



Prescription Drug Atlas

Opioids and Benzodiazepine Receptor Agonists

Health Sector Information, Analysis & Reporting Division (HSIAR)

June 2024



Prescription Drug Atlas – Opioids and Benzodiazepine Receptor Agonists
Health Sector Information, Analysis and Reporting
British Columbia Ministry of Health
June 2024

Prepared by Health Sector Information, Analysis and Reporting Division (BC Ministry of Health), in consultation with Pharmaceutical, Laboratory, and Blood Services Division (BC Ministry of Health), College of Physicians and Surgeons of British Columbia, British Columbia College of Oral Health Professionals, College of Pharmacists of British Columbia, British Columbia College of Nurses and Midwives, and College of Naturopathic Physicians of British Columbia.

For more information about this document contact MoHAnalytics@gov.bc.ca.

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List of Acronyms

Acronym	Description
BCCNM	British Columbia College of Nurses and Midwives
BCCOHP	British Columbia College of Oral Health Professionals
BZRA	Benzodiazepine receptor agonist
CNPBC	College of Naturopathic Physicians of British Columbia
CPBC	College of Pharmacists of British Columbia
CPSBC	College of Physicians and Surgeons of British Columbia
DDD	Defined daily dose
LHA	Local health area
OAT	Opioid agonist treatment
OCAP®	(The First Nations principles of) ownership, control, access, and possession
OME	Oral morphine equivalent
O-Meds	Office-use medications
PA	Prescribed alternatives (formerly known as prescribed safer supply, PSS)
PEOPLE	Population Extrapolation for Organizational Planning with Less Error
RN	Registered nurse
RPN	Registered psychiatric nurse
WHO	World Health Organization
z-drugs	Zopiclone, zolpidem, eszopiclone and zaleplon

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Introduction

The Prescription Drug Atlas – Opioids and BZRAs (2024) provides an overview of the prescribing patterns in B.C. for opioids and benzodiazepine receptor agonists (BZRAs; benzodiazepines and the z-drugs zopiclone, zolpidem, eszopiclone and zaleplon) during the period 2016-2023. It also provides sections focused on the regulatory colleges whose registrants have legal authority to prescribe opioids and/or BZRAs. In B.C., the following registered clinicians have the legal authority to prescribe opioids and/or BZRAs:

- College of Physicians and Surgeons of British Columbia:
 - Physicians
 - Podiatrists
- British Columbia College of Oral Health Professionals:
 - Dentists
- British Columbia College of Nurses and Midwives:
 - Nurse practitioners
 - Registered nurses (RNs)¹
 - Registered psychiatric nurses (RPNs)¹
 - Midwives
- College of Naturopathic Physicians of British Columbia:
 - Naturopathic physicians²

Pharmacists do not have legal authority to prescribe or change opioid or BZRA prescriptions. However, they can renew a prescription or provide an emergency supply for continuity of care and are therefore included in this Atlas.³

Information in this Atlas pertains to drugs dispensed from community pharmacies across B.C. and recorded in PharmaNet (see data description and details about inclusions and exclusion in the [Data Exclusions section](#)).

This Atlas was developed by the Health Sector Information, Analysis and Reporting Division (BC Ministry of Health), in consultation with Pharmaceutical, Laboratory, and Blood Services Division (BC Ministry of Health), College of Physicians and Surgeons of British Columbia, British Columbia College of Oral Health Professionals, College of Pharmacists of British Columbia, British Columbia College of Nurses and Midwives, and College of Naturopathic Physicians of British Columbia.

¹ RNs and RPNs meeting BCCNM's standards, limits and conditions may diagnose a substance-use condition or substance-use disorder and prescribe specific drugs, including controlled substances, to manage or ameliorate the effects of substance use. See [RN and RPN certified practice for opioid use disorder](#) for more details.

² Naturopathic physicians have legal authority to prescribe zopiclone, eszopiclone and zaleplon and could prescribe tramadol until its reclassification to [Schedule 1](#) under the [Controlled Drugs and Substances Act](#) on March 31, 2022.

³ See more details in the [College of Pharmacists of BC section](#).

Introduction

Purpose

This Atlas can be used to understand prescribing patterns across the province and to identify trends, anomalies, and changes in prescribing practices. This Atlas focuses on opioids and BZRAs, which create risk of harm for patients when prescribed inappropriately.

The statistics presented in this Atlas are for informational purposes only and should not be interpreted as clinical advice or guidance for prescribers.

Data and Methodology

Data Source

The main source of data for this Atlas is PharmaNet, B.C.'s drug information, claims adjudication, and payment system. All dispenses of drugs, medical devices and supplies, and related services performed at community pharmacies in the province are conducted using PharmaNet⁴, which means PharmaNet contains the community drug dispensing history for all B.C. residents.⁵

Population data is based on Population Extrapolation for Organizational Planning with Less Error (PEOPLE 2023), a database of B.C. population estimates and projections from BC Stats. Data corresponds to the 2021 Census of Population.

PharmaNet and PEOPLE data were extracted from Healthideas, the BC Ministry of Health's principal data warehouse, in April 2024.

Data Exclusions

The dataset used for this Atlas does not include:

- Drugs dispensed to patients while admitted to hospital.
- Office-use medications⁶ (O-Meds) or sample drugs.
- Drugs prescribed by veterinarians.
- Drugs dispensed through the BC Cancer Agency, the BC Transplant Society, the BC Renal Agency, or through special programs administered by Provincial Health Services Authority (e.g., Expensive Drugs for Rare Disease, Retinal Disease Program).
- Drugs dispensed at health clinics.
- Drugs dispensed under the opioid agonist treatment (OAT) or the prescribed alternatives (PA) programs⁷.

⁴ Some other out-patient health facilities are also captured in PharmaNet, such as hospital pharmacies dispensing drugs to out-patients.

⁵ The drug dispensing history may not be complete for B.C. residents, as dispenses from pharmacies outside of B.C. are not captured in PharmaNet. Also note that dispenses to out-of-province patients that occurred at a pharmacy in B.C. are captured in PharmaNet and included in this Atlas.

⁶ Office-use medications (O-Meds) are drugs ordered by prescribers to be dispensed to patients during a consultation.

⁷ Monthly data on OAT and PA prescribing can be found on the BC Centre for Disease Control's [Drug Poisoning Emergency Dashboard](#). OAT and PA dispenses are identified based on a case-finding algorithm developed and maintained by the Ministry of Health, based on the dispensing information available in PharmaNet. Due to the statistical approach on which the algorithm is based, some records may be misidentified.

Data and Methodology

Data Integrity

The data holdings within Healthideas are obtained from operational source systems across the health system (e.g., PharmaNet), and therefore the quality of the data in Healthideas is dependent on the quality of the data in the source systems.

Reporting Period

This Atlas contains data for the most recent eight complete calendar years (2016-2023) and therefore captures drug dispenses occurring during two public-health emergencies: one declared in April 2016 in response to the toxic drug crisis, and the other declared in March 2020 due to the COVID-19 pandemic.

Drug Categories

This Atlas contains information relating to two drug categories:

- Opioids
- Benzodiazepine receptor agonists (BZRAs; benzodiazepines and z-drugs)

Each drug is classified into the following subcategories based on its main active ingredient.

Table 1. List of main active ingredients included in the Atlas.

Opioids		Benzodiazepine receptor agonists (BZRAs)	
buprenorphine	opium	alprazolam	ketazolam
butorphanol	oxycodone	bromazepam	lorazepam
codeine	oxymorphone	chlordiazepoxide	midazolam
fentanyl ⁸	pentazocine	clobazam	nitrazepam
hydrocodone	propoxyphene	clonazepam	oxazepam
hydromorphone	remifentanil	clorazepate dipotassium	temazepam
meperidine	tapentadol	diazepam	triazolam
methadone	tramadol	estazolam	zaleplon
morphine		eszopiclone	zolpidem
nalbuphine		flurazepam	zopiclone

Note: diacetylmorphine and some forms of methadone, buprenorphine, hydromorphone, and morphine prescribed specifically as opioid agonist treatment, and some forms of fentanyl prescribed specifically as prescribed alternatives are not included in this Atlas. See [Appendix 1](#) for a detailed list of drugs included.

⁸ Includes the fentanyl analogue sufentanil.

Definitions

For the purpose of the analysis presented in this Atlas, the following concepts are defined:

- **Dispense:** an event when a prescription for a drug is filled at a pharmacy in B.C. Refills of the same prescription are counted as different dispenses.
- **Patient:** an individual who received at least one dispense at a pharmacy in B.C.
- **Prescriber:** a practitioner registered with one of the B.C. regulatory colleges who wrote at least one prescription dispensed at a pharmacy in B.C.
- **Pharmacy:** an out-patient health facility in B.C. that dispensed at least one prescription. These facilities are primarily community pharmacies⁹.
- **Days supply:** the number of days for which a prescribed drug is dispensed.
- **Daily dose:** total amount of opioids or BZRAs supplied to a patient divided by the number of unique days supply (see more details in the [Daily Dose section](#)).
- **Concurrent use of opioids and BZRAs:** an event when a patient has overlapping supply of at least one opioid and one BZRA during 60 days or more within any 91-day period during the year (see more details in the [Concurrent Use of Opioids and BZRAs section](#)).

Methodology

Counts

- **Dispenses** are counted once in the year they occur. Each refill is counted as one dispense. Dispenses can be for one or more days supply.
- **Patients** are counted once in the year they received at least one dispense. Out-of-province patients are included in this Atlas as long as they have received a dispense from a pharmacy in B.C.
- **Prescribers** are counted once in the year the prescription was dispensed, regardless of the number of prescriptions they wrote in the year or their status at the end of the year¹⁰. Prescribers registered with out-of-province regulatory colleges or with no authority to prescribe opioids or BZRAs are not included. Even though pharmacists do not have legal authority to prescribe or change opioid or BZRA prescriptions, they can

⁹ Some other out-patient health facilities may also be included, such as hospital pharmacies dispensing drugs to out-patients.

¹⁰ Prescriber counts reported in this Atlas do not account for prescriber status at the end of the year: all prescribers who wrote at least one prescription dispensed at a pharmacy in B.C. within the year are counted.

renew a prescription or provide an emergency supply for continuity of care and are therefore included as prescribers in this Atlas¹¹.

- **Pharmacies** are counted once per year when they have dispensed at least one prescription within the year, regardless of the number of prescriptions they dispensed or their status at the end of the year¹².

Daily Dose

A standardized measure of dosing is used to calculate the average daily dose per patient based on all the supply of the same drug category the patient received during the year. Note that for this section, patients are defined as individuals who received prescription opioid or BZRA supply: a patient may have no dispenses during a year but have carry-over supply from a dispense that occurred in the previous year. The number of patients with supply may therefore be equal to or larger than the number of patients with dispenses within the year.

For the purpose of the analysis presented in this Atlas, it is assumed that patients take the full quantity dispensed, evenly distributed during the days supply, starting on the day it was dispensed.

Opioids

The standardized measure of dosing for opioids is the oral morphine equivalent (OME) in milligrams. The OME for each dispense is calculated as follows:

$$\text{Dose [OME]} = \text{drug strength} \times \text{dispensed quantity} \times \text{OME conversion factor}^{13}$$

$$\text{Dispensed daily dose [OME per day]} = \frac{\text{dose}}{\text{days supply}}$$

The average daily dose of opioids represents the average number of OMEs a patient takes in a single day during the days they received opioid supply and is calculated for each patient as follows:

$$\text{Average daily dose [OME per day]} = \frac{\text{sum of dispensed daily doses during the year}}{\text{unique days supply}^{14}}$$

¹¹ See more details in the [College of Pharmacists of BC section](#).

¹² Pharmacy counts reported in this Atlas do not account for pharmacy status at the end of the year: all pharmacies that dispensed at least one prescription within the year are counted.

¹³ See [Appendix 2](#) for a list of oral morphine equivalent (OME) conversion factors used in this Atlas. Note that some drugs do not have an OME conversion factor and therefore do not contribute to the average daily dose.

¹⁴ Unique days supply corresponds to the number of distinct days a patient received drug supply within the year, based on the dispense date and the days supply information. By definition, the number of unique days supply does not exceed the number of days in the year.

Benzodiazepine Agonist Receptors (BZRAs)

The standard measure of dosing for BZRAs is the defined daily dose (DDD) in milligrams. The World Health Organization (WHO) defines DDD as the assumed average maintenance dose per day for a drug used for its main indication in adults¹⁵. The DDD for each dispense is calculated as follows:

$$\text{Dose [DDD]} = \text{drug strength} \times \text{dispensed quantity} / \text{DDD conversion factor}^{16}$$

$$\text{Dispensed daily dose [DDD per day]} = \frac{\text{dose}}{\text{days supply}}$$

The average daily dose of BZRAs represents the average number of DDDs a patient takes in a single day during the days they received BZRA supply and is calculated for each patient as follows:

$$\text{Average daily dose [DDD per day]} = \frac{\text{sum of dispensed daily doses during the year}}{\text{unique days supply}}^{14}$$

Concurrent Use of Opioids and BZRAs

Concurrent use of opioids and BZRAs is recognized as an important risk factor for morbidity and mortality. Generally, outside of end-of-life treatment or palliative care, the practice of co-prescribing these drugs is not recommended¹⁷.

Concurrent use of opioids and BZRAs occurs when a patient has an overlapping supply of both types of drugs. For the purpose of this Atlas, concurrent use is defined as an event when a patient has overlapping supply of at least one opioid and at least one BZRA during 60 days or more within a 91-day period. Patients are counted once per year if they meet the criteria at least once within the year. The year corresponds to the day at the centre of the 91-day window.

Patients at risk of concurrent use of opioids and BZRAs are defined as patients with supply of one drug category (e.g., opioids) for 60 or more days, and at least one dispense for a drug in the other category (e.g., BZRA) within the same year. This number is used to calculate the proportion of patients on concurrent use of opioids and BZRAs shown in [Figure 65](#).

¹⁵ See [WHOCC – DDD - Definition and general considerations](#) for more information.

¹⁶ See [Appendix 2](#) for a list of defined daily dose (DDD) conversion factors used in this Atlas. Note that some drugs do not have an DDD conversion factor and therefore do not contribute to the average daily dose.

¹⁷ College of Physicians and Surgeons of BC (CPSBC). Practice Standard, [Safe Prescribing of Opioids and Sedatives](#). May 6, 2022 (Version 4.7)

Data and Methodology

Concurrent use of opioids and BZRAs for patients on high doses of opioids (90+ OME/day¹⁸) and high doses of BZRAs (2+ DDD/day) is also presented in this Atlas, as well as patients on multiple opioids or BZRAs, and patients receiving prescriptions by multiple prescribers.

Patient Demographics

For the geographical distribution analysis, data is aggregated to the local health authority (LHA) level, based on patient residency at the time of the last dispense of each year. LHAs with more than 50% of the population self-identified as Indigenous based on the 2021 Census of Population was suppressed in compliance with the [First Nations principles of OCAP®](#).

Patient age is calculated as of December 31 of each calendar year.

Patient sex information is obtained from PharmaNet and can represent patient sex or gender.

¹⁸ See [Guideline for opioid therapy and chronic noncancer pain](#), CMAJ 2017 May 8;189:E659-66. doi: 10.1503/cmaj.170363

Drug Use – Opioids

Overview

In 2023...

...**69%** of people¹⁹ in B.C. received at least one dispense for a prescription drug²⁰

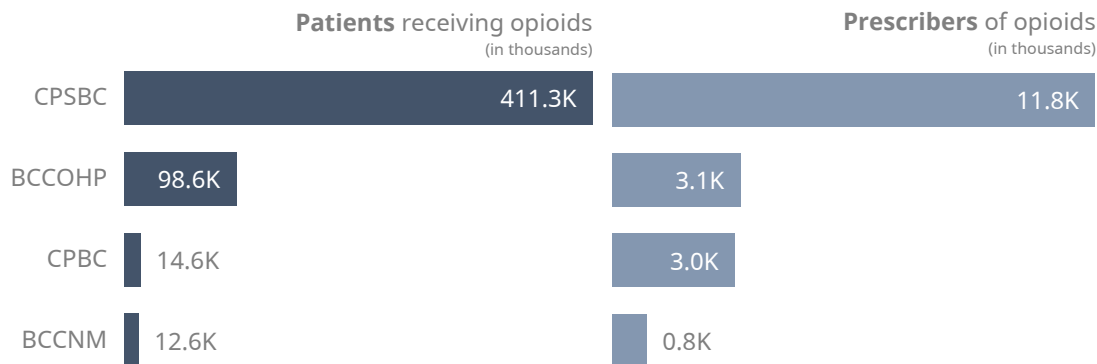
...**9%** of people¹⁹ in B.C. received at least one dispense for an opioid

...**67%** of all prescribers prescribed at least one opioid

...**3%** of all dispenses for prescription drugs²⁰ in B.C. were opioids

...**96%** of pharmacies in B.C. dispensed at least one opioid

Opioid utilization by prescriber regulatory college (2023)



Patients are counted once in each category if they received at least one dispense of opioids prescribed by a member of the corresponding regulatory college. Note that patients may be counted in multiple categories.

* Naturopathic physicians did not have legal authority to prescribe opioids in 2023.

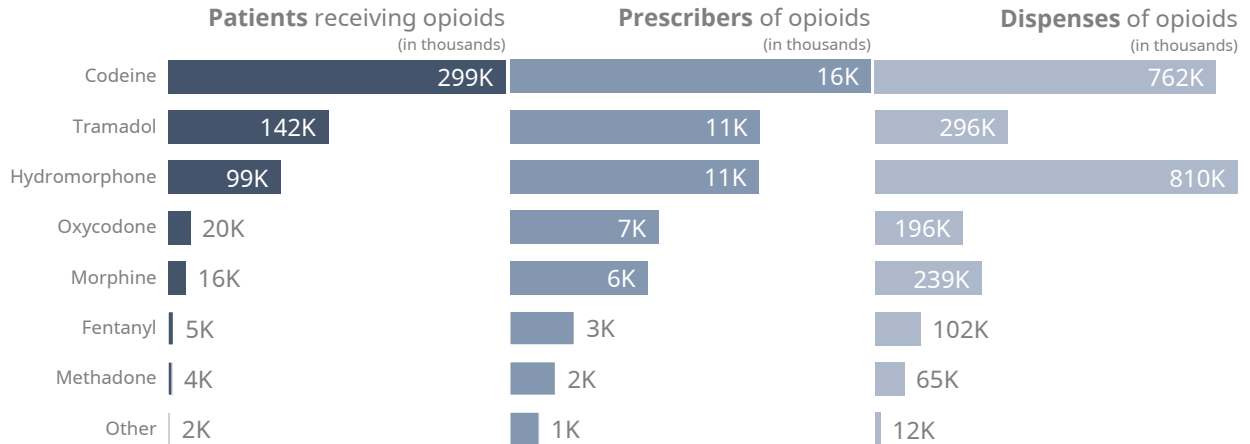
Figure 1. Number of patients receiving opioids in 2023 and number of associated prescribers, by regulatory college.

¹⁹ Percentage calculated as the ratio of the number of patients to the B.C. population. Patients may be from out of province. Population is based on 2021 Census of Population. See [Data Source section](#) for details.

²⁰ Some exclusions apply: drugs dispensed through the BC Cancer Agency (e.g., oncology medications such as chemotherapy drugs), the BC Transplant Society, the BC Renal Agency, the BC Centre for Excellence in HIV/AIDS, or through special programs administered by PHSA (e.g., expensive drugs for rare diseases; the Provincial Retinal Diseases Treatment Program); vaccines; and claims submitted manually to PharmaNet. Note that PharmaNet also captures dispenses for some over-the-counter medications, medical devices and supplies.

Drug Use – Opioids

Opioid utilization by main active ingredient (2023)



Patients (prescribers) can receive (prescribe) multiple opioids within the year and may therefore be counted in multiple categories. See [Table 1](#) for a list of opioids included in this Atlas.

Figure 2. Opioid utilization in 2023, by main active ingredient.

Patient distribution by age and sex (2023)

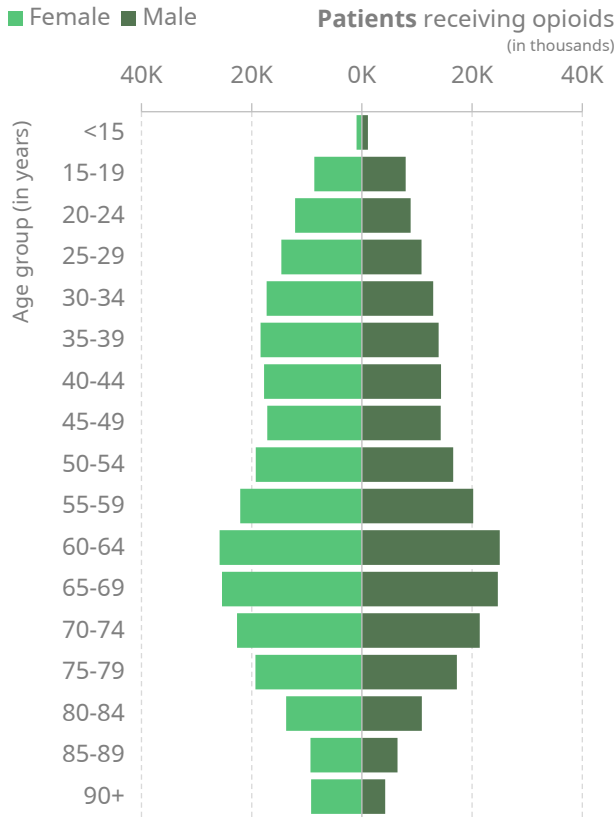


Figure 3. Number of patients receiving opioids in 2023, by patient age and sex.

Drug Use – Opioids

Patient distribution by daily dose (2023)

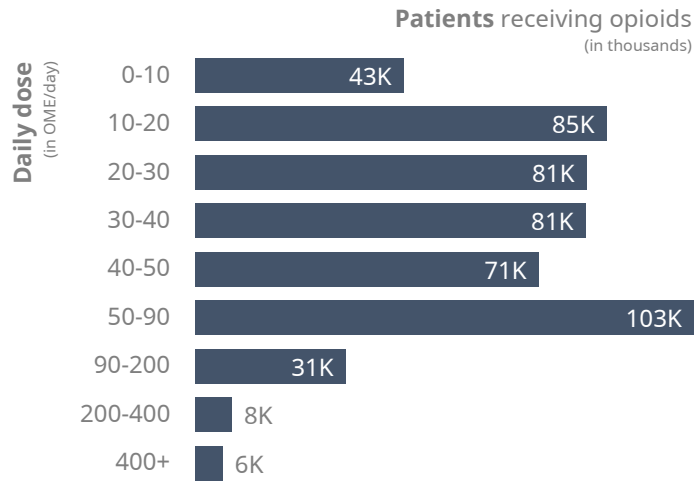


Figure 4. Number of patients receiving opioids in 2023, by average daily dose.

