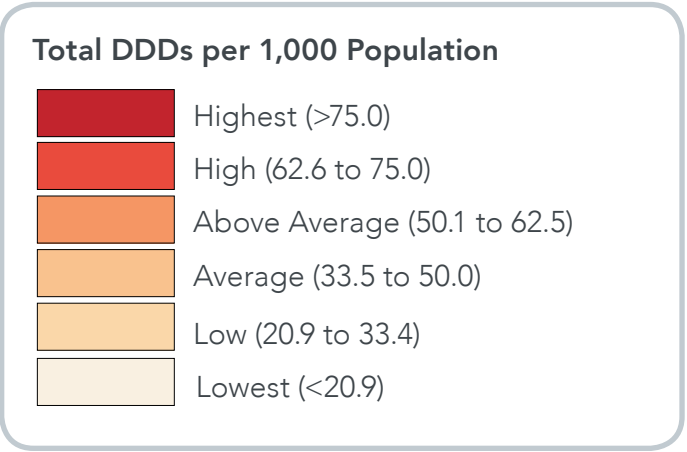
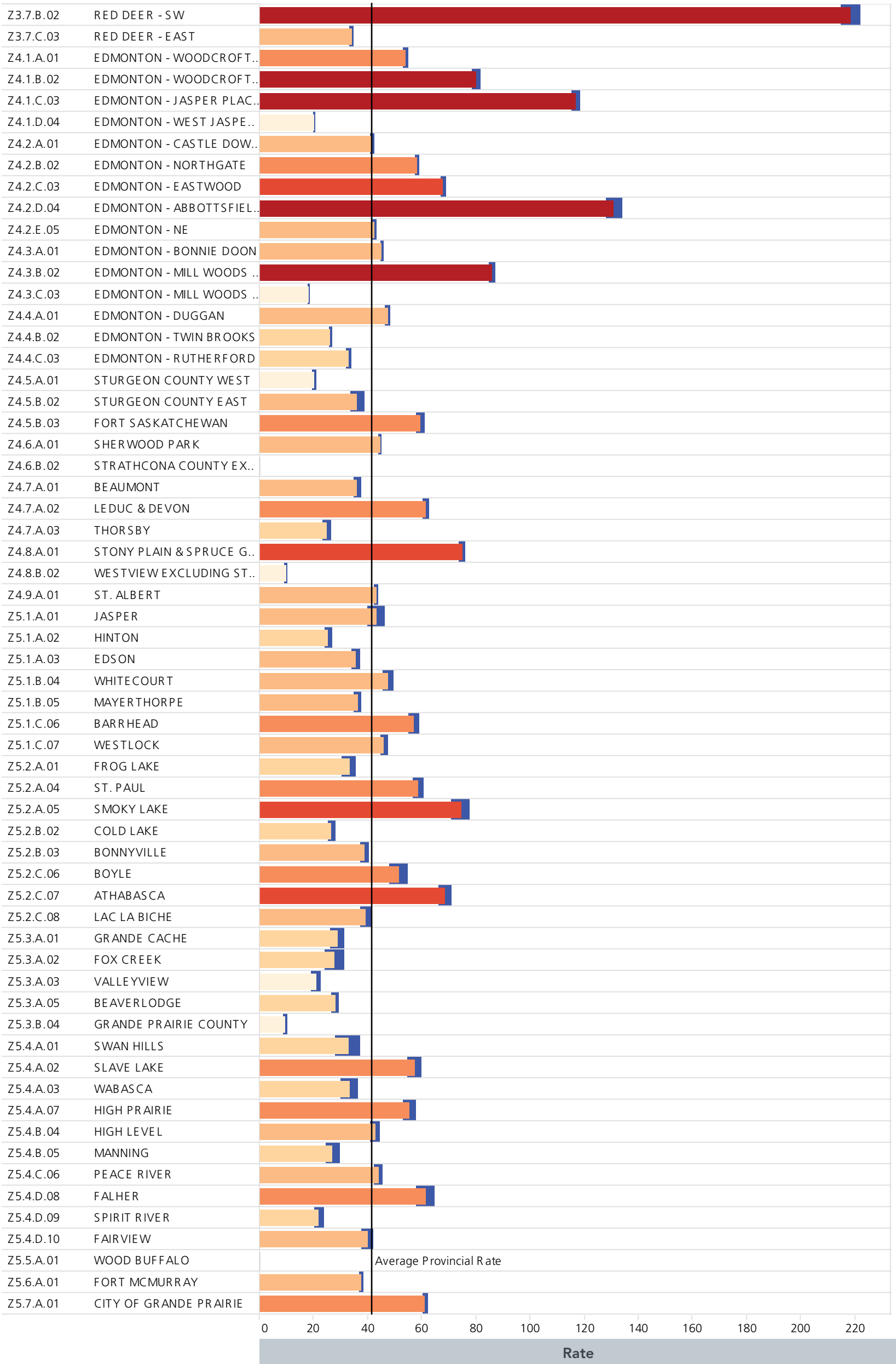
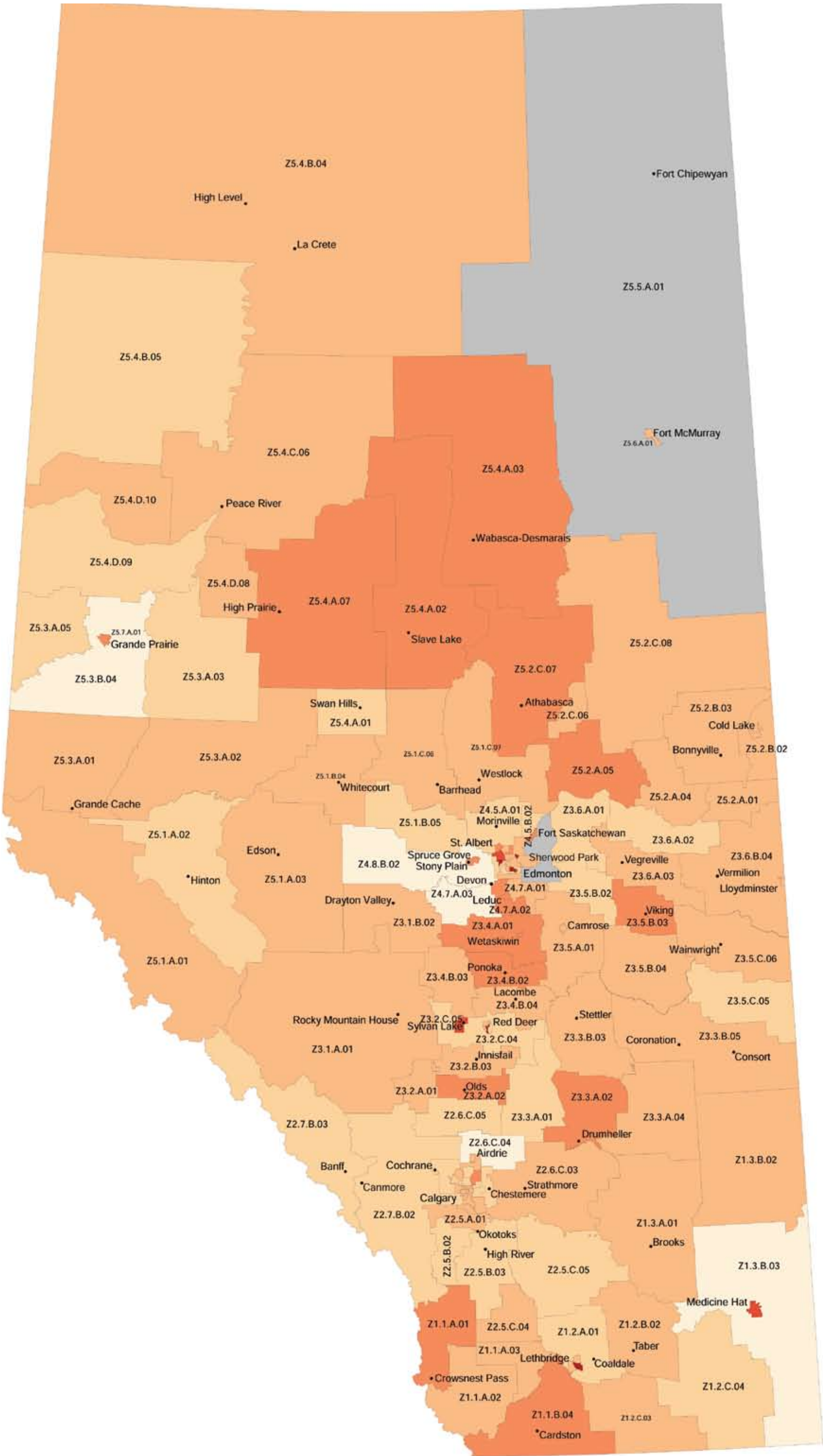


