A Program administered by the College of Physicians and Surgeons of Saskatchewan

2021 Annual Report
(For the period of April 1, 2021 – March 31, 2022)

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June 30, 2022

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Prescription Review Program Overview

The Prescription Review Program (PRP) is an educationally focused program administered by the College of Physicians and Surgeons of Saskatchewan (CPSS) on behalf of the Ministry of Health. The Program monitors for potentially inappropriate prescribing of a provincially designated panel of prescription medications with potential for misuse, abuse and diversion.

Qualified and licensed clinical staff, including the Pharmacist Manager, Program Pharmacist and Analyst (Pharmacy Technician) are authorized to provide clinical advice, information, and analysis for the program. Operations oversight including human resources, reporting and administrative support are provided by the Operations Manager and the Administrative Assistant.

This small team also fulfills the program requirements for the Opioid Agonist Therapy Program (OATP), and work related to First Nations Inuit Health Branch (FNIHB) project funding.

Enquiries, Collaboration and Educational Outreach

Between April 1, 2021 and March 31, 2022, PRP staff logged 361 calls related to the program. Examples of calls include physicians seeking pharmaceutical advice regarding a patient, pharmacists asking for clarification/support for prescriptions they are filling and the public reporting alleged misuse of medications. Telephone calls can be complex and involve a large time commitment from the clinical staff.

In November 2021, key stakeholders were invited to provide feedback for a possible change to bylaw 18.1 to allow part fills for some PRP medications without requiring all the written requirements for part fills of controlled drugs.

The following amendments were made to Bylaw 18.1 (**Appendix A**) during the fiscal year:

- January 2021 - approval for physicians to provide verbal prescriptions in certain circumstances
- June 2021 - changes regarding prescription electronic transmission, as consistent with the requirements of the Saskatchewan College of Pharmacy Professionals
- March 2022– approval to allow part fills for some PRP medications without requiring all the written requirements for part fills of controlled drugs.

The PRP Analyst continued working closely with eHealth information technology staff to verify data, update and create new reports in Micro Strategy and DUR for the program. Examples of reports include Activity Alert Report, Dual Drug report and Table Maintenance.

The Pharmacist Manager, PRP/OATP continued to serve as an advisory committee member for both the Medication Assessment Centre Interprofessional Opioid Pain Service (MAC iOPS) MAC iOPS and medSask.

Presentations to the Saskatchewan International Physician Practice Assessment (SIPPA) candidates continued to be provided virtually by the Pharmacist Manager and Analyst.

The Pharmacist Manager, PRP/OATP was again invited as a guest lecturer by the University of Saskatchewan, and also assisted with labs.

Two students that included one from the College of Medicine and one from College of Pharmacy and Nutrition completed projects for the PRP. They focused on understanding appropriate and inappropriate opioid prescribing in Saskatchewan and analysis of the PRP Prescriber Snapshot tool. Findings from the projects will be used to inform future work.

The PRP clinical staff continued to work closely with other CPSS departments providing clinical expertise as requested included assisting with patient referrals and providing prescribing trend analysis to assist with internal audits. The team also completed 255 PRP prescribing profile checks for the Registration department related to supervisors, assessors, licensure changes and SIPPA candidates and 25 requests for PRP related information from the Quality-of-Care department.

Several projects related to Goal #4 of the CPSS Strategic Plan: Optimal Physician Prescribing of Opioids, moved forward. Items underway or completed in 2021 include:

- The Pharmacist Manager, PRP/OATP created two surveys which were sent to all Saskatchewan physicians in early 2022. Results will be presented to CPSS Council to inform future work:
    - Optimal Physician Prescribing of Opioids (**Appendix B**)
    - Optimal Physician Prescribing: Familiarity with Current Guidelines and Best Practice **(Appendix C**)
- A cross country environmental scan of existing opioid prescribing education programs was completed in early 2022. Analysis of the scan will inform the need for further programming recommendations
- The Opioid Prescribing Self-Assessment Tool continues to be implemented through the CPSS Quality-of-Care Department
- Monitoring and follow up continues with physicians regarding the requirement to have access to the Pharmaceutical Information Program (PIP) or electronic Health Record (eHR) Viewer prior to prescribing opioids

Referrals

- Twenty-five referrals were made to CPSS for instances where follow up was required with a physician such as an inappropriate reply, failure to respond and ongoing concerns.
- Referrals were also made to other regulatory bodies so they can follow up with their own members as they see appropriate. The following referrals were made between April 1, 2021 and March 31, 2022.
    - Saskatchewan College of Pharmacy Professionals – 15
    - College of Registered Nurses of Saskatchewan – 11
    - College of Dental Surgeons of Saskatchewan - 1

Prescription Monitoring

The PRP clinical staff request prescribing rationale from physicians when data indicates possible concerns and/or inappropriate prescribing. After reviewing a physician's response, recommendations are provided through a response letter to the physician.

Types of Program Correspondence (April 1, 2021 – March 31, 2022)	Count
Explain Letter – letters sent to physicians to obtain their rationale for prescribing. Common triggers can include, but are not limited to a pattern of early refills, chronic use of benzodiazepines, potentially dangerous drug combinations, large quantities, history of unexpected UDS, use of brand name vs generic formulations	**265** letters sent to **177** physicians regarding **224** patients
Response/Recommendations – letters sent in reply to a physician's Explain letter response. These most often contain recommendations and helpful resources	**219**
Alert – letters sent to physicians to alert them of potential diversion, early fills, or other patient concerns and includes specific advice and follow-up analysis. Typically has not required a response in the past, but specific questions regarding safeguards were added in January 2022 which require a response.	**48** Alerts sent to **39** physicians regarding **41** patients
Multi-Doctor Letters (MDLs) – letters sent to physicians where ≥3 similar prescriptions from ≥3 prescribers at ≥3 locations	**196** letters sent regarding **63** patients
Law Enforcement Requests – when a patient's medication profile is provided to law enforcement for an active investigation	**65**
Educational letters • **Pediatric codeine use (Appendix D)** • **Dilaudid® (Appendix E)** • **Ritalin® (Appendix F)** • **Miscellaneous (PRP prescribing requirements, eHR Viewer access, etc.)**	**86** letters sent to **74** physicians regarding **84** patients **379** letters sent to **184** physicians regarding **376** patients **135** letters sent to **97** physicians regarding **133** patients **26** letters sent **26** physicians

Approximately six to nine months after educational letters are sent, analysis is completed to determine if any of the recommendations provided have been implemented. Follow-up plans include commending physicians who have implemented recommendations and follow-up letters to those physicians who have not to better understand their prescribing rationale. In the initial analysis of the brand-name formulation of methylphenidate (Ritalin®) letters that were sent out, 20% of prescribers had switched their patients from brand name to the generic formulation. Analysis of other educational letters sent out has begun and will be reported on in future reports.

Follow up on Alert letters involves reviewing patient profiles and previous correspondence to determine if anything concerning needs to be addressed. Based on that analysis, a follow-up letter may be sent to the physician, or it may be determined that the profile requires further analysis at a later date.

PRP Medication Use in Saskatchewan for 2021 - Trends and Insights

An overview of the PRP medications dispensed in Saskatchewan are available in (***Appendices G-Q***). Dispensing quantities from 2017 to 2021 are provided to allow for a comparison and to identify possible trends.

Stimulants

Stimulant prescribing increased across all formulations compared to the previous fiscal year. There has been an increase in media coverage regarding the influx of adults seeking ADHD diagnosis and treatment during the pandemic. The pandemic itself is also likely a contributing factor, with a collapse of routines and schedules.

Long-acting psychostimulants (e.g. Biphentin®, Concerta™, Foquest®, Vyvanse®, Adderall XR®) have shown a more significant trend upward. This would be expected, given that the current 2020 Canadian ADHD Resource Alliance (CADDRA) practice guidelines recommend the use of long-acting psychostimulants as first-line treatment agents to improve compliance, treatment response and tolerability (compared to short-acting psychostimulants)[1].

With the increased risk of diversion/misuse of brand name methylphenidate in the province, the PRP has continued educational efforts to inform prescribers of the concerns with prescription stimulants, recommending a change to the generic formulation whenever indicated. These efforts have resulted in a 20% change (on initial contact with follow up analyses still in progress).

Opioids

Fentanyl (transdermal and injectable) dispenses decreased compared to the previous fiscal year. Prescribed and primarily illicit fentanyl (and fentanyl analogues) continue to gain a lot of media attention as a source of overdoses, likely contributing to reduced prescribing. The Saskatchewan Coroner's Service report shows that fentanyl (and fentanyl analogues) was a contributing medication in over 80% of fatal overdoses. It should be noted, however, that the coroner's report does not specify between prescription and illicit-associated deaths.

Hydromorphone remains one of the most prescribed opioids in Saskatchewan, as in the past several years. Brand name hydromorphone prescribing decreased in the last fiscal year, with generic formulations increasing slightly. Given the increased street value[2] of brand name hydromorphone, this is an encouraging trend. More than half of the requests from RCMP for information regarding patient prescriptions involved hydromorphone.

Morphine dispenses were inversely proportional from the previous fiscal year although **Kadian®** 100mg capsule dispensing increased by almost 35%. This may be attributed to the continued potent, illicit drug supply containing fentanyl, with Kadian® prescribing being used to combat withdrawal in the first few weeks of OAT inductions. Overall in 2021, Kadian® prescribing decreased by 5% while there was an increase of nearly 16% for **M-Eslon®**. This shift was likely attributed to drug shortages for M-Eslon® in 2020 and drug shortages for multiple strengths of Kadian® in 2021.

[1] CADDRA - Canadian ADHD Resource Alliance: Canadian ADHD Practice Guidelines, 4.1 Edition, Toronto ON; CADDRA, 2020
[2] Regier L, Crawley A. Prescribing opioids safely: an approach. RxFiles 13th Edition. Saskatoon, SK; 2021

Morphine syrup had been trending downward in the previous fiscal year but saw a 9% increase in 2021. This also was likely attributed to drug shortages, with hydromorphone syrup shortages beginning in 2020 and not being resolved until the end of 2021.

There has been a continued overall downward trend of **oxycodone** dispensing. Although the generic formulation of controlled release oxycodone increased by 10%, its brand name counterpart decreased by 7%. Immediate release oxycodone continued its downward trend by almost 7%. The continued downward trend of immediate release oxycodone is encouraging given the increased rates of euphoria seen not only with immediate release opioids but with oxycodone in general.

Codeine immediate release dispensing increased by 6.5% in 2021 with the 30mg codeine product continuing to be the most dispensed of the products. Codeine syrup products continued a downward trend over the past 5 years resulting in an 80% decrease in dispensing in the last five years. The PRP has continued its educational efforts to inform prescribers of the risks and questionable efficacy of codeine use in pediatrics.

Methadone dispensing continued its downward trend over the past four years with both compounded solutions (NIHB and SPDP) used for opioid agonist therapy (OAT), decreasing by 46% and 38% respectively. This downward trend is likely due to the increased risks of harms of diverted methadone (including fatal overdose), with buprenorphine /naloxone having an increased safety profile.

Partial Opioid Agonists

Buprenorphine/naloxone sublingual tablets continued an upward trend in 2021, increasing by 26%. Given its increased safety profile, this trend is to be expected. With encouraging results in chronic pain, buprenorphine prescribing for patients switching from other chronic high-dosed opioids (who may be experiencing unwanted side effects with their current regimen) has increased, as per PRP data analysis. Injectable formulations of buprenorphine (e.g. Sublocade™, Probuphine™) dispensing have also risen significantly, which can help with medication adherence in OAT.

Anticonvulsants

Gabapentin saw a decrease in dispensing in 2021. Since its addition in 2020, generic **pregabalin** dispensing has increased by 23%. Both medications continue to be misused in Saskatchewan. For 2021, the 300mg gabapentin capsules continued to be the most dispensed strength which are reported to have a higher street value when diverted as compared to the 600mg tablets.

Benzodiazepines

Overall, benzodiazepine prescribing saw a very slight downward trend in the past year. **Clonazepam**, an intermediate benzodiazepine, continued to be the most prescribed benzodiazepine in 2021, with almost all RCMP requests that involved benzodiazepines pertaining to clonazepam.

Antimuscarinics

There was an increase in dispensing of **oxybutynin IR** tablets in 2021. Although marketed for overactive bladder, oxybutynin is sometimes used off-label for hyperhidrosis. There are reports of oxybutynin misuse

in the province[3] which led to its addition to the PRP list of monitored medications in 2020. Reports suggest that oxybutynin can be sold for as much as $5 per tablet.

Anxiolytics Sedatives and Hypnotics

Zolpidem ODT and **zopiclone** dispensing in the province saw an upward trend in the past year. Studies have shown an increase in the rates of prevalent, incident, and persistent insomnia during the COVID-19 pandemic compared to pre-pandemic data[4], which could explain the upward trend.

General Anesthetics

Ketamine injection was added to the PRP list of monitored medications in 2020. Since its addition, we saw an increase in dispensing of 52% in 2021. PRP dispensing data shows that most dispensing is done under strict protocol as part of psychiatric treatment and rarely within the community.

Opioid-Associated Deaths

Unfortunately, the pandemic continued to contribute to a staggering increase in fatal and non-fatal overdoses in Saskatchewan. Fentanyl and fentanyl analogues have been a contributing medication in over 80% of drug toxicity deaths. Experts in addictions medicine in Saskatchewan suggest that contributing factors to the ongoing opioid crisis have included the rapid rise of illicit fentanyl within the community. This coincided with the COVID-19 pandemic impacting the shutdown of services (e.g. treatment centers, narcotic anonymous meetings) and loss of access to support and counselling services[5].

There has been a shift in opioid overdose deaths causing a significant increase among older male adults in comparison to previous years where those aged 30-39 were consistently overrepresented among overdose deaths. This trend is consistent with recent literature published in British Columbia[6]. This shift could be correlated to older adults facing barriers to accessing health services during the pandemic leading to disruptions with regular clinical visits and access to medication assisted treatment. Social isolation, in combination with the factors listed above, has further increased vulnerability within this age group to relapse and overdose during the ongoing pandemic.

The rates of drug toxicity deaths have more than doubled for First Nations peoples since 2019, a devastating trend seen across the country. A recent report out of Ontario highlighted how 116 First Nations people died due to opioid poisoning between March 2020 and March 2021, compared to 50 deaths reported in the previous year in Ontario[7]. This trend is similar to what has been seen in Saskatchewan with 145 confirmed accidental drug toxicity deaths in 2021 versus 60 confirmed accidental drug toxicity deaths in 2019. In their report, the Ontario Drug Policy Research Network highlighted the need for increasing access to harm reduction services and reducing barriers to access opioid agonist treatment, particularly in rural and remote areas of the province.

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[3] Cousins C, Jensen K, Bell C. Oxybutynin Misuse. MedSask, 2018. Available from: https://medsask.usask.ca/documents/Oxybutynin-Misuse.pdf

[4] Morin C, Vézina-Im L, Ivers H, Micoulaud-Franchi JA, Philip P, Lamy M, Savard J, Prevalent, incident, and persistent insomnia in a population-based cohort tested before (2018) and during the first-wave of COVID-19 pandemic (2020), *Sleep*, Volume 45, Issue 1, January 2022, zsab258, https://doi.org/10.1093/sleep/zsab258

[5] https://medicine.usask.ca/news/2021/pandemic-worsens-opioid-crisis-in-sask.php

[6] Palis, H., Bélair, M.-A., Hu, K., Tu, A., Buxton, J. and Slaunwhite, A. (2022), Overdose deaths and the COVID-19 pandemic in British Columbia, Canada. Drug Alcohol Rev., 41: 912-917. https://doi.org/10.1111/dar.13424

[7] https://chiefs-of-ontario.org/wp-content/uploads/2021/11/First-Nations-COVID-Opioid-Related-Poisoning-Report-25NOV2021-002.pdf

Appendix A: CPSS Regulatory Bylaw 18.1

18.1 The Prescription Review Program

(a) Panel of Monitored Drugs – The Prescription Review Program shall apply to all dosage forms of the following drugs, their salts and/or enantiomers, in all dosage forms, as a single active ingredient or as a combination product, except where indicated otherwise:

AMPHETAMINES
ANABOLIC STEROIDS
ANILERIDINE
BACLOFEN
BARBITUATES
BENZODIAZEPINES
BUPRENORPHINE
BUTALBITAL
BUTALBITAL WITH CODEINE
BUTORPHANOL
CHLORAL HYDRATE
COCAINE
CODEINE
DIACETYLMORPHINE
DIETHYLPROPION
DIPHENOXYLATE
FENTANYL
GABAPENTI
HYDROCODONE
DIHYDROCODEINONE
HYDROMORPHONE
DIPHRYDROMORPHONE
KETAMINE
LEMBOREXANT
LEVORPHANOL
MEPERIDINE – PETHIDINE
METHADONE
METHYLPHENIDATE
MORPHINE
NORMETHANDONE-P-HYDROXYEPHEDRINE
OXYBUTYNIN
OXYCODONE
OXYMORPHONE

PANTOPON
PENTAZOCINE
PHENTERMINE
PREGABALIN
PROPOXYPHENE
REMIFENTANIL
SUFENTANIL
TAPENTADOL
TRAMADOL
ZOLPIDEM
ZOPICLONE

(b) Prescriptions for drugs covered by the Prescription Review Program shall be issued by physicians according to the policies and procedures agreed to and amended from time to time by the College of Dental Surgeons of Saskatchewan, the College of Physicians and Surgeons of Saskatchewan, the Saskatchewan Registered Nurses Association and the Saskatchewan College of Pharmacy Professionals.

(c) In order to prescribe a drug to which the Prescription Review Program applies, physicians shall complete a written prescription which meets federal and provincial legal requirements and includes the following:

(i) The patient's date of birth;
(ii) The patient's address;
(iii) The total quantity of medication prescribed, both numerically and in written form;
(iv) The patient's health services number; and,
(v) The prescriber's name and address.

(d) For the purpose of this bylaw, "written prescription" includes an electronic prescription that meets the requirements for electronic prescribing under the Pharmaceutical Information Program.

(e) A physician who prescribes a drug to which the Prescription Review Program applies, and who provides the prescription directly to a pharmacy by secure electronic prescribing, by FAX, or who transmits a prescription in accordance with the policies and protocols of the Pharmaceutical Information Program, need not include both the quantity numerically and in written form.

(f) Notwithstanding paragraphs (c) to (e), a physician can provide a verbal prescription for a drug to which the Prescription Review Program applies if the physician concludes that it isn't reasonably possible to provide a written prescription or an electronic prescription. The physician must include the information required by paragraph (c) in the verbal prescription.

(g) If a physician is registered on the Educational Register, the physician shall, in addition to the information in paragraph (c) above, include the following in a prescription for a drug to which the Prescription Review Program applies:

(i) The training level of the physician writing the prescription;
(ii) The legibly printed name of the Most Responsible Physician (the physician to whom queries regarding the prescription should be addressed);
(iii) The legibly printed name of the physician writing the prescription.

(h) Other than as set out in paragraph (i), physicians shall only prescribe part-fills of medications to which the Prescription Review Program applies if the following information is specified in the prescription:

(i) The total quantity;
(ii) The amount to be dispensed each time; and
(iii) The time interval between fills.

(i) The requirements related to part fills in paragraph (h) shall not apply to prescriptions for the following medications:

(i) baclofen
(ii) chloral hydrate
(iii) gabapentin
(iv) oxybutynin
(v) pregabalin
(vi) lemborexant
(vii) zopiclone

(j) The office of the Registrar may gather and analyze information pertaining to the prescribing of medications to which the Prescription Review Program applies in Saskatchewan for the purpose of limiting the inappropriate prescribing and inappropriate use of such drugs. In order to fulfill that role, the office of the Registrar may, among other activities:

(i) Generally, provide education to physicians in order to encourage appropriate prescribing practices by physicians registered by the College;
(ii) Alert physicians to possible inappropriate use of medications to which the Prescription Review Program applies by patients to whom they have prescribed such drugs;
(iii) Alert physicians to possible inappropriate prescribing of medications to which the Prescription Review Program applies;
(iv) Make recommendations to a physician with respect to the physician's prescribing of medications to which the Prescription Review Program applies;
(v) Require physicians to provide explanations for their prescribing of medications to which the Prescription Review Program applies. In making requests for explanations, the office of the Registrar may require the physician to provide information about the patient, the reasons for prescribing to the patient, and any knowledge which the physician may have about other narcotics or controlled drugs received by the patient;
(vi) Cause information, concerns or opinions of general application to the profession to be communicated to the physicians registered by the College without identifying the particular

physician to whom such information relates;

(vii) Provide information gathered in connection with the Prescription Review Program to another health professional body including the College of Dental Surgeons of Saskatchewan, the Saskatchewan College of Pharmacists or the College of Registered Nurses of Saskatchewan, provided the information gathered is required by that body to perform and carry out the duties of that health professional body pursuant to an Act with respect to regulating the profession. Where the personal health information relates to a member of the health professional body seeking disclosure, disclosure by the Registrar of that information may only be made in accordance with The Health Information Protection Act, and in particular section 27(5) or that Act.

(k) Physicians shall respond to such requests for explanation, as described in paragraph (j)(v) above, from the office of the Registrar within 14 days of receipt of such a request for information.

(l) The Registrar, Deputy Registrar, or Prescription Review Program Supervisor may extend the deadline for reply at their discretion, upon receipt of a written request for extension from the physician.

(m) All physicians who receive such a request for information will comply, to the best of their ability, fully and accurately with such requests for information.

(n) Failure to comply with paragraphs (j)(v), (k) and (m) above is unbecoming, improper, unprofessional or discreditable conduct.

(o) Members shall keep a record of all drugs to which the Prescription Review Program applies that are purchased or obtained for the member's practice and a record of all such drugs administered or furnished to a patient in or out of the physician's office, showing:

(i) the name, strength and quantity of the drug purchased or obtained;
(ii) the name, strength, dose and quantity of the drug administered or furnished;
(iii) the name and address of the person to whom it was administered or furnished, and, if applicable, the name and address of the person who took delivery of the drug; and
(iv) the date on which the drug was obtained and the date(s) on which the drug was administered, furnished or otherwise disposed of.

(p) The record referred to in paragraph (o) shall be kept separate from the patient's medical record.

Appendix B: Physician Survey: Optimal Physician Prescribing of Opioids

Dear Physician,

One of the goals for the College of Physicians and Surgeons of Saskatchewan's Strategic Plan (2020-2024) is optimal physician prescribing of opioids. A key initiative is to survey physicians to identify what information would assist to improve prescribing.