Trends

Trend in opioid utilization

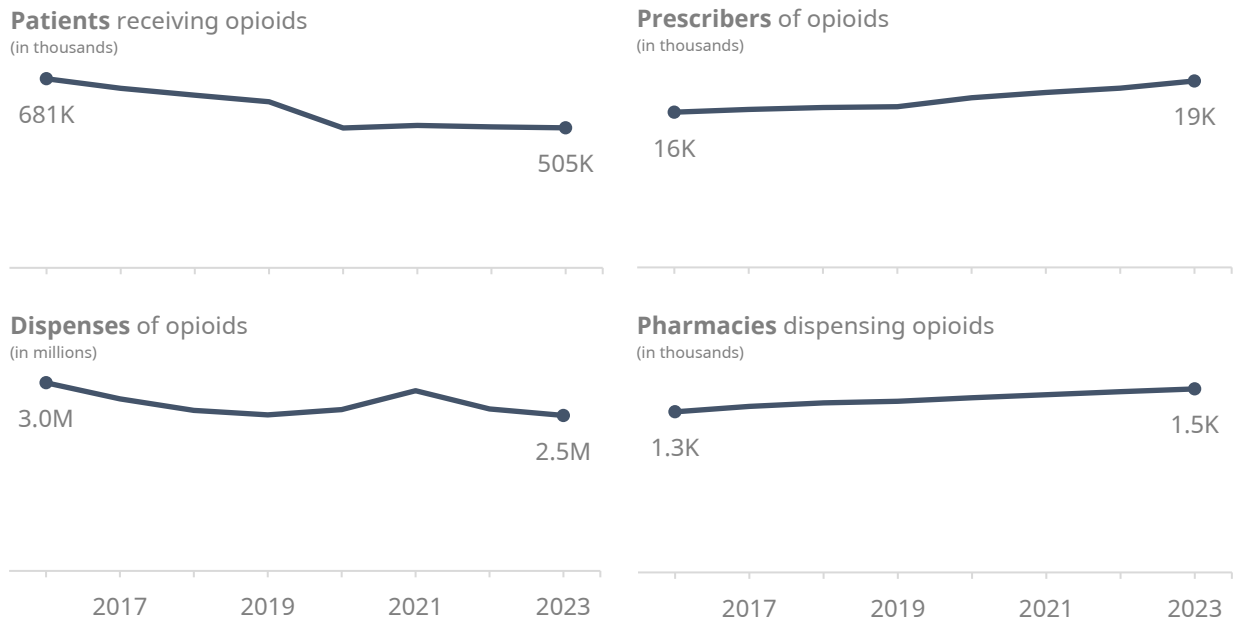
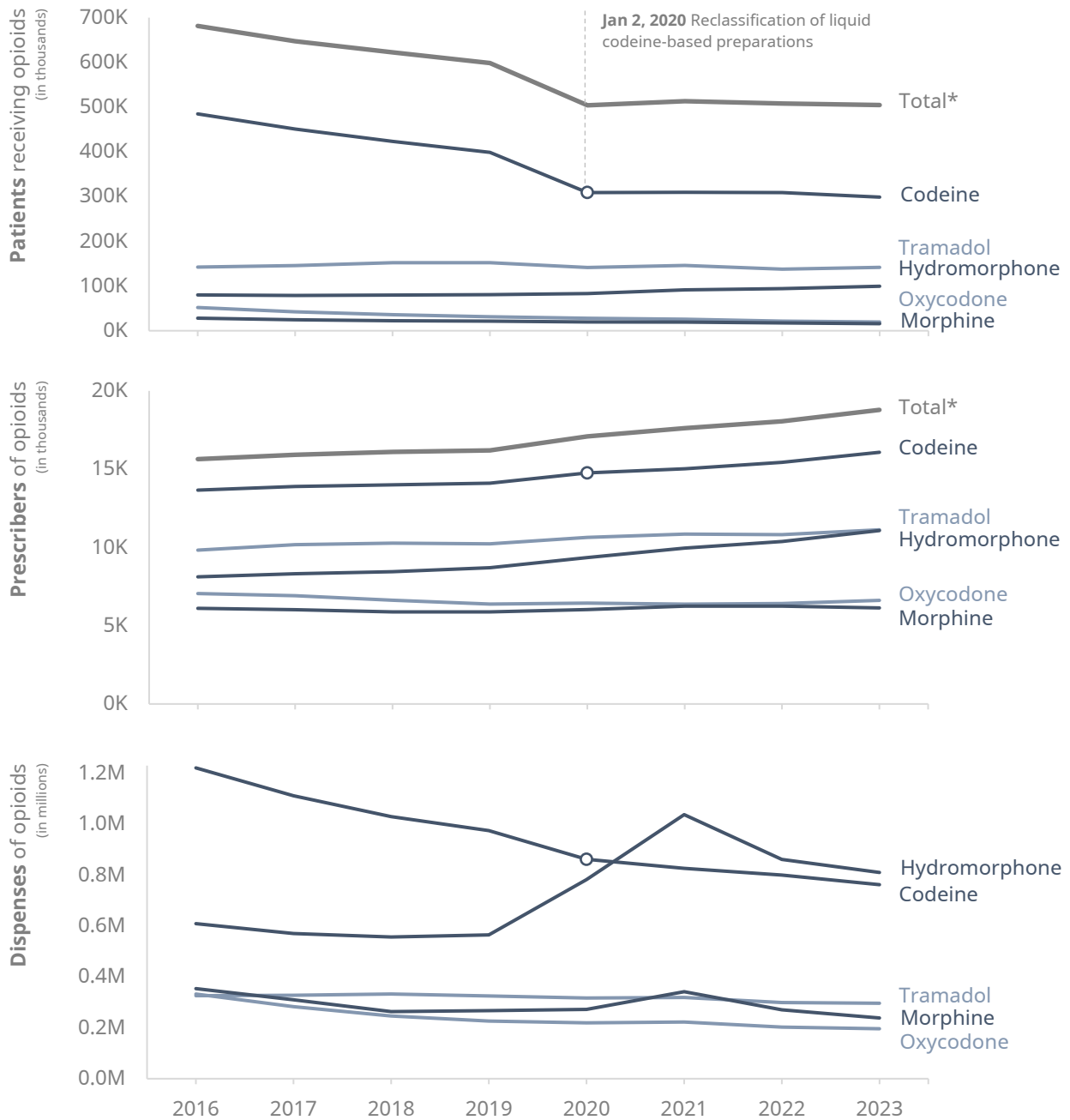


Figure 5. Trend in opioid utilization between 2016 and 2023.

Drug Use – Opioids

Trend in opioid utilization by main active ingredient



Trends for the top 5 main active ingredients, based on number of patients who received opioids in 2023.

Other opioids prescribed to less than 1% of the patients receiving opioids in 2023 are not shown in this figure. See [Table 1](#) for a list of opioids included in this Atlas.

Patients (prescribers) can receive (prescribe) multiple opioids within the year and may be counted in multiple categories.

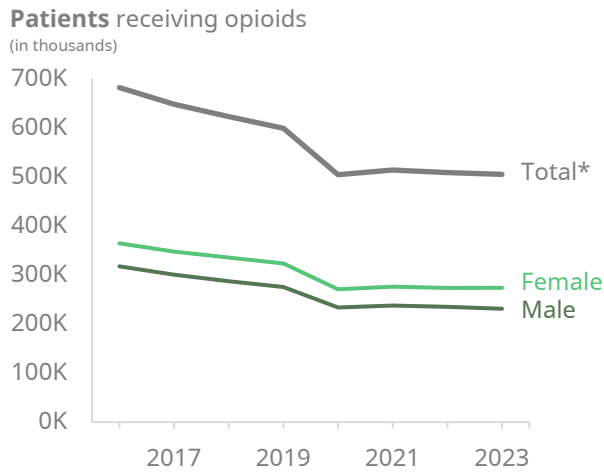
* Total patients and prescribers are based on all opioid dispenses.

Figure 6. Trend in opioid utilization between 2016 and 2023, by main active ingredient. The colours are to help differentiate the lines.

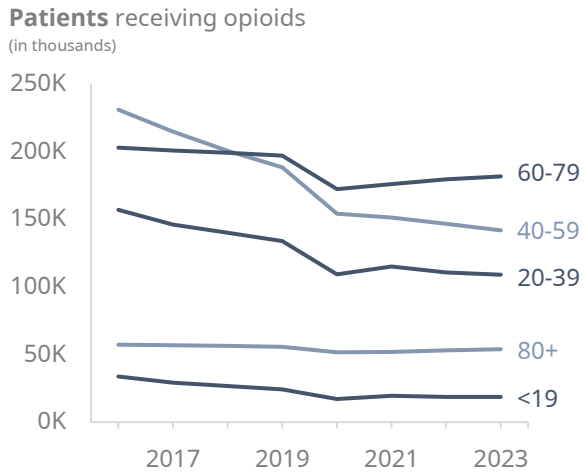
Drug Use – Opioids

Trend in opioid utilization

By patient sex



By patient age

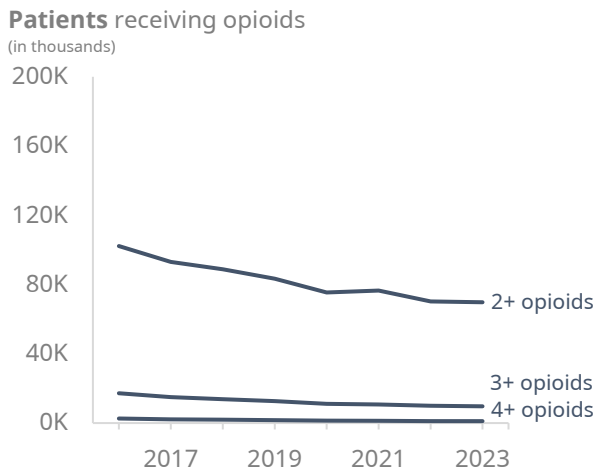


* Total includes patients with unknown sex.

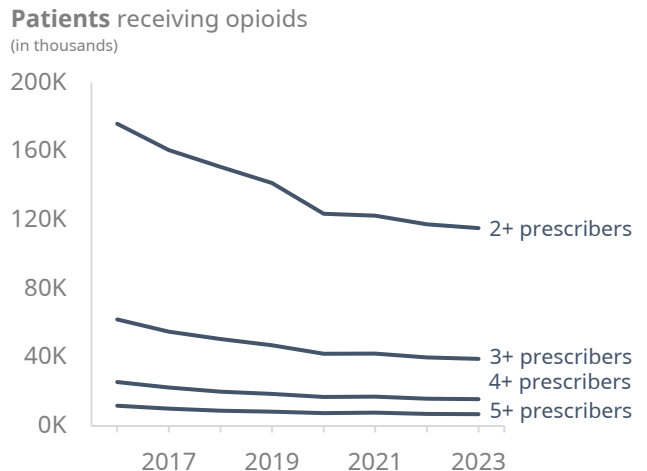
Figure 7. Trend in number of patients receiving opioids between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

Trend in opioid utilization

By number of main active ingredients



By number of prescribers



Number of patients who received at least two opioid dispenses within the year with different main active ingredients. See [Table 1](#) for a list of opioids included in this Atlas.

Number of patients who received at least two opioid dispenses within the year, prescribed by different practitioners.

Figure 8. Trend in number of patients receiving opioids between 2016 and 2023, by number of main active ingredients (*left*) and by number of prescribers (*right*).

Drug Use – Opioids

Trend in opioid daily dose

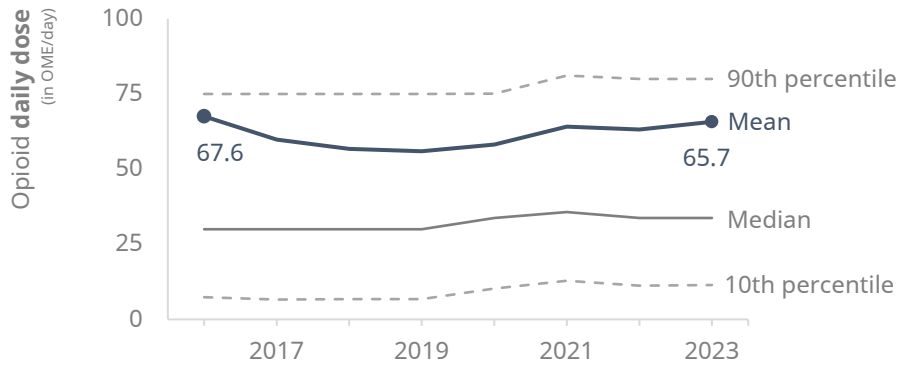
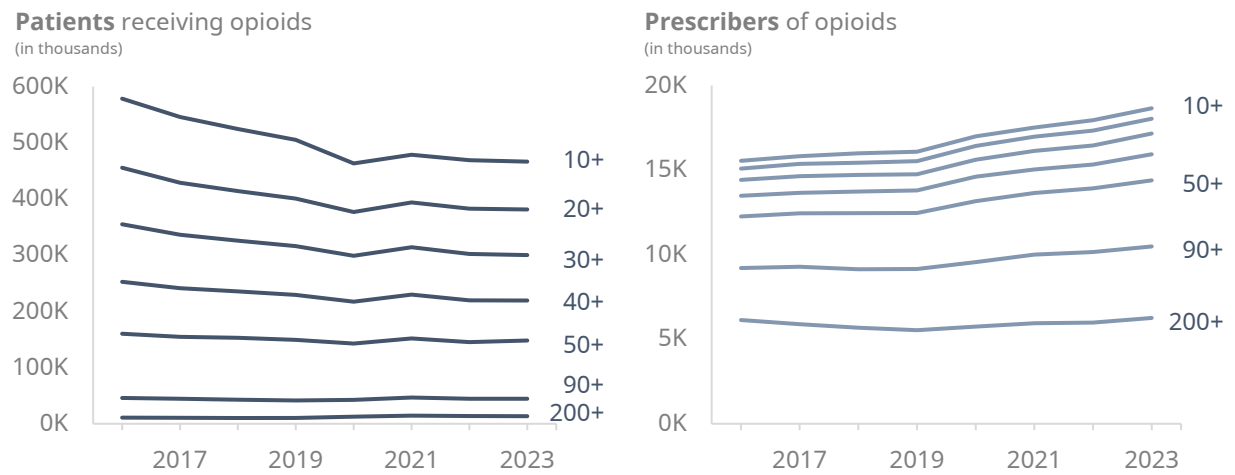


Figure 9. Trend in opioid daily dose between 2016 and 2023.

Trend in opioid utilization by daily dose ^{*}



^{*} Daily doses (in OME/day) are calculated based on all days supply in the year, which may correspond to multiple dispenses and therefore multiple prescribers.

Figure 10. Trend in number of patients receiving opioids (*left*) and the associated prescribers (*right*) between 2016 and 2023, by average daily dose.

Drug Use – Opioids

Geographical Distribution

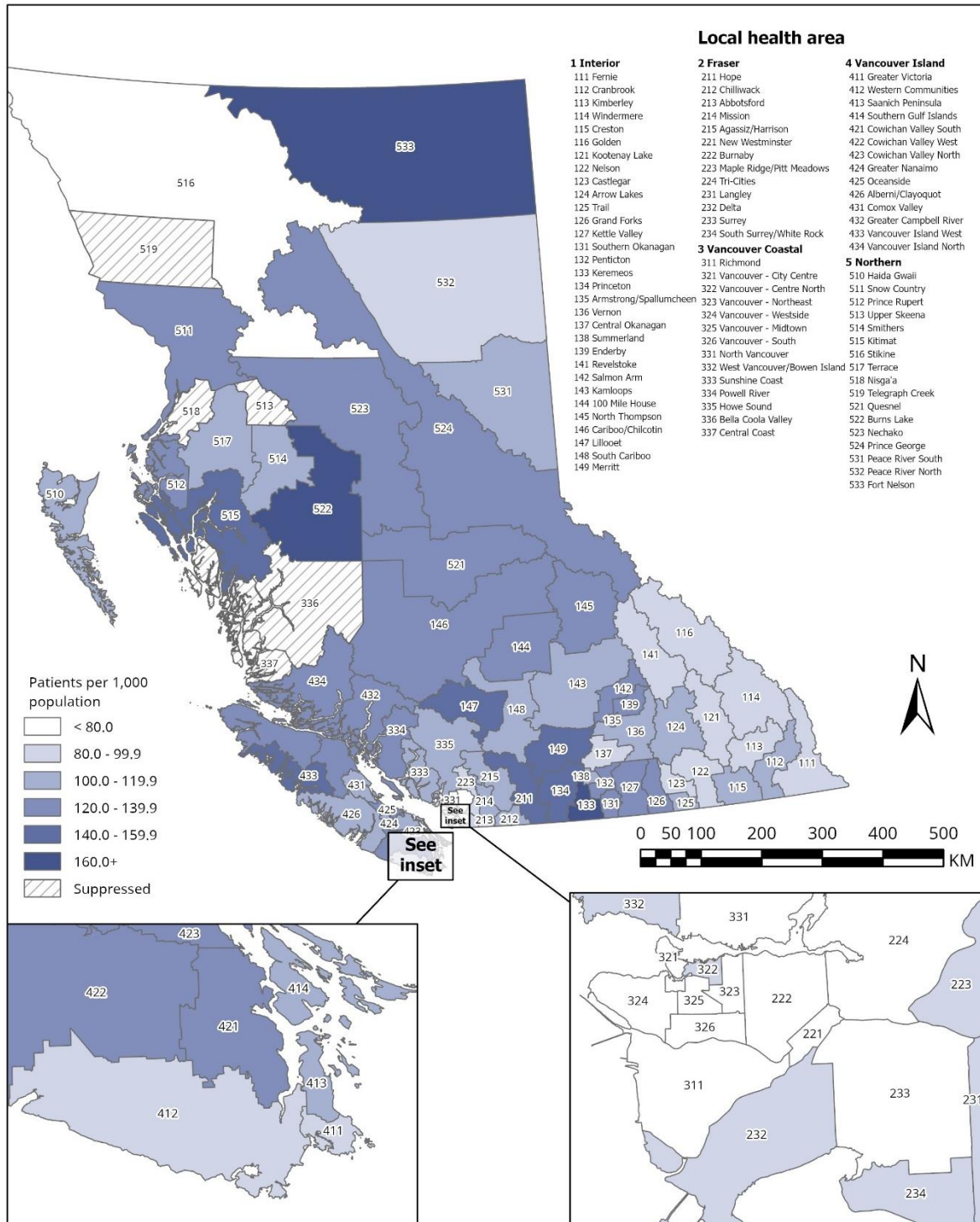


Figure 11. Patients receiving opioids per 1,000 population in 2023, by local health area. Data suppressed in compliance with the [First Nations principles of OCAP®](#).

Drug Use – Opioids

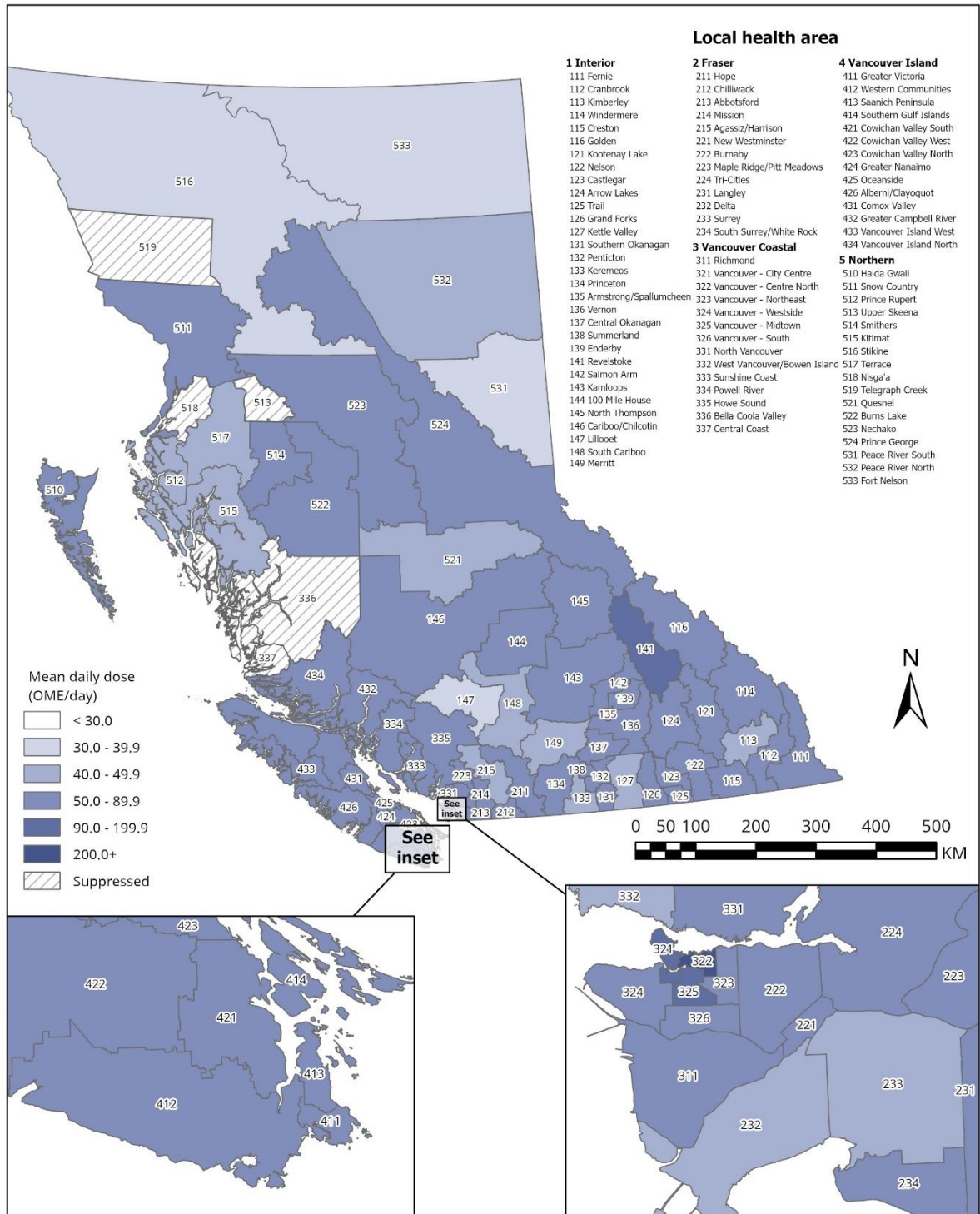


Figure 12. Opioid mean daily dose (in OME/day) in 2023, by local health area. Data suppressed in compliance with the [First Nations principles of OCAP®](#).

Drug Use – Opioids

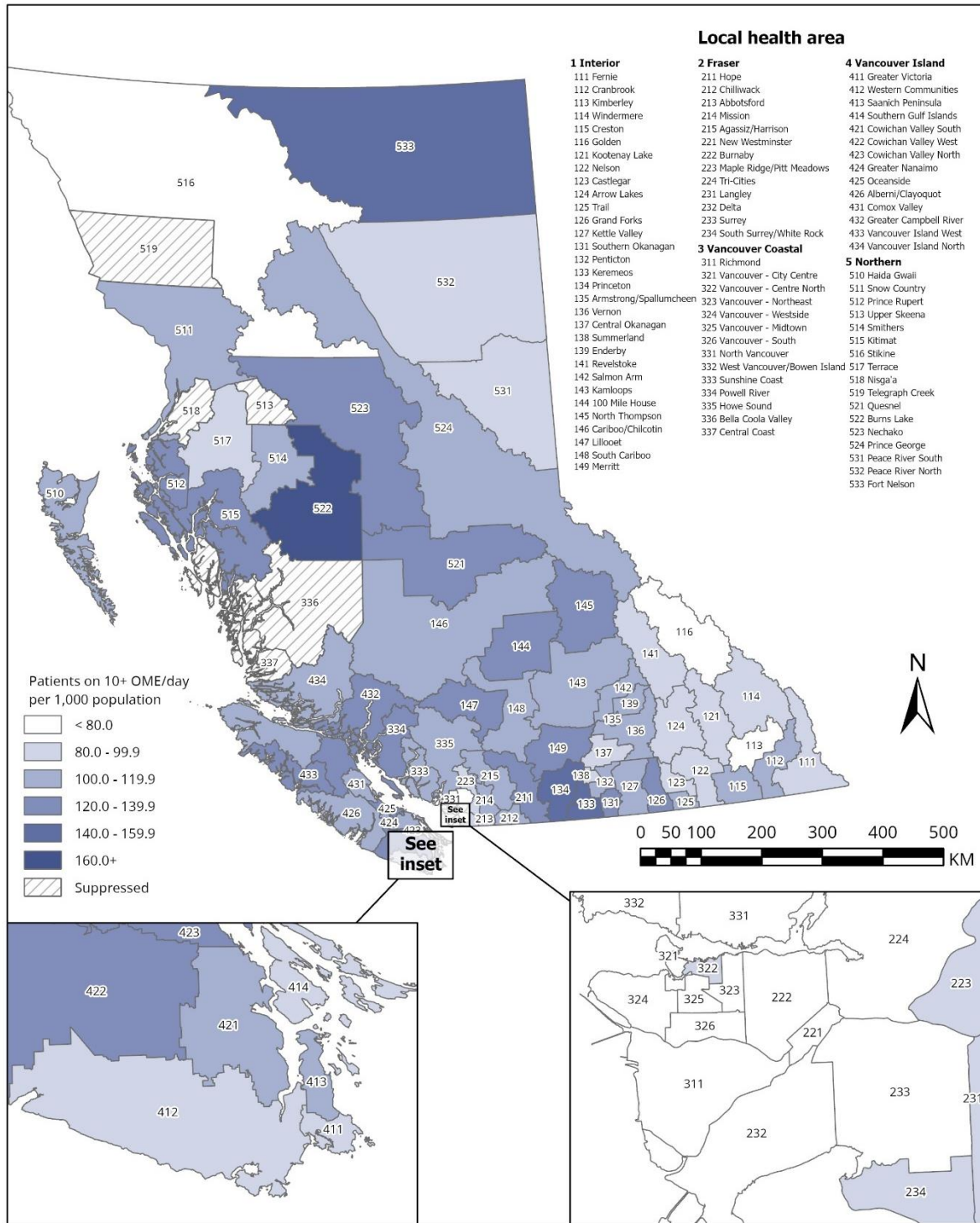


Figure 13. Patients receiving 10+ OME per day per 1,000 population in 2023, by local health area. Data suppressed in compliance with the [First Nations principles of OCAP®](#).