Figure 9a. Age and Sex Standardized, Benzodiazepine Patients per 1,000 Population, by Local Geography, 2015



Legend: Provincial and Urban Maps

Patients per 1,000 Population

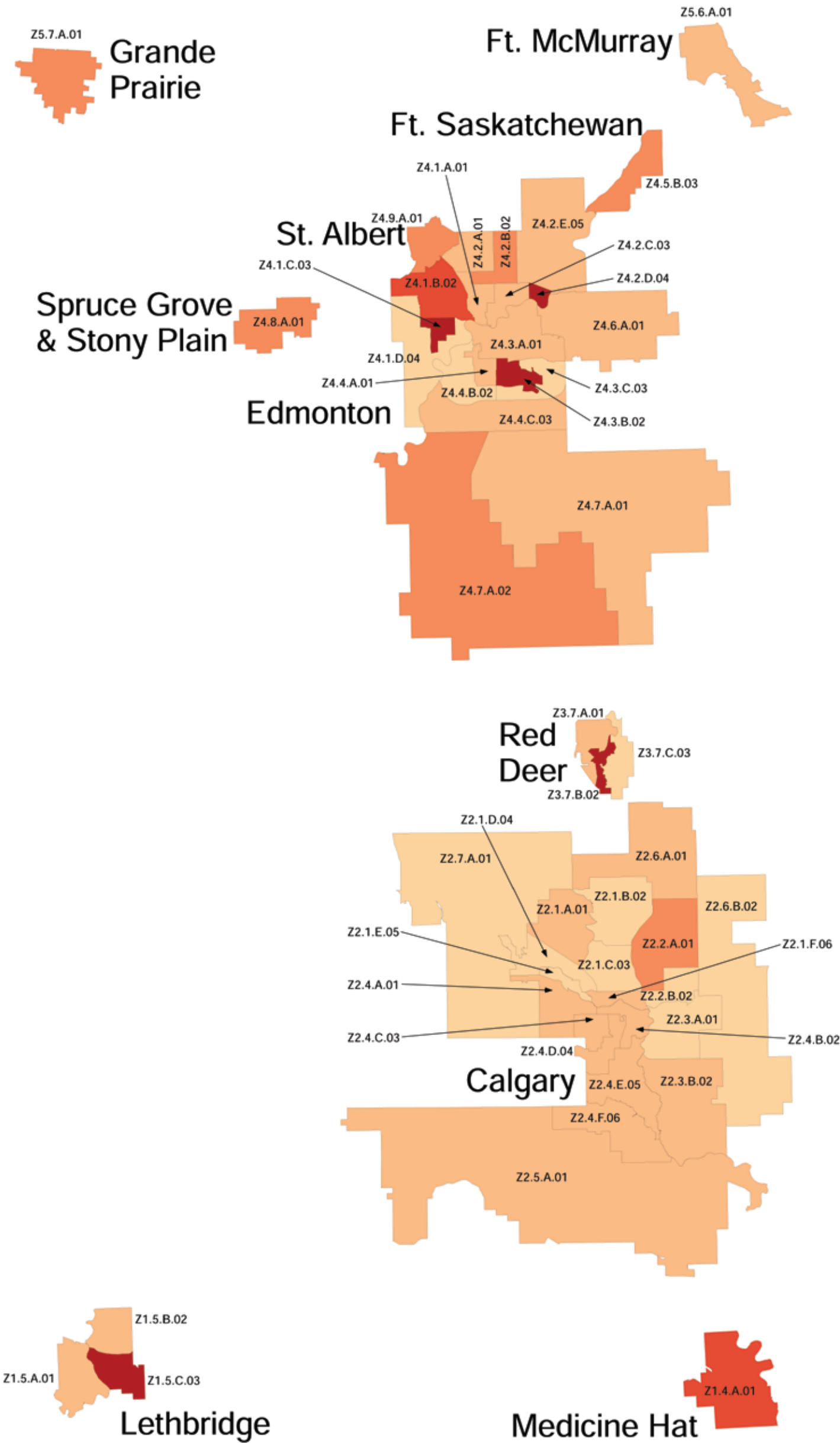
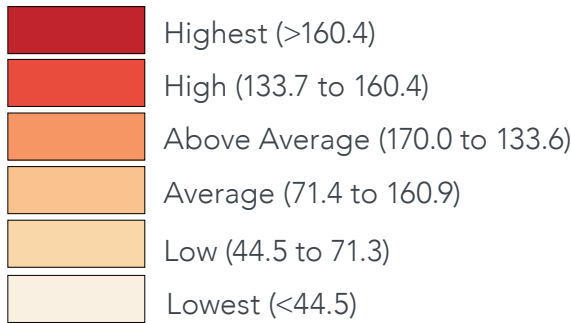
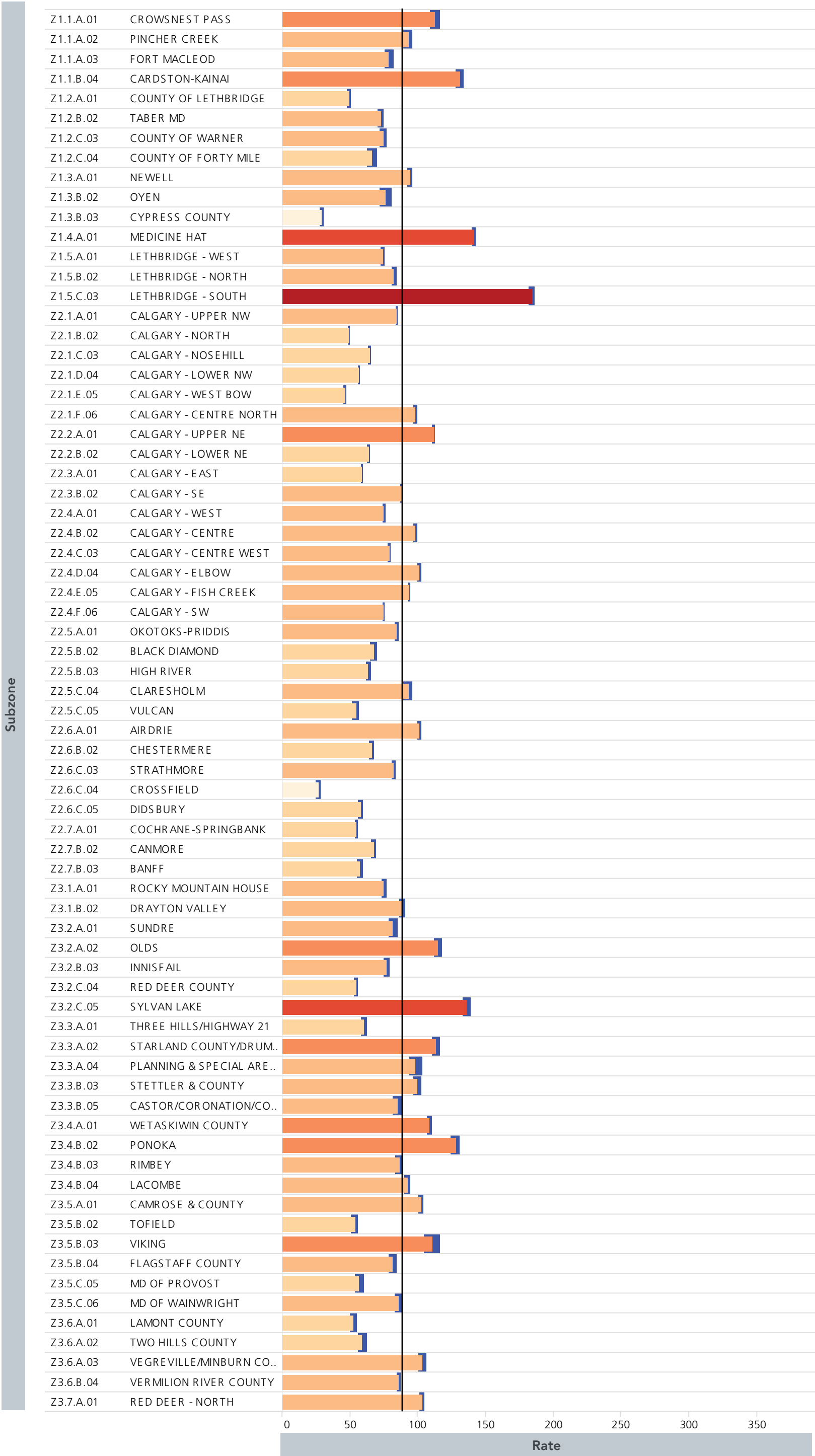