We would appreciate your participation (7-10 min) in our brief questionnaire to gain insight into what would assist physicians to improve opioid prescribing.

Questionnaire:

1. Do you think a safe opioid prescribing course should be required for all licensed physicians?
   o Yes
   o No
   Comments:

2. Assuming no physical distancing restrictions, how do you prefer to receive educational training?
   o Online courses (reading or recording)
   o Online courses (real-time, active participation)
   o Didactic learning (e.g., in-person conference, lecture-style)
   o In-person, interactive problem-based learning
   o Series of seminars
   Other (please specify)

3. Have you ever participated in an educational activity related to opioid prescribing?
   o Yes, please specify the training and what you found most useful
   o No
   Comments:

4. Approximately how many patients with chronic non-cancer pain do you prescribe chronic opioids for?
   Comments:

5. How familiar are you with *the 2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain*?
   o Not familiar at all
   o Somewhat unfamiliar
   o Neutral
   o Somewhat familiar
   o Very familiar
   Comments:

6. What kind of information would you like to learn more about regarding safe and effective prescribing for chronic non-cancer pain? (Check all that apply)

- o Opioid pharmacology
- o Safe and appropriate initiation of opioids
- o Monitoring patients on opioids
- o Managing difficult behaviors
- o Employing multi-modal approaches to complex chronic pain
- o Deprescribing (planned and monitored dose reduction of a medication that is no longer of benefit and/or may be causing harm)
- o Opioid rotations/switching
- o Applying *The 2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain* to real-life practice
- o Reducing risks associated with opioid prescribing
- o Assessing and addressing opioid use disorder
- o Other, please specify

Comments:

7. Which resources do you find most helpful when managing patients with complex, chronic pain? (Check all that apply)
   - o The 2017 Canadian Guideline for Opioid for Chronic Non-Cancer Pain
   - o UpToDate
   - o RxFiles
   - o Consulting pharmacist
   - o Consulting nurse
   - o Drug company
   - o Internet resource, please specify

   Comments:

8. How confident are you planning and carrying out opioid deprescribing?
   - o Not at all confident
   - o Not so confident
   - o Somewhat confident
   - o Very confident
   - o Extremely confident

   Comments:

9. How confident are you planning and carrying out opioid rotations?
   - o Not at all confident
   - o Not so confident
   - o Somewhat confident
   - o Very confident
   - o Extremely confident

   Comments:

10. What are the biggest challenges you face when managing patients with chronic non-cancer pain?
    Comments:

11. Before prescribing opioids, how often do you access PIP (Pharmaceutical Information Program) or the medication tab via eHR (electronic Health Record) Viewer?
    - o Never
    - o Rarely
    - o Half the time
    - o Most of the time
    - o Always

    Comments:

12. Should providers be required to access PIP/eHR Viewer prior to prescribing high-risk medications?
    - o Yes
    - o No

    Comments:

13. Are you an approved Opioid Agonist Therapy Prescriber for opioid use disorder?
    If **yes**, what are some of the biggest barriers with this work?
    If **no**, what is the biggest barrier that you foresee in providing this service?
    Comments:

Thank you for completing this survey! Your feedback and time are appreciated.

Appendix C: Survey: Optimal Physician Prescribing : Familiarity with Current Guidelines & Best Practice

Preamble: One of the goals for the College of Physicians and Surgeons of Saskatchewan's Strategic Plan (2020-2024) is optimal physician prescribing of opioids. A key initiative is to establish baseline compliance rate for physicians prescribing opioids in accordance with Canadian guidelines and best practice.

We would appreciate your participation (7-10 min) in our brief questionnaire to gain insight into current knowledge of Canadian guidelines/best practices and help to inform where we need to focus efforts to optimize opioid prescribing for Saskatchewan residents.

Part I: **Identification**

I am a:

- ☐ Family physician
- ☐ Specialist
    - Please specify specialty:

Part II: Adherence to opioid Canadian guidelines and best practices for the management of chronic non-cancer pain

Part IIa:

1	2	3	4	5
Never	Less than 25%	25-75%	More than 75%	Always

Before initiating opioid therapy for a patient who is opioid naïve (i.e. a patient who has not received opioids in the previous 30 days), what percentage of your patients with non-cancer pain do you:

1. Explain the potential harms of long-term opioid therapy
2. Explain the potential benefits of long-term opioid therapy
3. Prescribe a dose less than 50mg morphine equivalents daily
4. Assess for past/current substance use disorders and active psychiatric disorders
5. Assess the patient's level of function (e.g. social, recreational, occupational)
6. Confirm that opioids have been shown to provide an overall benefit for the condition you are prescribing opioids for
7. Have the patient sign a treatment agreement
8. Assess the patient's level of pain intensity using a scale
9. If a patient is currently prescribed a benzodiazepine, attempt deprescribing
10. Assess the risk of opioid use disorder using a screening tool
11. Perform urine drug screening

12. (*For patients who require an opioid only*) Provide a short-term prescription (i.e. ≤ a 3-day supply of medication) when initiating opioid therapy for a patient who is opioid naïve (i.e. a patient who has not received opioids in the previous 30 days)

Part IIb:

Please provide the minimum and maximum quantity of opioid tablets you prescribe when initiating opioid therapy for a patient who is opioid naïve (i.e. a patient who has not received opioids in the previous 30 days).

Part IIc:

Please identify all of the barriers to implementing Canadian guidelines/best practices when prescribing opioids for chronic non-cancer pain

- ☐ Lack of familiarity of current guidelines/best practices
- ☐ Guidelines are labour intensive
- ☐ Difficulty of calculating morphine equivalents
- ☐ Lack of patient buy-in
- ☐ Disagreement(s) with tenets of the guidelines/best practices
- ☐ Competing demands
- ☐ Guidelines/best practices are difficult to implement
- ☐ Other:_____

Part III: Pain management knowledge

Source: *KnowPain-12 Questionnaire* (validated questionnaire)

Gordon DB, Loeser JD, Tauben D, Rue T, Stogicza A, Doorenbos A. Development of the KnowPain-12 Pain Management Knowledge Survey. Clin J Pain. Oct 16.2013.

Link: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3989468/

The following questions are designed to briefly assess knowledge regarding chronic non-cancer pain.

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. When I see consistently high scores on pain rating scales in the face of minimal or moderate pathology, this means that the patient is exaggerating his/her pain					
2. In chronic pain, the assessment should include measurement of the pain intensity, emotional distress, and functional status					

3. Early return to activities is one of my primary goals when treating a patient with recent onset back pain					
4. There is good evidence that psychosocial factors predict outcomes from back surgery better than the patient's physical characteristics					
5. Antidepressants usually do not improve symptoms and function in chronic pain patients					
6. Cognitive behavioral therapy is very effective in chronic pain management and should be applied as early as possible in the treatment plan for most chronic pain patients					
7. I feel comfortable calculating conversion doses of commonly used opioids					
9. There is good medical evidence that interdisciplinary treatment of back pain is effective in reducing disability, pain levels, and in returning patients to work					
10. I believe that chronic pain of unknown cause should not be treated with opioids even if this is the only way to obtain pain relief					
11. Under Canadian federal regulations, it is not lawful to prescribe an opioid to treat pain in a patient with a diagnosed substance use disorder					
12. I know how to obtain information about both provincial and federal requirements for prescribing opioids					

Appendix D: Education letter - pediatric codeine use

101 - 2174 Airport Drive
Saskatoon, SK S7L 6M6
Business: (306) 244-7355
Fax: (306) 244-0090
email: prp@cps.sk.ca
www.cps.sk.ca

******Informational: Response NOT Required******

DATE

{Doctor IMIS address info}

PERSONAL AND CONFIDENTIAL

Re:
HSN:
DOB:

Dear Dr.

The *Prescription Review Program* (PRP) is Saskatchewan's educationally focused prescription monitoring program administered by the **College of Physicians and Surgeons of Saskatchewan**.

Recently, we conducted an analysis to assess codeine prescribing in Saskatchewan patients under the age of 18 years in response to the updated Health Canada advisory warning that individuals under 18 years of age should not use non-prescription pain relief products containing codeine (previously not recommended for children under the age of 12 years)[1]. Health Canada provided an additional warning about the use of prescription cough and cold products containing opioids and the risk of opioid use disorder in children and adolescents (<18 years of age) as well as the risk of opioid toxicity[10]. Current literature suggests that early exposure to opioids in childhood and adolescence may put patients at risk for opioid-related adverse events throughout life[2,6].

Historically, codeine was the preferred opioid analgesic in pediatrics, given the perception of safety and wide therapeutic index[2]. While there may be a lower incidence of CNS and respiratory depression after a single dose, the lower risk may not exist after subsequent doses[9]. As such, the thinking surrounding codeine safety changed around 2011 when the WHO noted that "efficacy and safety were questionable in an unpredictable portion of the pediatric population"[2]. Today, unless codeine has already been prescribed for a chronic condition, initiating treatment with codeine is not recommended.

Codeine, a prodrug with weak binding to the mu opioid receptor, has highly unpredictable metabolic properties, making it a risky therapeutic option for the pediatric population. The bioactivation to

morphine provides the analgesic properties of codeine. Codeine is converted to morphine with the hepatic cytochrome P450 2D6 enzyme and analgesia is dependent on the individual's CYP2D6 gene.
As a result, those with inactive CYP2D6 are "poor metabolizers" and will experience reduced pain relief as a result of the medication, given the reduced conversion to morphine. On the other hand, "ultra-rapid metabolizers" are at risk of overdose and adverse/toxic effects (which have resulted in pediatric deaths)[13], even at lower doses, because of the rapid and complete metabolism to morphine[3,4].

It has been estimated that anywhere from 77-92% of patients are considered "normal metabolizers", suggesting expected enzyme activity and morphine formation; thus "normal metabolizers" are candidates for dosing based on labeled recommendations[3]. Unfortunately, without genetic testing, gene variation is largely unknown in our general population.

It is always important to consider stepwise non-opioid and non-pharmacological options in pediatrics as first-line therapy. Multimodal analgesia for acute pain is most effective for pediatric pain management, preventing transition from acute to chronic pain[13]. For chronic pediatric pain, a multidisciplinary approach is recommended (e.g. physical therapy; occupational therapy; psychological intervention; "normalizing" life with school, sleep, and social activities; etc.)[13].

WHO Principles for Pharmacologic Management of Pain[14]
Treatment of persisting pain due to medical illness relies on key concepts:

- Two-step strategy:
  - Step 1 (mild pain): acetaminophen and ibuprofen are the medicines of choice
  - Step 2 (moderate to severe pain): morphine$^{\pm}$ is the medicine of choice
    - *Bypassing Step 1 requires cautious clinical judgment (e.g. pain severity, consideration of disability caused by pain, cause of pain, expected prognosis, etc.)*
- Dose at regular intervals, while monitoring side-effects
- Consider the appropriate route of administration (e.g. IM can be painful with erratic absorption; rectal can have unreliable bioavailability)
- Adapt treatment to the individual child

Therapeutic Options[5]

Minor Burns	-Cold compress -Ibuprofen or acetaminophen
Earache	-Warm cloth -Ibuprofen or acetaminophen (initiate quickly) -Auralgan (antipyrine & benzocaine) – avoid with perforated ear drum
Emergency Trauma	-Musculoskeletal: ibuprofen (superior to acetaminophen or codeine) -Opioids* (e.g. morphine$^{\pm}$) if moderate to severe pain**
Heel Poke	-Breastfeeding, sucrose
Immunization	-Pressure at site -Sucrose (infants up to 12 months of age) -Topical anesthetics
Open wound (foreign body ruled out)	-Topical anesthetic (e.g. LET, lidocaine 4%/epinephrine 0.1%/tetracaine 0.5%) – avoid mucous membranes; avoid epinephrine on digits, nose tip, ear, penis -Tissue adhesive

**Appropriate monitoring for respiratory depression, sedation and reduced consciousness is essential*[8]

‡For acute/persisting pain treatment, if an opioid is indicated, morphine is usually preferred over codeine because of the CYP 2D6 polymorphisms and case-reports associated with overdose from codeine[11,14]
***In an RCT of children presenting to the ED with an uncomplicated extremity fracture, children received oral morphine (0.5mg/kg) or ibuprofen for 24 hours after discharge. No significant difference in analgesic efficacy was noted between oral morphine and ibuprofen; morphine was associated with significantly higher adverse effects[7].*

Topical Anesthetics (for Intact Skin)[5]

Drug	**Application**	**Caution**
Emla (lidocaine + prilocaine)	60+ min prior with occlusion	-Vasoconstriction -Rare risk of methemoglobinemia
Lidocaine cream	60+ min prior with occlusion	-Vasoconstriction (venous access?)
Maxilene (Liposomal Lidocaine)	30+ min prior	-Minimally vasoactive

Topical analgesics may also be considered for chronic pain[8].

General Non-Pharmacological Suggestions (as age appropriate)[5,8]

- Affirmative language
- Parental counselling – parental anxiety in the context of children undergoing acute procedural pain is one of the most powerful predictors of pain outcomes[15]
- Consider psychology/psychiatry consult if necessary
- Physical comfort strategies (e.g. kangaroo care, comfort positioning)
- Distraction (books, bubbles, TV, breathing, breastfeeding, music, virtual reality, conversation)
- Hot/cold compresses (not for neonates)
- Warm blanket
- Massage
- Activity out of bed
- Elevation
- Splinting, bandaging, dressing
- Injury site pressure

Oral Analgesic Therapies and Dosing[5]

Drug	**Dosing**	**Max Daily Dose**
Acetaminophen[#]	10-15 mg/kg/dose every 4-6 hours	75 mg/kg/day Newborn (4-40 wks.): 60 mg/kg/day
Ibuprofen[#]	5-10 mg/kg/dose every 6-8 hours	40 mg/kg/day
Naproxen	2.5-5 mg/kg BID	20 mg/kg/day
Antidepressants (e.g. TCAs), anticonvulsants (e.g. gabapentin)		

[#]Consider initiating opioid-sparing analgesics (with side-effect monitoring) using upper doses to get the pain under control.

Alternating between acetaminophen and an NSAID is not recommended because of the increased risk of adverse effects and potential for errors. Monotherapy is preferred, however, if insufficient, switching is an alternative or combining acetaminophen + NSAID may be used short-term (noting the different dosing

frequency is important). Post-operative pain should be dosed as scheduled ("around the clock") and pre-ambulation or pre-procedure (excluding vaccination) analgesics are usually dosed PRN[8].
Acetaminophen and NSAIDs may have a "ceiling effect" meaning that escalations above the recommended daily maximum dose are unlikely beneficial and may put the patient at a higher risk of adverse effects[8].

As a reminder, if adequate non-opioid measures are ineffective and an opioid is indicated based on clinical judgment, it is strongly recommended that for acute pain and as initial therapy for chronic pain, the opioid prescription duration should not exceed 3 days (with back-up analgesia for beyond 3 days and plans for follow-up, as necessary) at the lowest effective dose alongside appropriate patient/parent/caregiver counselling for use, risk, management of adverse effects (including overdose), storage and potential for misuse[2]. One study showed that 14% of parents gave zero doses of prescription opioids to their children and 79% had leftovers after day 3 post-procedure; as such, discussion around proper disposal is also essential[6]. It is recommended that acetaminophen and opioids are prescribed individually (i.e. not combination products such as acetaminophen with codeine) so that acetaminophen can be administered regularly, and the opioid can be used for breakthrough pain[12].

The Canadian Pediatric Society issued a position statement in March 2021 entitled *The use of oral opioids to control children's pain in the post-codeine era*[16] which provides 5 recommendations for practice to safely manage pediatric pain:

1. Effective and safe pain control should be a focus of treatment plans for children with acute or chronic conditions, based on best practice guidelines and current evidence.
2. Pain control should involve both pharmacologic and nonpharmacologic approaches and be appropriate for the case, setting, and nature of the pain.
3. Medication choice and administrations should be both commensurate with the nature and severity of the pain and demonstrated to be effective and safe for use in children. Analgesics should be used in a stepwise manner, beginning with acetaminophen or nonsteroidal anti-inflammatory drugs (NSAIDs) before progressing to opioids.
4. While there are a number of oral opioid formulations available for analgesia for children, oral morphine is still the drug with the strongest evidence base for efficacy and safety. Other oral opioids appear promising, but more evidence is needed to establish their efficacy, safety, and role in therapy before using them routinely.
5. Research into pain management for children in both acute and chronic settings is urgently needed.

Pediatric pain matters and needs to be treated safely and effectively. This correspondence is provided in hopes of assisting with the management of pediatric pain, incorporating some of the current evidence and resources on the topic.

Sincerely,

Prescription Review Program
College of Physicians and Surgeons of Saskatchewan
Phone: 306-244-7355
Fax: 306-244-0090

Excellent Resources:

- *Solutions for Kids in Pain (SKIP): https://www.kidsinpain.ca/*
- *Commitment to Comfort: https://www.commitmenttocomfort.com/*

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Appendix E: Education letter - Dilaudid®

101 - 2174 Airport Drive
Saskatoon, SK S7L 6M6
Business: (306) 244-7355
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email: prp@cps.sk.ca
www.cps.sk.ca

******Informational: Response NOT Required******

DATE

[Physician iMIS mailing address]

PERSONAL AND CONFIDENTIAL

Re:
HSN:
DOB:

Dear Dr.

The *Prescription Review Program* (PRP) is Saskatchewan's educationally focused prescription monitoring program administered by the **College of Physicians and Surgeons of Saskatchewan**. The aim of this correspondence is to bring to your attention the risks of misuse and diversion associated with hydromorphone (particularly brand-name Dilaudid®) and offer some strategies to reduce the risks. Immediate release hydromorphone is the second most commonly misused/diverted medication that the PRP sends alerts to physicians about (primarily due to RCMP active investigations).

The 2019 Provincial Auditor's report noted that a total of 441,354 opioid prescriptions were filled in Saskatchewan for the 2018-2019 fiscal year with 45% of that total for hydromorphone[1]. Additionally, according to the Saskatchewan Coroner's Service report for drug toxicities between 2010 – 2021, hydromorphone has consistently been one of the leading contributing medications involved in opioid overdoses and deaths[2].

Hydromorphone is a strong semi-synthetic opioid agonist with a similar chemical structure to morphine. Despite its appealing prescribing characteristics (e.g. acceptable use in renal impairment vs. morphine) and flexible dosing, hydromorphone has a high misuse potential and may lead to severe psychological or physical dependence. Studies suggest that hydromorphone has a pharmacodynamic profile similar to heroin and may be subjectively indistinguishable from heroin when injected[8]. As a result, it has a high propensity to be misused.

Red Flags for Drug-Seeking Behavior[5]

- "Allergies" to weak opioids or NSAIDs
- Knows clinical terms/street names for drugs
- Requests specific drugs
- Signs of intoxication or misuse
- Patient is from outside of the local area

Red Flags for Aberrant Prescription Drug Use[5]

- Rapid increase in doses/frequent changes needed/unsanctioned dose increases
- Refusal to engage in non-pharmacological or non-opioid therapy
- Requests for replacement prescriptions for lost or stolen opioids
- Frequent requests for early refills
- Requests for brand-name (instead of generic) or short-acting (instead of long-acting products) [These products have a higher street value]
    - **Current patient(s) receiving brand-name Dilaudid® are highlighted at the top of this letter**
- Missed follow-up assessments

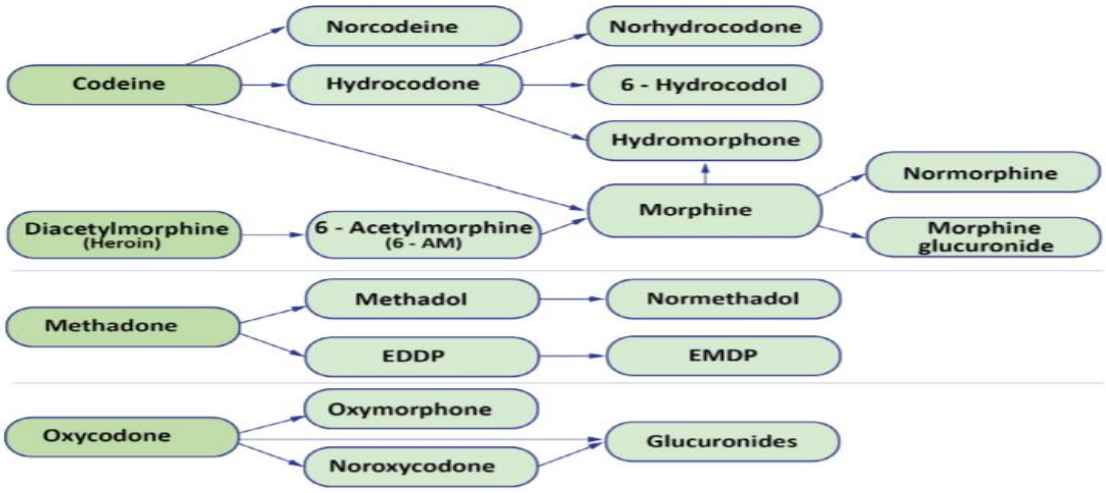
Recommended Strategies

1. Set prescribing boundaries from the get-go and ensure that expectations are reflected in a patient treatment agreement; have compassion but be aware of manipulation

2. Utilize screening tools

- Opioid Risk Tool – assessment of addiction risk
- Visual Analog Scale – objective assessment of pain (useful in follow-up monitoring)
- Urine drug screens
    - While the frequency of urine drug screens is dependent on clinical judgment, requiring a minimum of annual screens (more frequent when potential risks are identified) for all patients prescribed chronic opioid therapy as a universal precaution reduces stigma[5]
    - Recommended as a risk mitigation strategy in the 2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain[6]

Metabolism:



3. Where brand-name formulations are not medically necessary, indicate "**generic only – no substitution**" on your prescriptions – ***noting no substitution will not permit the pharmacist to substitute with brand-name if the patient requests the brand-name formulation***

4. Check PIP to assess for cases of polypharmacy, early renewals, and multi-doctoring

5. When structure is necessary and/or red flags exist, increase the frequency of dispenses (e.g. biweekly, weekly, daily)

6. Require random pill counts - you may request that the pharmacy perform random pill audits and report the results to you to ensure that the expected medication remains in relation to the date of dispense

7. Consider a second opinion for patients who are prescribed high doses and/or before providing a dose escalation

8. Patients who are fiercely resistant to discussions about optimizing therapy using non-pharmacological and/or non-opioid strategies may have a poorly concealed opioid disorder and may benefit from opioid agonist therapy (note: prescribing authorization is required to prescribe OAT for opioid use disorder)

9. Prescribe take home naloxone liberally – liken it to a first aid kit

We hope you find this information useful. If you would like to discuss further strategies regarding safe PRP prescribing, please feel free to contact us.