Drug Use – Opioids

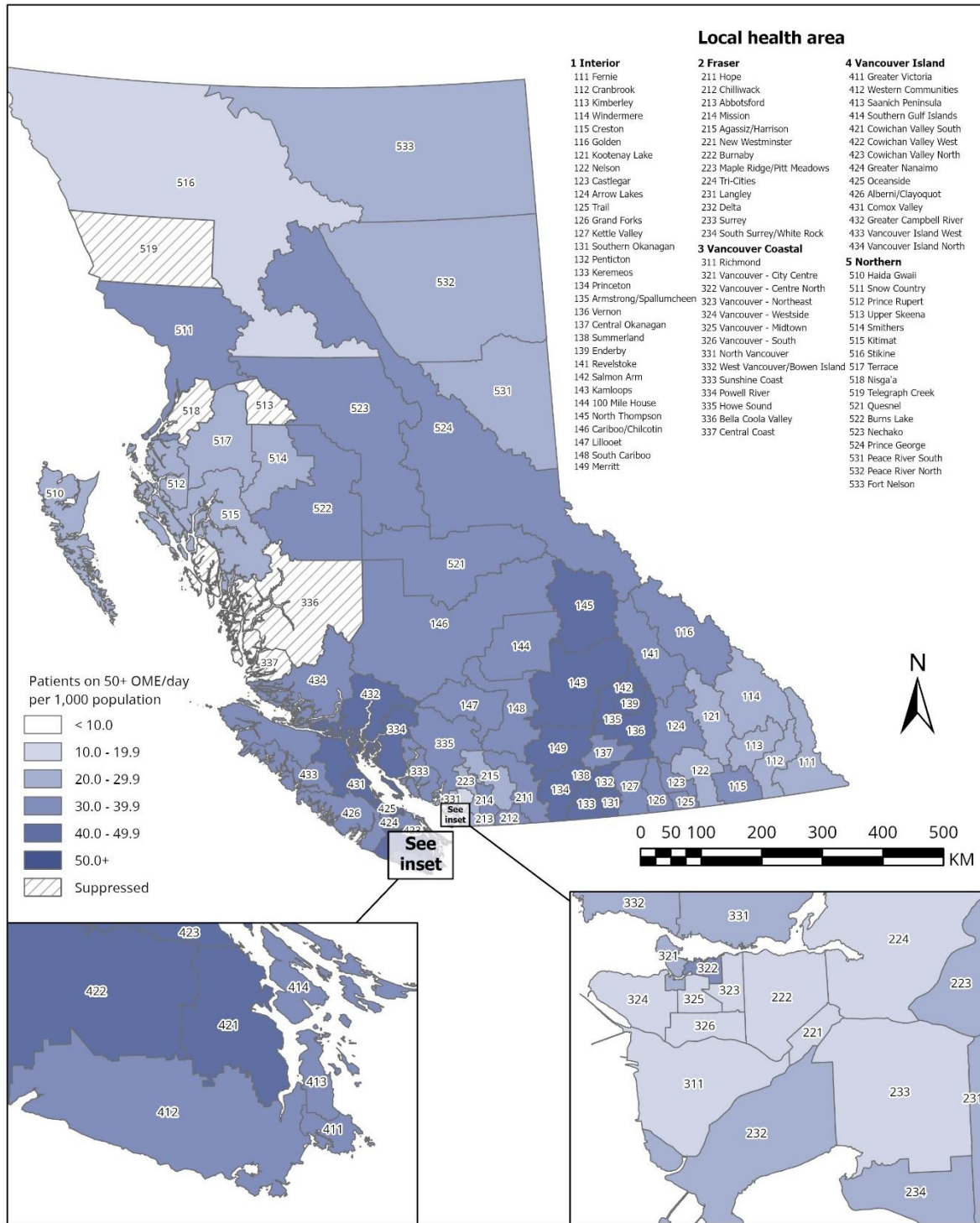


Figure 14. Patients receiving 50+ OME per day per 1,000 population in 2023, by local health area. Data suppressed in compliance with the [First Nations principles of OCAP®](#).

Drug Use – Opioids

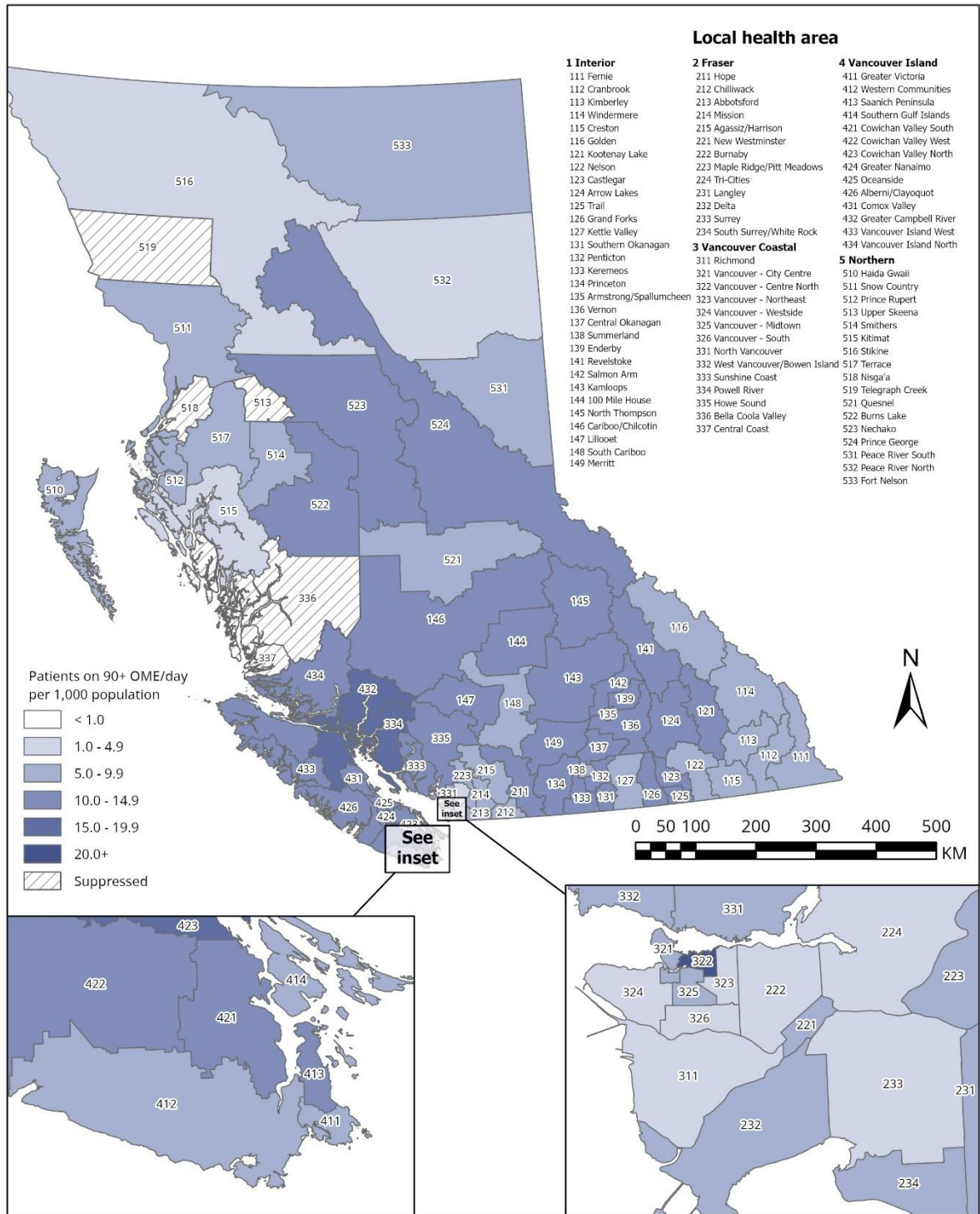


Figure 15. Patients receiving 90+ OME per day per 1,000 population in 2023, by local health area. Data suppressed in compliance with the [First Nations principles of OCAP®](#).

Drug Use – Opioids

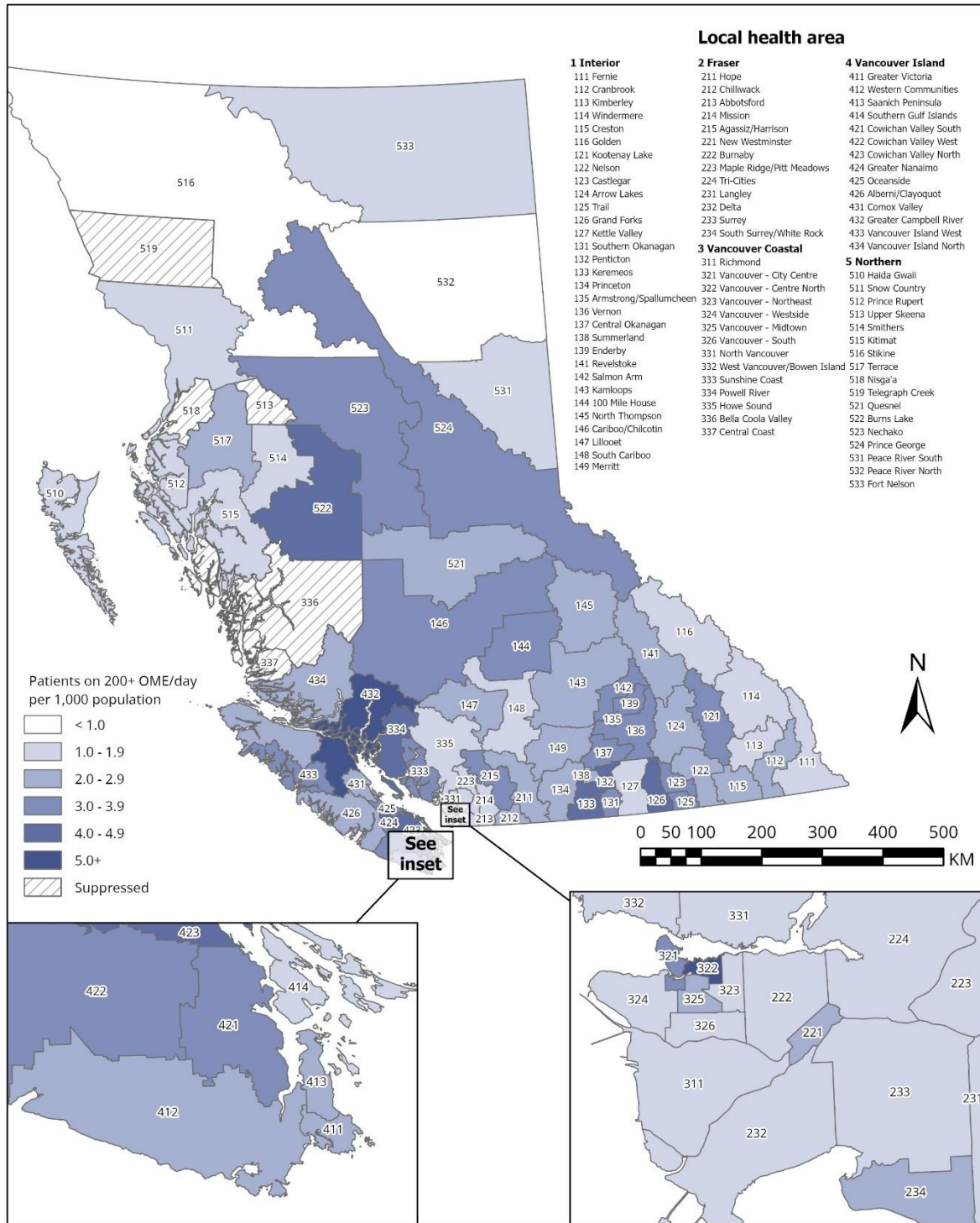
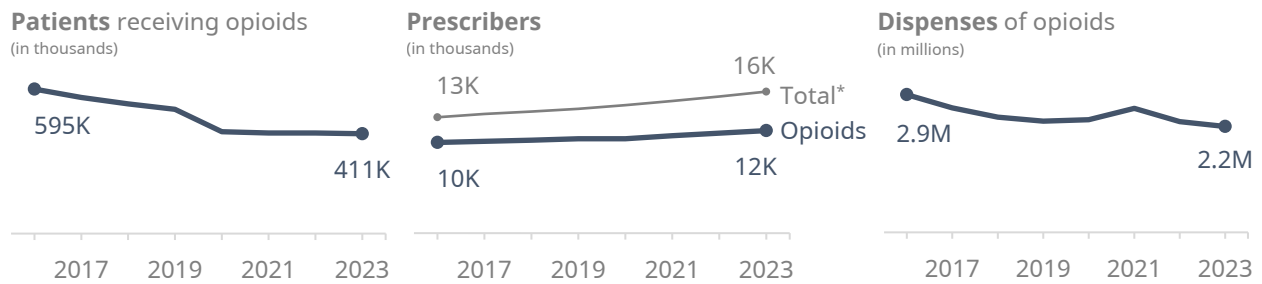


Figure 16. Patients receiving 200+ OME per day per 1,000 population in 2023, by local health area. Data suppressed in compliance with the [First Nations principles of OCAP®](#).

College of Physicians and Surgeons of BC

The [College of Physicians and Surgeons of BC](#) (CPSBC) is the regulatory body for physicians and podiatric surgeons in B.C. Physicians can prescribe all classes of drugs. Podiatrists can prescribe all classes of drugs, except Schedule 1A drugs under the [BC Drug Schedules Regulation](#) to the *Pharmacy Operations and Drug Scheduling Act*. Therefore, of the opioids included in this Atlas, podiatrists can only prescribe tramadol and codeine preparations that do not require a [Controlled Prescription Program](#) duplicate prescription form.

Trend in opioid utilization (CPSBC)



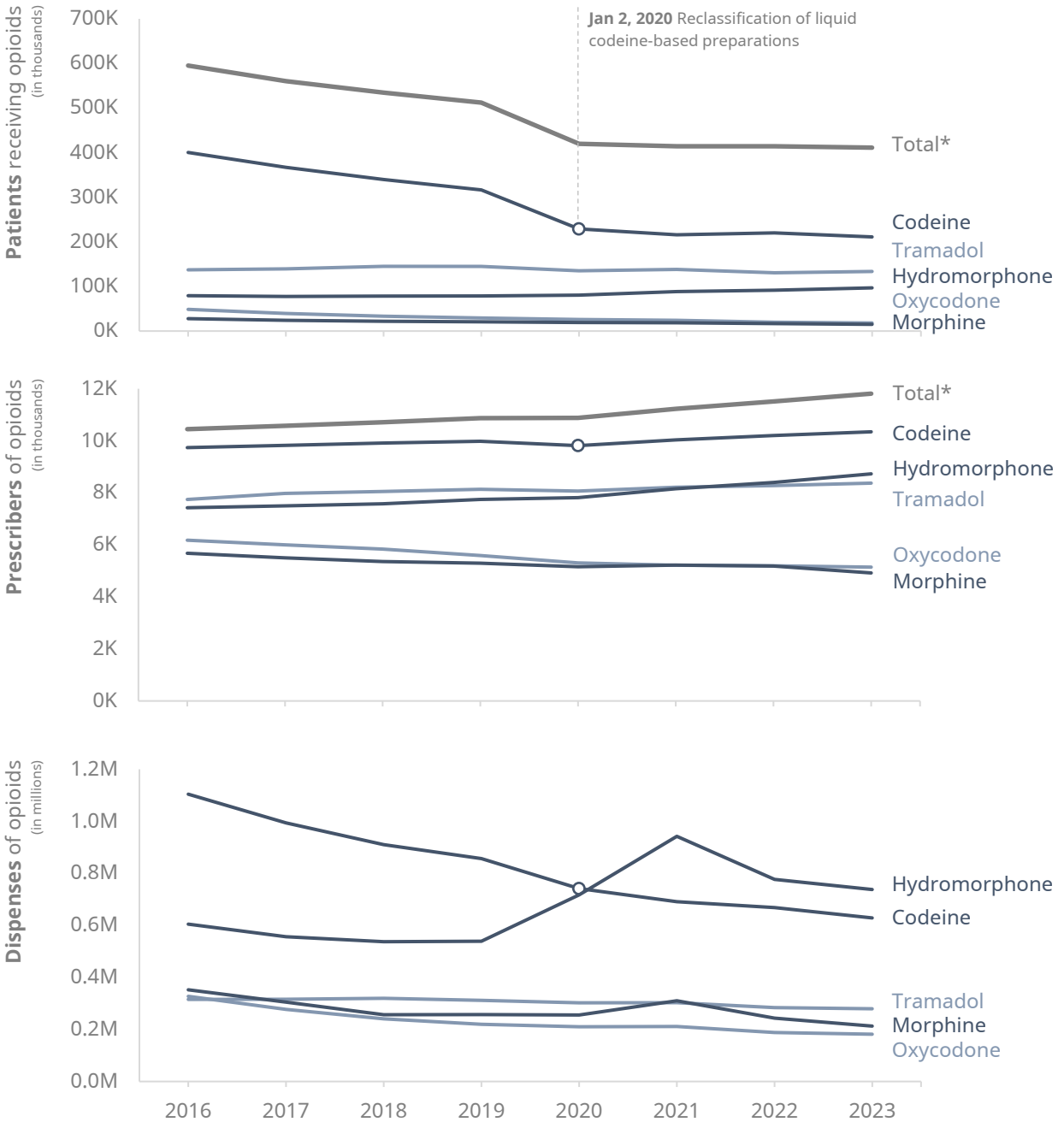
Based on opioids prescribed by CPSBC registrants.

* Total includes all CPSBC registrants who wrote at least one prescription for any drug dispensed at a community pharmacy in B.C. at any time of the year. This number may include locums and registrants who are no longer active by the end of the year.

Figure 17. Trend in opioid utilization between 2016 and 2023, based on opioids prescribed by registrants of CPSBC.

Drug Use – Opioids – CPSBC

Trend in opioid utilization by main active ingredient (CPSBC)



Trends for the top 5 main active ingredients, based on number of patients in 2023 who received opioids prescribed by CPSBC registrants. Other opioids prescribed by CPSBC registrants to less than 2% of the patients receiving opioids in 2023 are not shown in this figure. See [Table 1](#) for a list of opioids included in this Atlas.

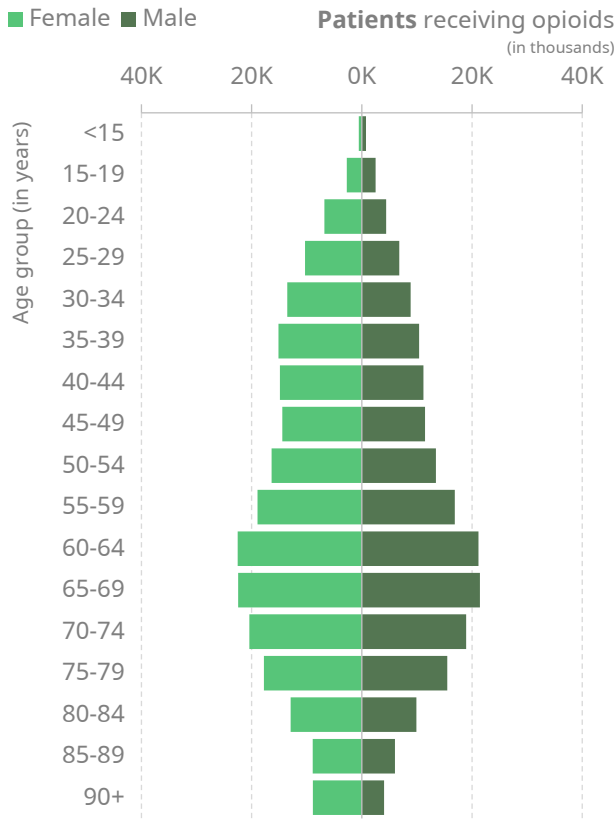
Patients (prescribers) can receive (prescribe) multiple opioids within the year and may be counted in multiple categories.

* Total patients and prescribers are based on all opioids prescribed by CPSBC registrants.

Figure 18. Trend in opioid utilization between 2016 and 2023, by main active ingredient, based on opioids prescribed by registrants of CPSBC. The colours are to help differentiate the lines.

Drug Use – Opioids – CPSBC

Patient distribution by age and sex (CPSBC, 2023)



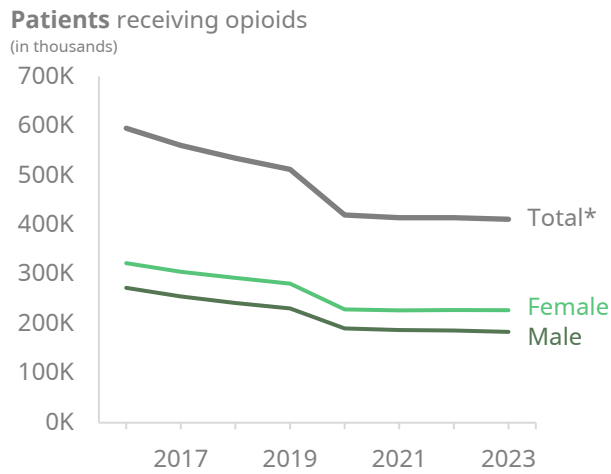
Based on opioids prescribed by CPSBC registrants.

Figure 19. Number of patients receiving opioids prescribed by registrants of CPSBC in 2023, by patient age and sex.

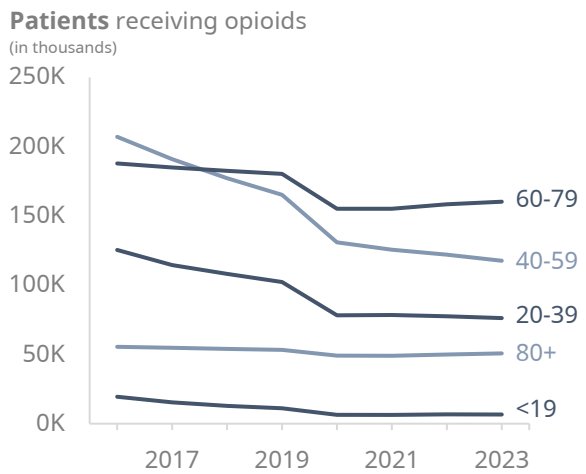
Drug Use – Opioids – CPSBC

Trend in opioid utilization (CPSBC)

By patient sex



By patient age



Based on opioids prescribed by CPSBC registrants.

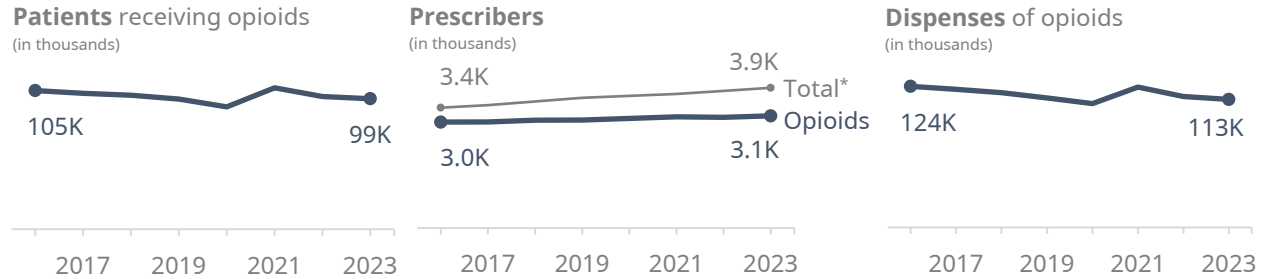
* Total includes patients with unknown sex.

Figure 20. Trend in number of patients receiving opioids prescribed by registrants of CPSBC between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

BC College of Oral Health Professionals

The [BC College of Oral Health Professionals](#) (BCCOHP) is the regulatory body for dentists, dental hygienists, dental therapists, dental technicians, denturists, and certified dental assistants in B.C. Only dentists can prescribe opioid drugs specified in Schedule I, IA and II of the [BC Drug Schedules Regulation](#) to the *Pharmacy Operations and Drug Scheduling Act*.

Trend in opioid utilization (BCCOHP)



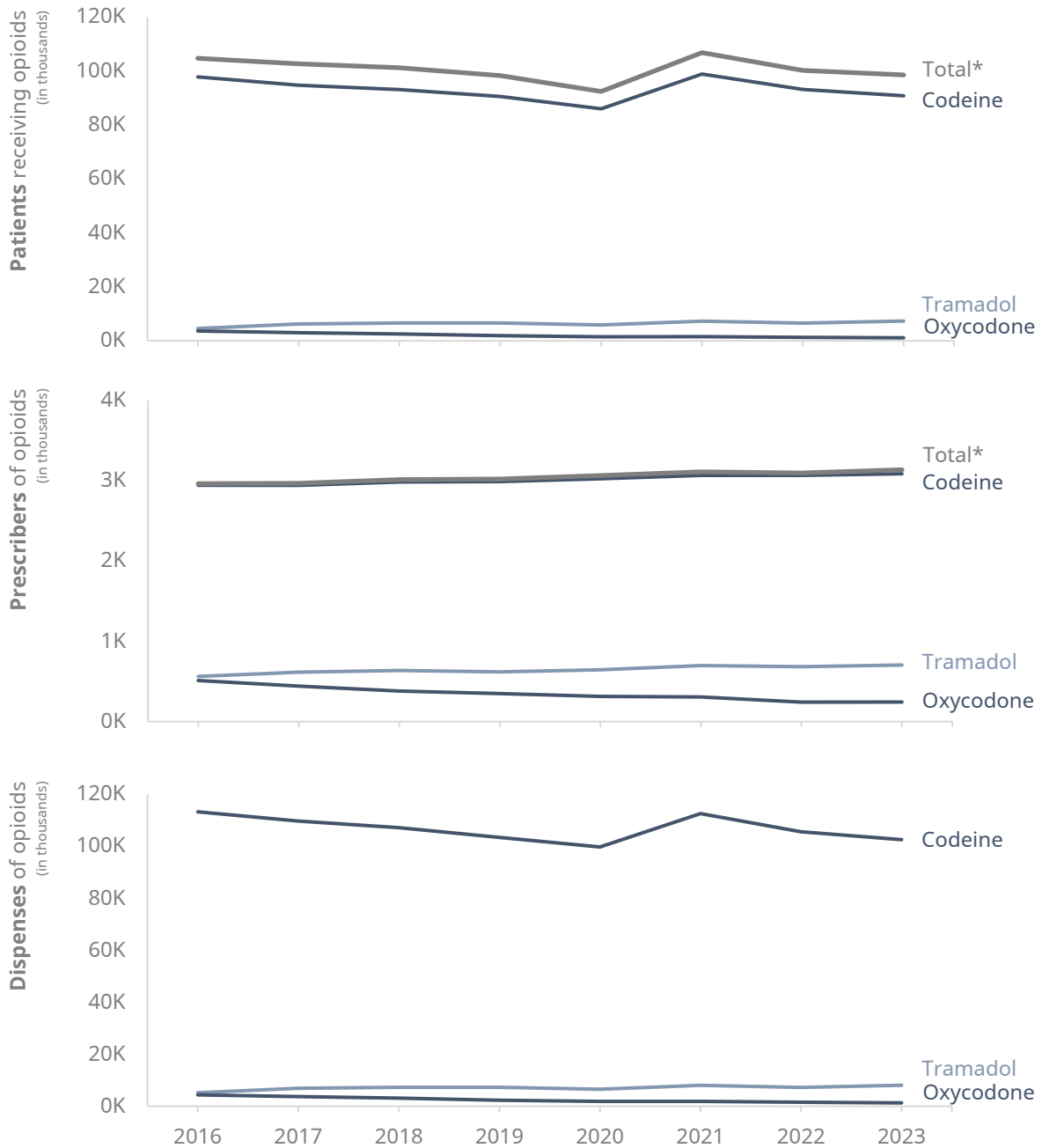
Based on opioids prescribed by dentists.