Figure 9b. Age and Sex Standardized, Benzodiazepine Patients per 1,000 Population, by Local Geography, 2015



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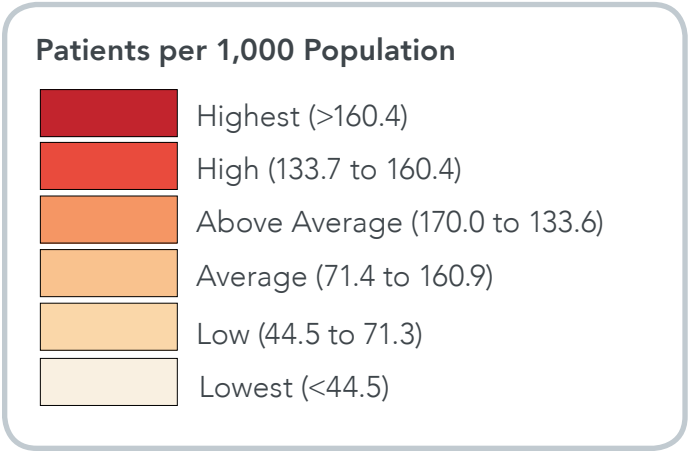
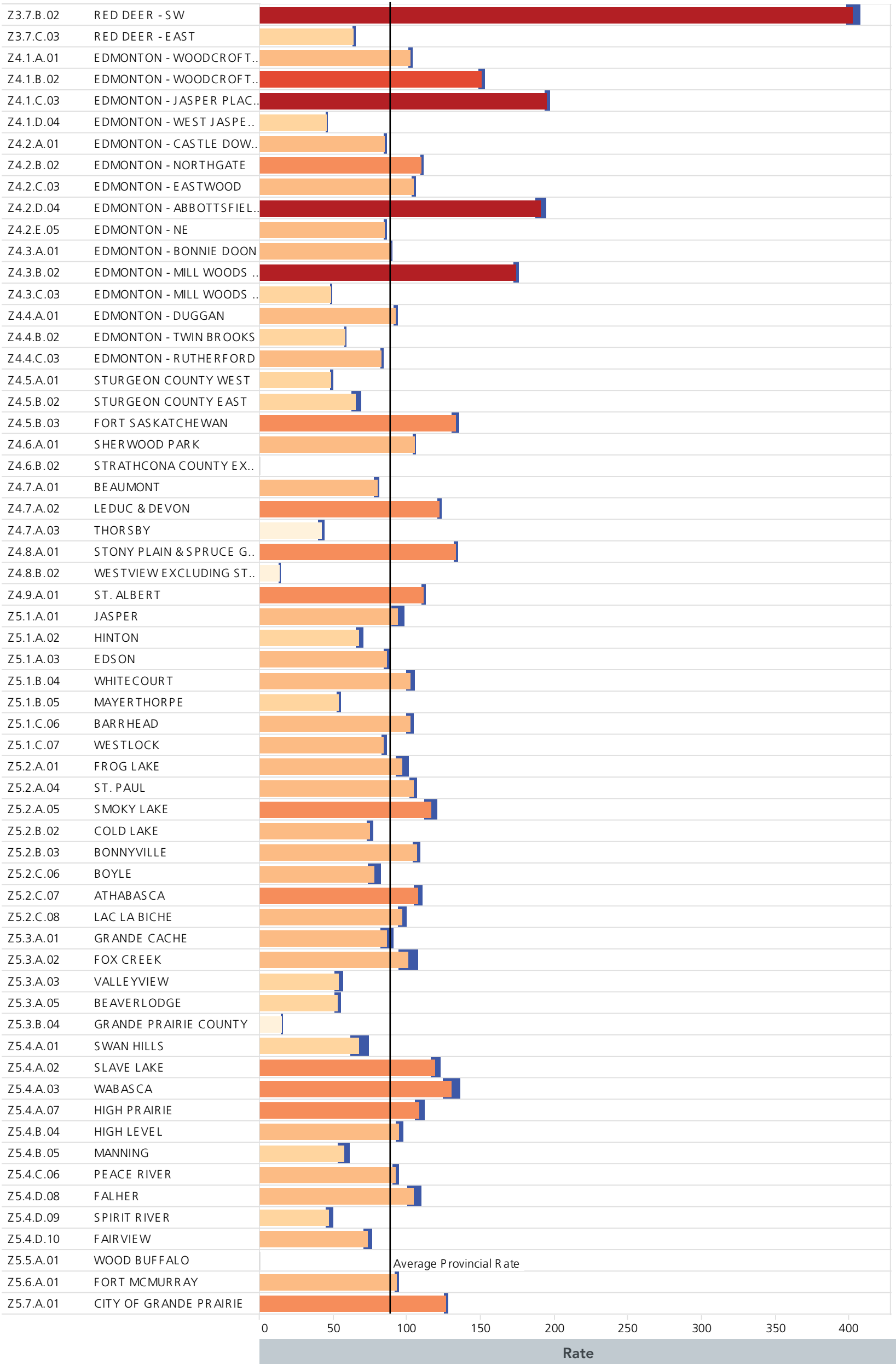
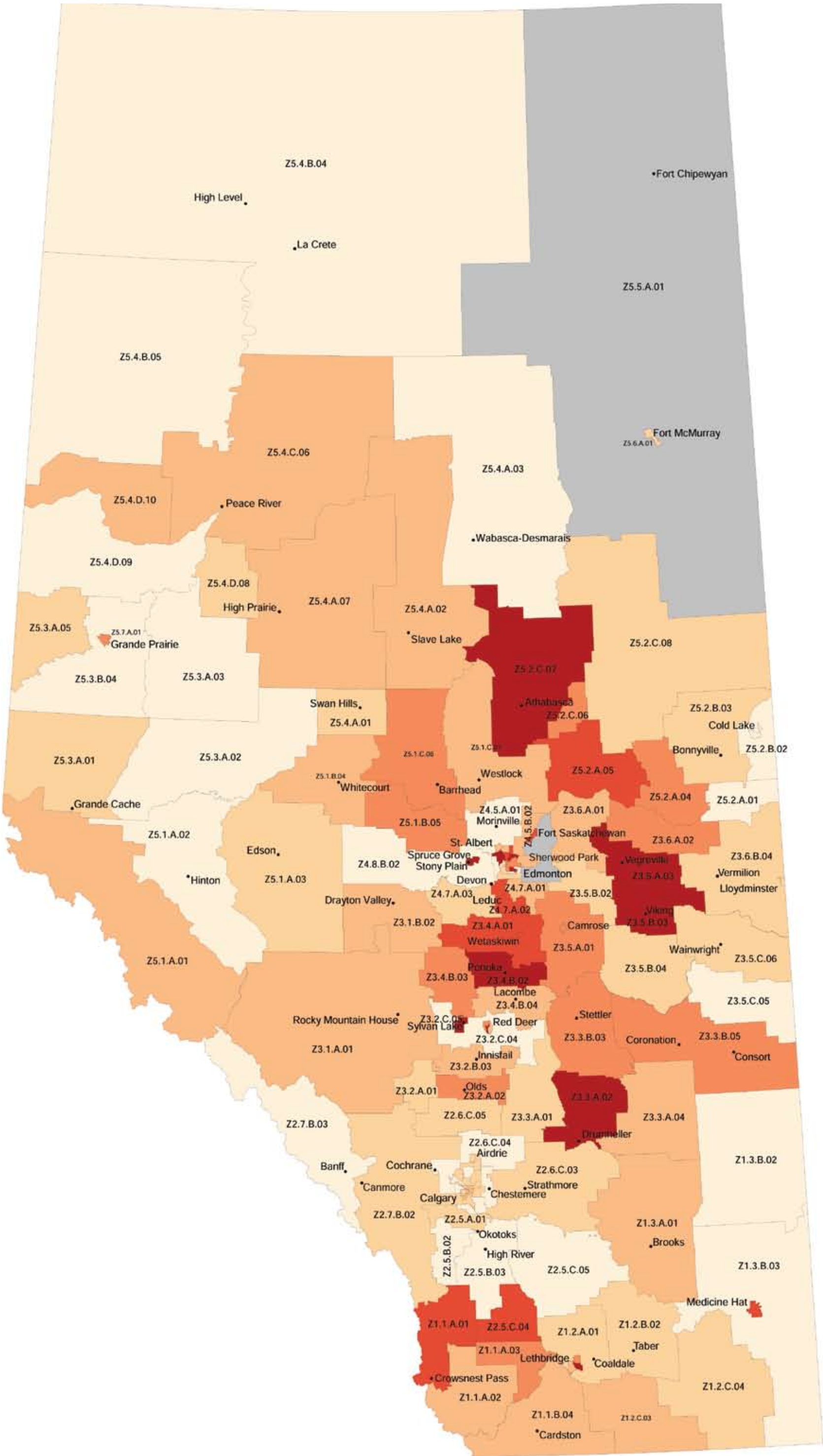