Sincerely,

Nicole Bootsman, BSc(Hons), BSP
Pharmacist Manager
Prescription Review Program / Opioid Agonist Therapy Program
Phone: 306-244-7355
Fax: 306-244-0090

Additional Resources:

- CADTH: Non-Drug Ways to Manage Chronic Pain – https://www.cadth.ca/tools/non-drug-ways-manage-chronic-pain
- Opioid Manager – https://www.opioidmanager.com/
- Criteria for Medically Necessary RRPL Comprehensive Drugs of Abuse Screen during COVID-19 (attached)

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Appendix F: Education letter - Ritalin®

PRESCRIPTION REVIEW PROGRAM
education | collaboration

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******Informational: Response NOT Required******

DATE

[Physician iMIS mailing address]

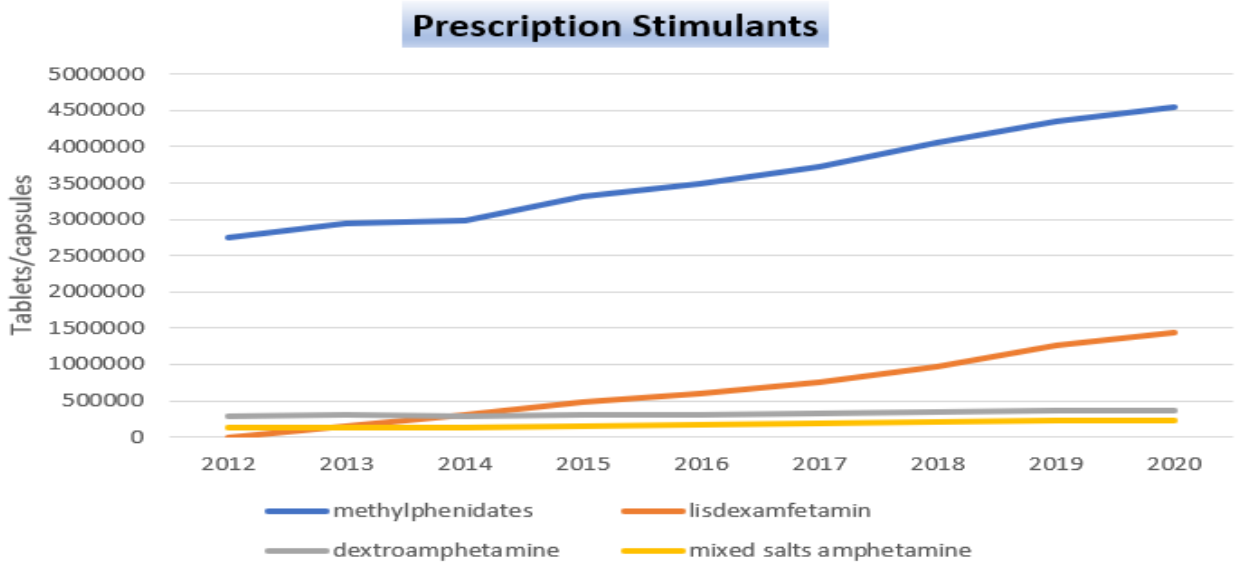
PERSONAL AND CONFIDENTIAL

Re:
HSN:
DOB:

Dear Dr.

The *Prescription Review Program* (PRP) is Saskatchewan's educationally focused prescription monitoring program administered by the **College of Physicians and Surgeons of Saskatchewan**. Due to the high rates of psychostimulant prescribing and prevalence of prescription psychostimulant misuse in Saskatchewan, the PRP wishes to provide information and support in hopes of reducing some of the associated risks.

The current prescribing/dispensing trends in Saskatchewan are illustrated:



Methylphenidate is one of the topmost misused medications encountered by the PRP in Saskatchewan. Individuals with Attention Deficit Hyperactive Disorder (ADHD) have a two-fold risk for substance use and dependence[1]. Additionally, ADHD itself is considered a risk factor for substance use disorder (SUD). In 2017, of Canadians aged 15 and older who reported use of prescription stimulants, 19% reported non-medical use of prescription stimulants. Among those individuals, 23.9% were males and 10.5% were females[5].

Unlike fentanyl, methylphenidate is only available through pharmaceutical diversion as it cannot be manufactured illicitly[2]. This poses a higher risk for illegal sales, prescription forgeries, and multi-doctoring. Methylphenidate is highly desired as it is produced from legitimate sources and has a reliable stimulant action. Some individuals misuse psychostimulants to mask fatigue or to increase academic performance.

When orally administered, psychostimulants do not have the same misuse liability as illicit stimulants; however, when parenterally (i.e. intranasally or intravenously) administered, it has receptor effects similar to that of cocaine[3]. There is a rapid release of synaptic dopamine which produces subjective effects of intense euphoria and ultimately gives the individual a "high" [4]. Specifically in Saskatchewan, there have been reports of the intravenous use of crushed pentazocine (Talwin®) in combination with methylphenidate (Ritalin®).

The current 2020 Canadian ADHD Resource Alliance (CADDRA) practice guidelines recommend the use of long-acting psychostimulants as first-line treatment agents opposed to short/immediate acting psychostimulants[1]. Short-acting and immediate-release formulations have a higher risk of misuse due to their pharmacokinetic profile and ease of crushability. On the other hand, sustained-release preparations improve compliance, symptom coverage, treatment response, and have a better tolerability profile whilst reducing the risk of diversion due the reduced potential for parenteral usage[1]. While both the methylphenidate and amphetamine classes are considered equally efficacious and tolerable, patients may respond more favorably to one over the other. A trial of the **long-acting generic formulation** of each class is recommended before moving into the second-line therapies (e.g. atomoxetine or immediate-release psychostimulants).

Strategies to Mitigate Diversion and Misuse

1. **Educate the patient and/or guardians regarding the risk of diversion and ensure safeguards are in place to prevent theft[6]**
   - Instruct parents, children, and teachers to refrain from informing others about psychostimulant therapy, unless necessary
   - Inform patients and guardians about safe storage of medication (e.g. lock box)
   - Collaborate with schools for drug administration through suitable school programs when feasible
   - Encourage appropriate disposal, including removal of labels from the vials; all controlled drugs should be properly disposed of by the patient's pharmacy
   - **Consider a trial of long-acting stimulants before switching to second-line therapy options such as short-acting or immediate release formulations**

- If concerns of diversion arise, consider non-stimulants such as atomoxetine or guanfacine XR as these medications have less known misuse potential[1]

2. **Prescribe generic options when available[6] (Current patient(s) receiving brand-name Ritalin® are highlighted at the top of this letter)**
   - **Brand name Ritalin® is preferred on the illicit market due to the lowest amount of insoluble incipient constituents**
   - Indicate "**generic only – no substitution**" on your prescriptions for methylphenidate preparations except where no generic is available on the Saskatchewan formulary (the pharmacy can assist with this) – ***noting no substitution will not permit the pharmacist to substitute with brand name if the patient requests the brand name formulation***
     - It is important to note that there may be clinical differences between the generic and brand name products. Health Canada only requires the maximum concentration (Cmax) and area-under-the-curve (AUC) of a generic product to be similar to that of the brand name[1]. Therefore, the duration of effect which is related to the time to maximum concentration (Tmax) may vary. When choosing to switch to a generic formulation, it is highly encouraged to advise the patient/family of the switch and to continuously monitor for clinical changes in efficacy and tolerability.
   - Monitor brand name use of all high-risk medications via PIP

3. **Establish a written agreement with patients that outlines clear boundaries regarding refills, not selling or giving any of the medication away, taking the medication as directed, and providing random urine screens as requested[6]**
   - Monitoring of random urine screens at least once annually (in the absence of aberrant signs, more frequent where there are aberrant signs) is recommended for all patients who are chronically prescribed Prescription Review Program medications to ensure patient compliance. Judgement is required for determining how often a urine screen is required; advising patients that the safety measure is equally applied to all patients prescribed psychostimulants is less likely to result in individuals feeling singled out.

Psychostimulant Metabolism (per RRPL)

Lisdexamafetamine (Vyvanse®) – will exist and be detected as amphetamine in urine.

Dextroamphetamine (Dexedrine®), *d-amphetamine* (Adderall®) – will exist and be detected as amphetamine in urine.

Methylphenidate (Ritalin®), *dexmethylphenidate* (Focalin®) – will exist and be detected as methylphenidate and/or ritalinic acid in urine.

Methamphetamine (crystal meth), *d-methamphetamine* – will exist and be detected as methamphetamine and amphetamine (metabolite) in urine.

4. **Institute random pill counts**[6]
   - You may request that the pharmacy perform random pill counts and report the results to you to ensure that the expected medication remains in relation to the date of dispense

5. **Collaborate with other physicians involved in your patient's care to ensure no replacement prescriptions are made unless otherwise authorized**[6]

6. **Assess risk of harm at each visit and recognize red flags for drug-seeking behavior**
   - Patient requests for brand name preparation when a generic version is available may be an indication of possible drug misuse or diversion
   - Patterned early refills may be an indication of possible drug misuse or diversion
   - Consider inquiry into substance misuse by immediate and extended family members

7. **Restrict the quantity of medication dispensed as part-fills**
   - Alternate dispensing schedules such as daily/weekly/bi-weekly allows for more frequent follow-ups with the pharmacist

To enhance the quality of care, utility of the CADDRA practice guidelines and the CADDRA ADHD Assessment are strongly recommended. The guidelines, along with a toolkit that contains resources such as assessment forms, treatment forms, and templates, may be downloaded from the website for free at www.caddra.ca.

For your ease of reference, we have enclosed some excerpts from the 2020 CADDRA Guidelines that you may find useful related to the management of ADHD below.

1. The **CADDRA eToolkit –** contains forms that may be completed electronically and may be found at https://www.caddra.ca/etoolkit-forms/.

2. **Adult ADHD Self Report Scale (ASRS) -** The Symptom Checklist is an instrument consisting of the 18 DSM-IV-TR criteria. Six of the 18 questions were found to be the most predictive of symptoms consistent with ADHD. These six questions are the basis for the ASRS-V1.1 screener and are also Part A of the Symptom Checklist. Part B of the Symptom Checklist contains the remaining 12 questions.

3. **Weiss Symptom Record II (WSR II)** - The WSR-II is a clinical tool that facilitates efficient collection of information about symptoms. The scale is written to be age and gender neutral so that it can be used as an adult self-report, an adolescent self-report, or a teacher report or parent report on a child. This allows gathering of information across different settings and direct comparison across informants, some of whom may not be present at the interview. The measure covers the diagnostic groupings of DSM-5 and a quick visual review of the completed scale allows the clinician to identify relevant symptom clusters that require more extensive follow up in the mental status. The scale is one of very few screeners that allows clinicians treating adults to pick up childhood onset disorders, and early onset adult disorders in children with the option of comparison of reports from multiple informants. The scale also can be given both to adolescents and adults as a self-report, teachers, parents and spouses.

Use of the screen also assures that important items such as suicidal thoughts, obsessions, drug use etc. do not get missed because they were not expected. The scale is quick to complete and very easy to score in that a quick visual scan will identify those diagnostic clusters that are at risk.

4. **Weiss Functional Impairment Rating Scale – Self (WFIRS-S)** - The Weiss Functional Impairment Rating Scale (WFIRS) is a measure designed to assess the impact of ADHD or emotional and behavior problems on functioning. There are two versions of the scale. The self-report version is used by adolescents or adults to report on the domains of family, school and/or work, social, life skills, self-concept, and risky activities. The scale takes about 5 minutes to complete. Each item is rated from 0 (not a problem), 1 (somewhat), 2 (pretty much) or 3 (very much) based on the extent to which emotional or behavior problems have impacted functioning over the last month. A domain is considered impaired if two items are rated 2 or 1 item is rated 3. Items that are not relevant to an individual are scored 'not applicable' and not included when computing a mean score. The scale is user friendly for clinicians in that a quick glance allows the clinician to identify those areas that are significantly impaired both before and after treatment, and to compare this with the clinical interview. The WFIRS does not have any items redundant with ADHD symptoms, which makes it possible to look at symptoms and functioning as independent outcomes.

5. **CADDRA Clinician ADHD Baseline/Follow-Up Form** https://www.caddra.ca/etoolkit-forms/

6. **Medical Treatment for ADHD – Adults (18+)**[1]

Brand Name	Active Ingredient	Dosage Form	Starting Dose[1]	Titration Schedule[2]		Total Maximum Daily Dose	
				Product Monograph	CADDRA[3]	Product Monograph	CADDRA[3]
FIRST LINE AGENTS – Long-acting psychostimulants							
Adderall XR®[4]	amphetamine mixed salts	5, 10, 15, 20, 25, 30 mg cap	10 mg q.d. a.m.	↑ 10 mg	↑ 5 mg	20-30 mg	50 mg
Biphentin®	methylphenidate	10, 15, 20, 30, 40, 50, 60, 80 mg cap	10-20 mg q.d. a.m.	↑ 10 mg	↑ 5-10 mg	80 mg	80 mg
Concerta®[4]	methylphenidate	18, 27, 36, 54 mg tab	18 mg q.d. a.m.	↑ 18 mg	↑ 9-18 mg	72 mg	108 mg
Foquest®	methylphenidate	25, 35, 45, 55, 70, 85, 100 mg cap	25 mg q.d. a.m.	↑ 10 or 15 mg	↑ 10 or 15 mg	100 mg	100 mg
Vyvanse®	lisdexamfetamine	10, 20, 30, 40, 50, 60, 70[5] mg cap 10, 20, 30, 40, 50, 60 mg chewable tab	20-30 mg q.d. a.m.	By clinical discretion	↑ 10 mg	60 mg	70 mg
SECOND LINE / ADJUNCTIVE AGENTS - Short-acting and intermediate-acting psychostimulants ***Indications for use: a) p.r.n. for certain activities; b) to augment[6] long-acting formulations early or late in the day, or early in the evening and c) when long-acting agents are cost prohibitive***							
Dexedrine®[4]	dextro-amphetamine	5 mg tab	2.5-5 mg b.i.d.[7]	↑ 5 mg	↑ 2.5-5 mg	40 mg	50 mg
Dexedrine Spansule®[8]	dextro-amphetamine	10, 15 mg cap	10 mg q.d. a.m.	↑ 5 mg	↑ 2.5-5 mg	40 mg	50 mg
Ritalin®[4]	methylphenidate	10, 20 mg tab (5 mg generic only)	5 mg b.i.d. to t.i.d.[7] consider q.i.d	↑ 5-10 mg	↑ 5 mg	60 mg	100 mg
Ritalin® SR[9,4]	methylphenidate	20 mg tab	20 mg q.d. a.m.	↑ 20 mg (add q2pm dose)		60 mg	100 mg
SECOND LINE / ADJUNCTIVE AGENT - Long-acting non-psychostimulant - Selective norepinephrine reuptake inhibitor **Indications for use: Monotherapy (off-label: prescribed as an adjunctive therapy)**							
Strattera®	atomoxetine	10, 18, 25, 40, 60, 80, 100 mg cap	40 mg q.d.[10]	Adjust dosage every 7-14 days; to 60 then 80 mg/ day[11]		Lesser of 1.4 mg/kg/day or 100 mg/day	

p.r.n. = as needed

[1] CADDRA generally recommends starting at the lowest dose available

[2] Most research protocols and product monographs advise on intervals no less than 7 days; longer intervals may be needed for particular clinical or tolerability situations

[3] A consensus decision was made based on clinical use and research data. Doses per CADDRA that are over or under product monograph maximum or minimum doses should be considered off-label use

[4] Generic available. The Canadian ADHD Practice Guidelines committee reported loss of symptom control in some patients when switched from original to generic drugs. Therefore, long-acting psychostimulant generics are considered second line agents

[5] Vyvanse® 70mg is an off label dosage for ADHD treatment in Canada

[6] To augment Adderall XR® or Vyvanse®, short-acting and intermediate-acting dextro-amphetamine products can be used. To augment Biphentin® or Concerta® short-acting methylphenidate products can be used

[7] b.i.d. refers to qam and qnoon and t.i.d. refers to qa.m., qnoon and q4p.m.

[8] Dexedrine® Spansule® may last 6-8 hours

[9] Ritalin® SR may help cover the noon period but clinical experience suggests an effect similar to short-acting preparations

[10] Some adults may better tolerate a lower starting dose of 25 mg

[11] This Strattera® titration schedule applies to children and adolescents > 70 kg of body weight, and adults

Note: These tables summarize key information and cannot be considered exhaustive. Physicians should refer to Product Monographs for complete prescribing information.

We hope you find this information valuable. This correspondence is provided with the intention of delivering valuable tools and resources related to the management of ADHD, as well as to provide helpful information to help mitigate the misuse and diversion of psychostimulants.

If you would like to discuss further strategies regarding safe PRP prescribing, please feel free to contact us.

Kind Regards,

Nicole Bootsman, BSc(Hons), BSP
Pharmacist Manager
Prescription Review Program / Opioid Agonist Therapy Program
Phone: 306-244-7355
Fax: 306-244-0090

References:

1. CADDRA - Canadian ADHD Resource Alliance: Canadian ADHD Practice Guidelines, 4.1 Edition, Toronto ON; CADDRA, 2020.
2. Evans C, Blackburn D, Butt P, Dattani D. Use and Abuse of Methylphenidate in Attention-Deficit/Hyperactivity Disorder. Canadian Pharmacists Journal / Revue des Pharmaciens du Canada. 2004;137(6):30–5.
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4. Morton WA, Stock GG. Methylphenidate Abuse and Psychiatric Side Effects. The Primary Care Companion to The Journal of Clinical Psychiatry. 2000;02(05):159–64.
5. Canadian Centre on Substance Use and Addiction. Prescription Stimulants (Canadian Drug Summary). Available from: https://www.ccsa.ca/prescription-stimulants-canadian-drug-summary
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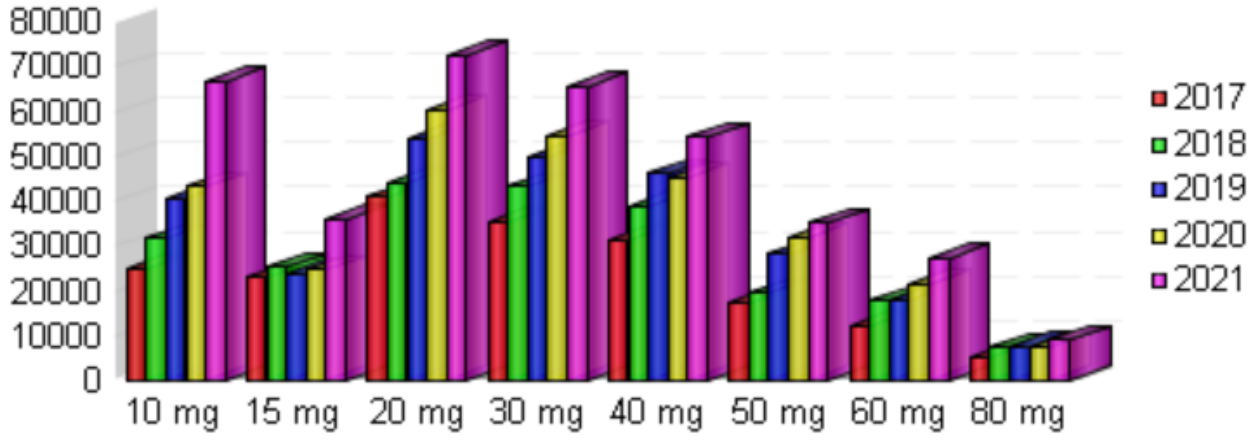
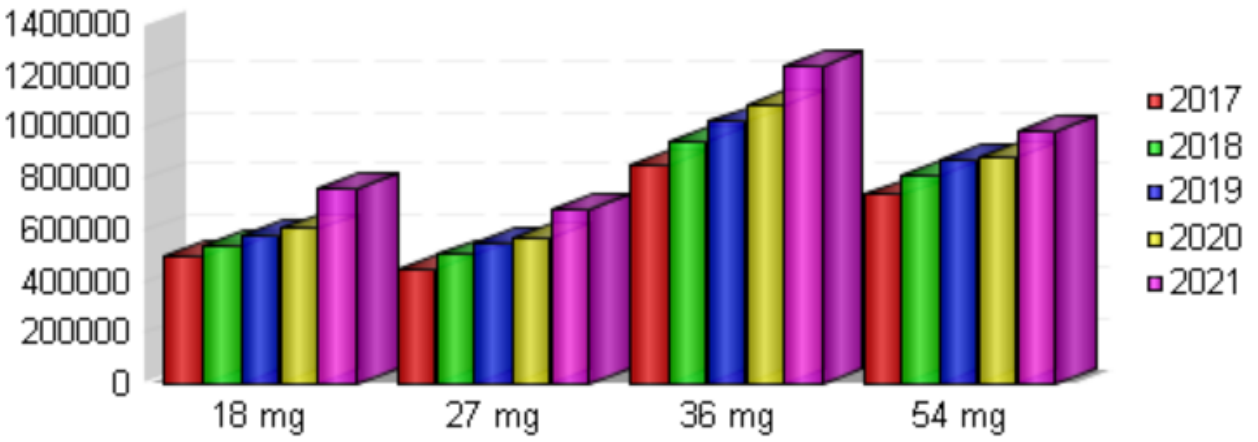
Appendix G: Stimulants