* Total includes all dentists who wrote at least one prescription for any drug dispensed at a community pharmacy in B.C. at any time of the year. This number may include dentists who are no longer active by the end of the year.

Figure 21. Trend in opioid utilization between 2016 and 2023, based on opioids prescribed by registrants of BCCOHP.

Drug Use – Opioids – BCCOHP

Trend in opioid utilization by main active ingredient (BCCOHP)



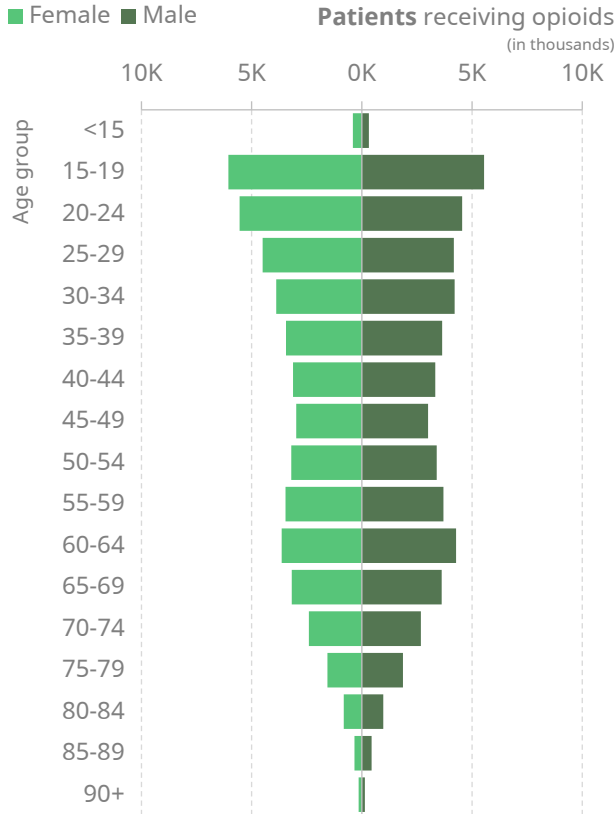
Trends for the top 3 main active ingredients, based on number of patients in 2023 who received opioids prescribed by dentists. Other opioids prescribed by dentists to less than 1% of the patients receiving opioids in 2023 are not shown in this figure. See [Table 1](#) for a list of opioids included in this Atlas.

Patients (prescribers) can receive (prescribe) multiple opioids within the year and may be counted in multiple categories.

* Total patients and prescribers are based on all opioids prescribed by dentists.

Figure 22. Trend in opioid utilization between 2016 and 2023, by main active ingredient, based on opioids prescribed by registrants of BCCOHP. The colours are to help differentiate the lines.

Patient distribution by age and sex (BCCOHP, 2023)

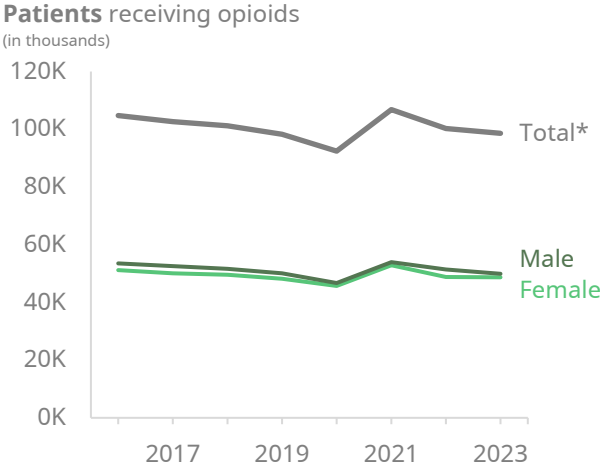


Based on opioids prescribed by dentists.

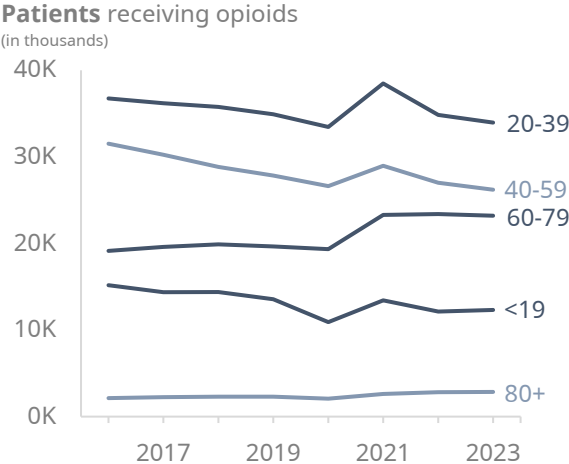
Figure 23. Number of patients receiving opioids prescribed by registrants of BCCOHP in 2023, by patient age and sex.

Trend in opioid utilization (BCCOHP)

By patient sex



By patient age



Based on opioids prescribed by dentists.
* Total includes patients with unknown sex.

Figure 24. Trend in number of patients receiving opioids prescribed by registrants of BCCOHP between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

College of Pharmacists of BC

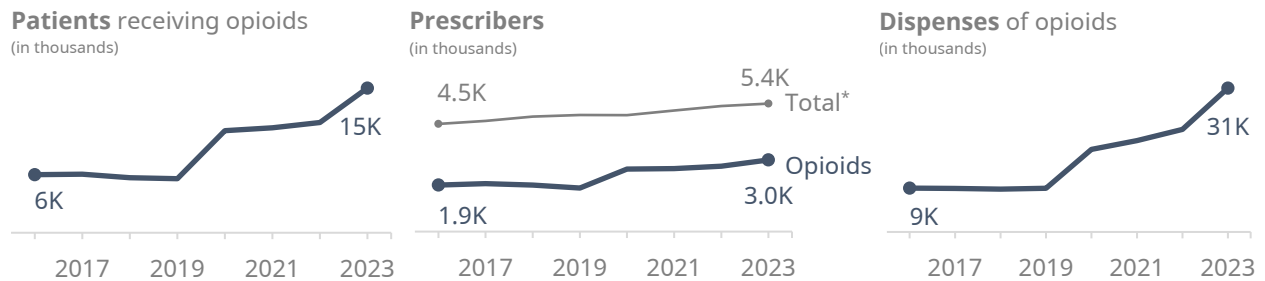
The [College of Pharmacists of BC](#) (CPBC) is the regulatory body for pharmacists and pharmacy technicians in B.C.

Pharmacists do not have legal authority to prescribe or change opioid prescriptions. However, under exceptional circumstances, pharmacists may exercise professional judgement to provide an emergency supply of a prescription drug for continuity of care. This applies to all prescription drugs, including opioids.

Effective October 14, 2022, pharmacists may renew opioid prescriptions if permitted under a [section 56 exemption to the *Controlled Drugs and Substances Act*](#).

When providing emergency supplies or renewing prescriptions, pharmacists must record this dispense in PharmaNet and enter their registration number in the “prescriber ID” field. Therefore, pharmacists appear as “prescribers” in PharmaNet despite not issuing any new opioid prescriptions.

Trend in opioid utilization (CPBC)



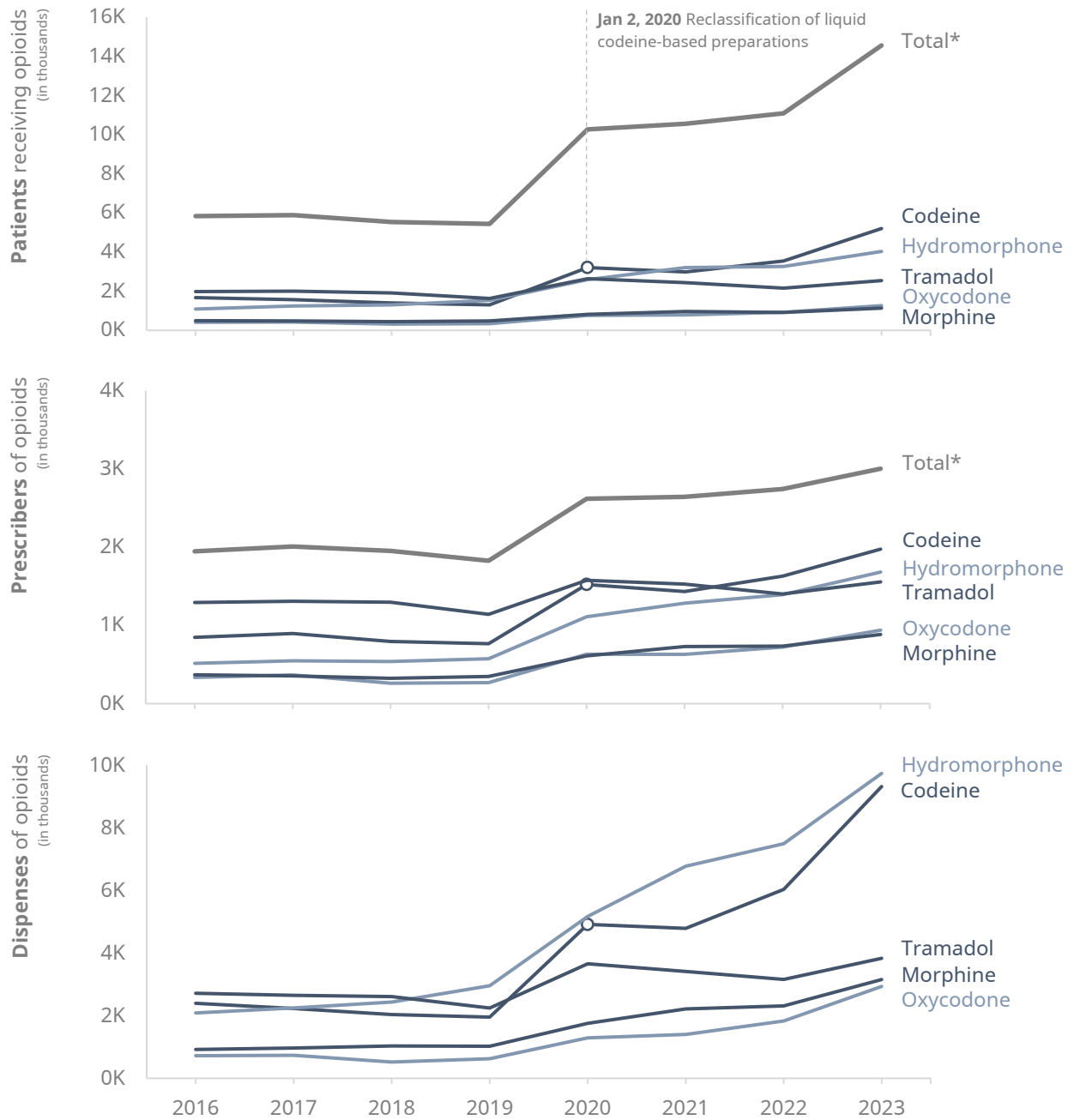
Based on opioids prescribed by pharmacists.

* Total includes all pharmacists who wrote at least one prescription for any drug dispensed at a community pharmacy in B.C. at any time of the year. This number may include pharmacists who are no longer active by the end of the year.

Figure 25. Trend in opioid utilization between 2016 and 2023, based on opioids prescribed by registrants of CPBC.

Drug Use – Opioids – CPBC

Trend in opioid utilization by main active ingredient (CPBC)



Trends for the top 5 main active ingredients, based on number of patients in 2023 who received opioids prescribed by pharmacists. Other opioids prescribed by pharmacists to less than 4% of the patients receiving opioids in 2023 are not shown in this figure. See [Table 1](#) for a list of opioids included in this Atlas.

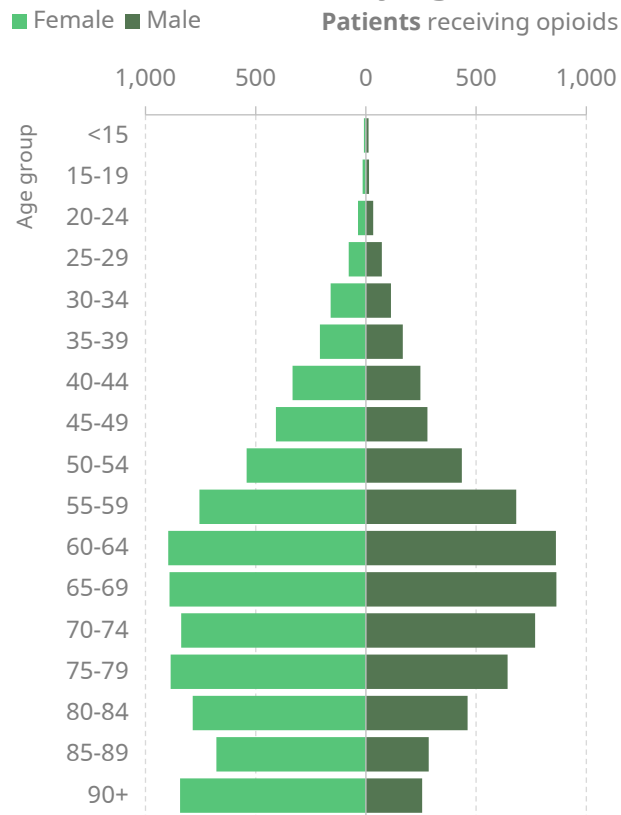
Patients (prescribers) can receive (prescribe) multiple opioids within the year and may be counted in multiple categories.

* Total patients and prescribers are based on all opioids prescribed by pharmacists.

Figure 26. Trend in opioid utilization between 2016 and 2023, by main active ingredient, based on opioids prescribed by registrants of CPBC. The colours are to help differentiate the lines.

Drug Use – Opioids – CPBC

Patient distribution by age and sex (CPBC, 2023)



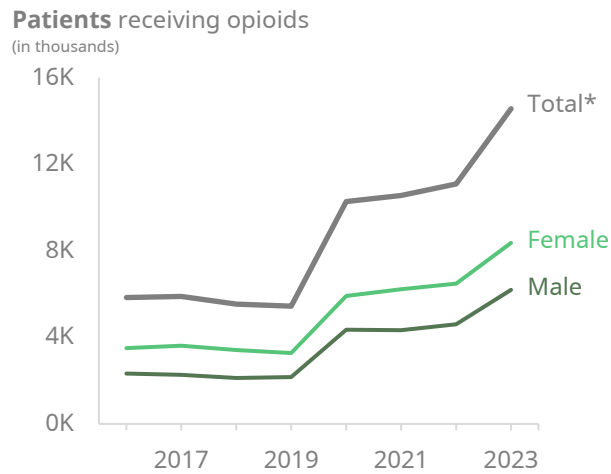
Based on opioids prescribed by pharmacists.

Figure 27. Number of patients receiving opioids prescribed by registrants of CPBC in 2023, by patient age and sex.

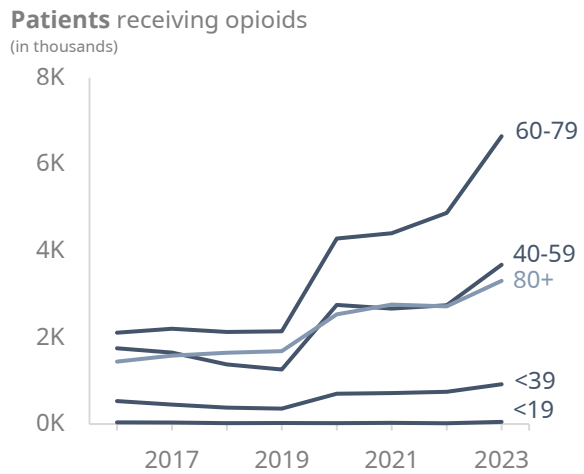
Drug Use – Opioids – CPBC

Trend in opioid utilization (CPBC)

By patient sex



By patient age



Based on opioids prescribed by pharmacists.

* Total includes patients with unknown sex.

Figure 28. Trend in number of patients receiving opioids prescribed by registrants of CPBC between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

BC College of Nurses and Midwives

The [BC College of Nurses and Midwives](#) (BCCNM) regulates all nursing professions in B.C. (licensed practical nurses, nurse practitioners, registered nurses, and registered psychiatric nurses) and midwives.

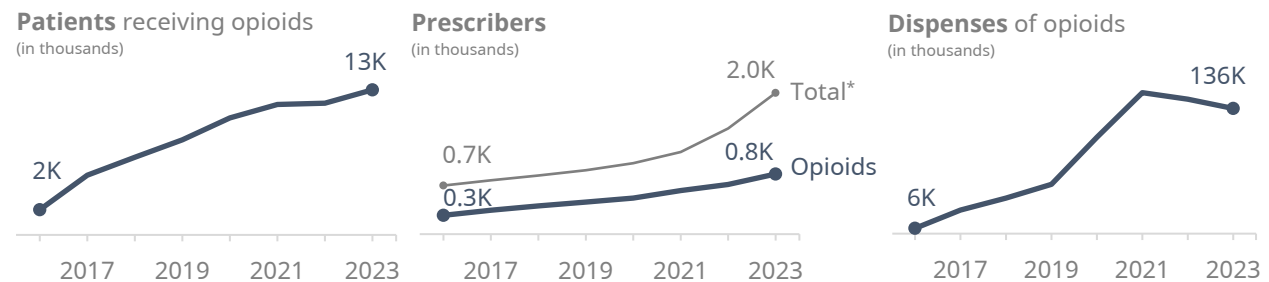
Opioid prescribing by nurses and midwives varies by registrant group and scope of practice, with standards, limits, and conditions on prescribing set by BCCNM.

Nurse practitioners hold broad prescriptive authority and may prescribe most Schedule 1A drugs under the [BC Drug Schedules Regulation](#) to the *Pharmacy Operations and Drug Scheduling Act*, including opioids dispensed as OAT and PA²¹.

Midwives can prescribe opioids for pain relief in out-of-hospital settings for up to 72 hours postpartum. Midwives can not prescribe extended-release opioids²².

Registered nurses and registered psychiatric nurses meeting BCCNM standards, limits, and conditions may prescribe drugs identified by the BC Centre on Substance Use for the treatment of opioid use disorder²³.

Trend in opioid utilization (BCCNM)



Based on opioids prescribed by BCCNM registrants.

* Total includes all BCCNM registrants who wrote at least one prescription for any drug dispensed at a community pharmacy in B.C. at any time of the year. This number may include registrants who are no longer active by the end of the year.

Figure 29. Trend in opioid utilization between 2016 and 2023, based on opioids prescribed by registrants of BCCNM.

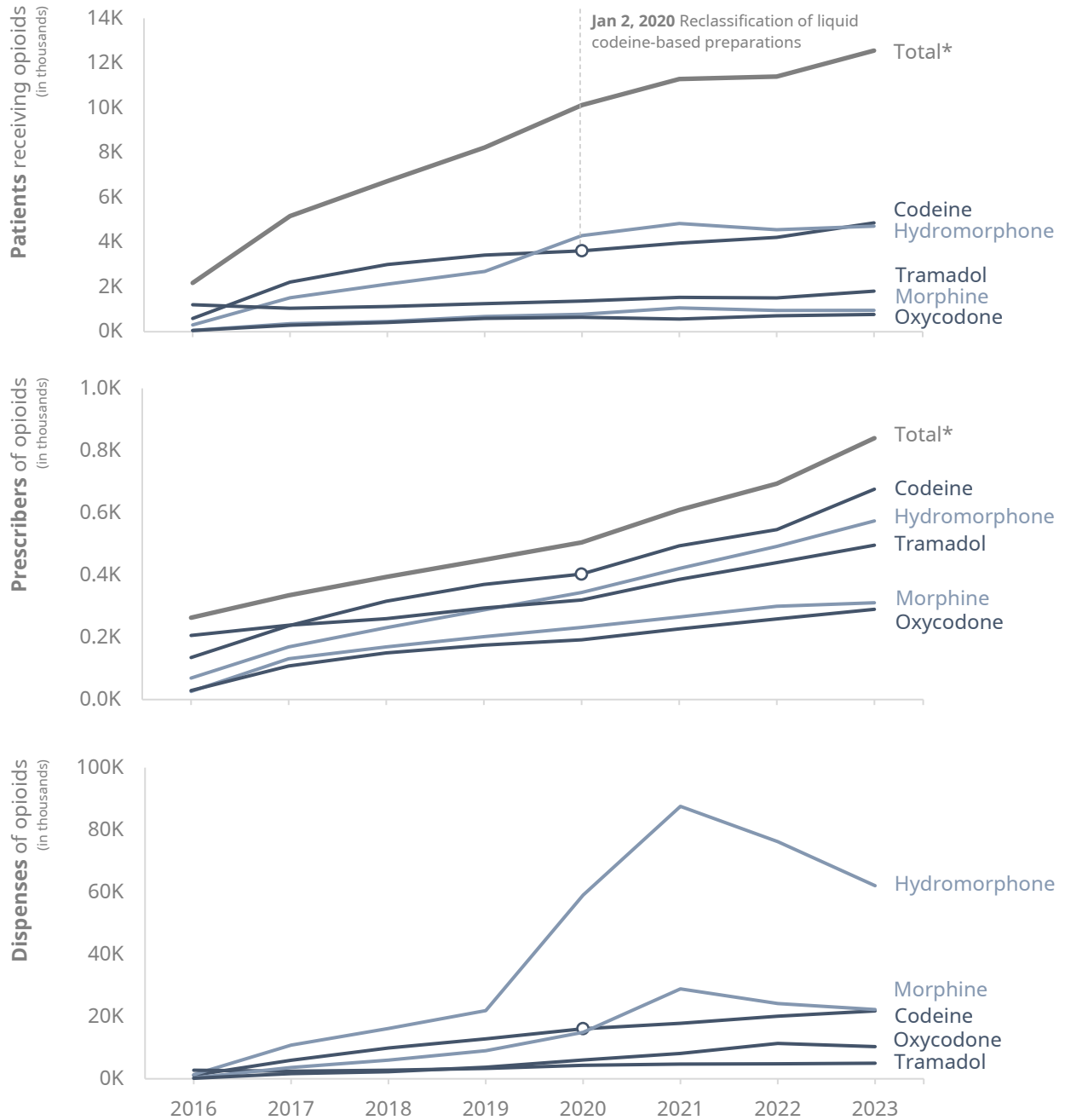
²¹ British Columbia College of Nurses and Midwives (BCCNM). [Scope of Practice for Nurse Practitioners: Standards, Limits and Conditions](#), 2023.

²² British Columbia College of Nurses and Midwives (BCCNM). [Medications and Substances: Standards, Limits, Conditions](#), 2023.

²³ British Columbia College of Nurses and Midwives (BCCNM). [RN and RPN certified practice for opioid use disorder](#), 2023.

Drug Use – Opioids – BCCNM

Trend in opioid utilization by main active ingredient (BCCNM)



Trends for the top 5 main active ingredients, based on number of patients in 2023 who received opioids prescribed by BCCNM registrants. Other opioids prescribed by BCCNM registrants to less than 4% of the patients receiving opioids in 2023 are not shown in this figure. See [Table 1](#) for a list of opioids included in this Atlas.

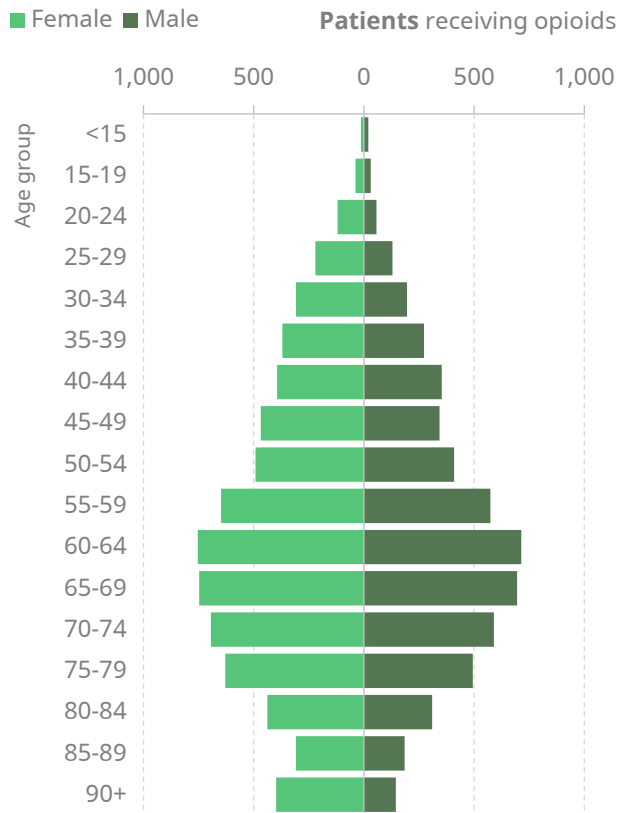
Patients (prescribers) can receive (prescribe) multiple opioids within the year and may be counted in multiple categories.