Figure 10a. Age and Sex Standardized, Benzodiazepine Patients Who Received 2 DDDs or Greater per 1,000 Population, by Local Geography, 2015



Legend: Provincial and Urban Maps

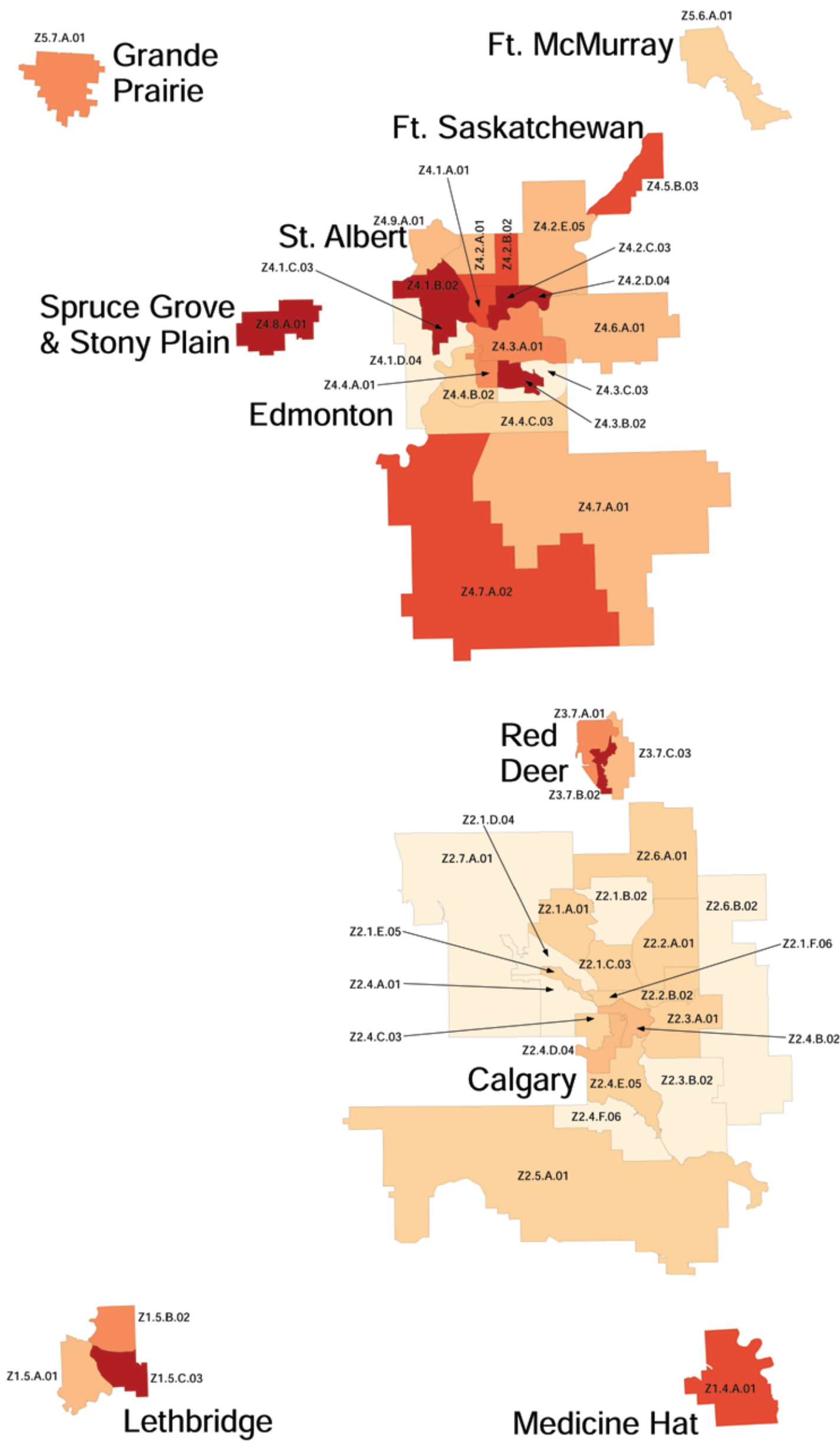
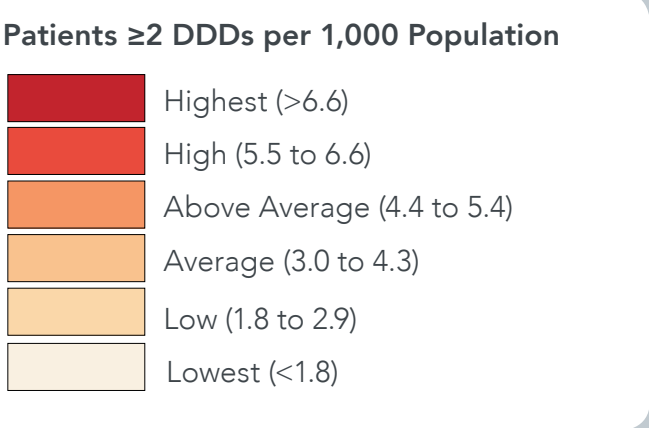
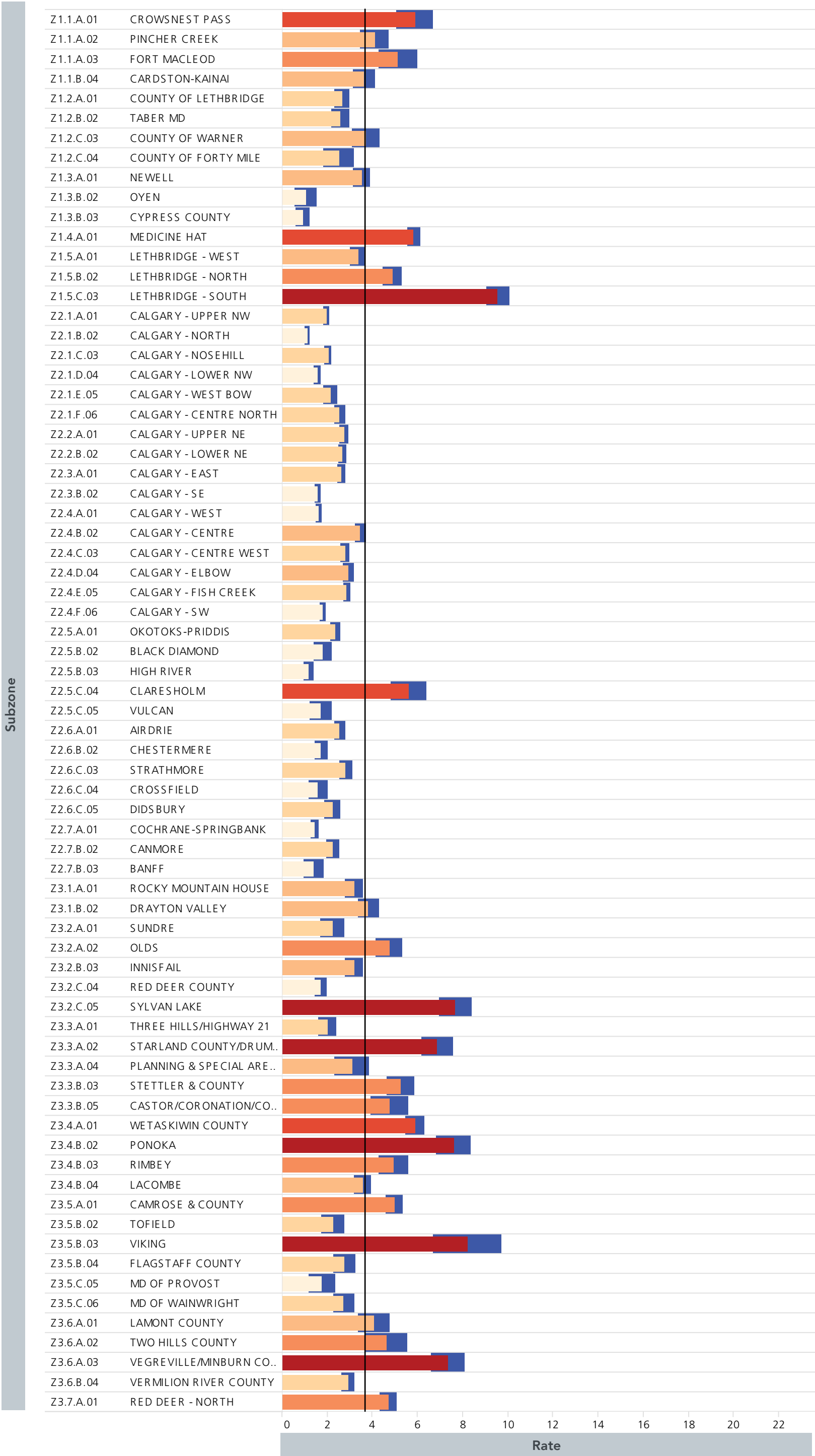
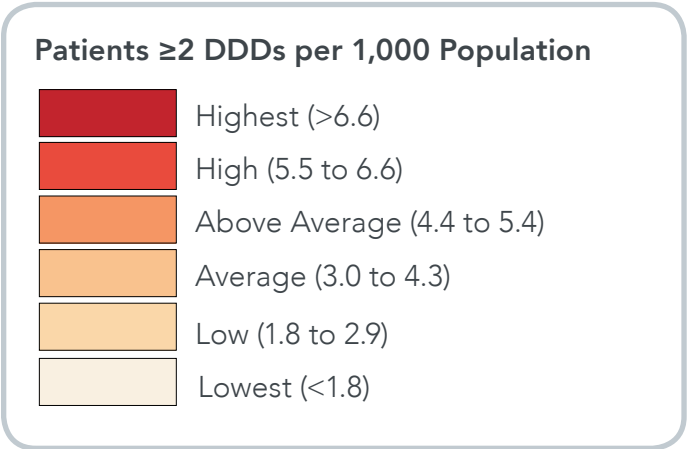
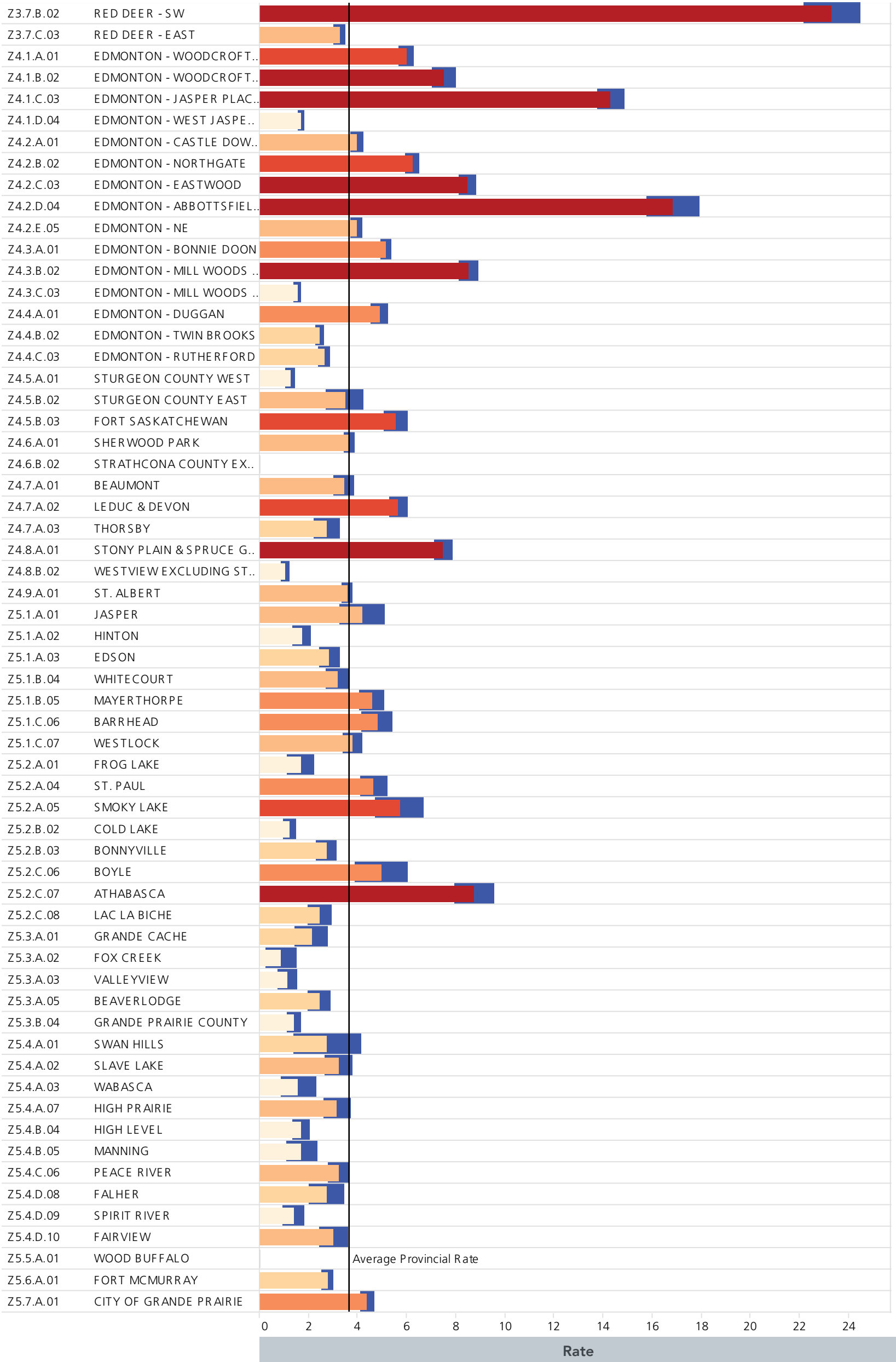