BIPHENTIN



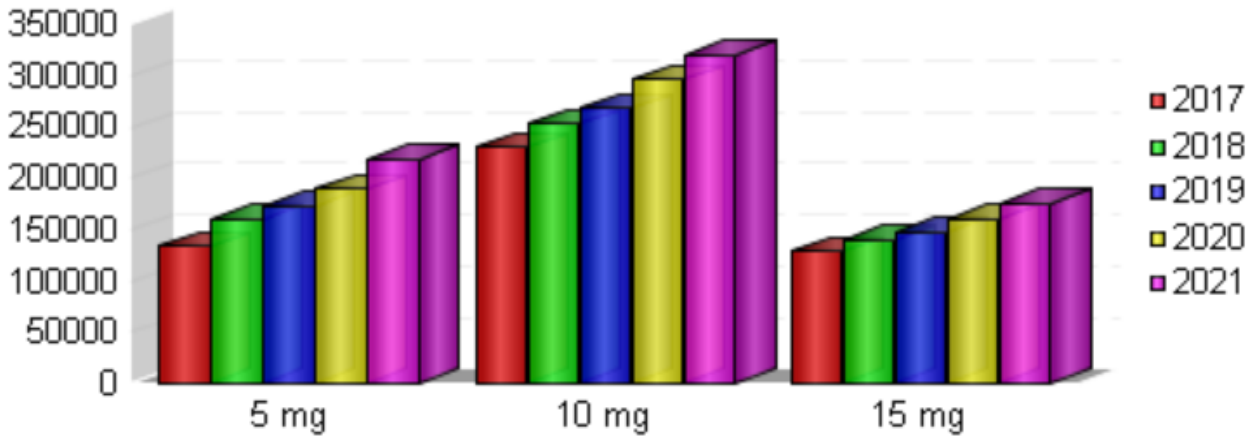
	10 mg	15 mg	20 mg	30 mg	40 mg	50 mg	60 mg	80 mg
2017	25,217	23,099	40,938	35,512	31,375	17,506	12,278	5,449
2018	31,810	25,446	44,208	43,288	39,160	19,606	17,708	7,335
2019	40,762	23,950	54,150	50,112	46,338	28,238	18,059	7,703
2020	43,274	24,704	60,586	54,618	45,324	32,095	21,446	7,773
2021	66,900	36,064	72,746	65,541	54,279	35,142	27,305	9,161

CONCERTA



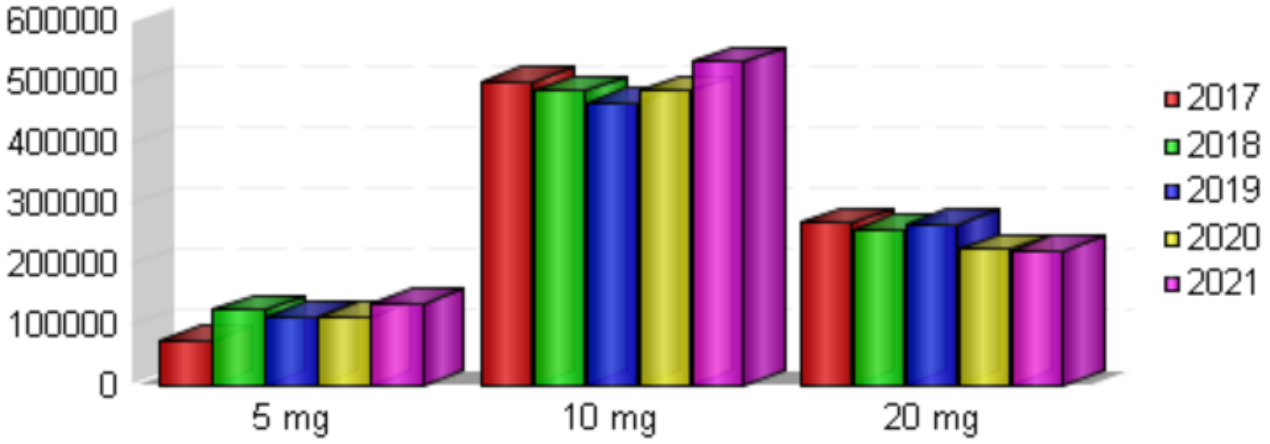
	18 mg	27 mg	36 mg	54 mg
2017	497,578	447,769	855,272	739,515
2018	538,966	502,568	947,347	816,655
2019	578,853	548,141	1,022,104	874,968
2020	606,355	572,652	1,086,174	886,666
2021	762,841	683,904	1,242,828	984,331

DEXTROAMPHETAMINE



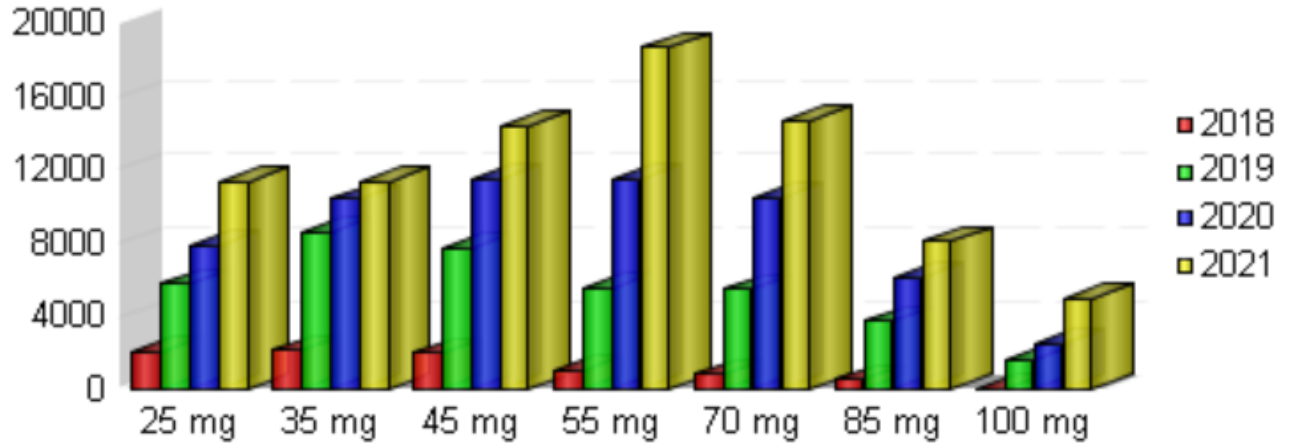
	5 mg	10 mg	15 mg
2017	133,278	229,971	128,312
2018	159,910	253,173	140,444
2019	173,817	267,848	147,810
2020	189,225	295,869	160,645
2021	219,024	320,892	176,091

METHYLPHENIDATE



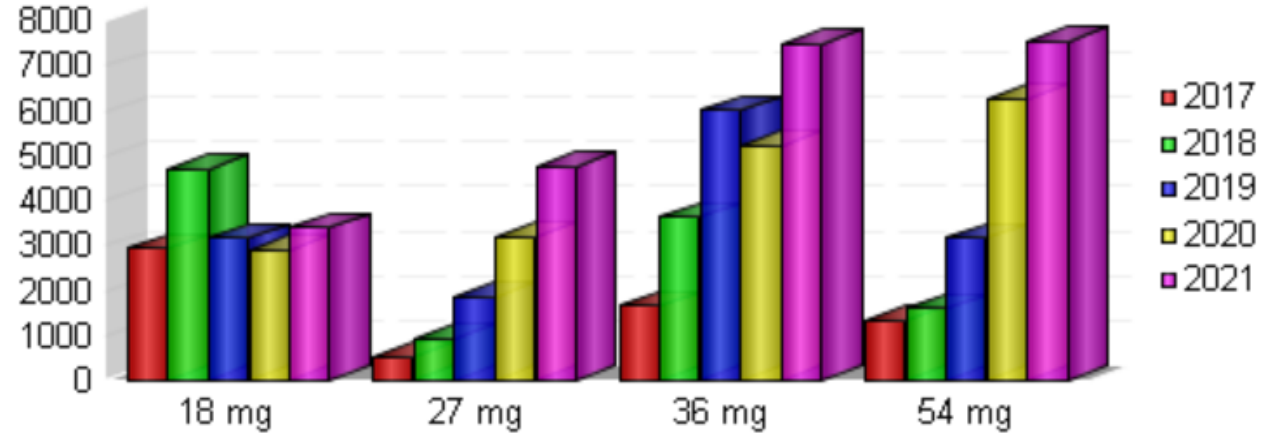
	5 mg	10 mg	20 mg
2017	74,526	500,044	267,844
2018	124,843	485,504	258,317
2019	114,003	467,130	266,935
2020	113,287	485,754	225,161
2021	136,375	533,586	221,798

METHYLPHENIDATE CR



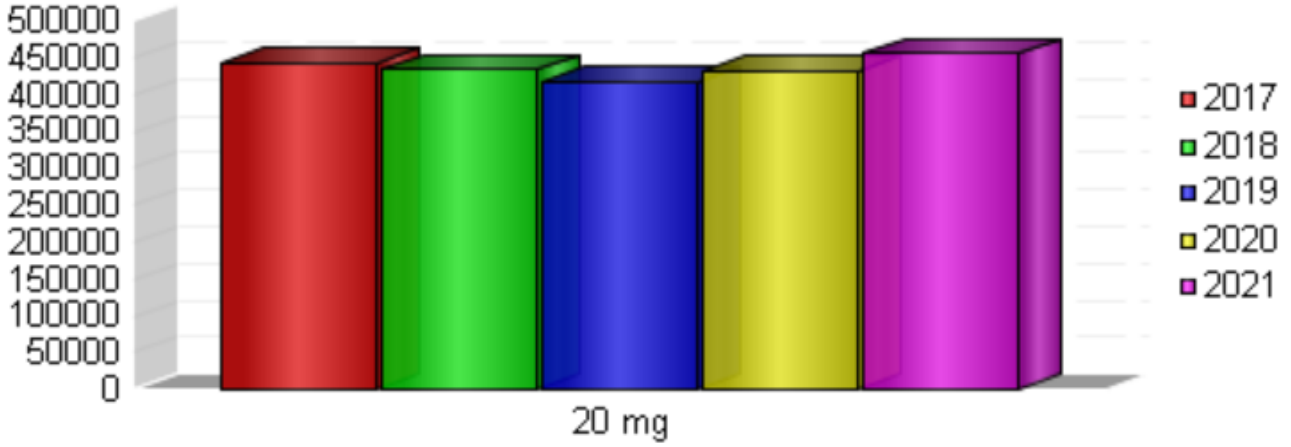
	25 mg	35 mg	45 mg	55 mg	70 mg	85 mg	100 mg
2018	2,094	2,126	1,976	1,067	815	538	27
2019	5,785	8,571	7,743	5,558	5,447	3,754	1,586
2020	7,856	10,409	11,494	11,525	10,484	6,086	2,484
2021	11,311	11,349	14,364	18,671	14,664	8,096	4,957

METHYLPHENIDATE ER



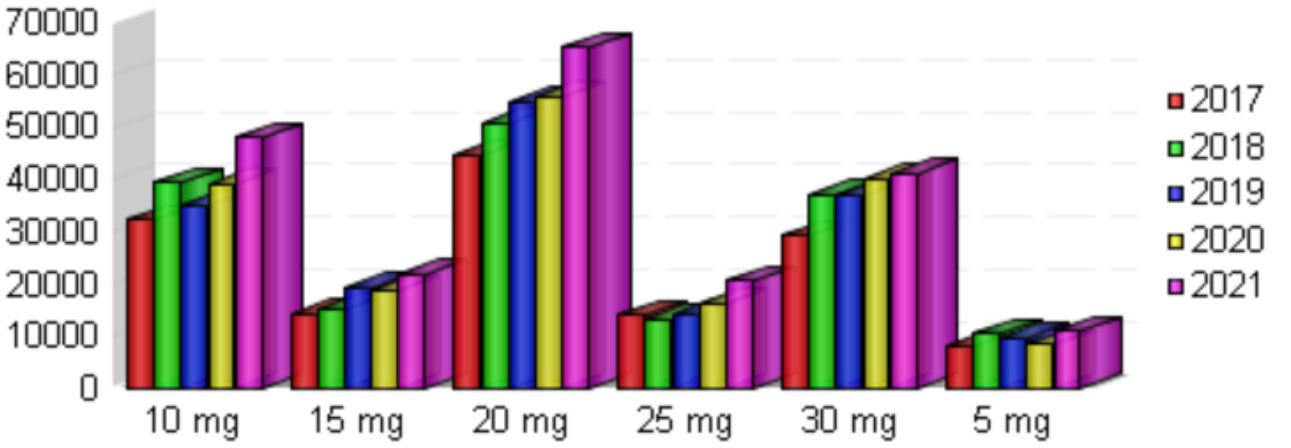
	18 mg	27 mg	36 mg	54 mg
2017	2,951	551	1,675	1,351
2018	4,697	948	3,645	1,597
2019	3,174	1,882	6,005	3,183
2020	2,915	3,205	5,223	6,289
2021	3,413	4,759	7,483	7,557

METHYLPHENIDATE SR

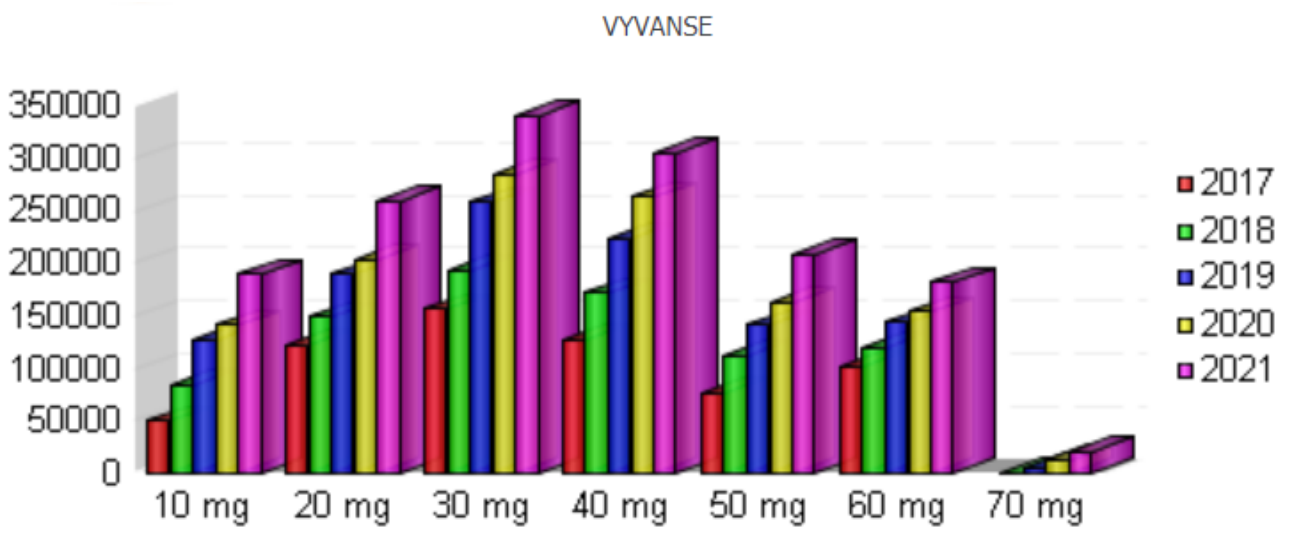


	20 mg
2017	443,295
2018	433,615
2019	418,169
2020	431,691
2021	455,685

MIXED SALTS AMPHETAMINE



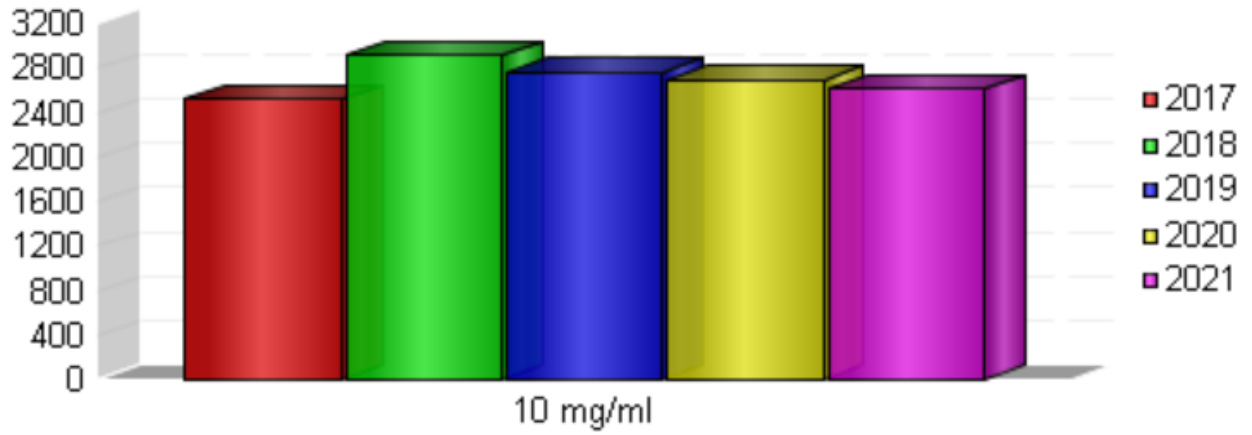
	10 mg	15 mg	20 mg	25 mg	30 mg	5 mg
2017	32,266	14,457	44,666	14,033	29,266	8,073
2018	39,350	15,267	50,859	13,228	37,169	10,494
2019	35,071	19,381	55,044	14,175	36,988	9,874
2020	39,221	18,735	56,006	16,338	40,309	8,547
2021	48,011	22,064	65,400	20,589	41,230	11,006



	10 mg	20 mg	30 mg	40 mg	50 mg	60 mg	70 mg
2017	49,928	122,969	156,507	127,523	76,446	101,854	
2018	83,745	148,756	193,845	171,369	112,060	119,592	1,218
2019	127,779	189,631	258,085	223,102	141,118	143,738	4,996
2020	141,174	203,930	284,234	263,082	162,503	153,575	13,673
2021	189,266	258,771	340,911	304,766	207,884	181,981	21,239

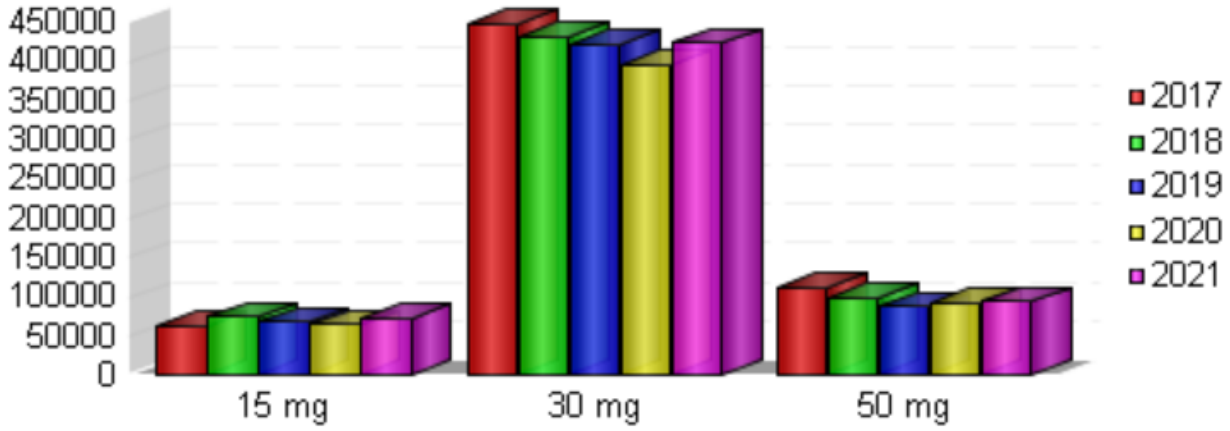
Appendix H: Opiate Agonists

BUTORPHANOL



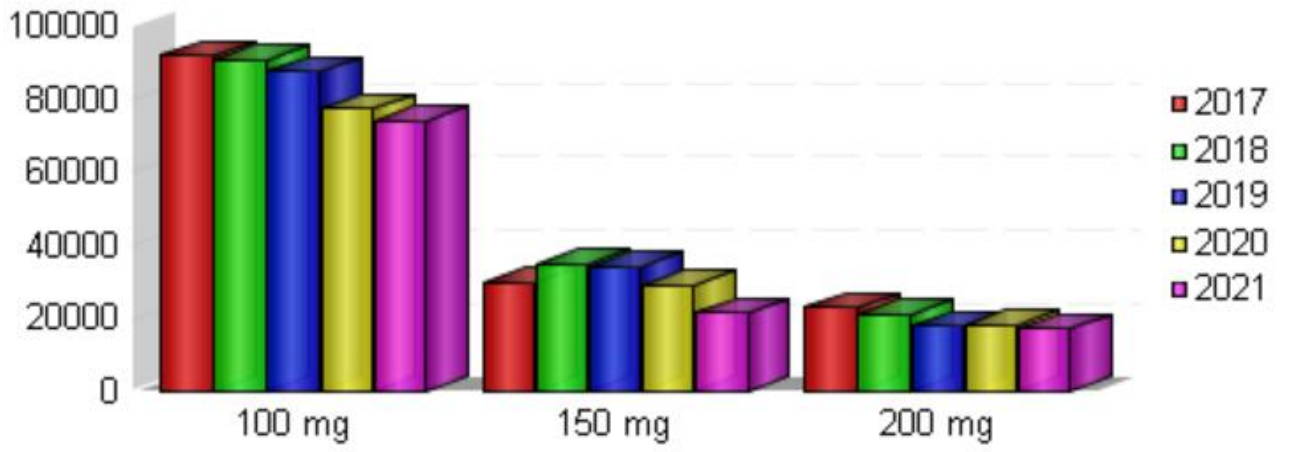
	10 mg/ml
2017	2,525
2018	2,920
2019	2,760
2020	2,702
2021	2,611

CODEINE



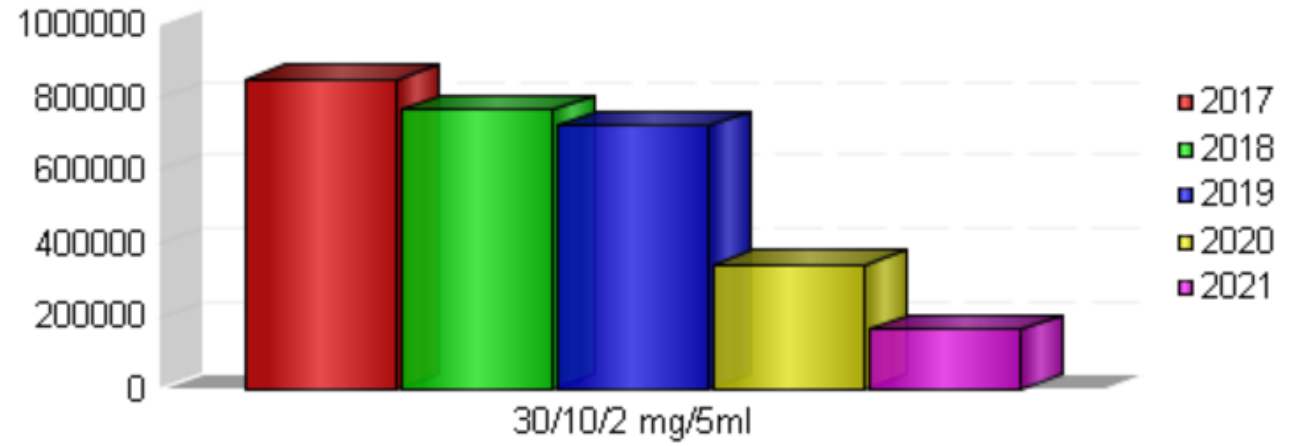
	15 mg	30 mg	50 mg
2017	62,545	447,421	110,737
2018	74,254	431,865	97,848
2019	67,940	422,219	87,601
2020	64,920	396,208	91,534
2021	71,994	423,445	93,226