* Total patients and prescribers are based on all opioids prescribed by BCCNM registrants.

Figure 30. Trend in opioid utilization between 2016 and 2023, by main active ingredient, based on opioids prescribed by registrants of BCCNM. The colours are to help differentiate the lines.

Drug Use – Opioids – BCCNM

Patient distribution by age and sex (BCCNM, 2023)



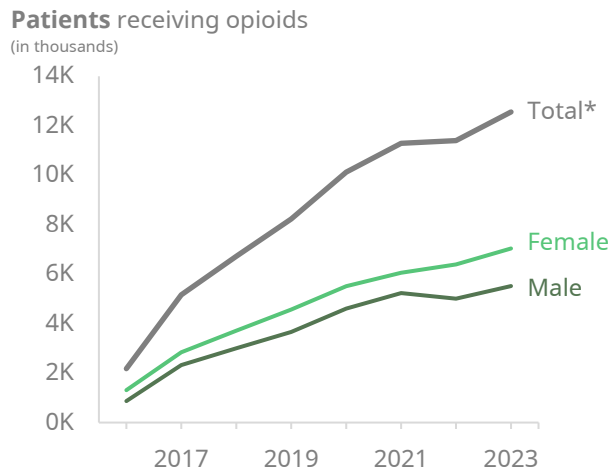
Based on opioids prescribed by BCCNM registrants.

Figure 31. Number of patients receiving opioids prescribed by registrants of BCCNM in 2023, by patient age and sex.

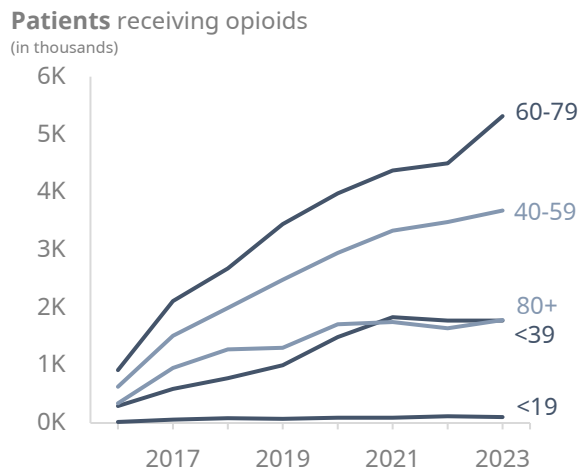
Drug Use – Opioids – BCCNM

Trend in opioid utilization (BCCNM)

By patient sex



By patient age



Based on opioids prescribed by BCCNM registrants.

* Total includes patients with unknown sex.

Figure 32. Trend in number of patients receiving opioids prescribed by registrants of BCCNM between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

Drug Use – Benzodiazepine Receptor Agonists

Overview

In 2023...

...**69%** of people²⁴ in B.C. received at least one dispense for a prescription drug²⁵

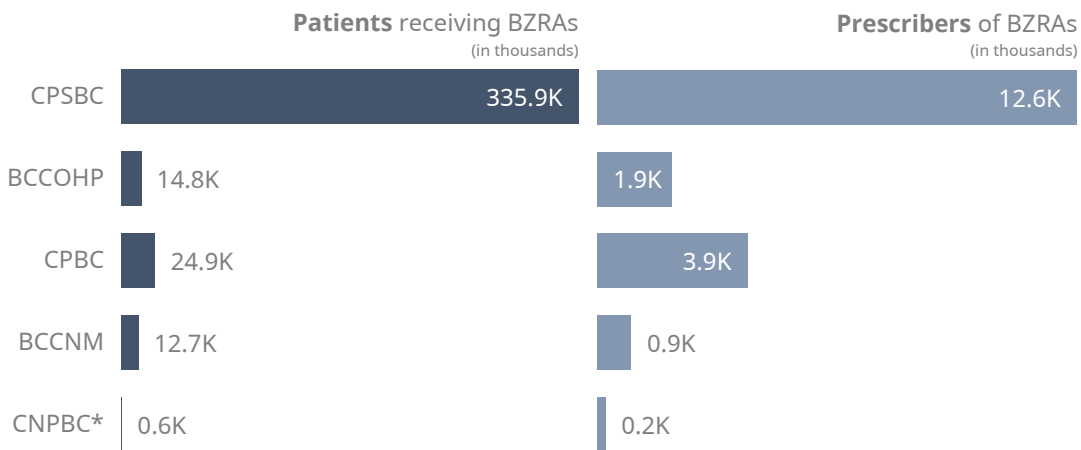
...**6%** of people²⁴ in B.C. received at least one dispense for a BZRA

...**70%** of all prescribers prescribed at least one BZRA

...**2%** of all dispenses for prescription drugs²⁵ in B.C. were BZRAs

...**96%** of pharmacies in B.C. dispensed at least one BZRA

BZRA utilization by prescriber regulatory college (2023)



Patients are counted once in each category if they received at least one dispense of BZRAs prescribed by a member of the corresponding regulatory college. Note that patients may be counted in multiple categories.

* Naturopathic physicians have legal authority to prescribe zopiclone, eszopiclone and zaleplon.

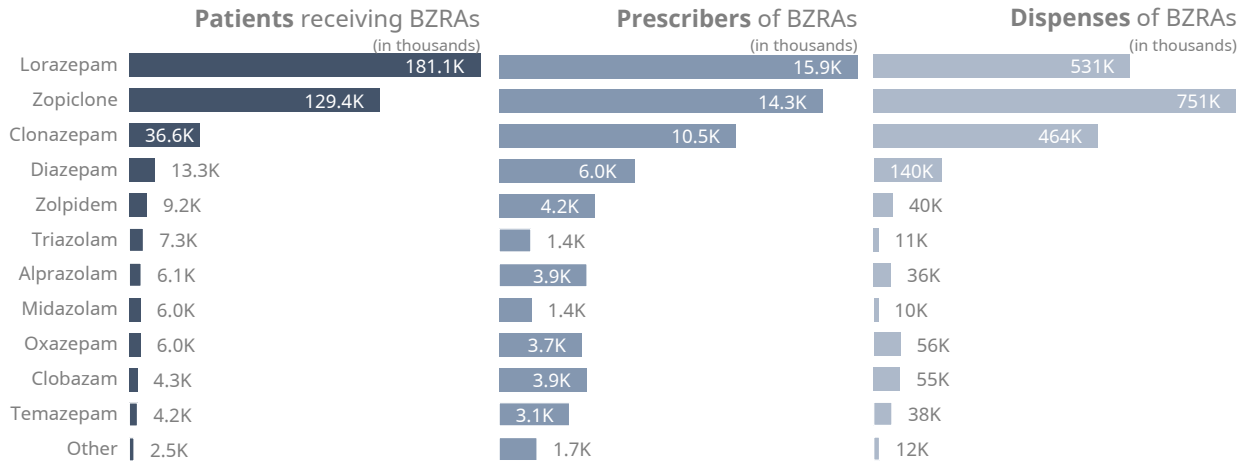
Figure 33. Number of patients receiving BZRAs in 2023 and number of associated prescribers, by regulatory college.

²⁴ Percentage is calculated as the ratio of the number of patients to the B.C. population. Patients may be from out of province. Population is based on 2021 Census of Population. See [Data Source section](#) for details.

²⁵ Some exclusions apply: drugs dispensed through the BC Cancer Agency (e.g., oncology medications such as chemotherapy drugs), the BC Transplant Society, the BC Renal Agency, the BC Centre for Excellence in HIV/AIDS, or through special programs administered by PHSA (e.g., expensive drugs for rare diseases; the Provincial Retinal Diseases Treatment Program); vaccines; and claims submitted manually to PharmaNet. Note that PharmaNet also captures dispenses for some over-the-counter medications, medical devices and supplies.

Drug Use – BZRAs

BZRA utilization by main active ingredient (2023)



Patients (prescribers) can receive (prescribe) multiple BZRAs within the year and may therefore be counted in multiple categories. See [Table 1](#) for a list of BZRAs included in this Atlas.

Figure 34. BZRA utilization in 2023, by main active ingredient.

Patient distribution by age and sex (2023)

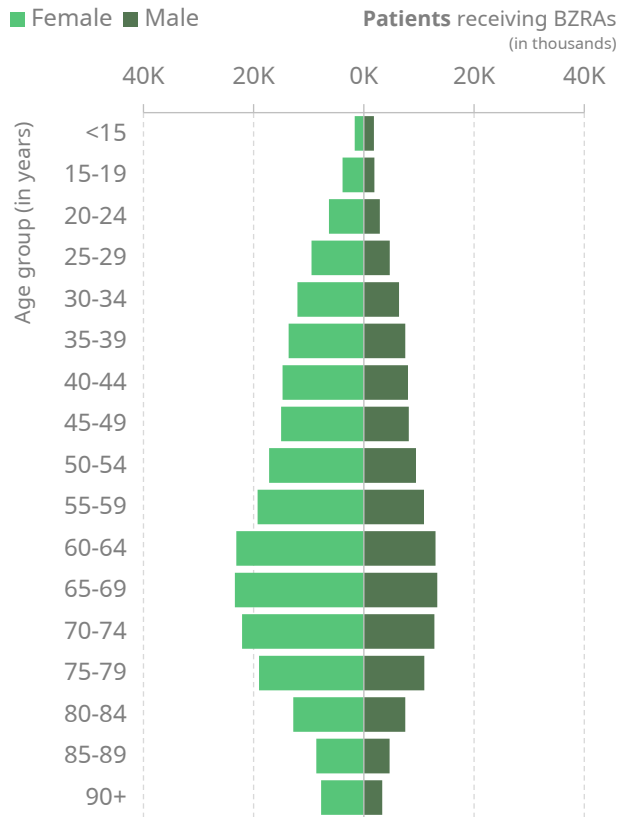


Figure 35. Number of patients receiving BZRAs in 2023, by patient age and sex.

Drug Use – BZRAs

Patient distribution by daily dose (2023)



Figure 36. Number of patients receiving BZRAs in 2023, by average daily dose.

Trends

Trend in BZRA utilization

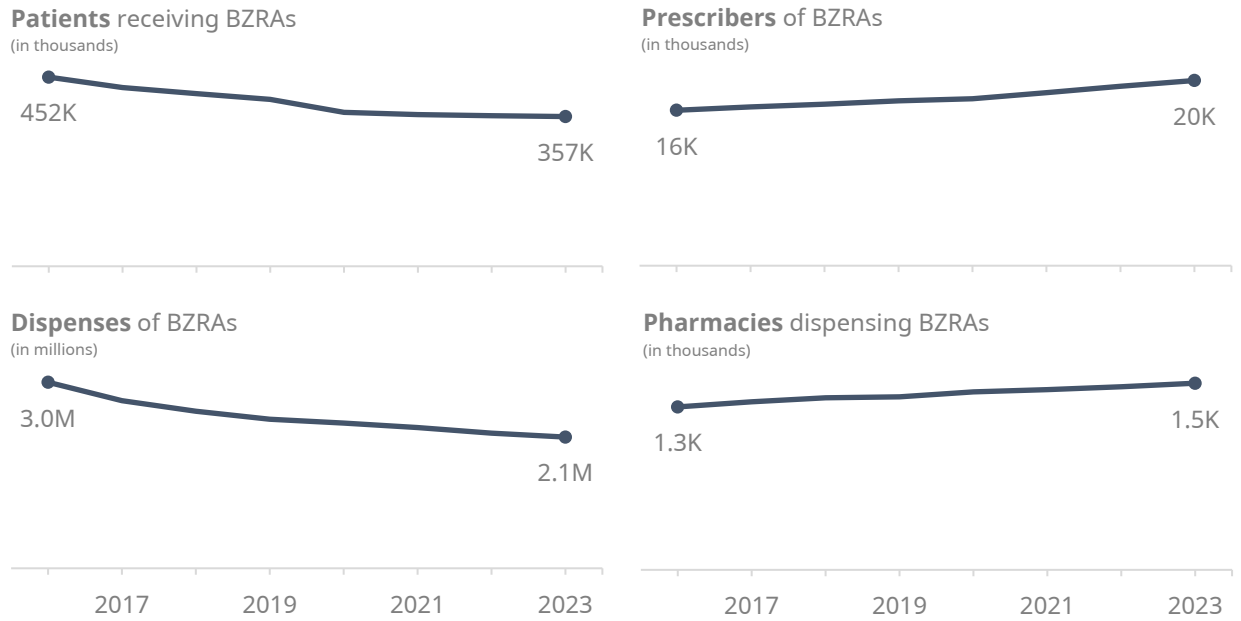
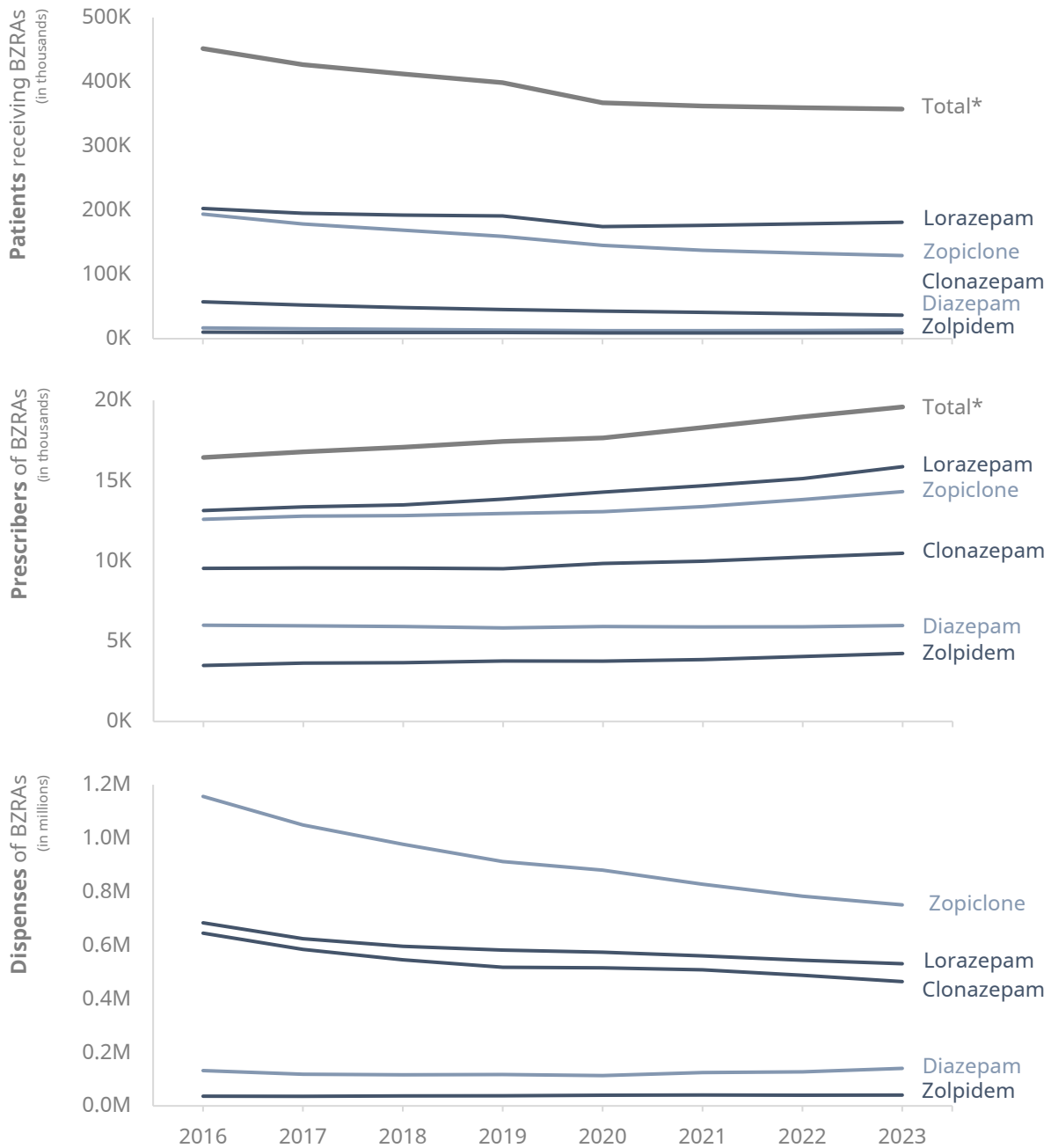


Figure 37. Trend in BZRA utilization between 2016 and 2023.

Drug Use – BZRAs

Trend in BZRA utilization by main active ingredient



Trends for the top 5 main active ingredients, based on number of patients who received BZRAs in 2023.

Other BZRAs prescribed to less than 3% of the patients receiving BZRAs in 2023 are not shown in this figure. See [Table 1](#) for a list of BZRAs included in this Atlas.

Patients (prescribers) can receive (prescribe) multiple BZRAs within the year and may be counted in multiple categories.

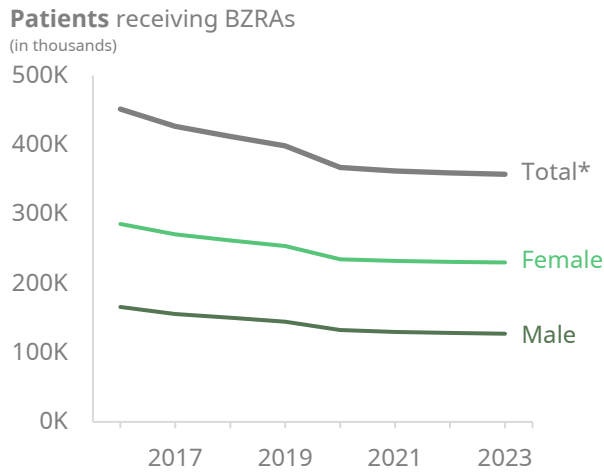
* Total patients and prescribers are based on all BZRA dispenses.

Figure 38. Trend in BZRA utilization between 2016 and 2023, by main active ingredient. The colours are to help differentiate the lines.

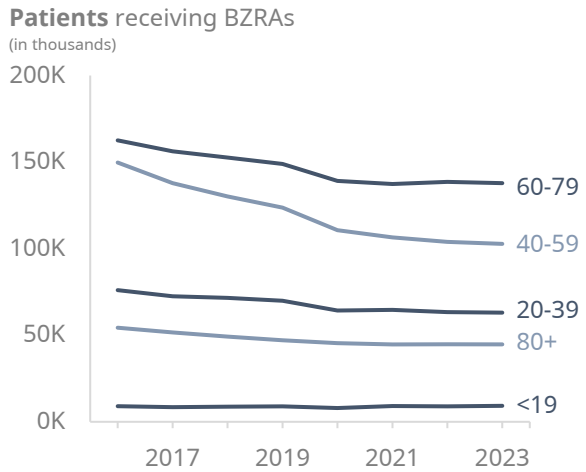
Drug Use – BZRAs

Trend in BZRA utilization

By patient sex



By patient age

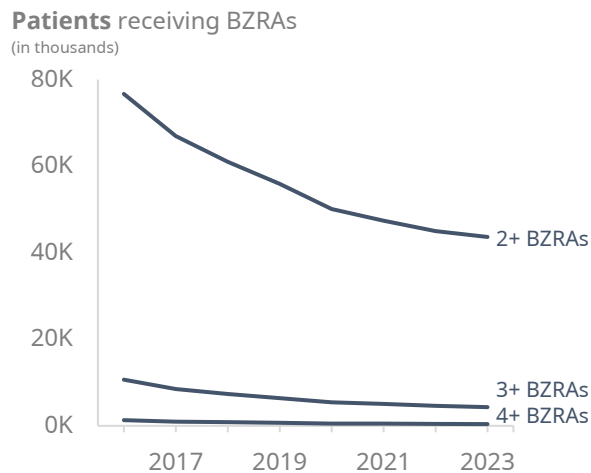


* Total includes patients with unknown sex.

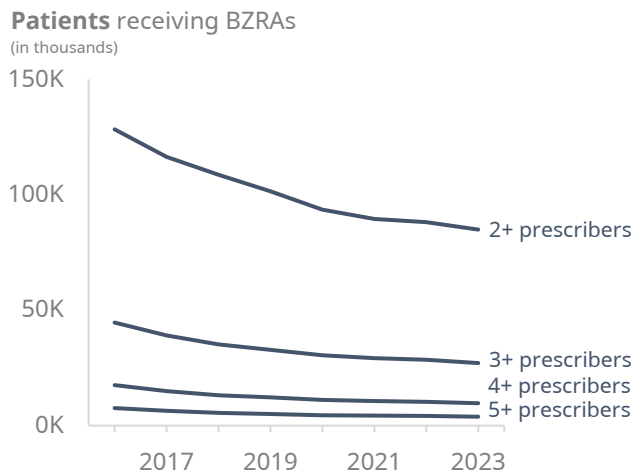
Figure 39. Trend in number of patients receiving BZRAs between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

Trend in BZRA utilization

By number of main active ingredients



By number of prescribers



Number of patients who received at least two BZRA dispenses within the year with different main active ingredients. See [Table 1](#) for a list of BZRAs included in this Atlas.

Number of patients who received at least two BZRA dispenses within the year, prescribed by different practitioners.

Figure 40. Trend in number of patients receiving BZRAs between 2016 and 2023, by number of main active ingredients (*left*) and by number of prescribers (*right*).

Drug Use – BZRAs

Trend in BZRA daily dose

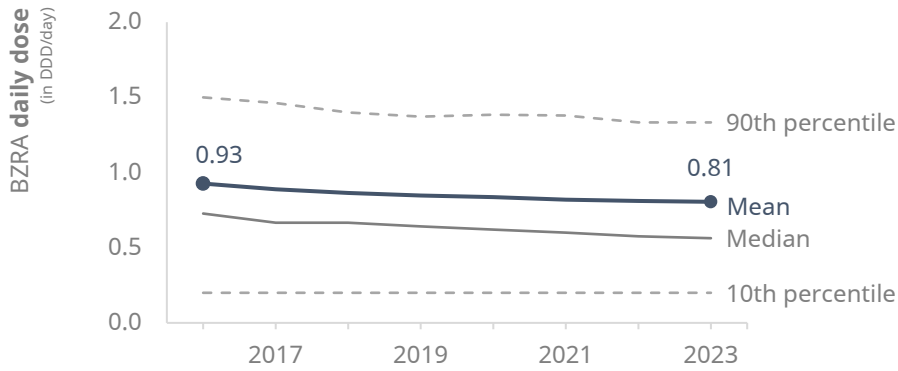
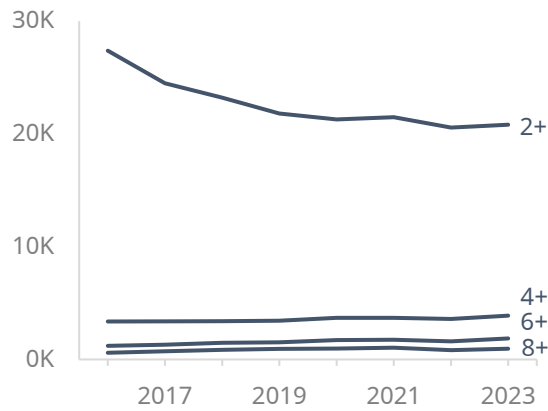


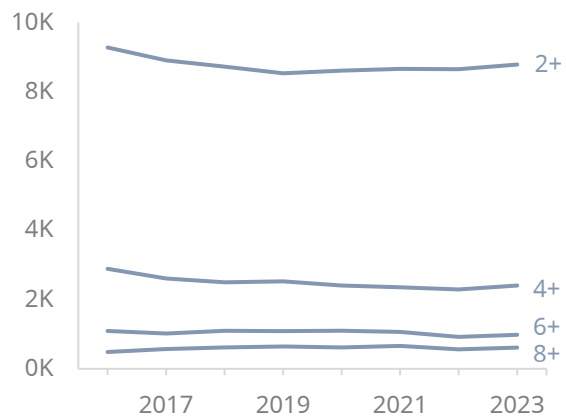
Figure 41. Trend in BZRA daily dose between 2016 and 2023.

Trend in BZRA utilization by daily dose^{*}

Patients receiving BZRAs
(in thousands)



Prescribers of BZRAs
(in thousands)



^{*} Daily doses (in DDD/day) are calculated based on all days supply in the year, which may correspond to multiple dispenses and therefore multiple prescribers.

Figure 42. Trend in number of patients receiving BZRAs (*left*) and the associated prescribers (*right*) between 2016 and 2023, by average daily dose.