Figure 10b. Age and Sex Standardized, Benzodiazepine Patients Who Received 2 DDDs or Greater per 1,000 Population, by Local Geography, 2015



Subzone



Legend: Provincial and Urban Maps

Elderly Patients >2 DDDs per 1,000 Elderly Population

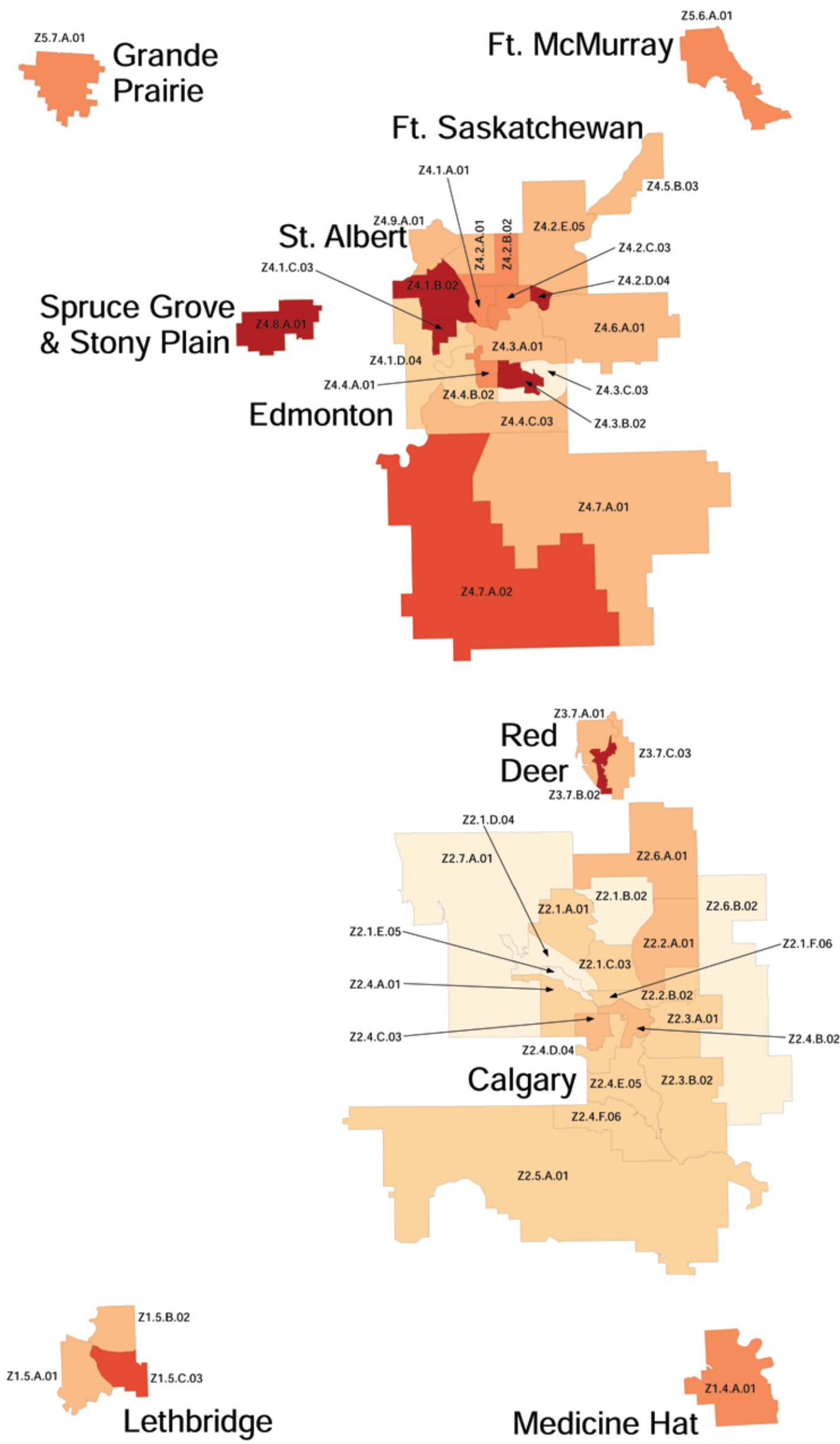
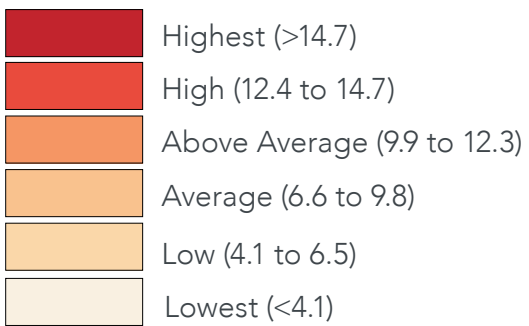
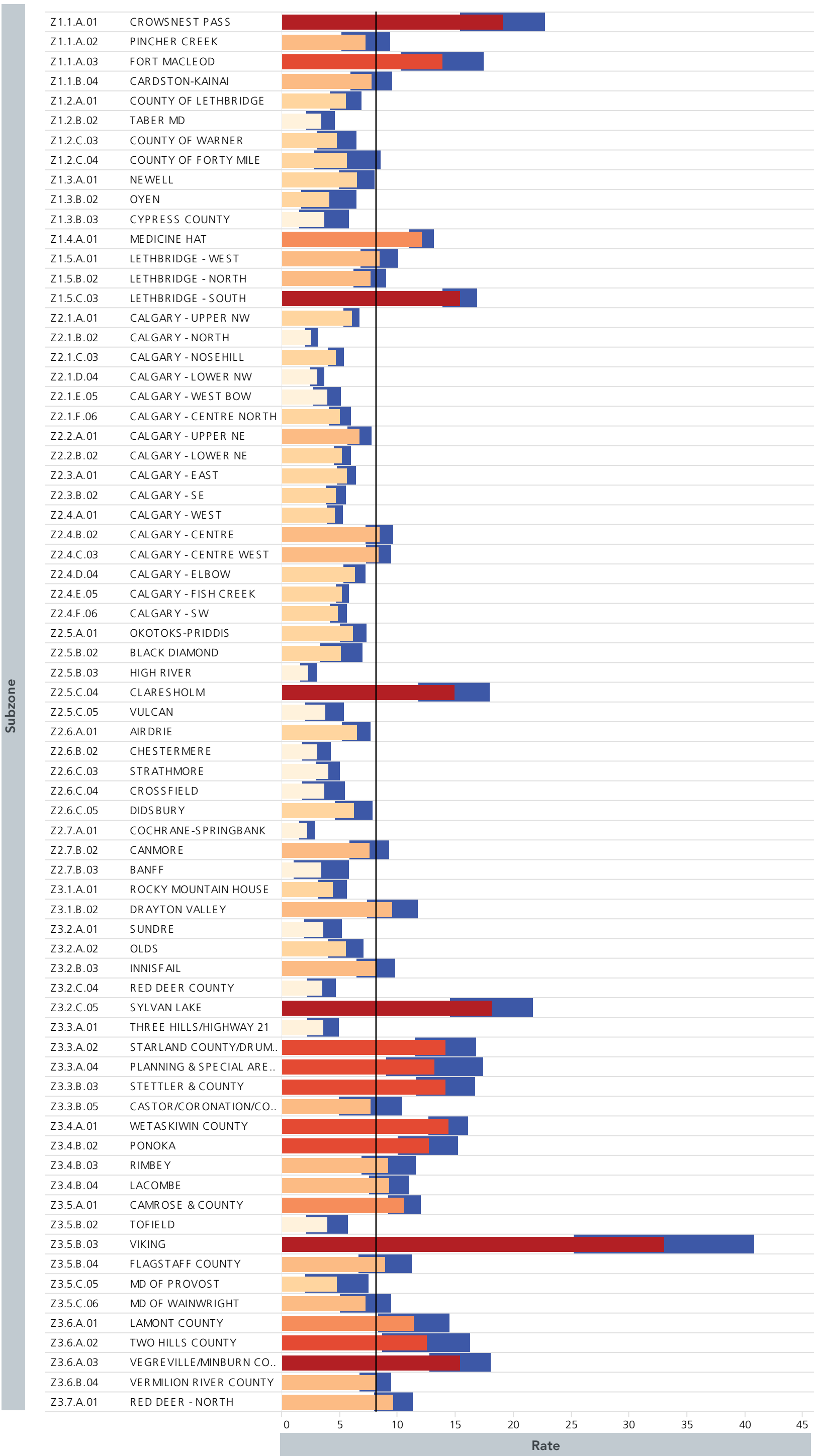
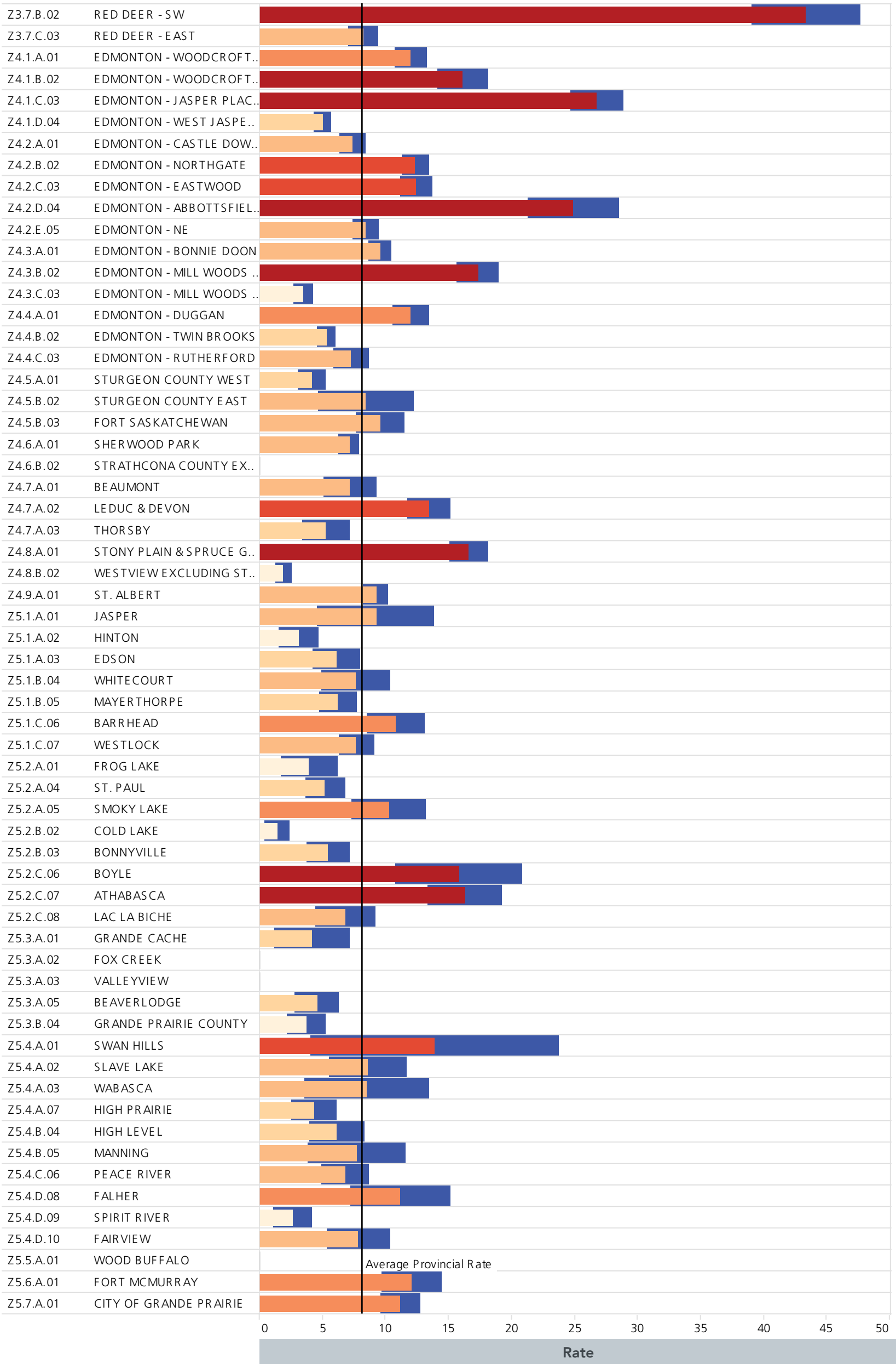