CODEINE CONTIN



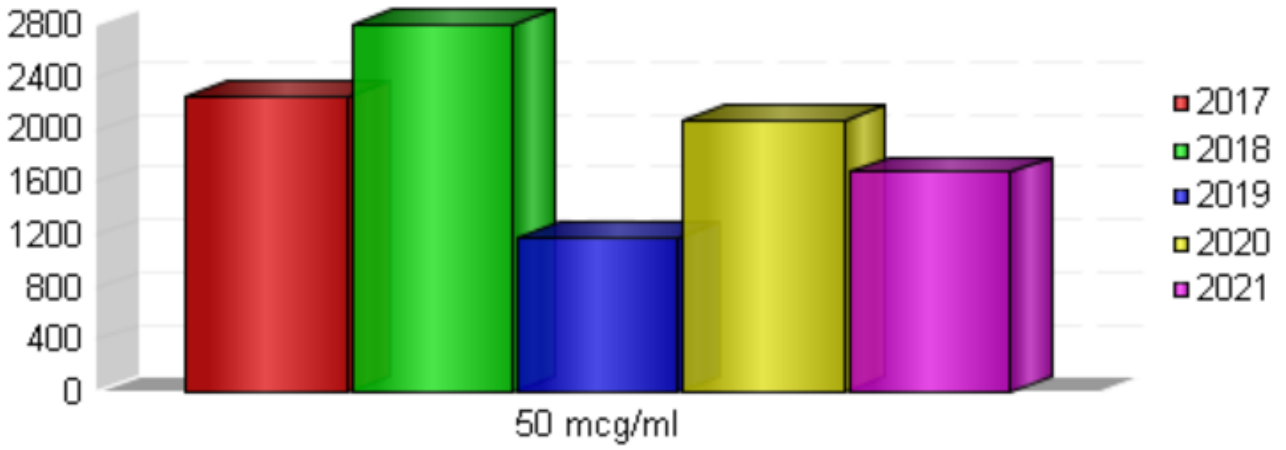
	100 mg	150 mg	200 mg
2017	91,834	29,990	22,856
2018	90,901	35,077	21,360
2019	87,530	34,102	17,824
2020	77,303	29,156	18,472
2021	74,021	21,565	17,194

CODEINE SYRUP



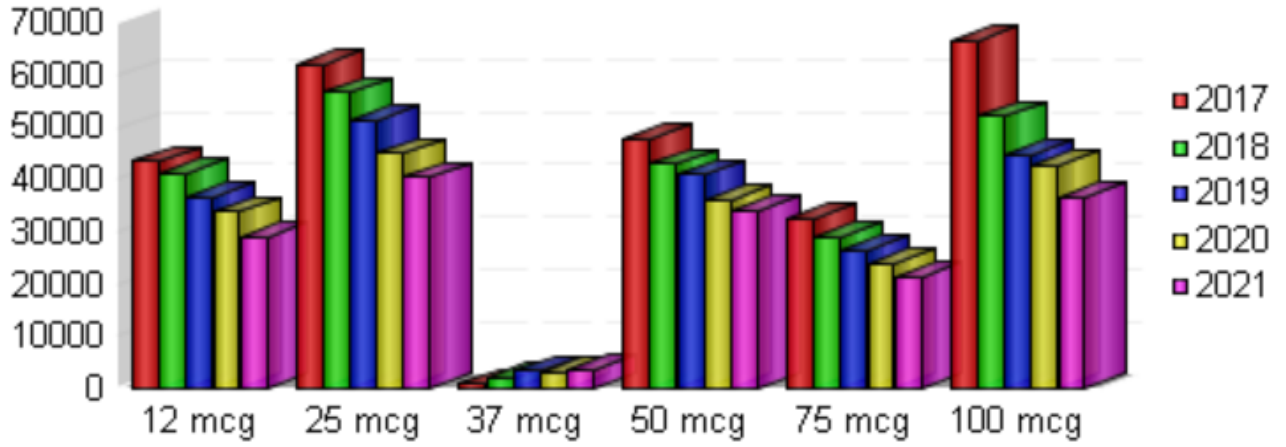
	30/10/2 mg/5ml
2017	848,091
2018	765,185
2019	724,310
2020	343,393
2021	163,257

FENTANYL INJECTION



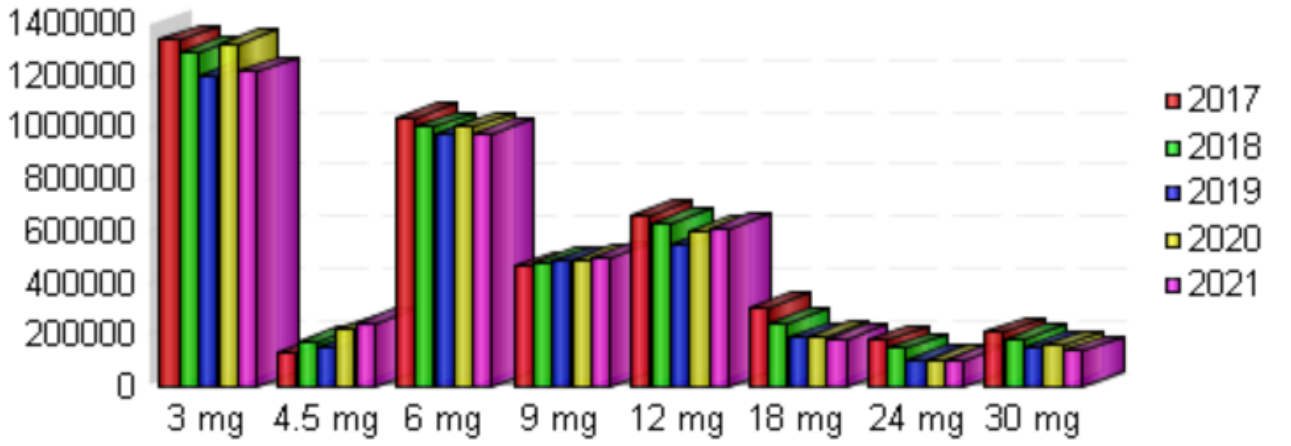
	50 mcg/ml
2017	2,256
2018	2,800
2019	1,184
2020	2,071
2021	1,679

FENTANYL PATCH



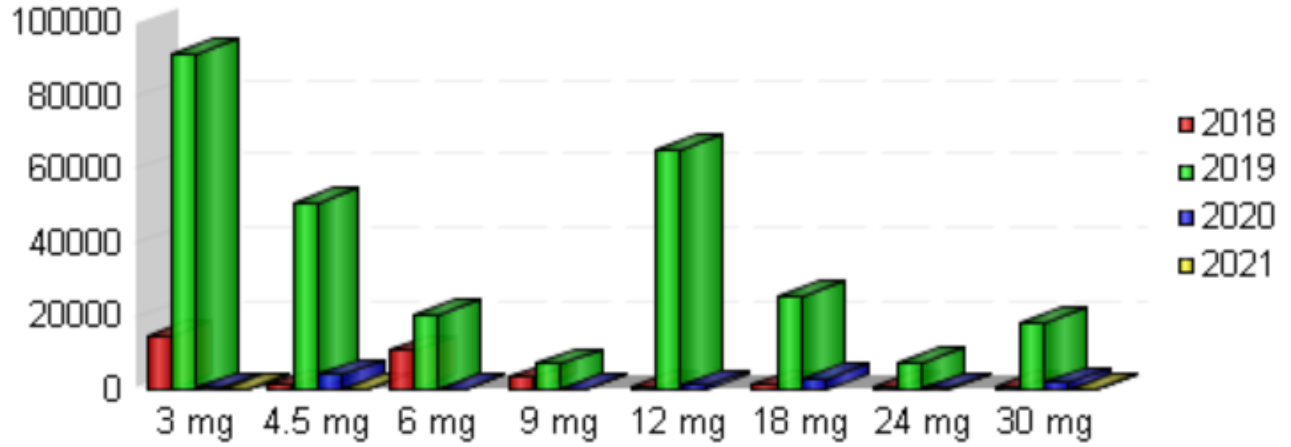
	12 mcg	25 mcg	37 mcg	50 mcg	75 mcg	100 mcg
2017	43,600	61,952	926	47,967	32,486	66,457
2018	41,079	56,692	2,110	43,062	28,934	52,136
2019	36,770	51,296	3,367	40,867	26,592	44,636
2020	33,918	44,928	3,008	36,237	23,905	42,876
2021	29,010	40,442	3,556	33,998	21,395	36,700

HYDROMORPH CONTIN



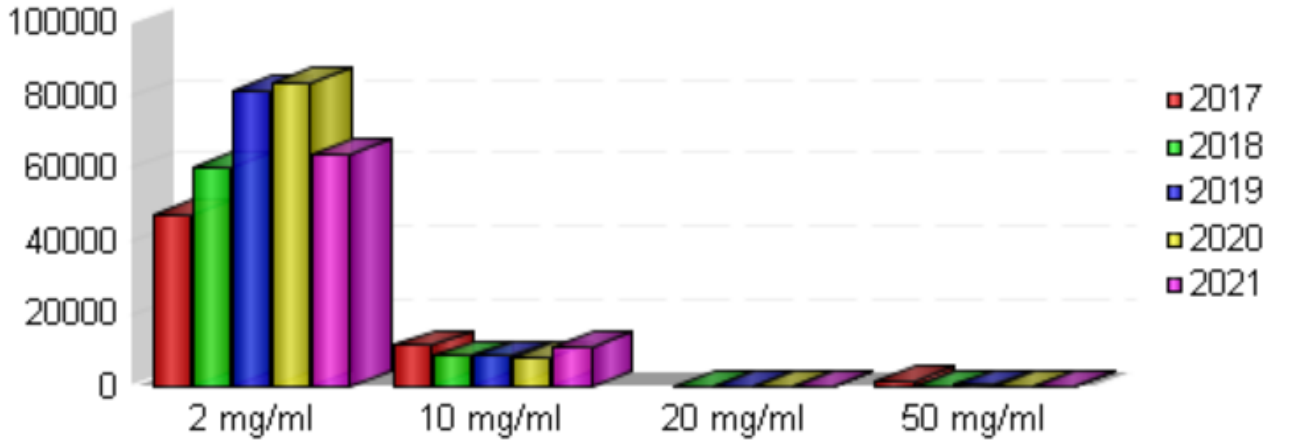
	3 mg	4.5 mg	6 mg	9 mg	12 mg	18 mg	24 mg	30 mg
2017	1,338,439	131,774	1,038,510	462,857	664,665	304,078	180,446	208,496
2018	1,293,010	176,253	1,001,901	479,110	631,510	247,569	149,971	183,328
2019	1,199,533	151,982	979,617	482,908	548,112	191,100	105,099	153,016
2020	1,321,222	219,743	1,003,444	489,552	601,598	194,846	105,172	158,396
2021	1,214,701	247,687	976,492	497,369	610,683	186,730	103,918	137,838

HYDROMORPHONE CR



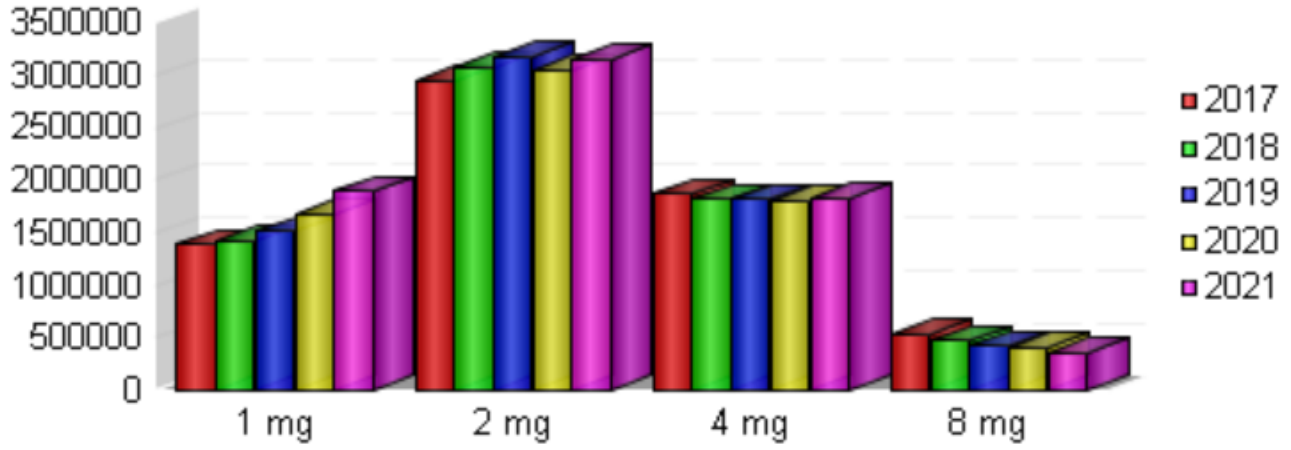
	3 mg	4.5 mg	6 mg	9 mg	12 mg	18 mg	24 mg	30 mg
2018	14,623	1,270	10,729	3,316	846	1,094	694	854
2019	91,604	50,987	20,441	6,911	65,241	25,383	7,358	18,172
2020	508	4,005	38	119	1,373	2,909	465	1,896
2021	87	218						54

HYDROMORPHONE INJECTION



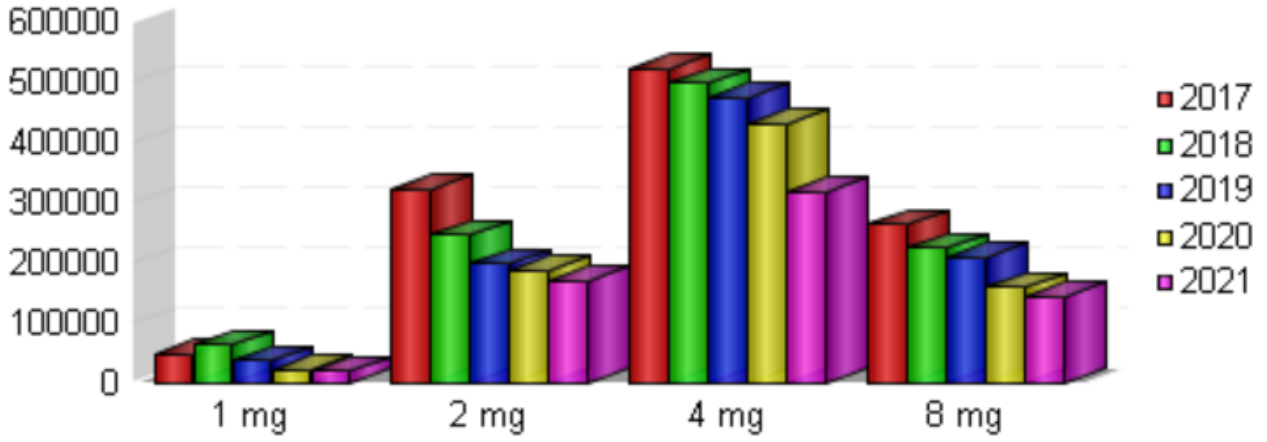
	2 mg/ml	10 mg/ml	20 mg/ml	50 mg/ml
2017	47,492	11,254		1,530
2018	60,415	8,504	250	30
2019	81,275	8,522	250	505
2020	83,511	8,331	200	50
2021	63,790	10,924	50	25

HYDROMORPHONE IR



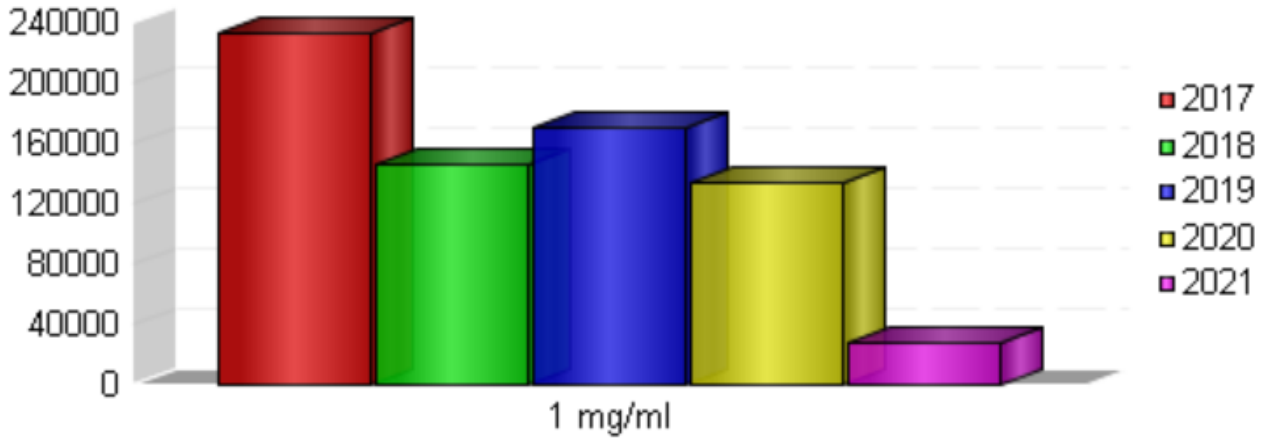
	1 mg	2 mg	4 mg	8 mg
2017	1,389,449	2,948,742	1,872,870	530,423
2018	1,427,866	3,079,197	1,815,222	471,953
2019	1,513,694	3,177,346	1,819,428	423,157
2020	1,673,647	3,057,639	1,813,874	410,917
2021	1,897,695	3,155,294	1,831,818	367,182

DILAUDID



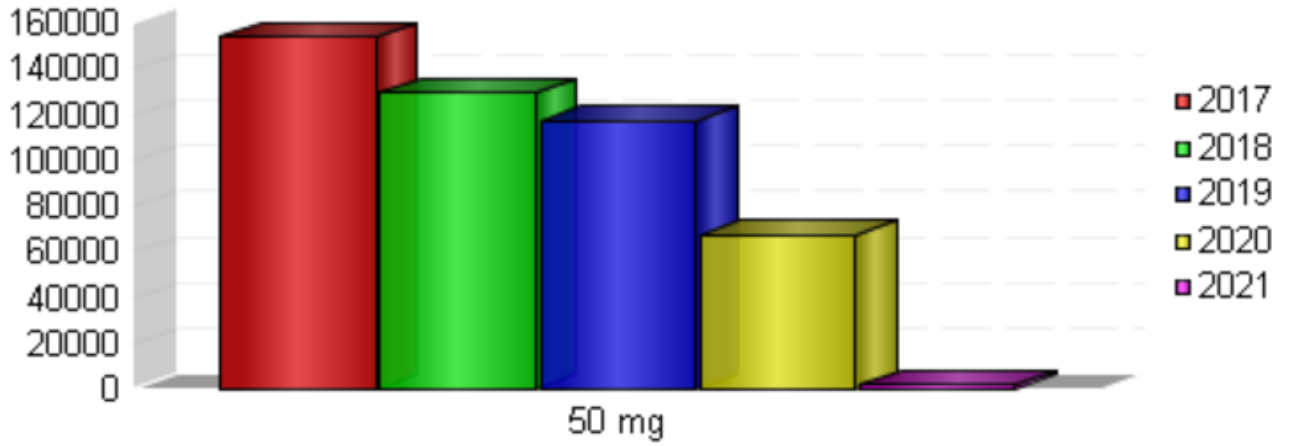
	1 mg	2 mg	4 mg	8 mg
2017	47,508	323,269	522,435	264,338
2018	64,689	245,975	498,823	225,640
2019	37,496	198,327	475,467	210,771
2020	21,581	187,759	431,170	159,397
2021	20,382	170,944	318,693	143,750

HYDROMORPHONE SYRUP



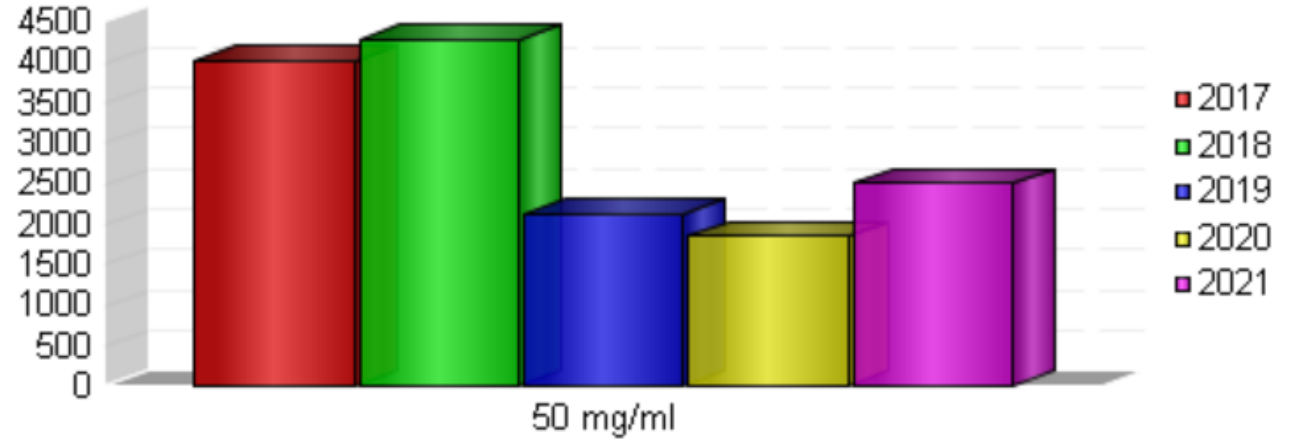
	1 mg/ml
2017	233,706
2018	146,775
2019	170,550
2020	134,045
2021	28,266