Drug Use – BZRAs

Geographical Distribution

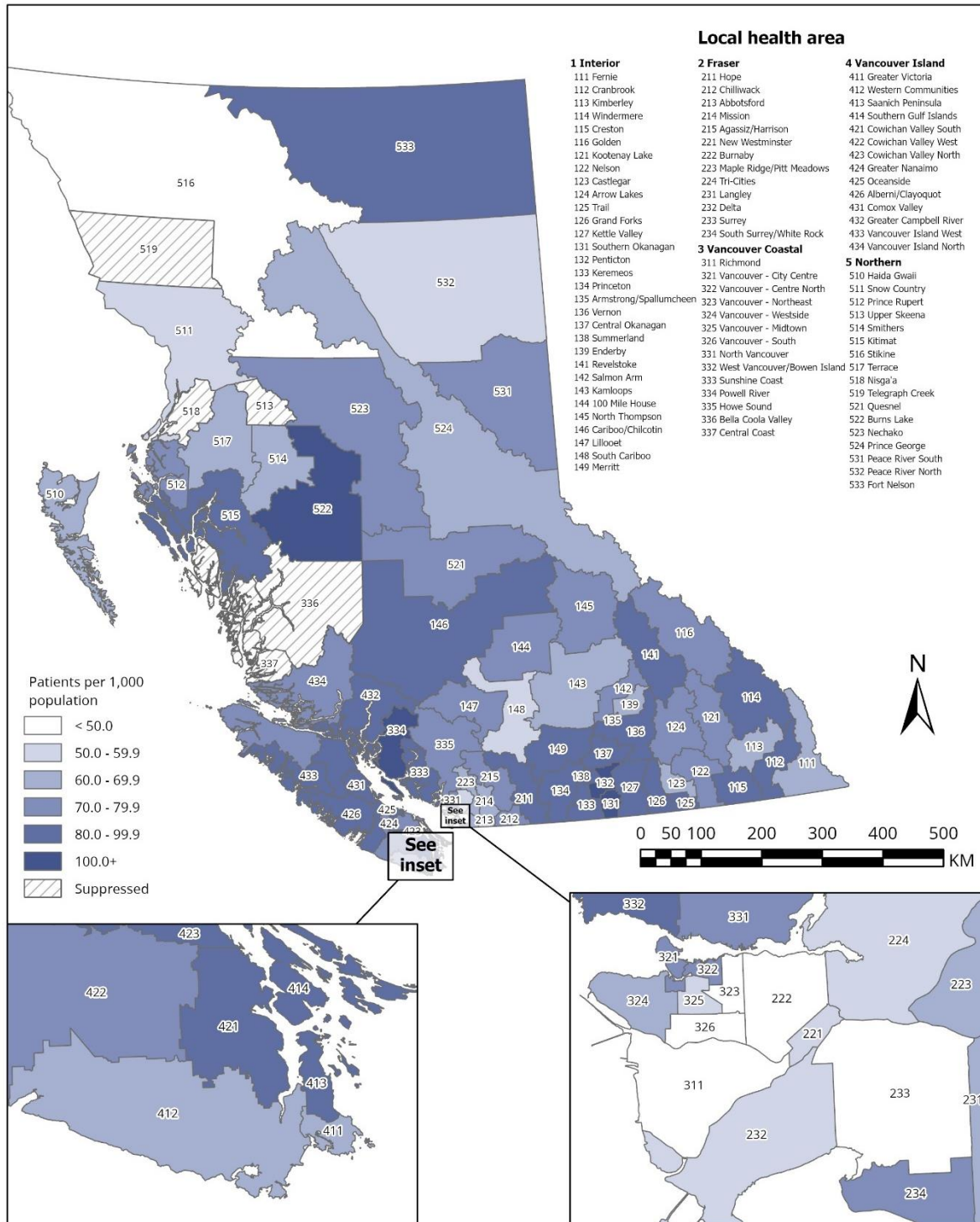


Figure 43. Patients receiving BZRAs per 1,000 population in 2023, by local health area. Data suppressed in compliance with the [First Nations principles of OCAP®](#).

Drug Use – BZRAs

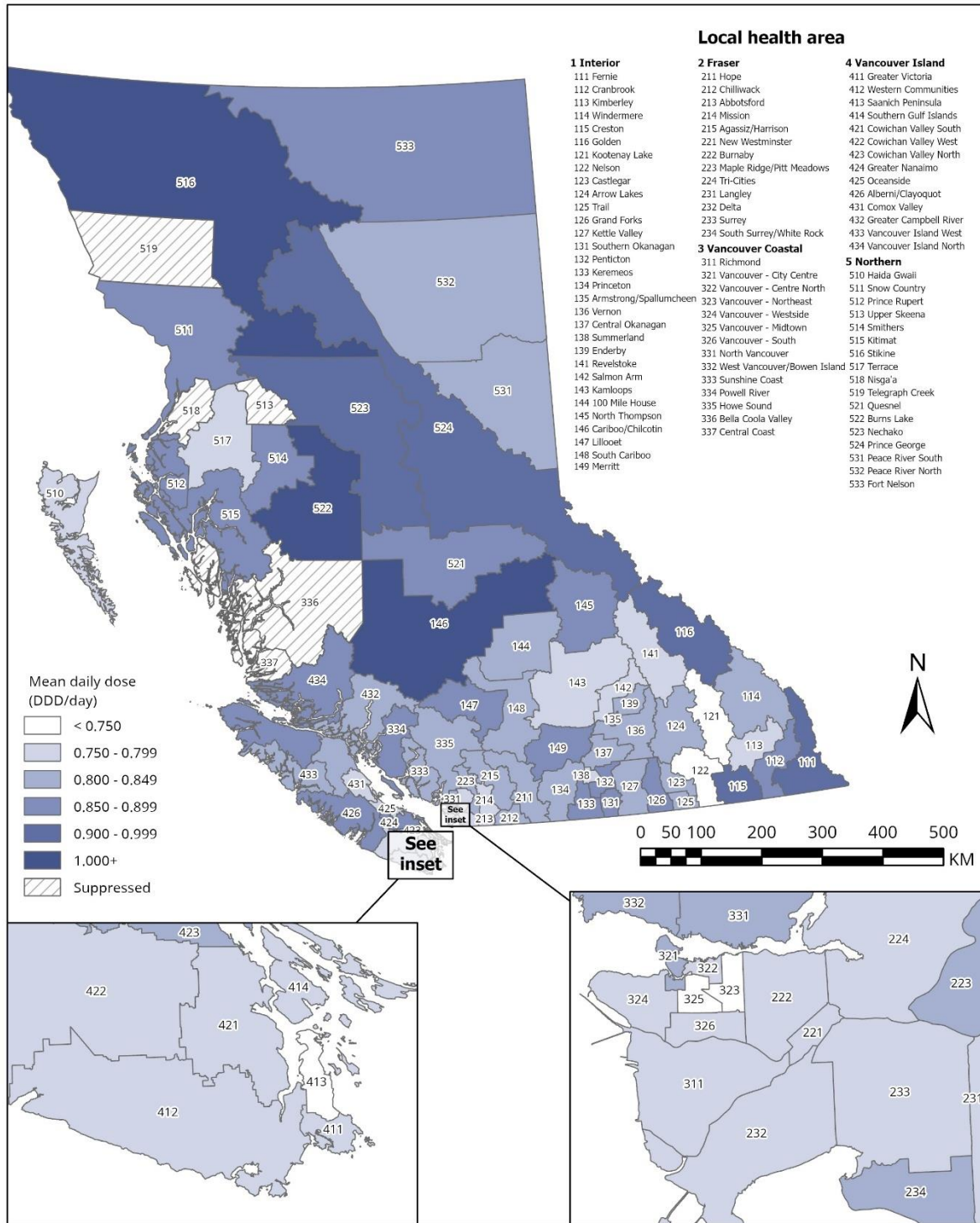


Figure 44. BZRA mean daily dose (in DDD/day) in 2023, by local health area. Data suppressed in compliance with the [First Nations principles of OCAP®](#).

Drug Use - BZRAs

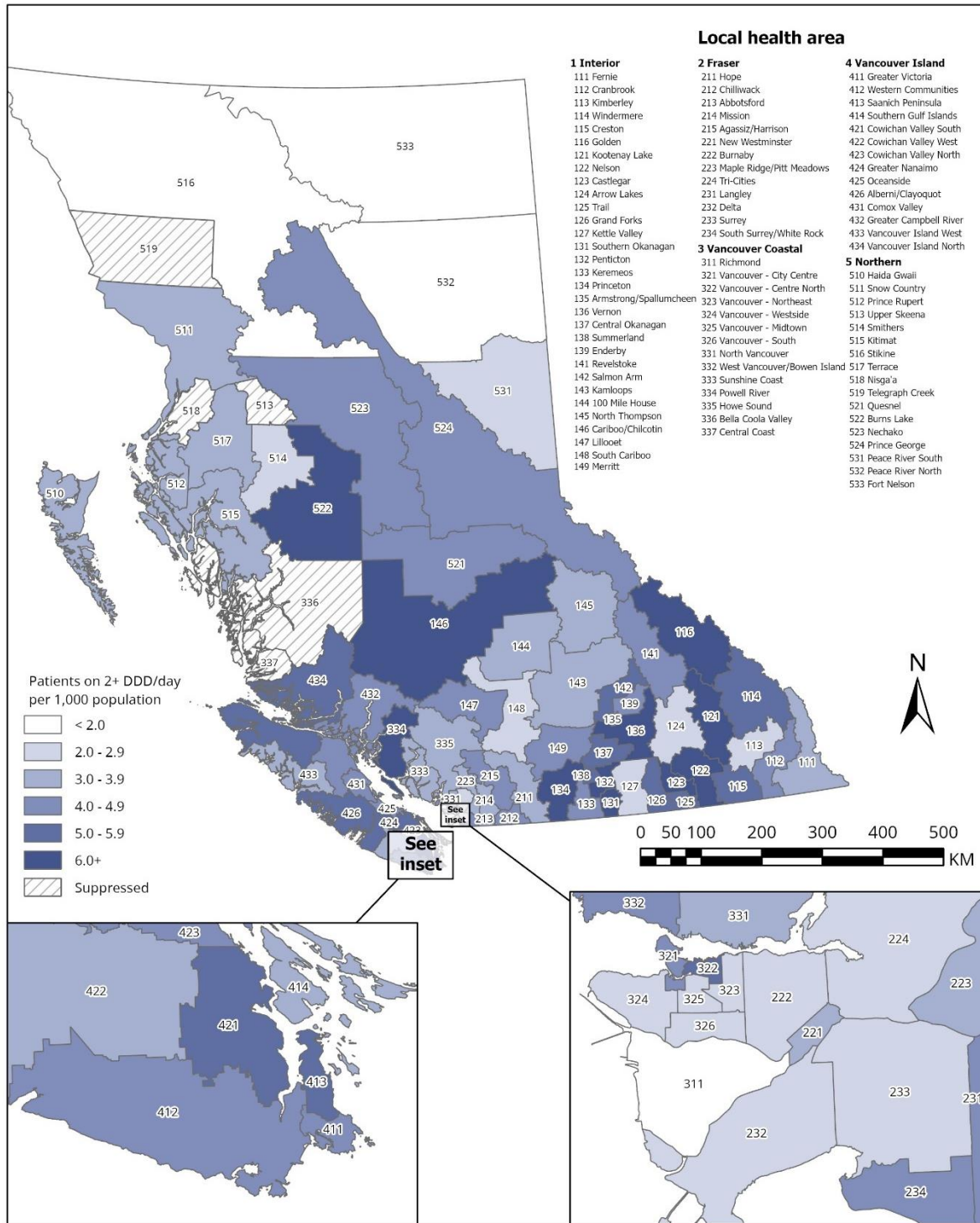
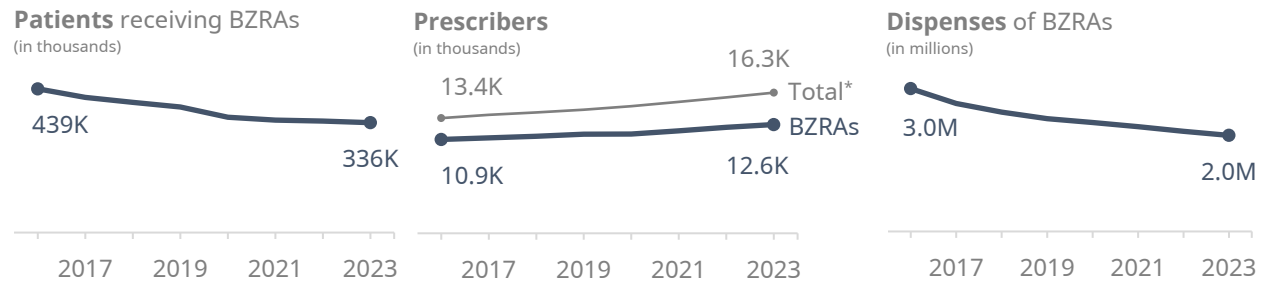


Figure 45. Patients receiving 2+ DDD per day per 1,000 population in 2023, by local health area. Data suppressed in compliance with the [First Nations principles of OCAP®](#).

College of Physicians and Surgeons of BC

The [College of Physicians and Surgeons of BC](#) (CPSBC) is the regulatory body for physicians and podiatric surgeons in B.C. Physicians can prescribe all classes of drugs. Podiatrists can prescribe all classes of drugs, except Schedule 1A drugs under the [BC Drug Schedules Regulation](#) to the *Pharmacy Operations and Drug Scheduling Act*. Therefore, podiatrists can prescribe all BZRAs included in this Atlas.

Trend in BZRA utilization (CPSBC)



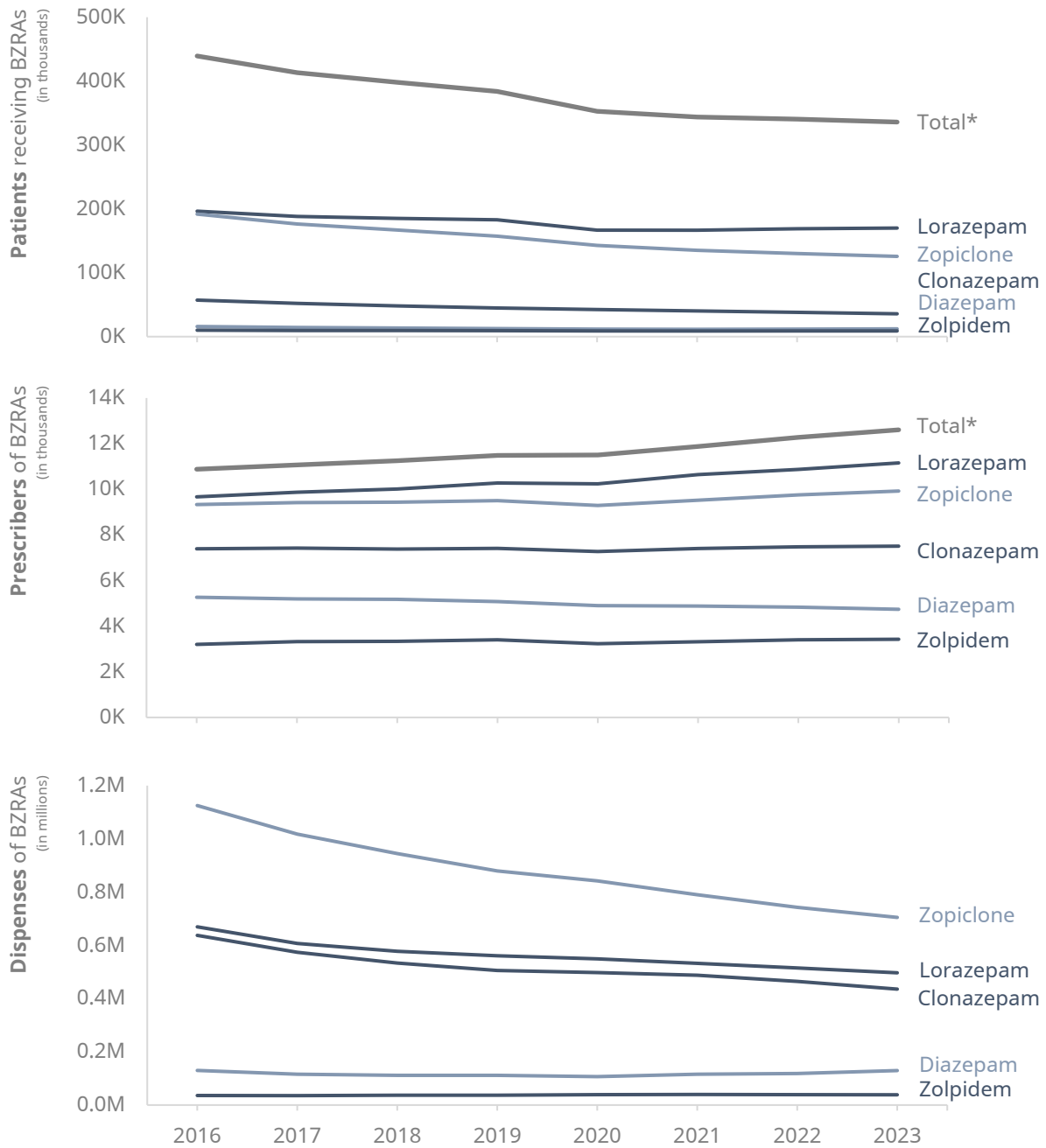
Based on BZRAs prescribed by CPSBC registrants.

* Total includes all CPSBC registrants who wrote at least one prescription for any drug dispensed at a community pharmacy in B.C. at any time of the year. This number may include locums and registrants who are no longer active by the end of the year.

Figure 46. Trend in BZRA utilization between 2016 and 2023, based on BZRAs prescribed by registrants of CPSBC.

Drug Use – BZRAs – CPSBC

Trend in BZRA utilization by main active ingredient (CPSBC)



Trends for the top 5 main active ingredients, based on number of patients in 2023 who received BZRAs prescribed by CPSBC registrants.

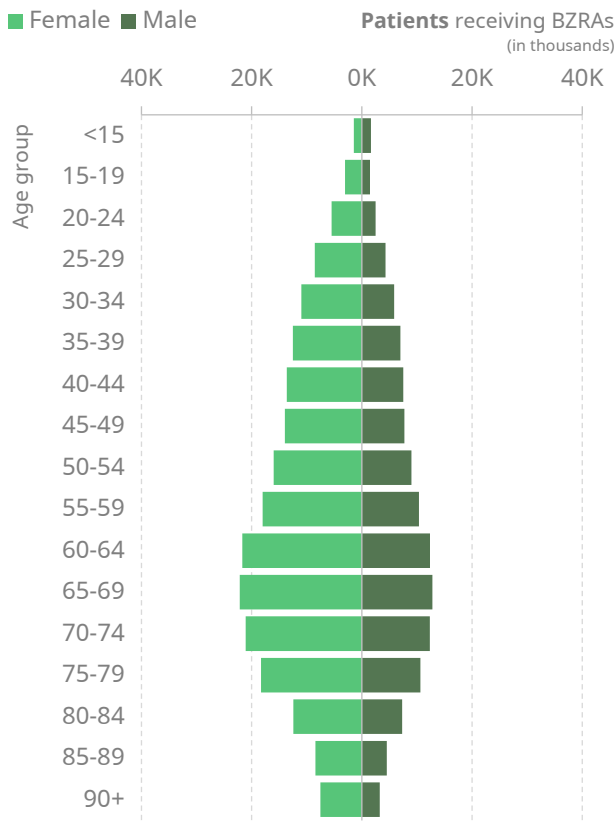
Other BZRAs prescribed by CPSBC registrants to less than 2% of the patients receiving BZRAs in 2023 are not shown in this figure. See [Table 1](#) for a list of BZRAs included in this Atlas.

Patients (prescribers) can receive (prescribe) multiple BZRAs within the year and may be counted in multiple categories.

* Total patients and prescribers are based on all BZRAs prescribed by CPSBC registrants.

Figure 47. Trend in BZRA utilization between 2016 and 2023, by main active ingredient, based on BZRAs prescribed by registrants of CPSBC. The colours are to help differentiate the lines.

Patient distribution by age and sex (CPSBC, 2023)

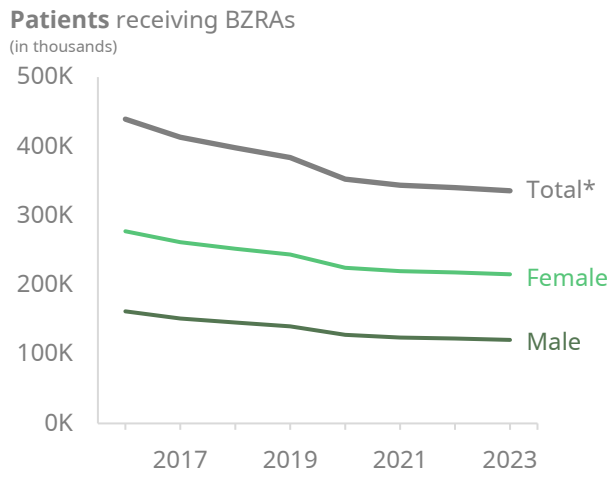


Based on BZRAs prescribed by CPSBC registrants.

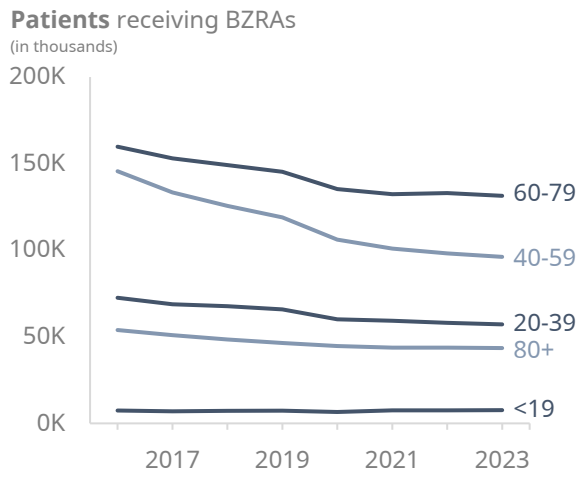
Figure 48. Number of patients receiving BZRAs prescribed by registrants of CPSBC in 2023, by patient age and sex.

Trend in BZRA utilization (CPSBC)

By patient sex



By patient age



Based on BZRAs prescribed by CPSBC registrants.

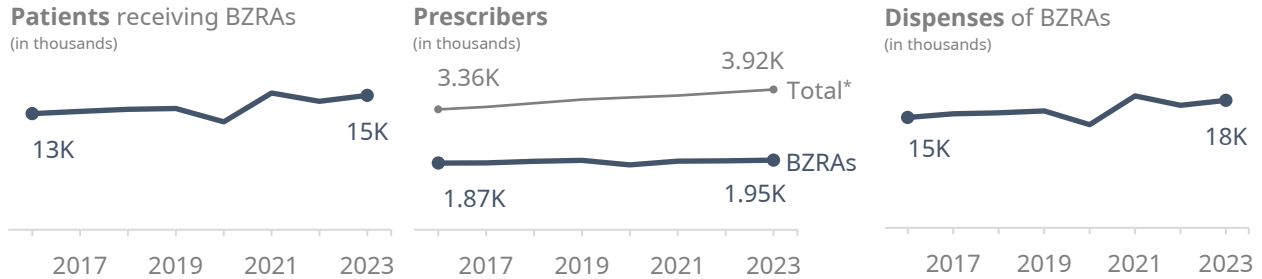
* Total includes patients with unknown sex.

Figure 49. Trend in number of patients receiving BZRAs prescribed by registrants of CPSBC between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

BC College of Oral Health Professionals

The [BC College of Oral Health Professionals](#) (BCCOHP) is the regulatory body for dentists, dental hygienists, dental therapists, dental technicians, denturists, and certified dental assistants in B.C. Only dentists can prescribe BZRA drugs specified in Schedule I, IA and II of the [BC Drug Schedules Regulation](#) to the *Pharmacy Operations and Drug Scheduling Act*.