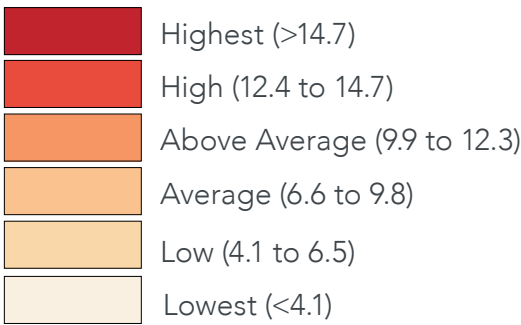
Figure 11b. Benzodiazepine Patients 65 Years and Over Who Received 2 DDDs or Greater per 1,000 Elderly Population, by Local Geography, 2015



Subzone



Elderly Patients >2 DDDs per 1,000 Elderly Population



Appendix A – Alberta Local Geography

Map showing provincial local geography boundaries.



Appendix B – Opioid Analytic Class, 2015

Table 16. Opioid Analytic Class Prescriptions, Patients and Prescribers by Main Ingredient, WHO ATC and Route of Administration, 2015

Main Ingredient	ATC Code	ATC Code Description	Route	Prescriptions	Patients	Prescribers
CODEINE	M03BA53	METHOCARBAMOL, COMBINATIONS EXCL PSYCHOLEPTICS	ORAL	8,442	3,526	1,780
CODEINE	M03BB53	CHLORZOXAZONE, COMBINATIONS EXCL PSYCHOLEPTICS	ORAL	70	47	41
CODEINE	N02AA59	CODEINE, COMBINATIONS	ORAL	691,197	317,404	9,218
CODEINE	N02BA51	ACETYLSALICYLIC ACID, COMB EXCL PSYCHOLEPTICS	ORAL	8,879	4,518	1,785
CODEINE	N02BA71	ACETYLSALICYLIC ACID, COMB WITH PSYCHOLEPTICS	ORAL	12	11	11
CODEINE	N02BE51	ACETAMINOPHEN, COMB EXCL PSYCHOLEPTICS	ORAL	272,565	91,298	5,765
CODEINE	R05DA04	CODEINE	ORAL	73,292	34,587	5,133
CODEINE	R05DA04	CODEINE	INTRAMUSCULAR	12	5	5
CODEINE	R05DA04	CODEINE	UNKNOWN	245	177	24
CODEINE	R05DA20	COMBINATIONS	ORAL	93,443	77,635	2,901
CODEINE	R05FA02	OPIUM DERIVATIVES AND EXPECTORANTS	ORAL	47,639	40,394	4,262
OXYCODONE	N02AA05	OXYCODONE	ORAL	120,275	23,456	4,136
OXYCODONE	N02AA05	OXYCODONE	UNKNOWN	26	4	8
OXYCODONE	N02AA05	OXYCODONE	RECTAL	55	8	15
OXYCODONE	N02AA55	OXYCODONE, COMBINATIONS	ORAL	2,306	867	454
OXYCODONE	N02BA51	ACETYLSALICYLIC ACID, COMB EXCL PSYCHOLEPTICS	ORAL	158	43	45
OXYCODONE	N02BE51	ACETAMINOPHEN, COMB EXCL PSYCHOLEPTICS	ORAL	163,167	55,512	4,937
HYDROMORPHONE	N02AA03	HYDROMORPHONE	ORAL	97,018	23,615	4,538
HYDROMORPHONE	N02AA03	HYDROMORPHONE	INTRAMUSCULAR	3,195	1,531	485
HYDROMORPHONE	N02AA03	HYDROMORPHONE	UNKNOWN	6	3	4
HYDROMORPHONE	N02AA03	HYDROMORPHONE	RECTAL	18	3	3
MORPHINE	N02AA01	MORPHINE	ORAL	61,887	15,332	3,891
MORPHINE	N02AA01	MORPHINE	INTRAMUSCULAR	2,904	1,395	661
MORPHINE	N02AA01	MORPHINE	UNKNOWN	50	42	20
MORPHINE	N02AA01	MORPHINE	RECTAL	121	29	30
MORPHINE	N02AA01	MORPHINE	INTRAVENOUS	27	20	17
MORPHINE	N02AA01	MORPHINE	PARENTERAL	29	15	14
METHADONE HYDROCHLORIDE	N07BC02	METHADONE	ORAL	47,081	5,003	449
METHADONE HYDROCHLORIDE	N07BC02	METHADONE	UNKNOWN	189	57	29
BUPRENORPHINE	N02AE01	BUPRENORPHINE	TRANSDERMAL	11,999	4,187	1,433
BUPRENORPHINE	N07BC51	UPRENORPHINE, COMBINATIONS	SUBLINGUAL	11,265	1,473	197
FENTANYL	N01AH01	FENTANYL	INTRAMUSCULAR	1,598	961	254
FENTANYL	N02AB03	FENTANYL	TRANSDERMAL	20,528	4,476	2,070
FENTANYL	N02AB03	FENTANYL	SUBLINGUAL	51	21	19
FENTANYL	N02AB03	FENTANYL	UNKNOWN	2	2	2
FENTANYL	N02AB03	FENTANYL	BUCCAL	4	3	3
Tapentadol (Tapentadol Hydrochloride)	N02AX06	TAPENTADOL	ORAL	4,665	1,281	619
MEPERIDINE	N02AB02	PETHIDINE	ORAL	2,540	856	622
MEPERIDINE	N02AB02	PETHIDINE	INTRAMUSCULAR	628	150	135
MEPERIDINE	N02AB02	PETHIDINE	UNKNOWN	1	1	1
BUTALBITAL	N02AA79	CODEINE, COMBINATIONS WITH PSYCHOLEPTICS	ORAL	2,049	702	546
BUTALBITAL	N02BA71	ACETYLSALICYLIC ACID, COMB WITH PSYCHOLEPTICS	ORAL	761	321	293
HYDROCODONE	R05DA03	HYDROCODONE	ORAL	152	67	61
HYDROCODONE	R05DA20	COMBINATIONS	ORAL	861	680	370
BUTORPHANOL	N02AF01	BUTORPHANOL	NASAL	479	116	133
PENTAZOCINE	N02AD01	PENTAZOCINE	ORAL	296	63	57
KETAMINE	N01AX03	KETAMINE	INTRAMUSCULAR	32	11	11
KETAMINE	N01AX03	KETAMINE	UNKNOWN	2	2	2
NORMETHADONE HYDROCHLORIDE	R05DA20	COMBINATIONS	ORAL	28	26	16
SUFENTANIL (SUFENTANIL CITRATE)	N01AH03	SUFENTANIL	INTRAVENOUS	11	3	3
REMIFENTANIL	N01AH06	REMIFENTANIL	INTRAVENOUS	1	1	1

Table 17. Benzodiazepine Analytical Class Prescriptions, Patients and Prescribers by Main Ingredient, WHO ATC and Route of Administration, 2015

Main Ingredient	ATC Code	ATC Code Description	Route	Prescriptions	Patients	Prescribers
ZOPICLONE	N05CF01	ZOPLICLONE	ORAL	483,392	186,827	10,295
ZOPICLONE	N05CF01	LORAZEPAM	UNKNOWN	22	10	10
LORAZEPAM	N05BA06	LORAZEPAM	ORAL	121,650	53,825	5,751
LORAZEPAM	N05BA06	LORAZEPAM	SUBLINGUAL	187,005	99,874	6,870
LORAZEPAM	N05BA06	LORAZEPAM	INTRAMUSCULAR	77	69	46
LORAZEPAM	N05BA06	LORAZEPAM	UNKNOWN	25	12	16
CLONAZEPAM	N03AE01	CLONAZEPAM	ORAL	164,482	52,251	5,676
CLONAZEPAM	N03AE01	CLONAZEPAM	UNKNOWN	120	53	55
TEMAZEPAM	N05CD07	TEMAZEPAM	ORAL	91,734	25,440	3,813
TEMAZEPAM	N05CD07	TEMAZEPAM	UNKNOWN	7	7	7
DIAZEPAM	N05BA01	DIAZEPAM	ORAL	43,076	15,095	3,737
DIAZEPAM	N05BA01	DIAZEPAM	INTRAMUSCULAR	41	27	19
DIAZEPAM	N05BA01	DIAZEPAM	UNKNOWN	36	14	17
DIAZEPAM	N05BA01	DIAZEPAM	RECTAL	92	78	47
ZOLPIDEM	N05CF02	ZOLPIDEM	SUBLINGUAL	35,085	16,701	3,387
ALPRAZOLAM	N05BA12	ALPRAZOLAM	ORAL	28,425	10,118	3,118
ALPRAZOLAM	N05BA12	ALPRAZOLAM	UNKNOWN	7	1	2
BROMAZEPAM	N05BA08	BROMAZEPAM	ORAL	22,342	4,350	1,595
NITRAZEPAM	N05CD02	NITRAZEPAM	ORAL	16,297	3,636	1,264
NITRAZEPAM	N05CD02	NITRAZEPAM	UNKNOWN	31	11	14
CLOBAZAM	N05BA09	CLOBAZAM	ORAL	8,632	3,172	1,821
CLOBAZAM	N05BA09	CLOBAZAM	UNKNOWN	222	90	86
OXAZEPAM	N05BA04	OXAZEPAM	ORAL	6,636	2,419	1,508
TRIAZOLAM	N05CD05	TRIAZOLAM	ORAL	4,901	3,042	678
TRIAZOLAM	N05CD05	TRIAZOLAM	UNKNOWN	2	1	0
CHLORDIAZEPOXIDE	N05BA02	CHLORDIAZEPOXIDE	ORAL	2,856	1,422	849
MIDAZOLAM	N05CD08	MIDAZOLAM	INTRAMUSCULAR	1,747	1,272	226
MIDAZOLAM	N05CD08	MIDAZOLAM	UNKNOWN	115	84	9
FLURAZEPAM	N05CD01	FLURAZEPAM	ORAL	1,263	513	414
ZALEPLON	N05CF03	ZALEPLON	ORAL	1	1	1

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2015
**ALBERTA
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