MEPERIDINE



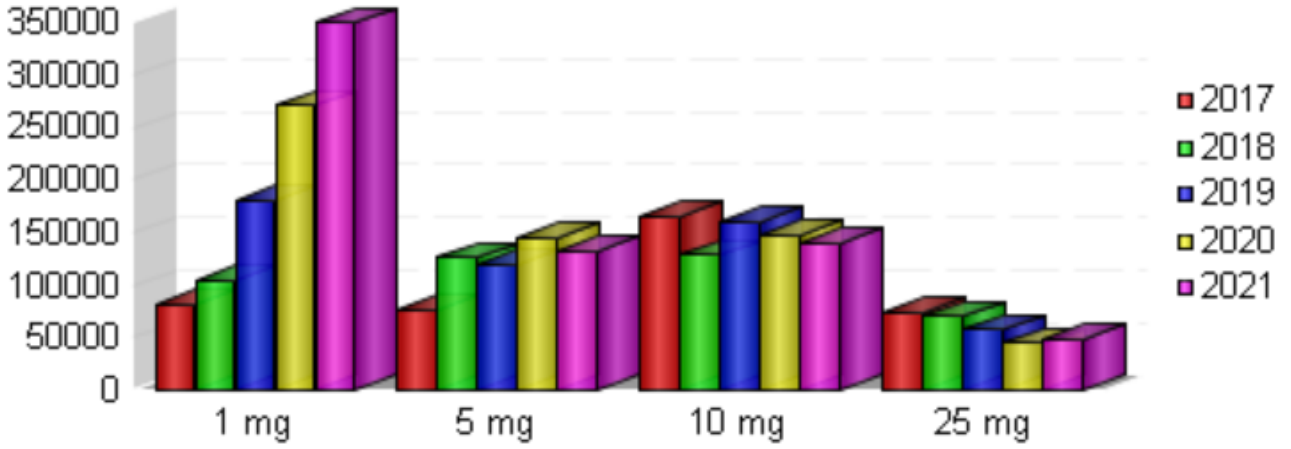
	50 mg
2017	154,073
2018	129,595
2019	117,486
2020	67,827
2021	1,775

MEPERIDINE INJECTION



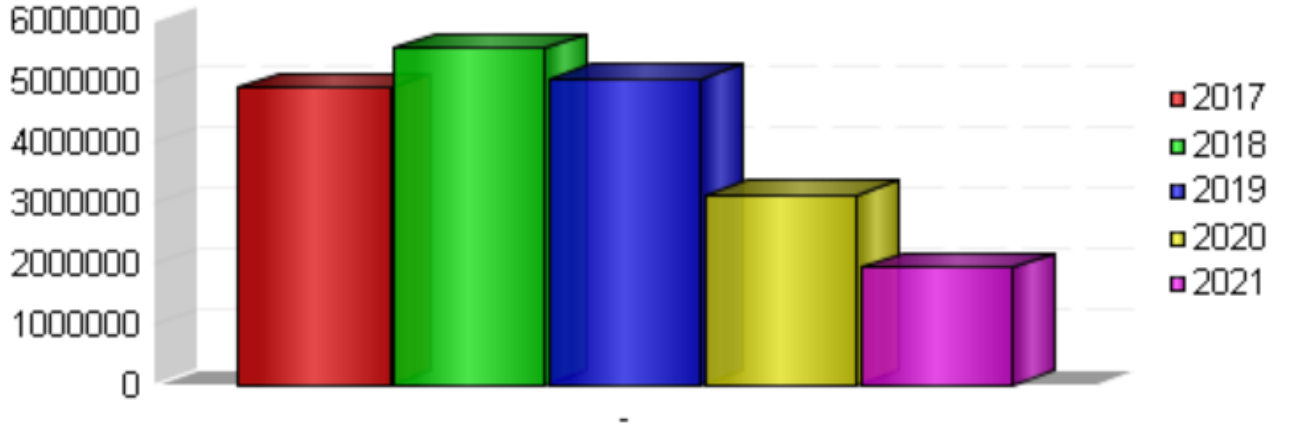
	50 mg/ml
2017	4,012
2018	4,283
2019	2,132
2020	1,849
2021	2,497

METADOL



	1 mg	5 mg	10 mg	25 mg
2017	82,195	76,368	164,784	74,271
2018	104,764	126,130	128,228	70,435
2019	180,166	119,209	159,709	57,291
2020	270,660	145,322	147,954	44,859
2021	349,063	132,984	140,414	48,260

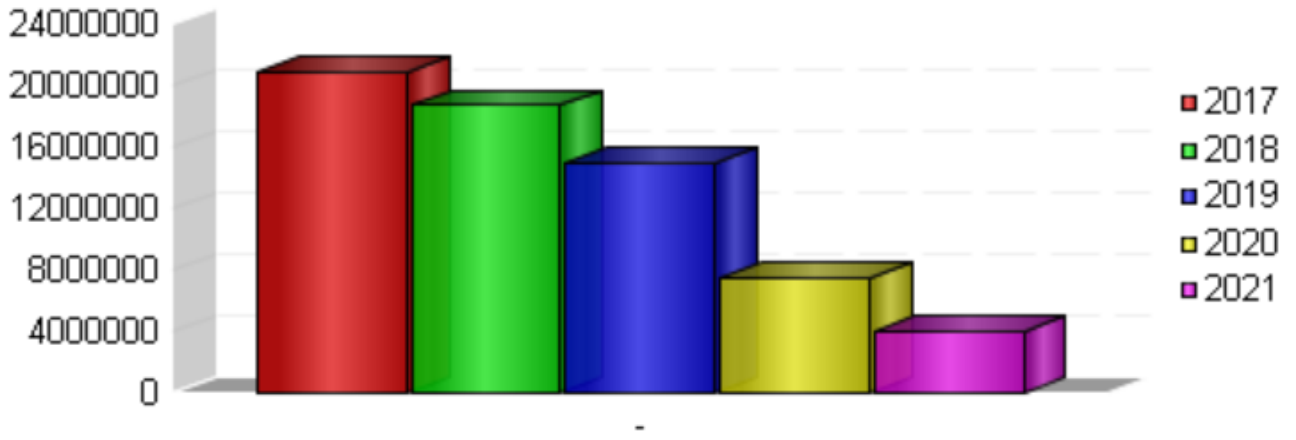
METHADONE COMPOUND (A)



-

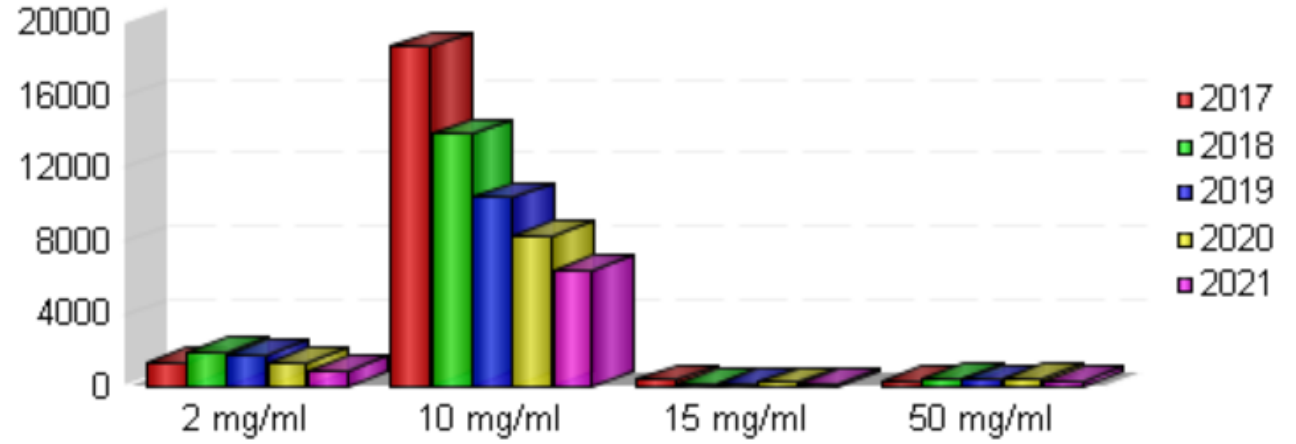
	-
2017	4,907,359
2018	5,547,256
2019	5,067,736
2020	3,152,242
2021	1,948,312

METHADONE COMPOUND (NIHB)



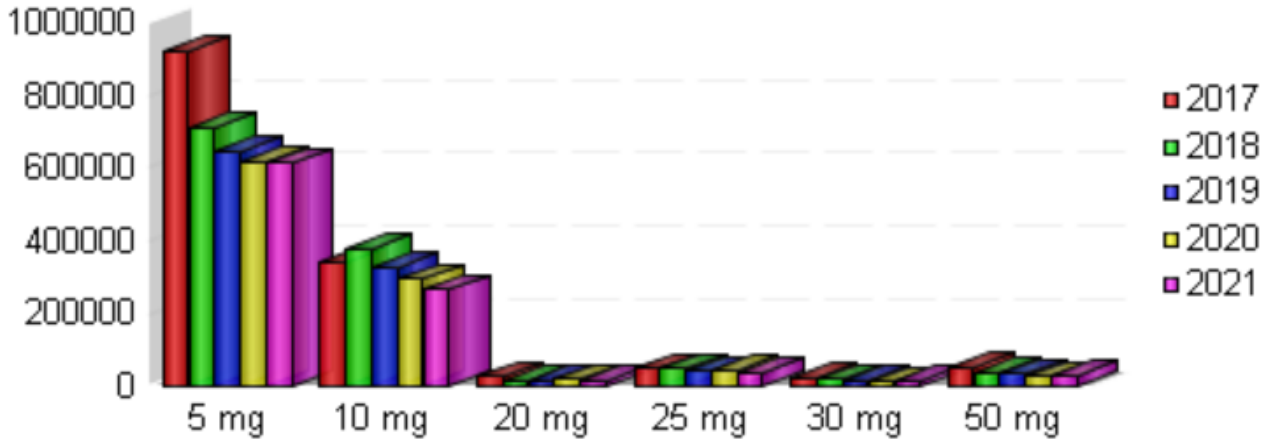
	-
2017	20,970,130
2018	18,726,533
2019	15,033,572
2020	7,539,113
2021	4,061,526

MORPHINE INJECTION



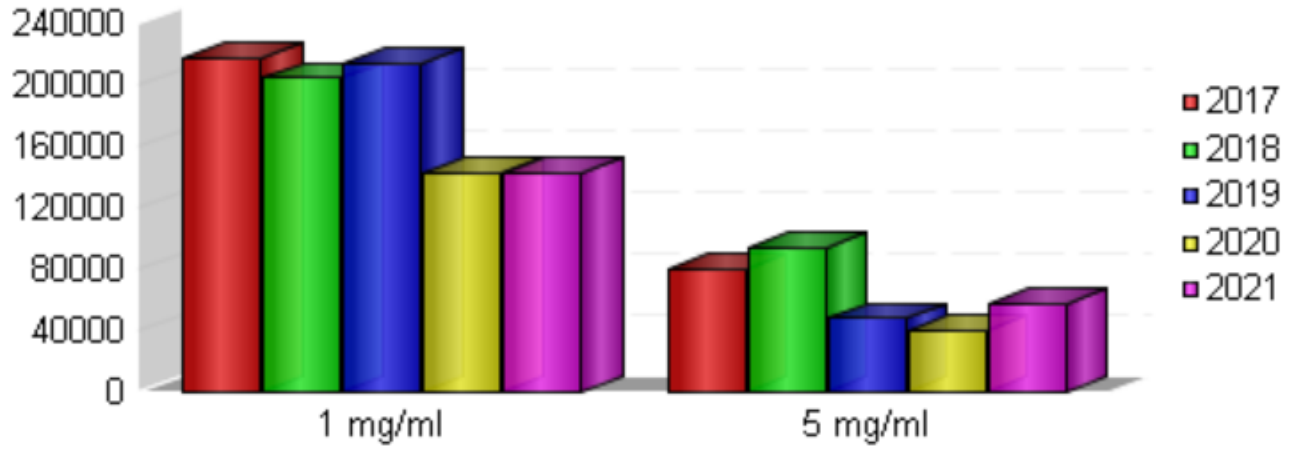
	2 mg/ml	10 mg/ml	15 mg/ml	50 mg/ml
2017	1,337	18,677	372	280
2018	1,890	13,892	177	454
2019	1,731	10,385	174	416
2020	1,307	8,268	260	450
2021	943	6,426	212	280

MORPHINE IR



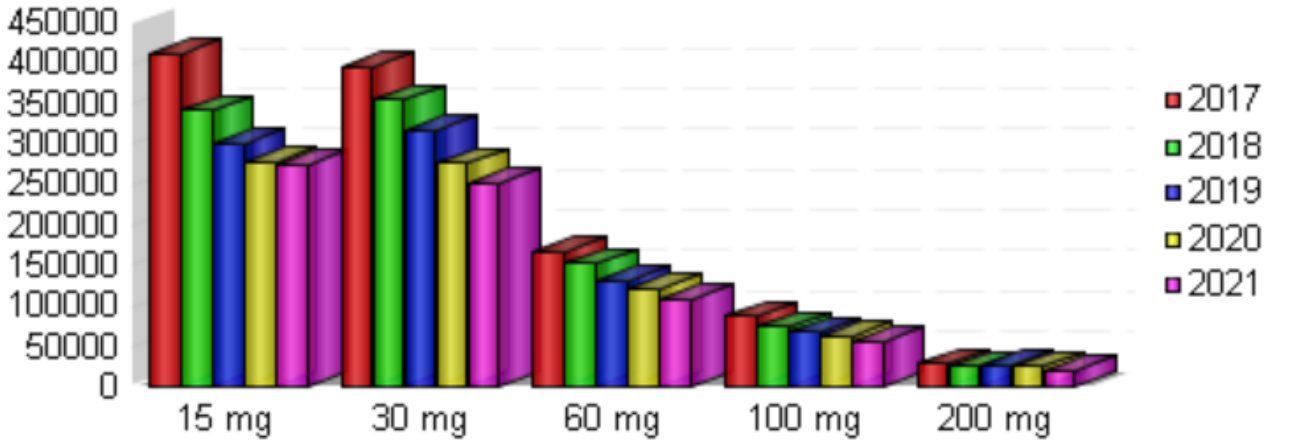
	5 mg	10 mg	20 mg	25 mg	30 mg	50 mg
2017	920,652	342,214	26,409	49,702	21,185	51,860
2018	710,301	378,617	16,384	47,854	19,471	37,368
2019	648,665	326,321	16,314	41,806	14,885	33,671
2020	618,183	295,417	18,713	46,853	12,249	26,696
2021	613,013	267,190	16,671	36,519	14,239	28,744

MORPHINE SYRUP



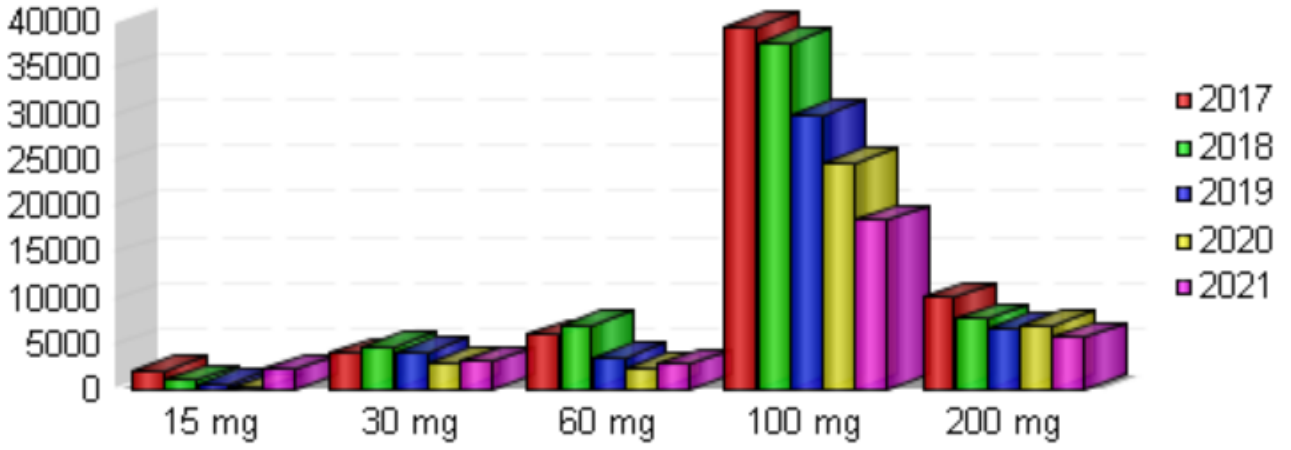
	1 mg/ml	5 mg/ml
2017	218,362	80,705
2018	205,069	94,442
2019	214,365	48,329
2020	143,259	40,746
2021	143,283	58,259

MORPHINE SR



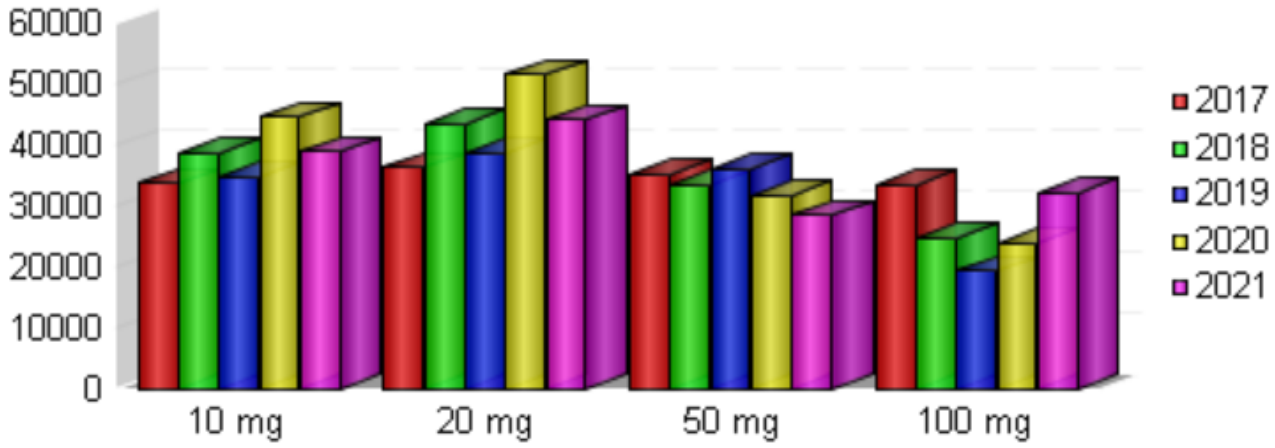
	15 mg	30 mg	60 mg	100 mg	200 mg
2017	412,282	395,018	166,814	87,133	28,814
2018	341,699	355,136	152,729	74,371	25,310
2019	301,654	316,461	131,780	68,049	26,348
2020	277,752	275,879	121,663	62,794	24,497
2021	274,905	251,098	108,447	55,913	19,882

MS CONTIN



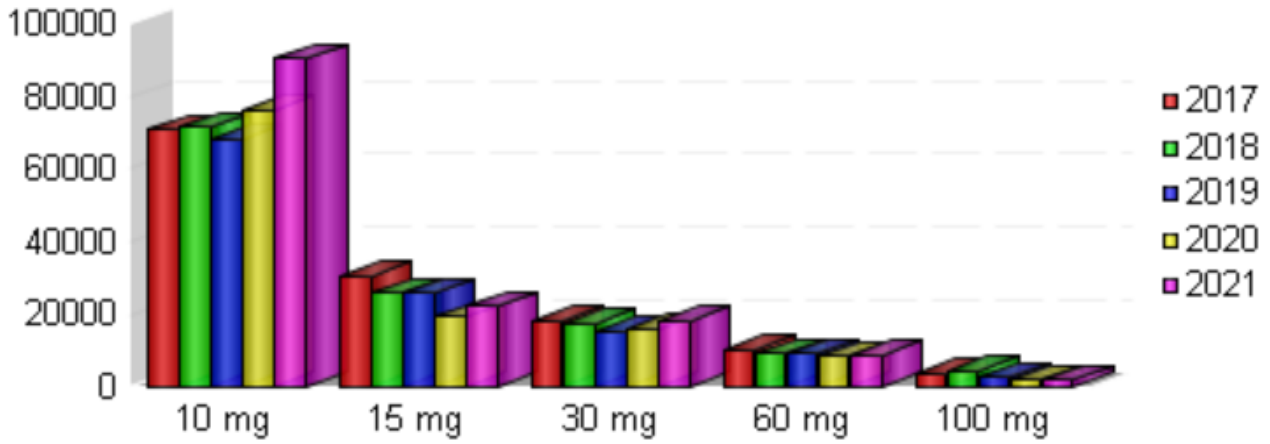
	15 mg	30 mg	60 mg	100 mg	200 mg
2017	2,148	3,978	5,980	39,445	10,015
2018	1,020	4,716	7,036	37,803	7,799
2019	573	4,043	3,514	29,925	6,655
2020	166	2,940	2,466	24,713	6,978
2021	2,198	3,114	2,763	18,493	5,764

KADIAN



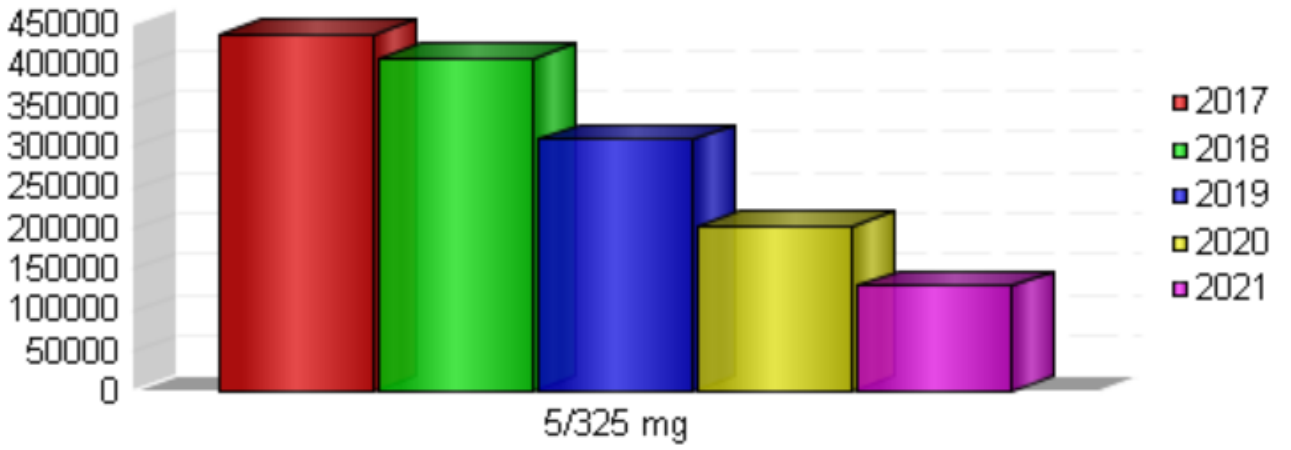
	10 mg	20 mg	50 mg	100 mg
2017	33,795	36,354	35,267	33,573
2018	38,794	43,542	33,561	24,974
2019	34,801	38,890	36,289	19,437
2020	44,738	51,720	31,876	23,938
2021	39,021	44,272	28,637	32,191