Trend in BZRA utilization (BCCOHP)



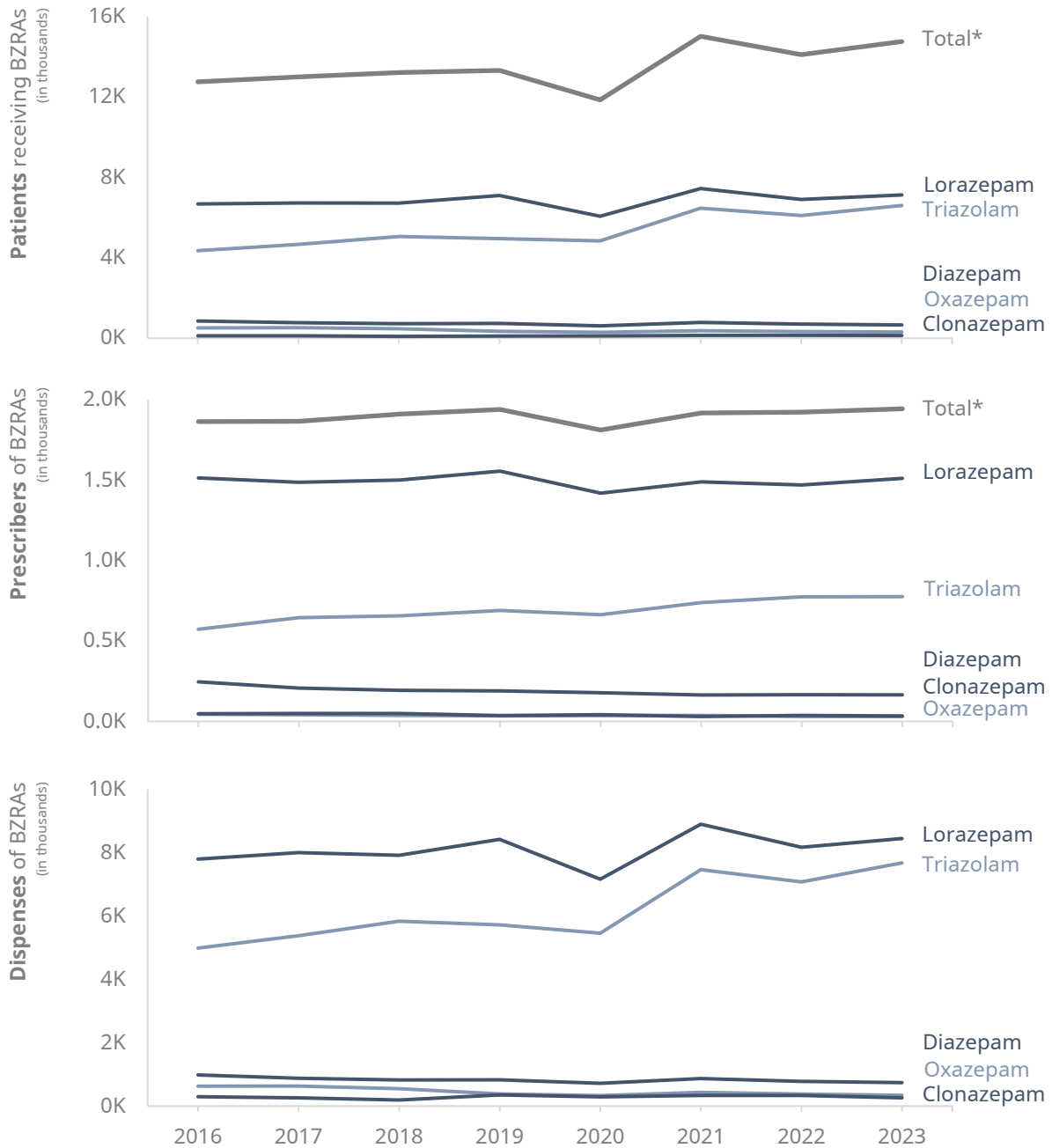
Based on BZRAs prescribed by dentists.

* Total includes all dentists who wrote at least one prescription for any drug dispensed at a community pharmacy in B.C. at any time of the year. This number may include registrants who are no longer active by the end of the year.

Figure 50. Trend in BZRA utilization between 2016 and 2023, based on BZRAs prescribed by registrants of BCCOHP.

Drug Use – BZRAs – BCCOHP

Trend in BZRA utilization by main active ingredient (BCCOHP)



Trends for the top 5 main active ingredients, based on number of patients in 2023 who received BZRAs prescribed by dentists.

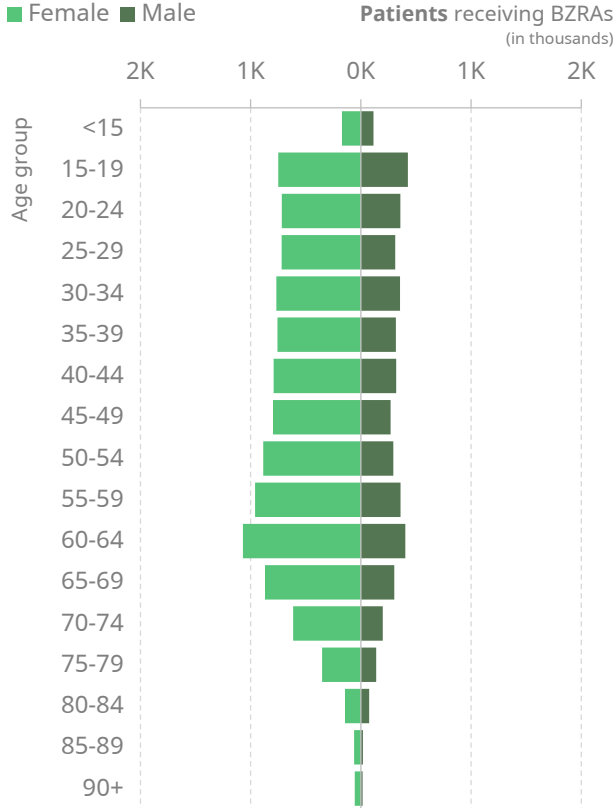
Other BZRAs prescribed by dentists to less than 1% of the patients receiving BZRAs in 2023 are not shown in this figure. See [Table 1](#) for a list of BZRAs included in this Atlas.

Patients (prescribers) can receive (prescribe) multiple BZRAs within the year and may be counted in multiple categories.

* Total patients and prescribers are based on all BZRAs prescribed by dentists.

Figure 51. Trend in BZRA utilization between 2016 and 2023, by main active ingredient, based on BZRAs prescribed by registrants of BCCOHP. The colours are to help differentiate the lines.

Patient distribution by age and sex (BCCOHP, 2023)

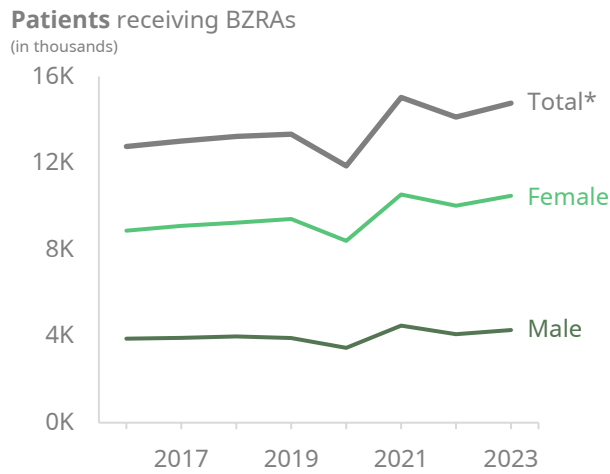


Based on BZRAs prescribed by dentists.

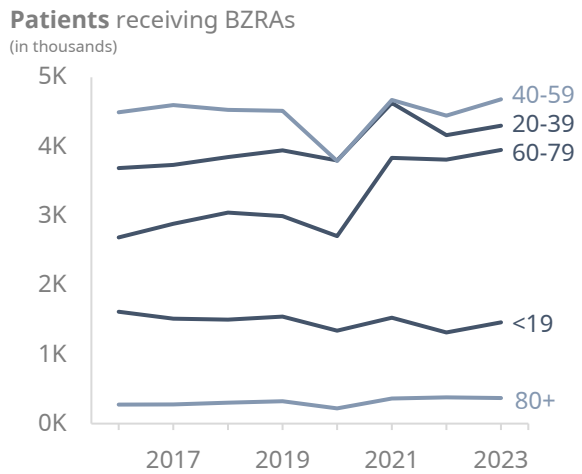
Figure 52. Number of patients receiving BZRAs prescribed by registrants of BCCOHP in 2023, by patient age and sex.

Trend in BZRA utilization (BCCOHP)

By patient sex



By patient age



Based on BZRAs prescribed by dentists.

* Total includes patients with unknown sex.

Figure 53. Trend in number of patients receiving BZRAs prescribed by registrants of BCCOHP between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

College of Pharmacists of BC

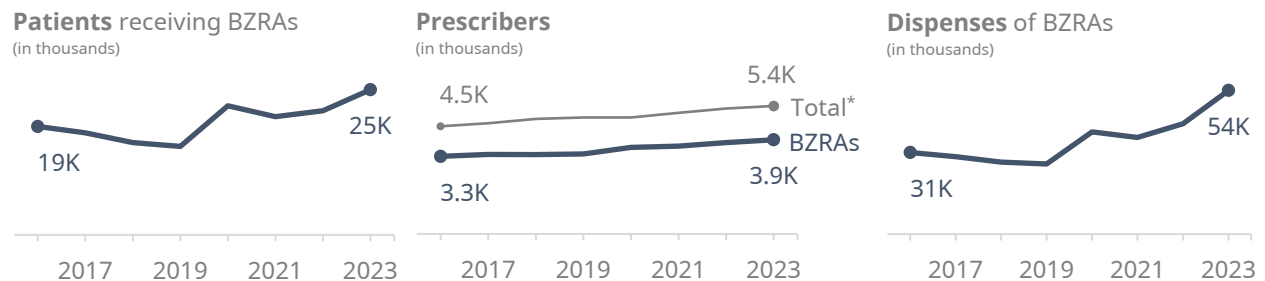
The [College of Pharmacists of BC](#) (CPBC) is the regulatory body for pharmacists and pharmacy technicians in B.C.

Pharmacists do not have legal authority to prescribe or change BZRA prescriptions. However, under exceptional circumstances, pharmacists may exercise professional judgement to provide an emergency supply of a prescription drug for continuity of care. This applies to all prescription drugs, including BZRAs.

Effective October 14, 2022, pharmacists may renew BZRA prescriptions if permitted under a [section 56 exemption to the *Controlled Drugs and Substances Act*](#).

When providing emergency supplies or renewing prescriptions, pharmacists must record this dispense in PharmaNet and enter their registration number in the “prescriber ID” field. Therefore, pharmacists appear as “prescribers” in PharmaNet despite not issuing any new BZRA prescriptions.

Trend in BZRA utilization (CPBC)

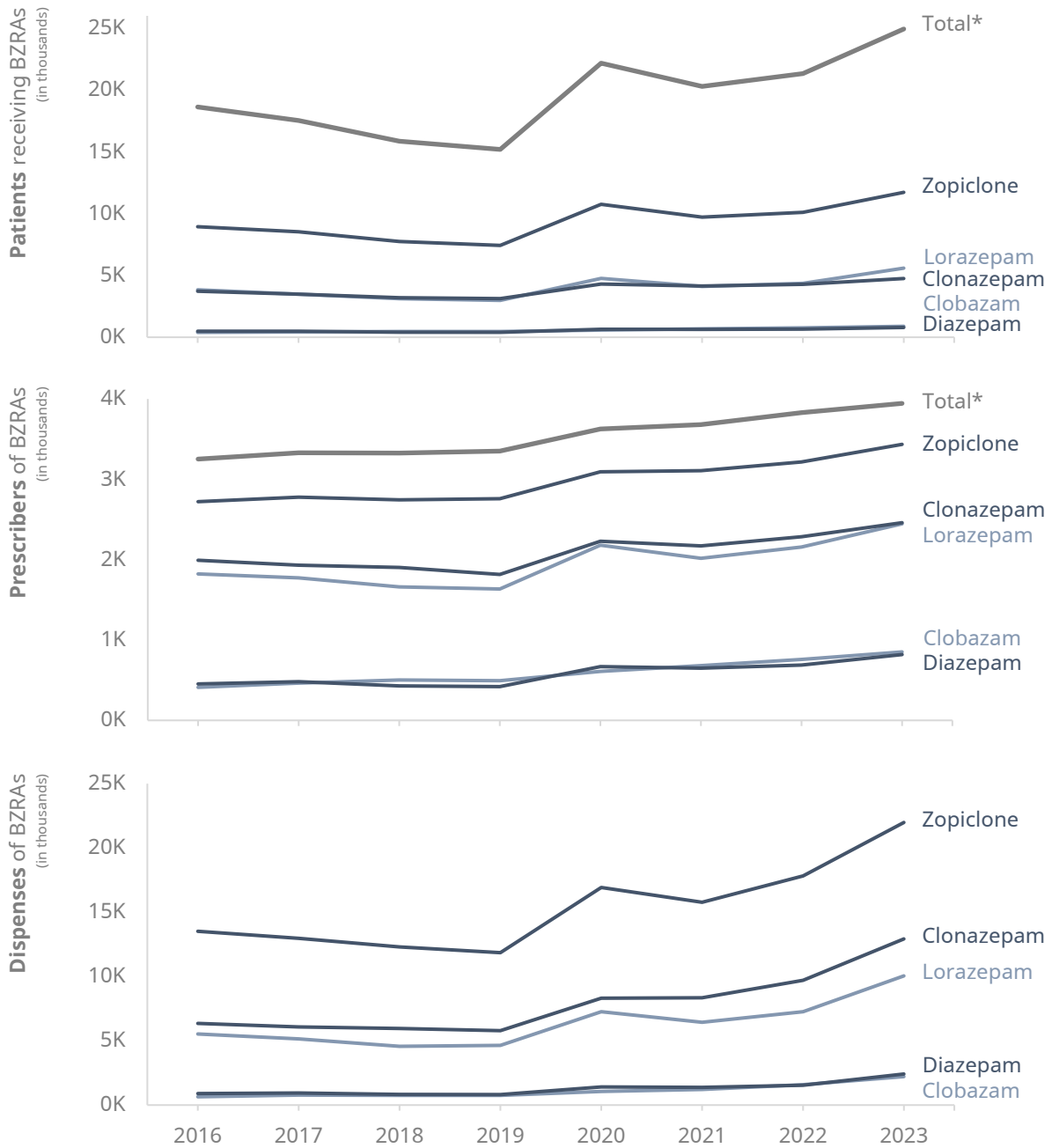


Based on BZRAs prescribed by pharmacists.

* Total includes all pharmacists who wrote at least one prescription for any drug dispensed at a community pharmacy in B.C. at any time of the year. This number may include registrants who are no longer active by the end of the year.

Figure 54. Trend in BZRA utilization between 2016 and 2023, based on BZRAs prescribed by registrants of CPBC.

Trend in BZRA utilization by main active ingredient (CPBC)



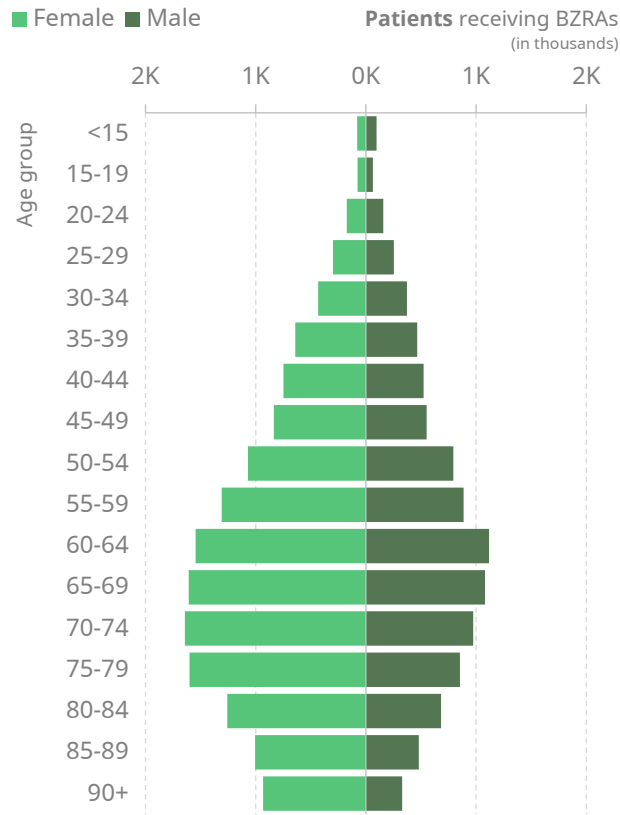
Trends for the top 5 main active ingredients, based on number of patients in 2023 who received BZRAs prescribed by pharmacists. Other BZRAs prescribed by pharmacists to less than 3% of the patients receiving BZRAs in 2023 are not shown in this figure. See [Table 1](#) for a list of BZRAs included in this Atlas.

Patients (prescribers) can receive (prescribe) multiple BZRAs within the year and may be counted in multiple categories.

* Total patients and prescribers are based on all BZRAs prescribed by pharmacists.

Figure 55. Trend in BZRA utilization between 2016 and 2023, by main active ingredient, based on BZRAs prescribed by registrants of CPBC. The colours are to help differentiate the lines.

Patient distribution by age and sex (CPBC, 2023)

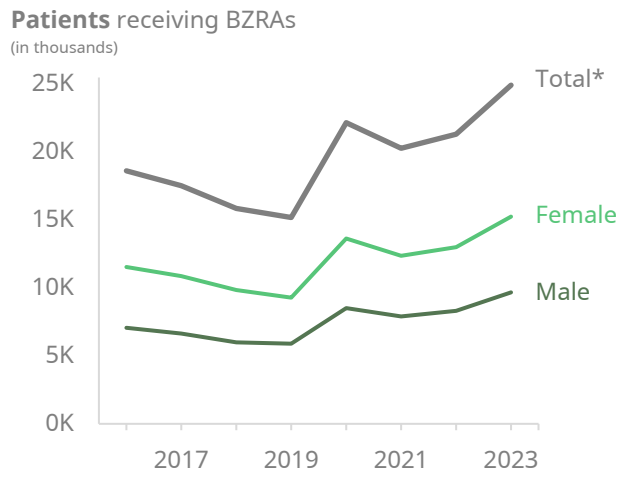


Based on BZRAs prescribed by pharmacists.

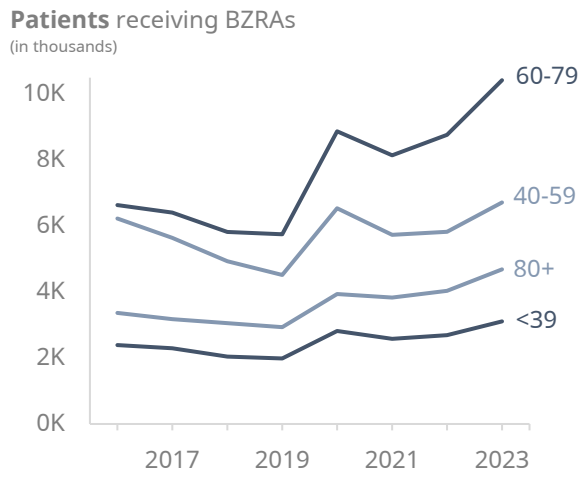
Figure 56. Number of patients receiving BZRAs prescribed by registrants of CPBC in 2023, by patient age and sex.

Trend in BZRA utilization (CPBC)

By patient sex



By patient age



Based on BZRAs prescribed by pharmacists.

* Total includes patients with unknown sex.

Figure 57. Trend in number of patients receiving BZRAs prescribed by registrants of CPBC between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

BC College of Nurses and Midwives

The [BC College of Nurses and Midwives](#) (BCCNM) regulates all nursing professions in B.C. (licensed practical nurses, nurse practitioners, registered nurses, and registered psychiatric nurses) and midwives.

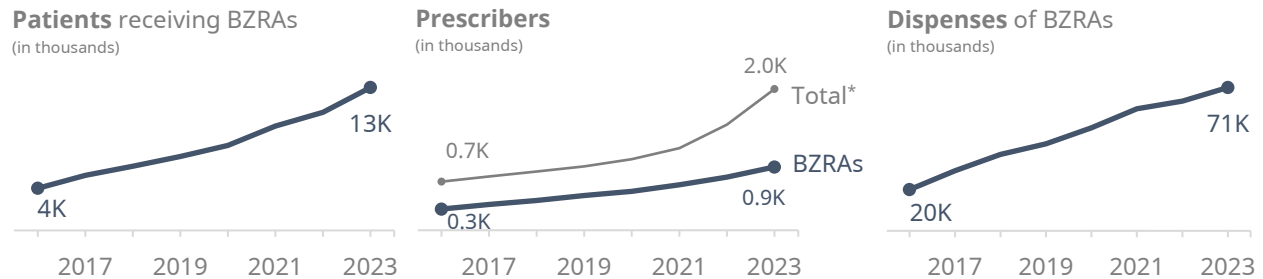
BZRA prescribing by nurses and midwives varies by registrant group and scope of practice, with standards, limits, and conditions on prescribing set by BCCNM.

Nurse practitioners hold broad prescriptive authority and may prescribe most Schedule 1A drugs under the [BC Drug Schedules Regulation](#) to the *Pharmacy Operations and Drug Scheduling Act*, including BZRAs dispensed as a prescribed alternative²⁶.

Midwives can prescribe BZRAs for therapeutic rest in prodromal labour and short-term management of excessive anxiety in the postpartum period²⁷.

Registered nurses and registered psychiatric nurses do not have authority to prescribe BZRAs.

Trend in BZRA utilization (BCCNM)



Based on BZRAs prescribed by BCCNM registrants.

* Total includes all BCCNM registrants who wrote at least one prescription for any drug dispensed at a community pharmacy in B.C. at any time of the year. This number may include registrants who are no longer active by the end of the year.

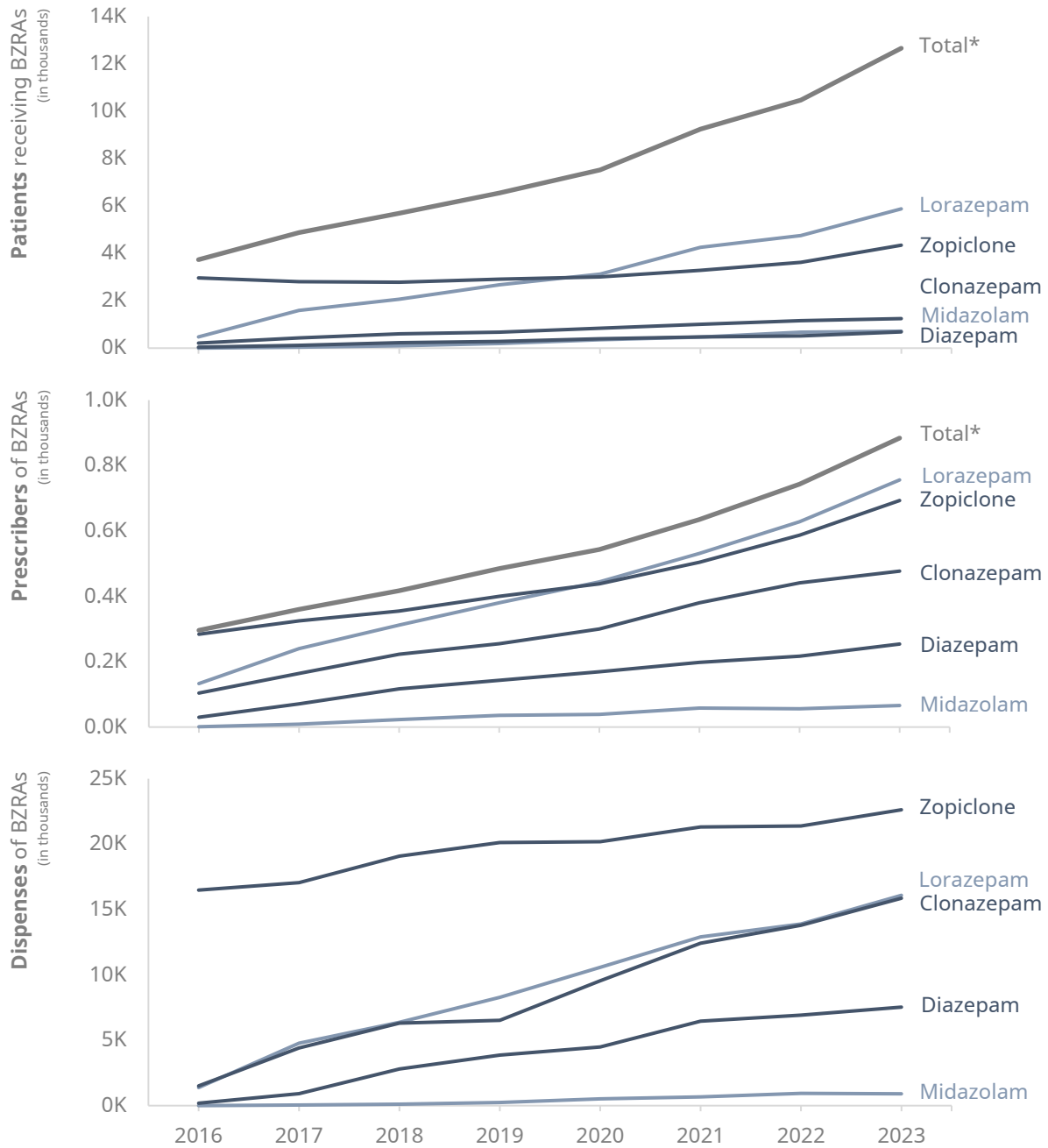
Figure 58. Trend in BZRA utilization between 2016 and 2023, based on BZRAs prescribed by registrants of BCCNM.

²⁶ British Columbia College of Nurses and Midwives (BCCNM). [Scope of Practice for Nurse Practitioners: Standards, Limits and Conditions](#), 2023.