M-ESLON



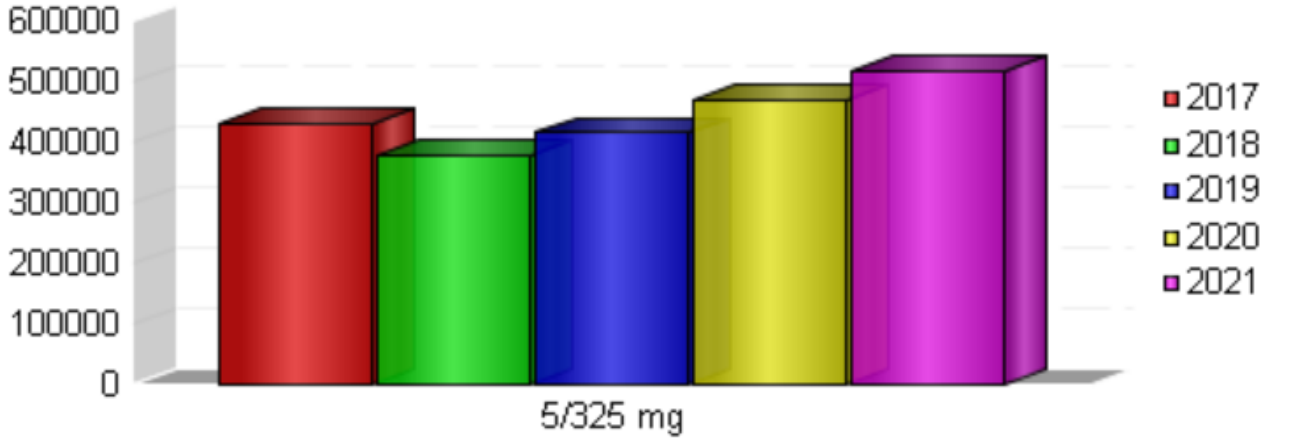
	10 mg	15 mg	30 mg	60 mg	100 mg
2017	70,749	30,570	18,468	10,440	3,938
2018	71,666	25,976	17,432	9,190	4,626
2019	68,287	25,946	15,225	9,280	2,822
2020	76,170	19,421	16,143	8,522	2,040
2021	90,355	22,155	18,056	8,914	2,071

OXYCODONE / ACET



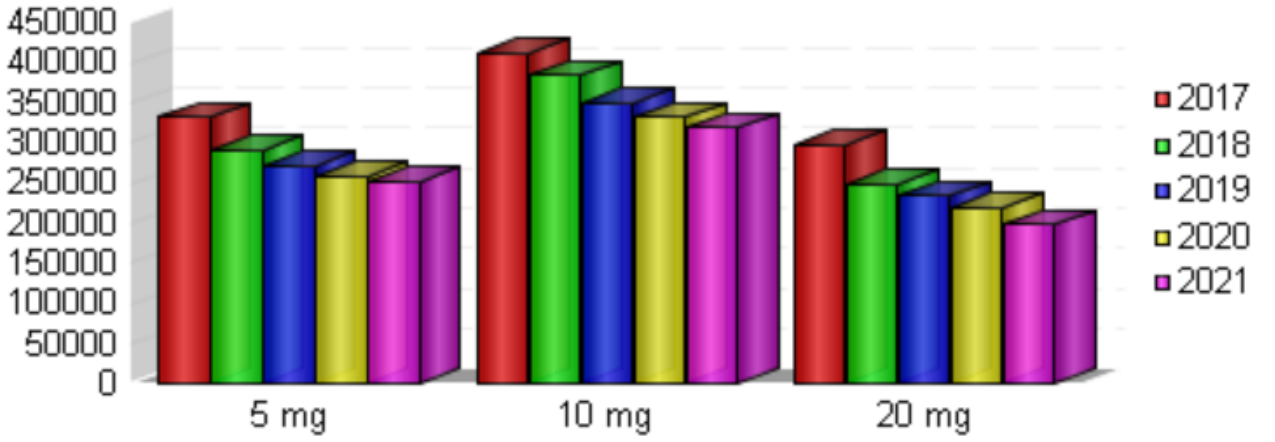
	5/325 mg
2017	438,541
2018	409,378
2019	309,328
2020	202,791
2021	129,132

OXYCODONE / ASA



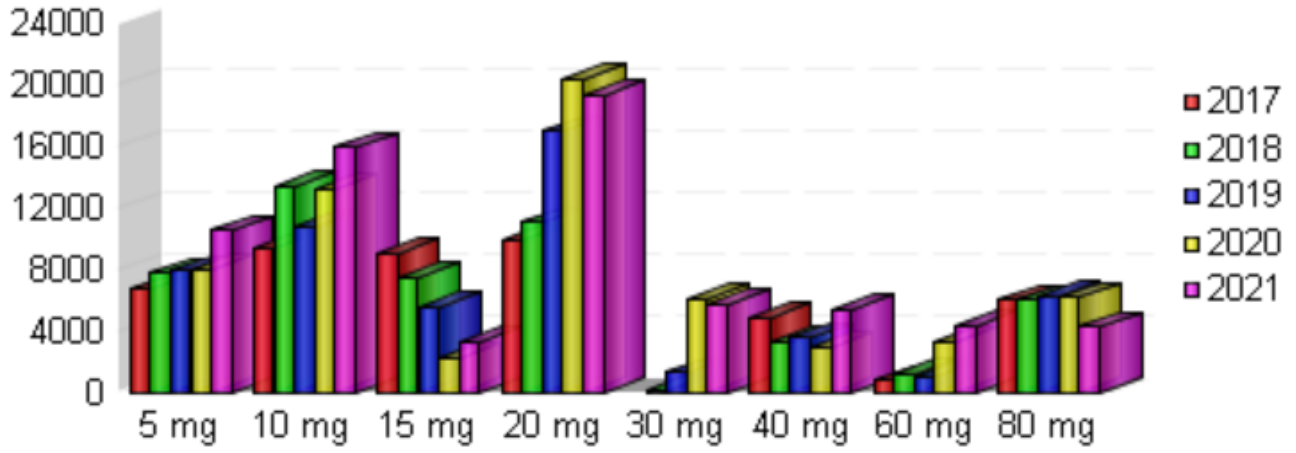
	5/325 mg
2017	431,455
2018	380,343
2019	416,649
2020	471,402
2021	517,705

OXYCODONE IR



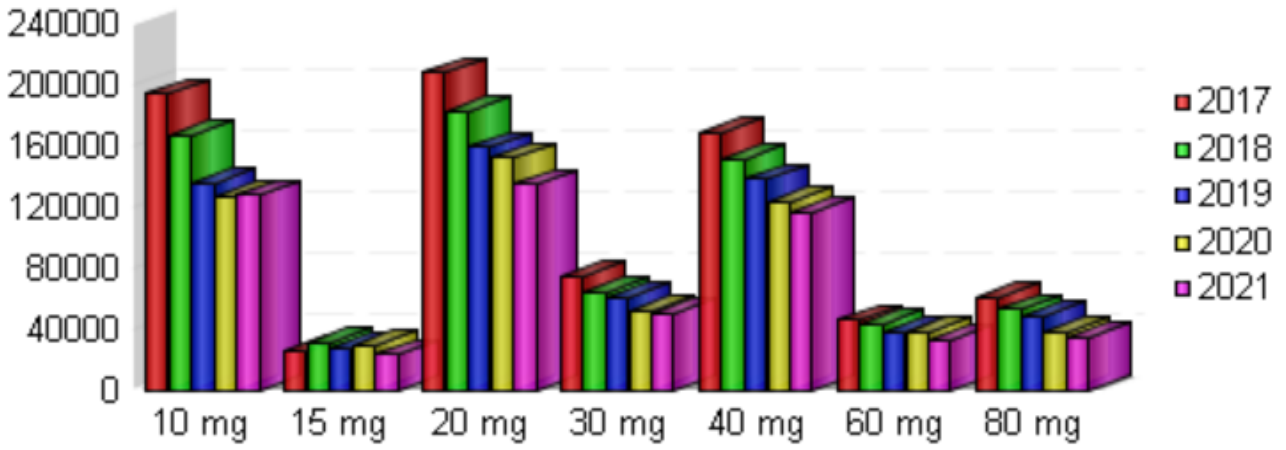
	5 mg	10 mg	20 mg
2017	331,802	410,943	296,664
2018	291,164	384,361	248,334
2019	271,765	349,628	233,516
2020	257,610	332,343	218,524
2021	251,747	319,316	197,472

OXYCODONE CR



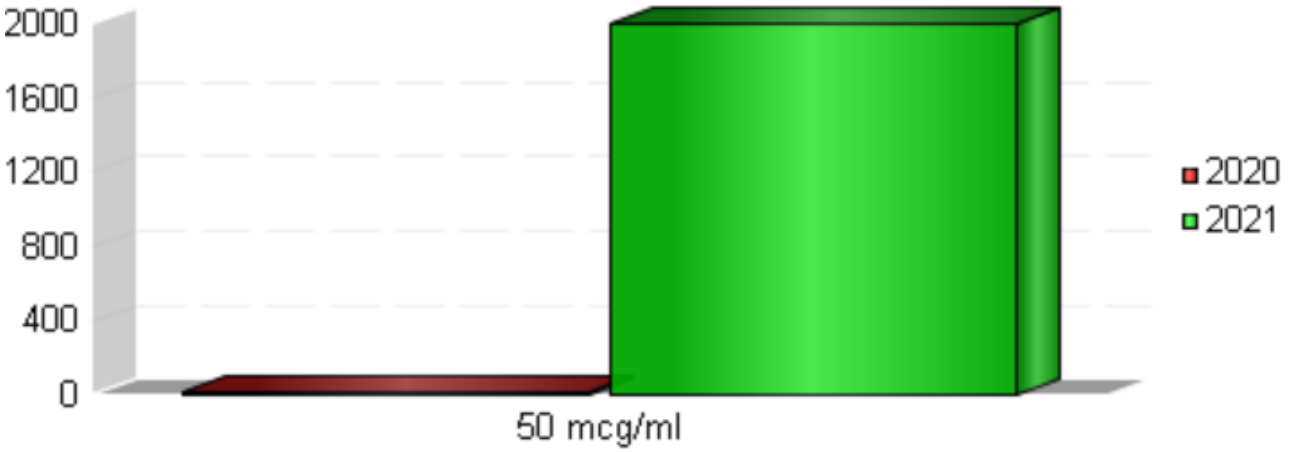
	5 mg	10 mg	15 mg	20 mg	30 mg	40 mg	60 mg	80 mg
2017	6,747	9,390	9,130	9,902		4,916	825	6,044
2018	7,808	13,392	7,553	11,071	258	3,360	1,264	6,060
2019	7,926	10,808	5,623	16,999	1,346	3,594	1,097	6,336
2020	8,018	13,210	2,257	20,427	6,116	2,988	3,370	6,220
2021	10,555	15,974	3,386	19,321	5,740	5,474	4,345	4,300

OXYNEO



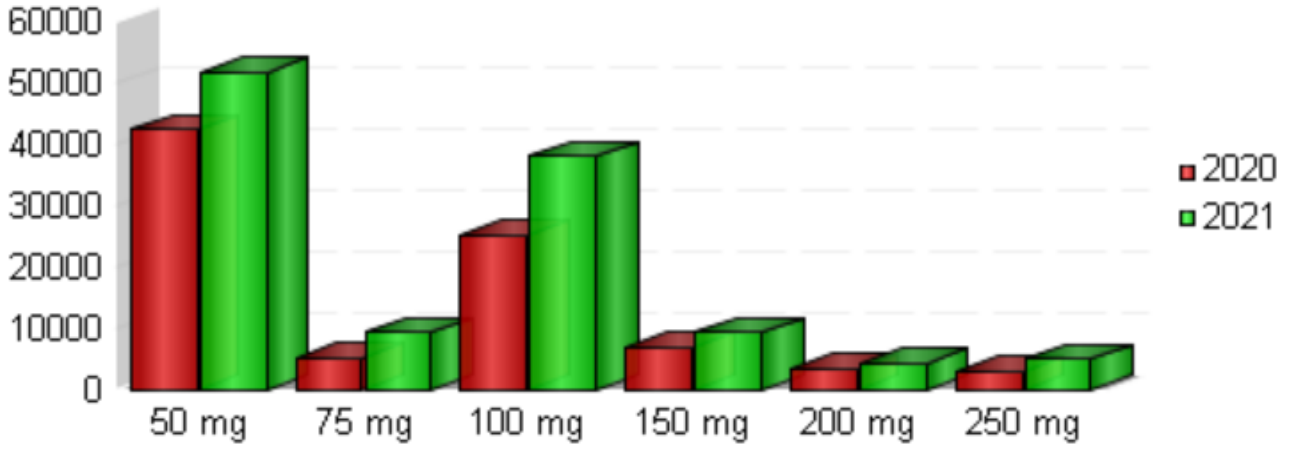
	10 mg	15 mg	20 mg	30 mg	40 mg	60 mg	80 mg
2017	194,218	26,819	208,450	74,777	169,116	46,731	61,672
2018	167,356	31,925	183,561	64,556	151,559	43,781	53,165
2019	136,516	28,207	159,650	61,535	138,766	38,846	49,240
2020	127,740	29,696	152,612	52,474	123,895	38,740	39,107
2021	128,069	23,778	135,485	50,395	116,446	33,671	35,432

SUFENTANIL INJECTION



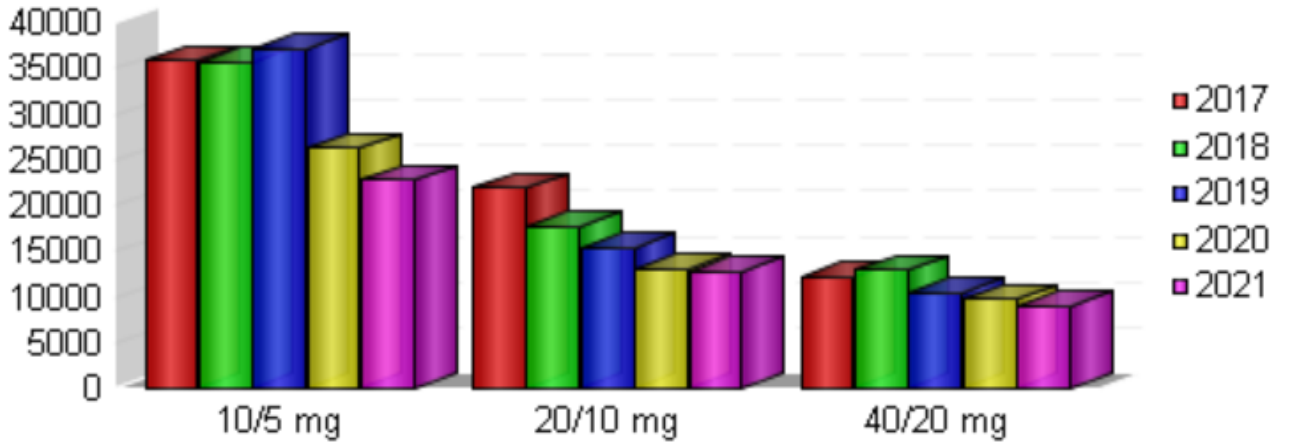
	50 mcg/ml
2020	20
2021	2,000

TAPENTADOL



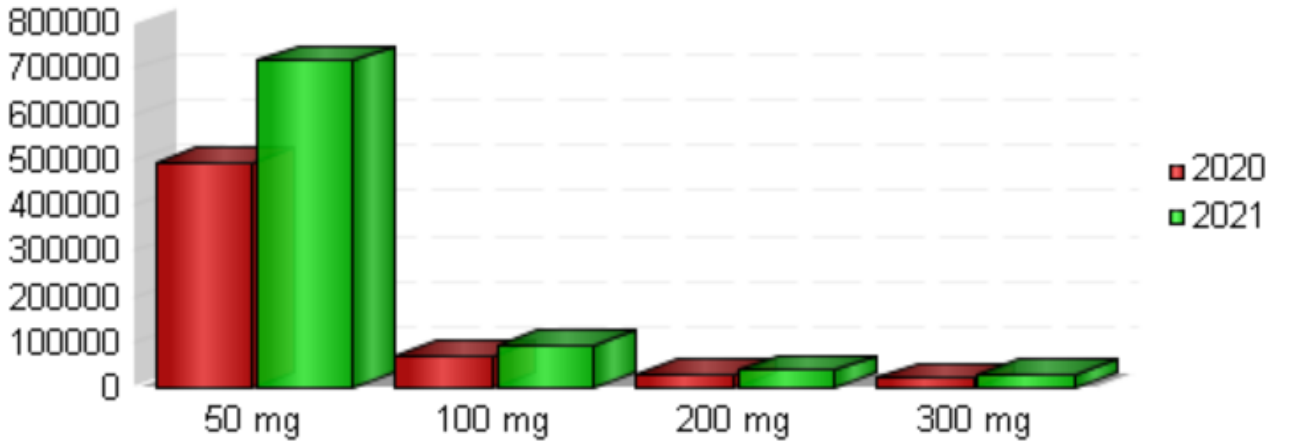
	50 mg	75 mg	100 mg	150 mg	200 mg	250 mg
2020	42,432	5,284	25,448	6,986	3,532	3,217
2021	51,852	9,413	38,166	9,390	4,480	5,010

TARGIN



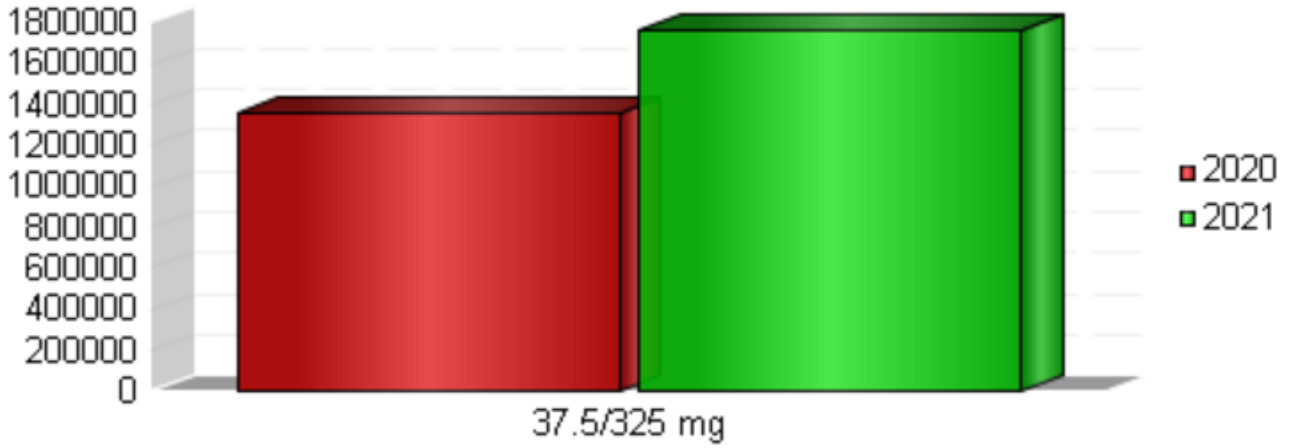
	10/5 mg	20/10 mg	40/20 mg
2017	35,848	21,917	12,318
2018	35,732	17,717	12,974
2019	37,165	15,466	10,440
2020	26,282	13,145	9,739
2021	22,846	12,788	9,085

TRAMADOL



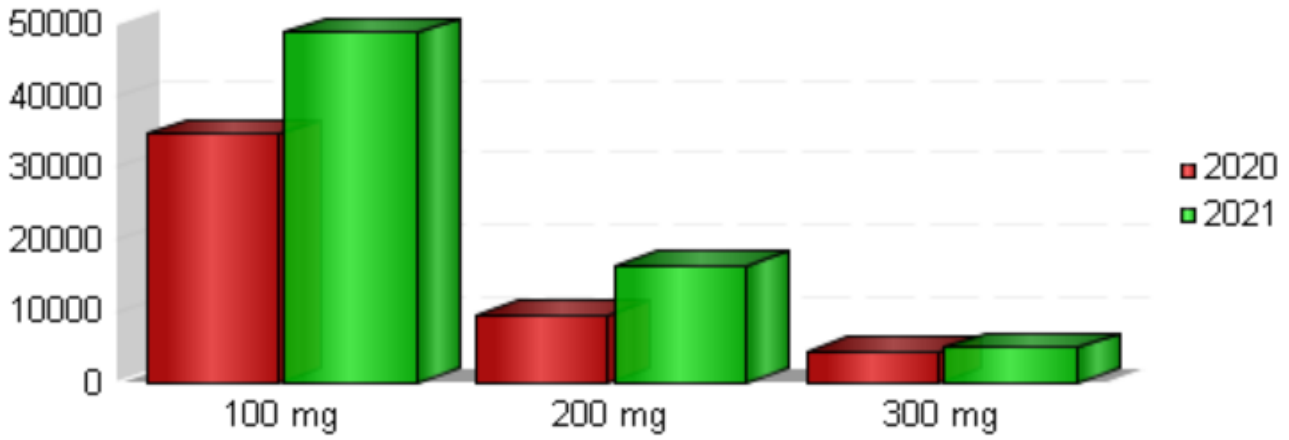
	50 mg	100 mg	200 mg	300 mg
2020	495,574	71,284	31,910	21,576
2021	718,451	93,772	37,909	28,543

TRAMADOL / ACET



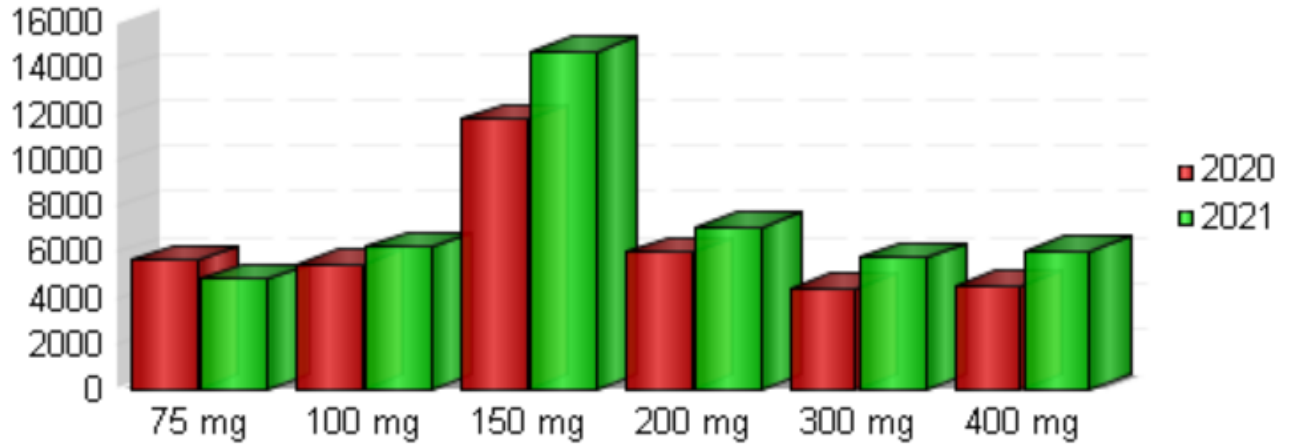
	37.5/325 mg
2020	1,363,663
2021	1,764,592