²⁷ British Columbia College of Nurses and Midwives (BCCNM). [Medications and Substances: Standards, Limits, Conditions](#), 2023

Drug Use – BZRAs – BCCNM

Trend in BZRA utilization by main active ingredient (BCCNM)



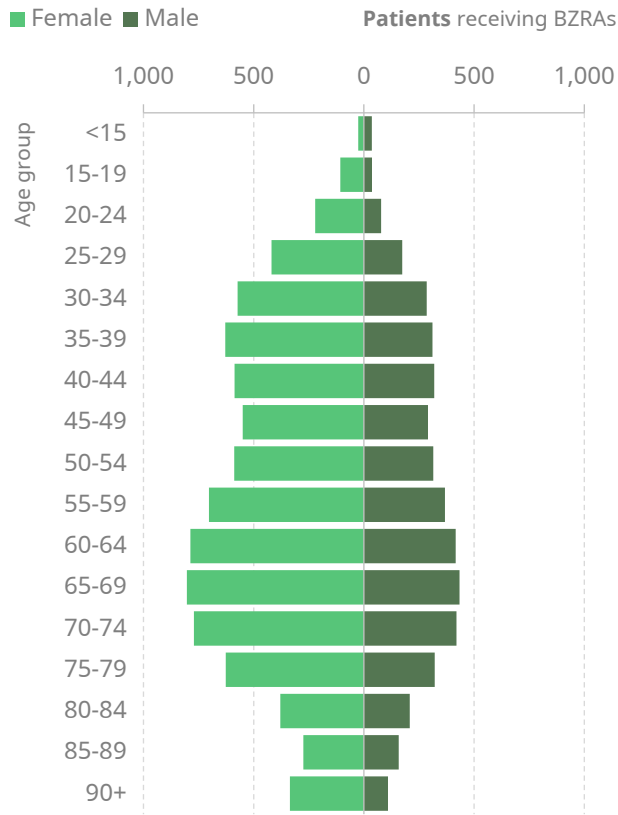
Trends for the top 5 main active ingredients, based on number of patients in 2023 who received BZRAs prescribed by BCCNM registrants. Other BZRAs prescribed by BCCNM registrants to less than 2% of the patients receiving BZRAs in 2023 are not shown in this figure. See [Table 1](#) for a list of BZRAs included in this Atlas.

Patients (prescribers) can receive (prescribe) multiple BZRAs within the year and may be counted in multiple categories.

* Total patients and prescribers are based on all BZRAs prescribed by BCCNM registrants.

Figure 59. Trend in BZRA utilization between 2016 and 2023, by main active ingredient, based on BZRAs prescribed by registrants of BCCNM. The colours are to help differentiate the lines.

Patient distribution by age and sex (BCCNM, 2023)

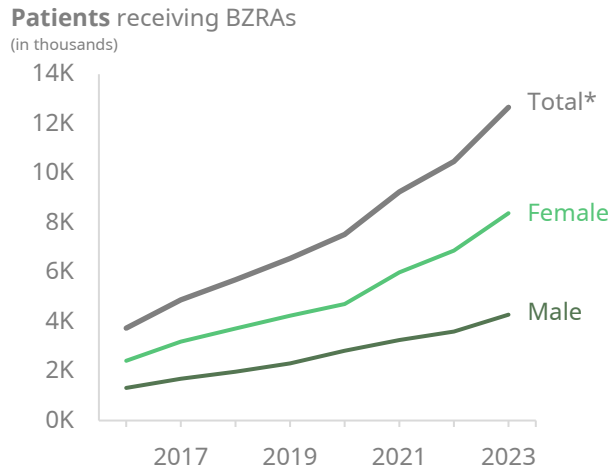


Based on BZRAs prescribed by BCCNM registrants.

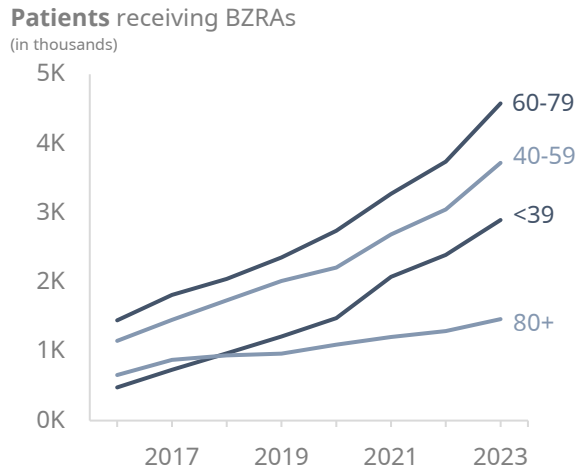
Figure 60. Number of patients receiving BZRAs prescribed by registrants of BCCNM in 2023, by patient age and sex.

Trend in BZRA utilization (BCCNM)

By patient sex



By patient age



Based on BZRAs prescribed by BCCNM registrants.

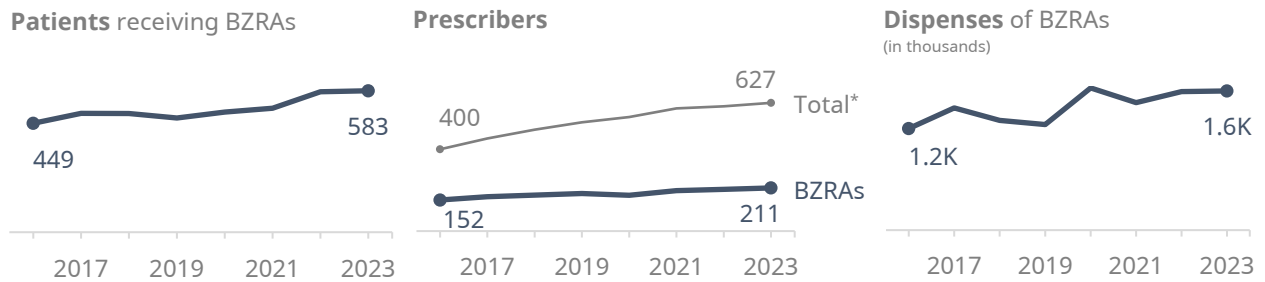
* Total includes patients with unknown sex.

Figure 61. Trend in number of patients receiving BZRAs prescribed by registrants of BCCNM between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

College of Naturopathic Physicians of BC

The [College of Naturopathic Physicians of BC](#) (CNPBC) is the regulatory body for naturopathic physicians in B.C., who can only prescribe zopiclone, eszopiclone and zaleplon among the BZRAs included in this Atlas.

Trend in BZRA utilization (CNPBC)



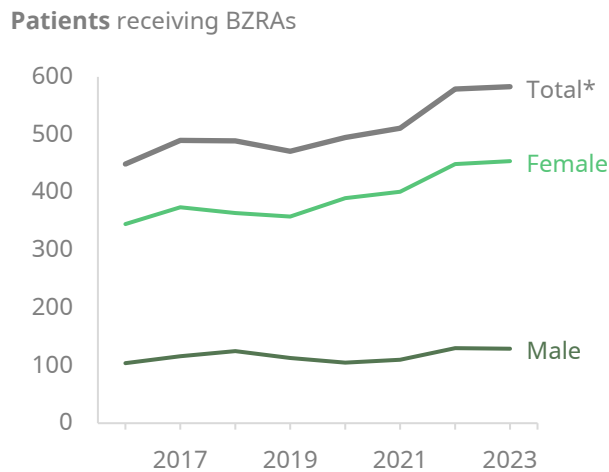
Based on BZRAs prescribed by naturopathic physicians.

* Total includes all naturopathic physicians who wrote at least one prescription for any drug dispensed at a community pharmacy in B.C. at any time of the year. This number may include registrants who are no longer active by the end of the year.

Figure 62. Trend in BZRA utilization between 2016 and 2023, based on BZRAs prescribed by registrants of CNPBC.

Trend in BZRA utilization (CNPBC)

By patient sex



Based on BZRAs prescribed by naturopathic physicians.

* Total includes patients with unknown sex.

By patient age

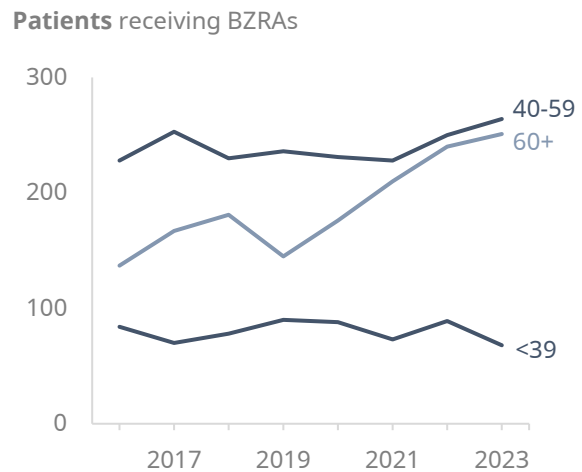


Figure 63. Trend in number of patients receiving BZRAs prescribed by registrants of CNPBC between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

Concurrent Use of Opioids and BZRAs

Overview

In 2023...

...**69%** of people²⁸ in B.C. received at least one dispense for a prescription drug²⁹

...**9%** of people²⁸ in B.C. received at least one dispense for an opioid

...**6%** of people²⁸ in B.C. received at least one dispense for a BZRA

...**14%** of people²⁸ in B.C. received at least one dispense for an opioid **or** a BZRA

...**2%** of people²⁸ in B.C. received at least one dispense for an opioid **and** a BZRA

...**1.3%** of people²⁸ in B.C. were at risk of using opioids and BZRAs concurrently³⁰

...**0.3%** of people²⁸ in B.C. used opioids and BZRAs concurrently³⁰

...**2.9%** of concurrent users of opioids and BZRAs were on high doses (90+ OME and 2+ DDD per day)

²⁸ Percentage is calculated as the ratio of the number of patients to the B.C. population. Patients may be from out of province. Population is based on 2021 Census of Population. See [Data Source section](#) for details.

²⁹ Some exclusions apply: drugs dispensed through the BC Cancer Agency (e.g., oncology medications such as chemotherapy drugs), the BC Transplant Society, the BC Renal Agency, the BC Centre for Excellence in HIV/AIDS, or through special programs administered by PHSA (e.g., expensive drugs for rare diseases; the Provincial Retinal Diseases Treatment Program); vaccines; and claims submitted manually to PharmaNet. Note that PharmaNet also captures dispenses for some over-the-counter medications, medical devices and supplies.

³⁰ See definition on concurrent use of opioids and BZRAs for this Atlas in the [Methodology section](#).

Concurrent Use of Opioids and BZRAs

Patient distribution by age and sex (2023)

Patients receiving opioids and BZRAs
(in thousands)

Patients receiving 90+ OME and 2+ DDD per day

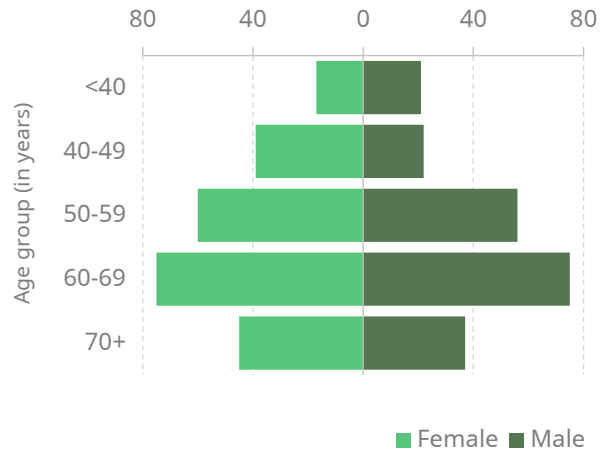
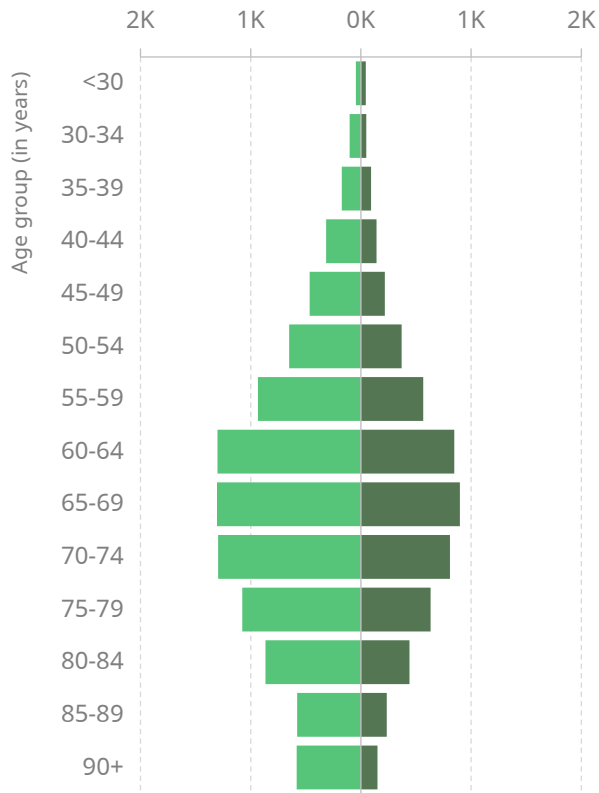


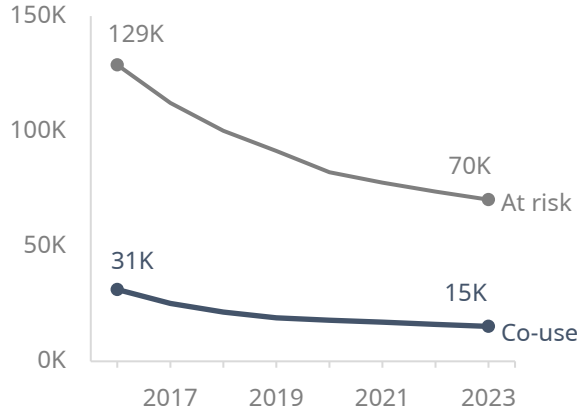
Figure 64. Number of patients on concurrent use of opioids and BZRAs in 2023, by patient age and sex. Total number of patients (*left*) and patients on high doses of opioids and BZRAs (*right*).

Concurrent Use of Opioids and BZRAs

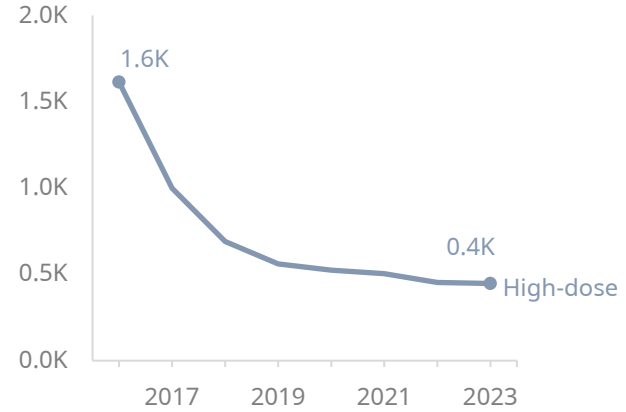
Trends

Trend in concurrent use of opioids and BZRAs

Patients receiving opioids and BZRAs
(in thousands)



Patients receiving 90+ OME and 2+ DDD per day
(in thousands)



At risk includes patients at risk of concurrent use of opioids and BZRAs, defined as patients with supply of one drug category (e.g., opioids) for 60 or more days, and at least one dispense for a drug in the other category (e.g., BZRA) within the same year.

Co-use includes all patients on concurrent use of opioids and BZRAs, defined as patients with overlapping supply of both drug types for 60 days or more within a 91-day period.

High-dose includes patients on concurrent use while receiving doses of 90 or more OMEs per day and 2 or more DDDs per day.

Percentage of patients on concurrent use

(in thousands)

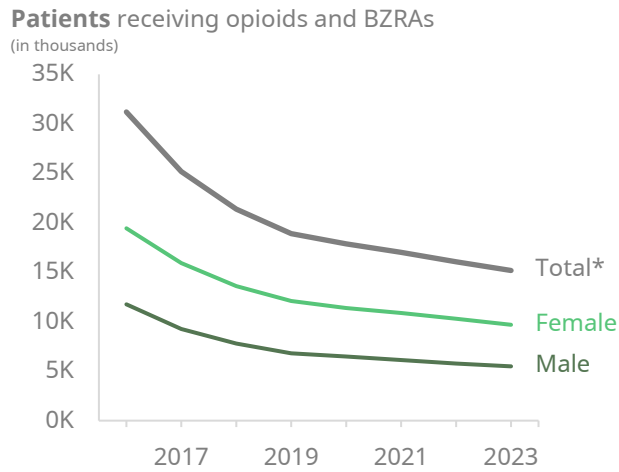


Figure 65. Trend in concurrent use of opioids and BZRAs between 2016 and 2023. Total patients at risk of concurrent use (*top left; grey*), number of patients on concurrent use (*top left; dark blue*), and patients on high doses of opioids and BZRAs (*top right*). Proportions in the bottom left panel are expressed as a ratio to the total patients at risk of concurrent use of opioids and BZRAs. See [Methodology section](#) for more details.

Concurrent Use of Opioids and BZRAs

Trend in concurrent use of opioids and BZRAs

By patient sex



* Total includes patients with unknown sex.

By patient age

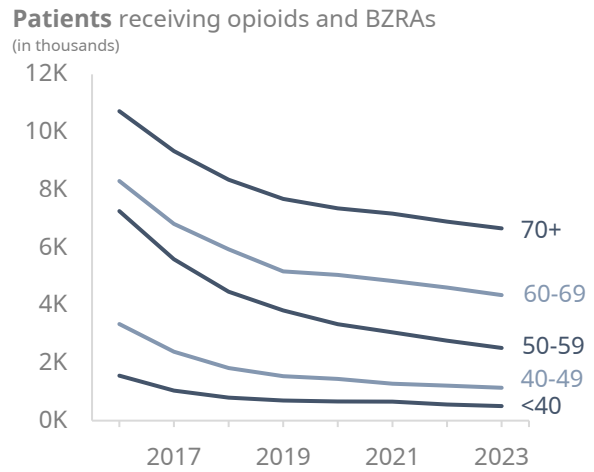
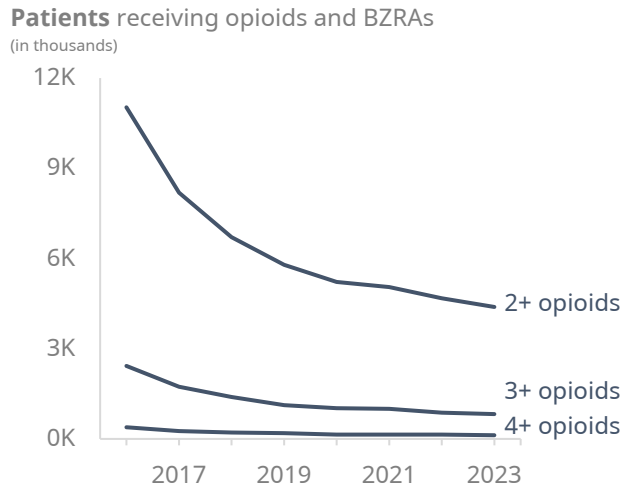


Figure 66. Trend in number of patients on concurrent use of opioids and BZRAs between 2016 and 2023, by patient sex (*left*) and age group (*right*). The colours are to help differentiate the lines.

Concurrent Use of Opioids and BZRAs

Trend in concurrent use of opioids and BZRAs

By number of opioids



By number of BZRAs

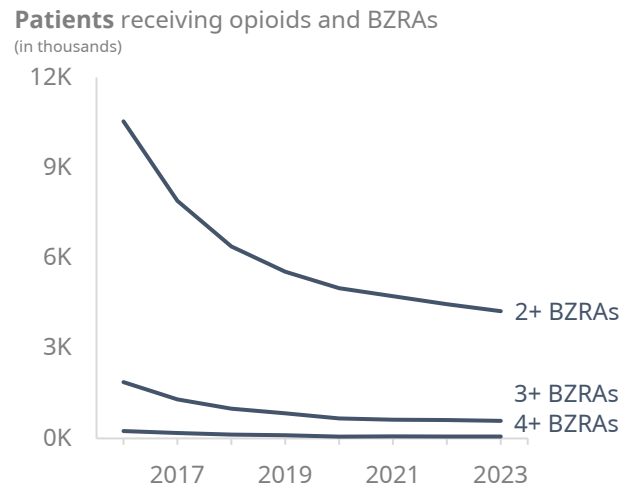


Figure 67. Trend in number of patients on concurrent use of opioids and BZRAs between 2016 and 2023, by number of opioids (*left*) and BZRAs (*right*).

Trend in concurrent use of opioids and BZRAs

By number of prescribers

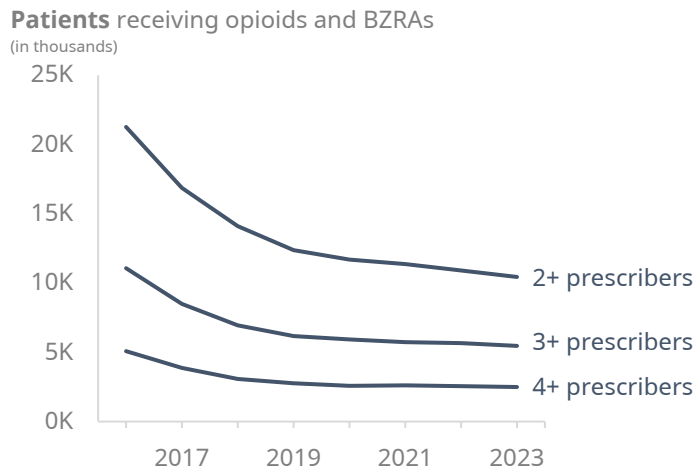


Figure 68. Trend in number of patients on concurrent use of opioids and BZRAs between 2016 and 2023, by number of prescribers.

Appendix 1. List of Drugs

For a detailed list of drugs included in this Atlas, see [BC Prescription Drug Atlas – Opioids and BZRAs – 2024 – Appendix 1 - Drug List](#). Drugs used exclusively for OAT or PA are not listed, as records are not included in this Atlas.

Note that some drugs may not have any records in the period included in this Atlas.

Appendix 2. Conversion Factors

Oral Morphine Equivalent (OME) Conversion Factors

Main ingredient	Route	OME factor (mg)
Buprenorphine	Transdermal (mcg/h)	12.6 (1.8 x 7 days)
	Buccal film (mcg)	0.03
Butorphanol	Nasal spray	7
Codeine	Oral	0.15
	Intramuscular	0.25
Fentanyl	Buccal, sublingual	0.13
	Film	0.18
	Transdermal (mcg/h)	7.2 (2.4 x 3 days)
	Intramuscular, intravenous	0.2
	Sufentanil (intramuscular, intravenous)	2
Hydrocodone	Oral	1
Hydromorphone	Oral, rectal	5
	Intramuscular, intravenous	15
Meperidine	Oral	0.1
	Intramuscular, intravenous	0.4
Methadone*	Oral	3*
Morphine	Oral, rectal	1
	Intramuscular, intravenous	3
	Epidural	30
Nalbuphine	Intramuscular, intravenous	3
Opium	Oral	1
Oxycodone	Oral, rectal	1.5
Oxymorphone	Oral	3
	Rectal	3.5
	Intramuscular, intravenous	30
Pentazocine	Oral	0.37
	Intramuscular, intravenous	1
Propoxyphene	Oral	0.15
Remifentanil	Intravenous	300

Appendix 2

Main ingredient	Route	OME factor (mg)
Tapentadol	Oral	0.4
Tramadol	Oral	0.2

* Methadone products have varying OME, whereby the conversion factor increases with increasing doses due to prolonged and variable half-life. OME of 3 is typically valid for lower doses of methadone (<30 mg), beyond which the conversion factor may not be accurate. However, this OME will be used as the conversion factor for all methadone products as a standard reference for consistency throughout this document.

Resources

- [Statement regarding the use of opioid analgesics in patients with chronic non-cancer pain. Opioid dose equivalence calculation table \(Faculty of Pain Medicine, Australian and New Zealand College of Anaesthetists, 2021\)](#)
- [US Dept. of Health and Human Services. Opioid Oral Morphine Milligram Equivalent \(MME\) conversion factors table for prescription drug coverage. Jan 01, 2020](#)
- [MD Snapshot-Prescribing, College of Physicians & Surgeons of Alberta](#)
- [Calculation of Oral Morphine Equivalents \(OME\) – University of California San Francisco](#)
- [Opioid Oral Morphine Milligram Equivalents \(MME\) Conversion Factors](#)

Appendix 2

Defined Daily Dose (DDD) Conversion Factors

DDD values are defined by the World Health Organization and are the assumed average maintenance dose per day for a drug used for its main indication in adults.

Main ingredient	Route	DDD factor (mg)
Alprazolam	Oral	1
Bromazepam	Oral	10
Chlordiazepoxide	Oral	30
Clobazam	Oral	20
Clonazepam	Oral	8
Clorazepate Dipotassium	Oral	20
Diazepam	Oral, rectal, parenteral	10
Estazolam	Oral	3
Eszopiclone	Oral	2
Flurazepam	Oral	30
Ketazolam*	Oral	Not defined
Lorazepam	Oral, sublingual, parenteral	2.5
Midazolam	Parenteral	15
Nitrazepam	Oral	5
Oxazepam	Oral	50
Temazepam	Oral	20
Triazolam	Oral	0.25
Zaleplon	Oral	10
Zolpidem	Oral	10
Zopiclone	Oral	7.5

* Ketazolam products do not have a DDD defined by the WHO. Ketazolam records are included for dispenses, patients, prescribers, and pharmacy counts, but do not contribute to indicators based on daily dose.

Resources

- [WHO Collaborating Centre for Drug Statistics Methodology](#)

Appendix 3. Data

For the data used in the visuals presented in this Atlas, see [BC Prescription Drug Atlas – Opioids and BZRAs – 2024 – Appendix 3 – Data](#).