TRAMADOL ER

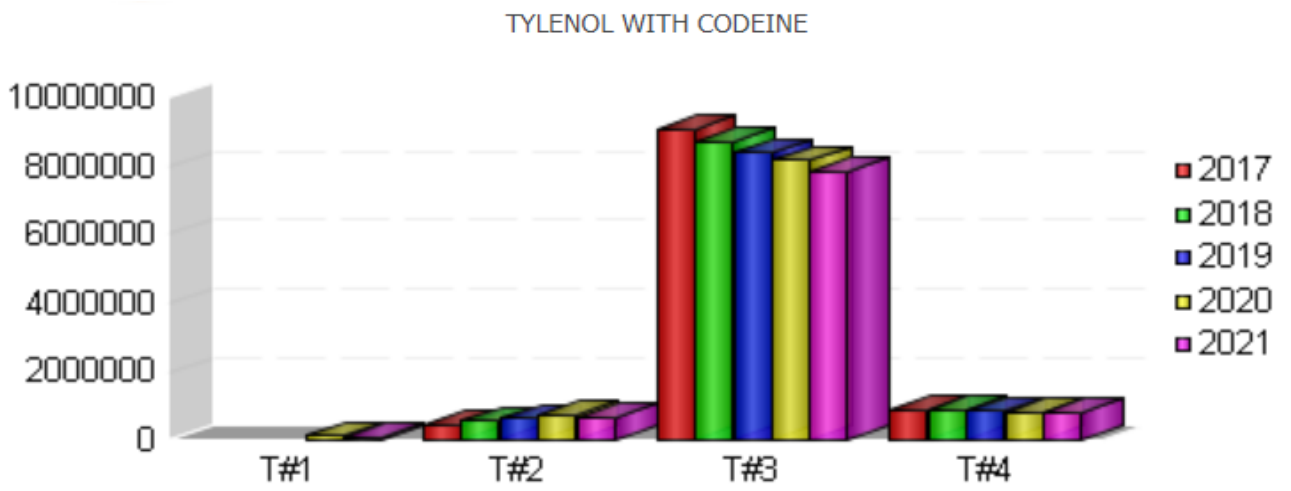


	100 mg	200 mg	300 mg
2020	34,723	9,491	4,513
2021	48,796	16,488	5,002

TRAMADOL XL



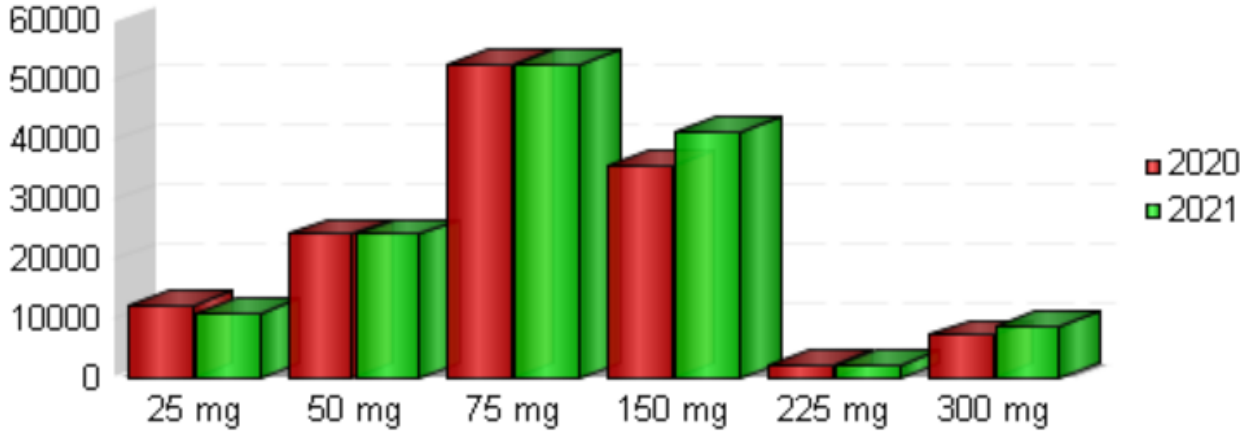
	75 mg	100 mg	150 mg	200 mg	300 mg	400 mg
2020	5,651	5,458	11,819	5,995	4,411	4,530
2021	4,834	6,232	14,747	7,104	5,785	6,066



	T#1	T#2	T#3	T#4
2017		468,081	9,092,773	904,470
2018		570,495	8,721,936	870,008
2019		622,502	8,389,824	838,582
2020	118,850	720,658	8,183,561	801,947
2021	72,994	653,274	7,840,960	805,252

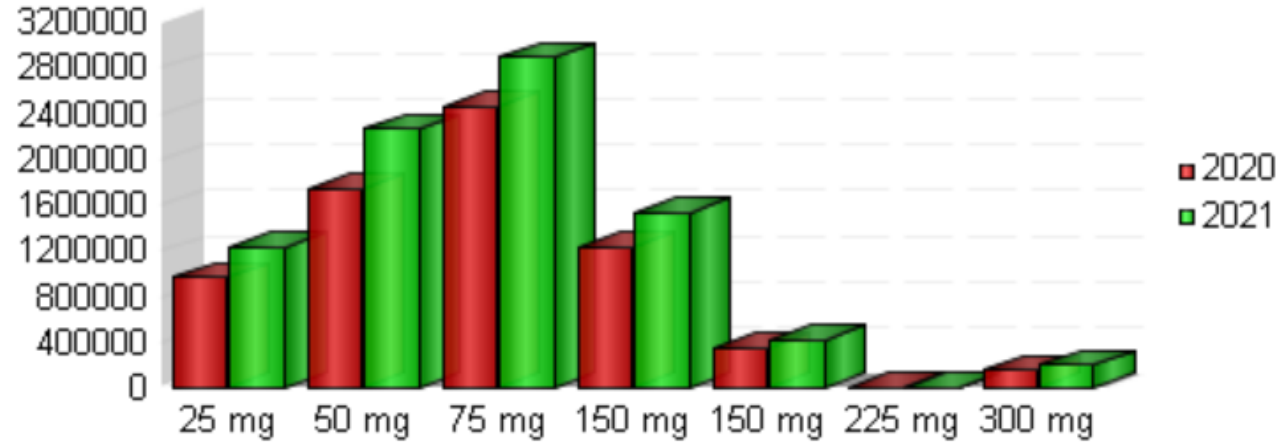
Appendix I: Anticonvulsants

LYRICA



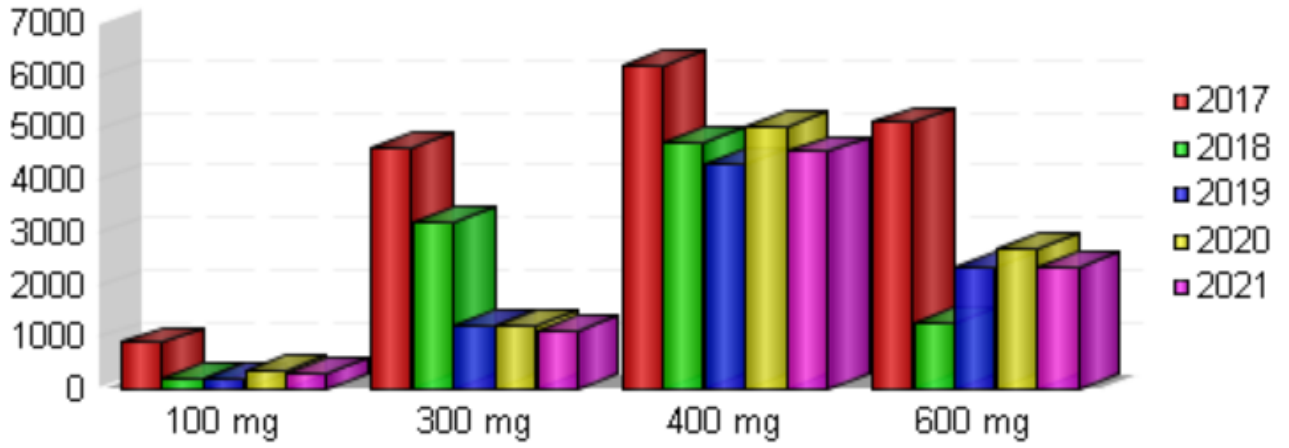
	25 mg	50 mg	75 mg	150 mg	225 mg	300 mg
2020	12,210	24,242	52,772	35,724	2,330	7,194
2021	10,889	24,267	52,688	41,402	2,240	8,824

PREGABALIN



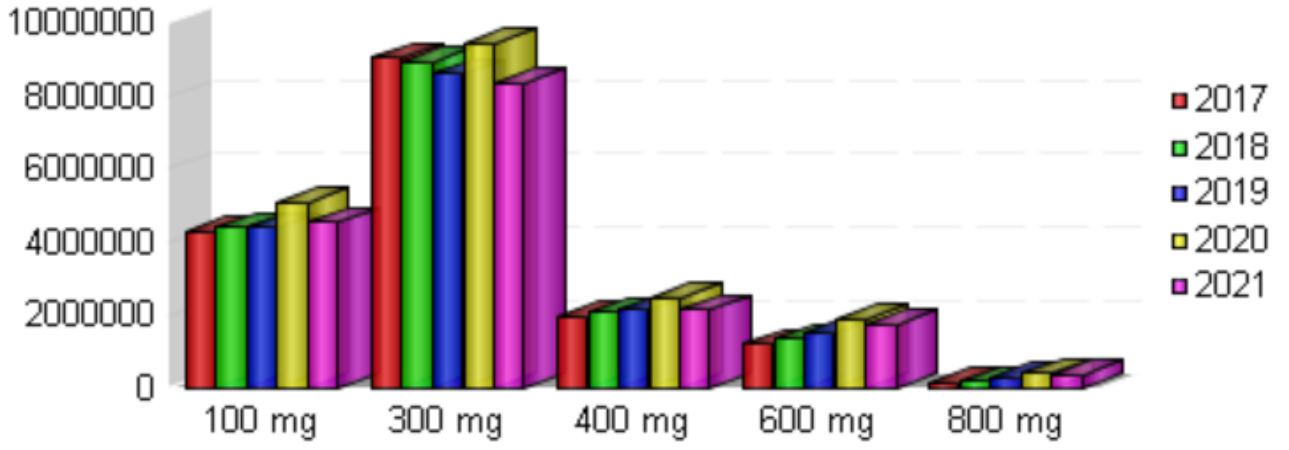
	25 mg	50 mg	75 mg	150 mg	150 mg	225 mg	300 mg
2020	963,472	1,742,376	2,463,347	1,235,885	355,312	5,724	158,362
2021	1,239,331	2,265,757	2,895,236	1,531,812	424,447	7,254	201,220

NEURONTIN



	100 mg	300 mg	400 mg	600 mg
2017	900	4,629	6,203	5,113
2018	210	3,205	4,728	1,274
2019	220	1,239	4,320	2,340
2020	360	1,218	5,040	2,700
2021	328	1,128	4,546	2,340

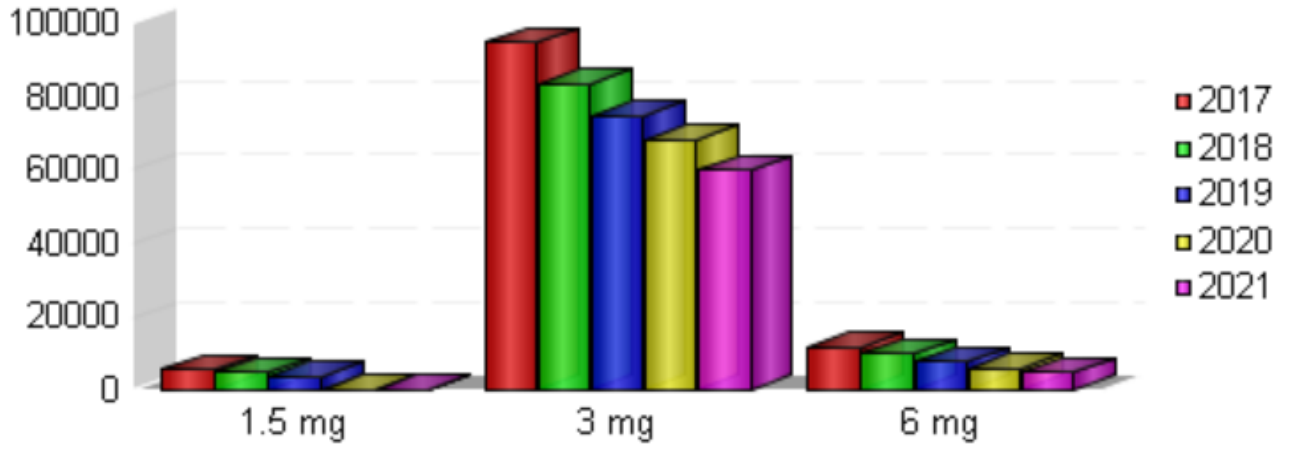
GABAPENTIN



	100 mg	300 mg	400 mg	600 mg	800 mg
2017	4,276,593	9,049,652	1,962,595	1,197,147	165,204
2018	4,409,041	8,921,411	2,071,265	1,350,422	209,219
2019	4,410,776	8,614,563	2,141,561	1,524,389	295,015
2020	5,082,166	9,444,023	2,461,591	1,896,577	409,022
2021	4,536,208	8,363,381	2,159,889	1,742,889	385,368

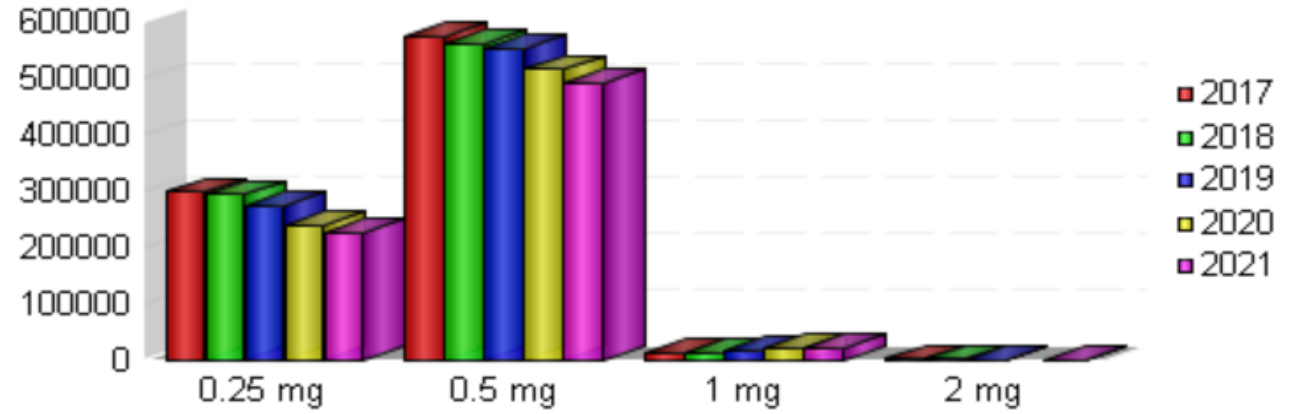
Appendix J: Benzodiazepines

BROMAZEPAM



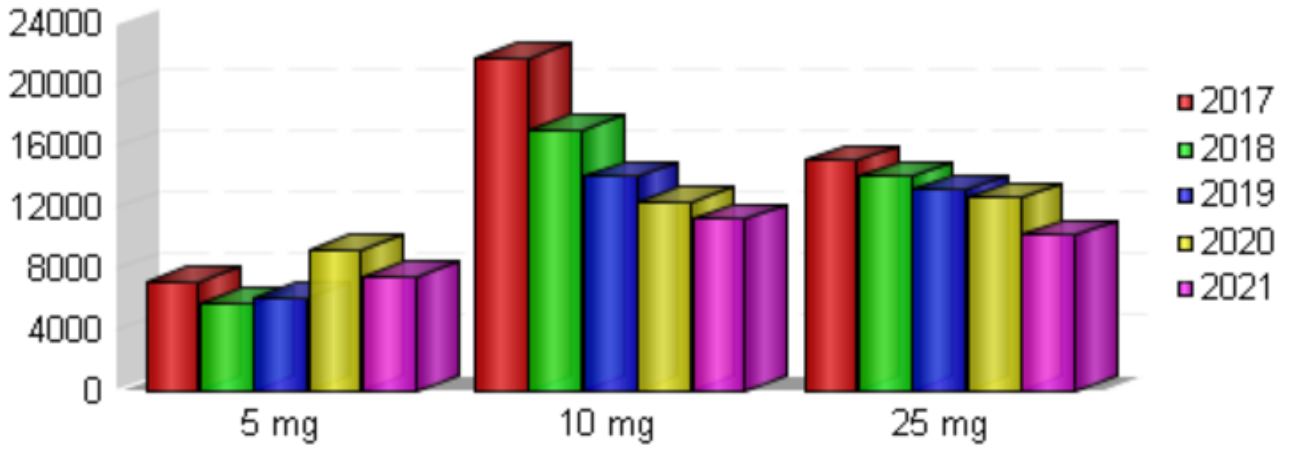
	1.5 mg	3 mg	6 mg
2017	5,578	94,874	11,825
2018	4,875	83,690	9,986
2019	3,925	74,800	7,674
2020	120	68,119	5,743
2021	39	59,887	4,752

ALPRAZOLAM



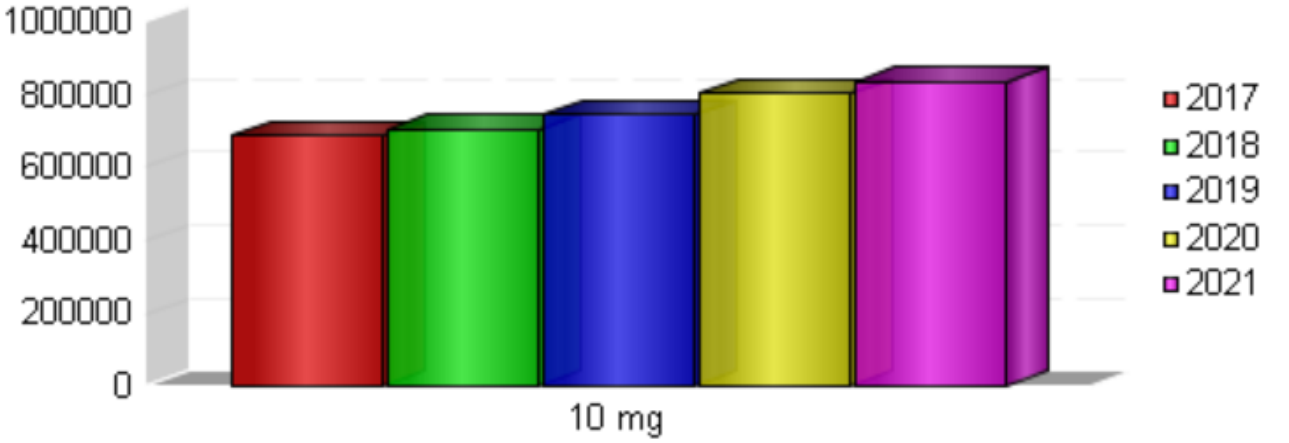
	0.25 mg	0.5 mg	1 mg	2 mg
2017	298,706	574,571	13,005	3,329
2018	294,428	562,607	12,915	2,841
2019	275,670	552,188	18,390	243
2020	241,083	517,165	22,307	
2021	226,662	492,713	21,434	90

CHLORDIAZEPOXIDE



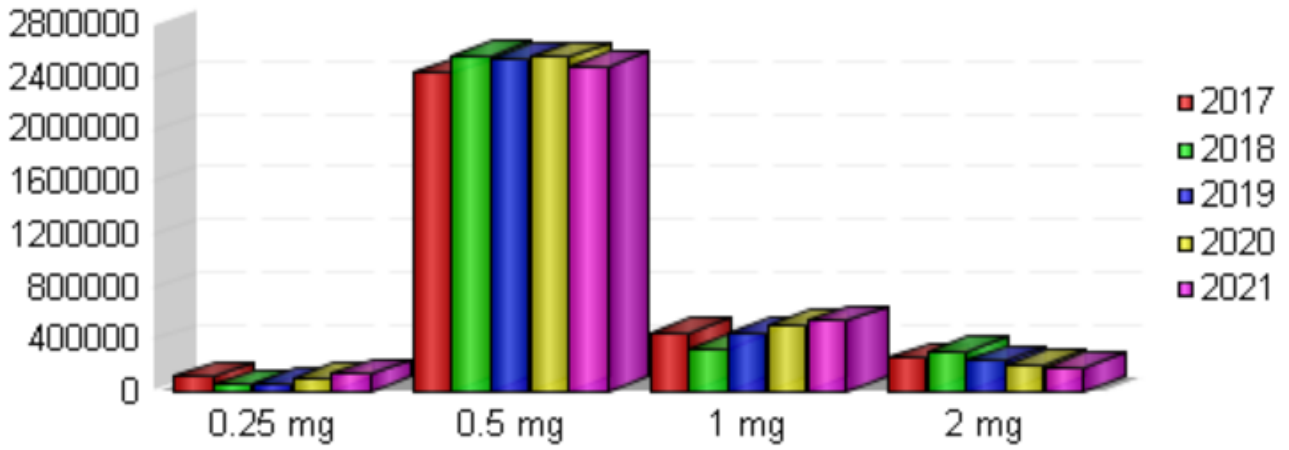
	5 mg	10 mg	25 mg
2017	7,127	21,803	15,088
2018	5,740	17,083	14,061
2019	6,176	14,036	13,154
2020	9,272	12,422	12,649
2021	7,567	11,249	10,202

CLOBAZAM



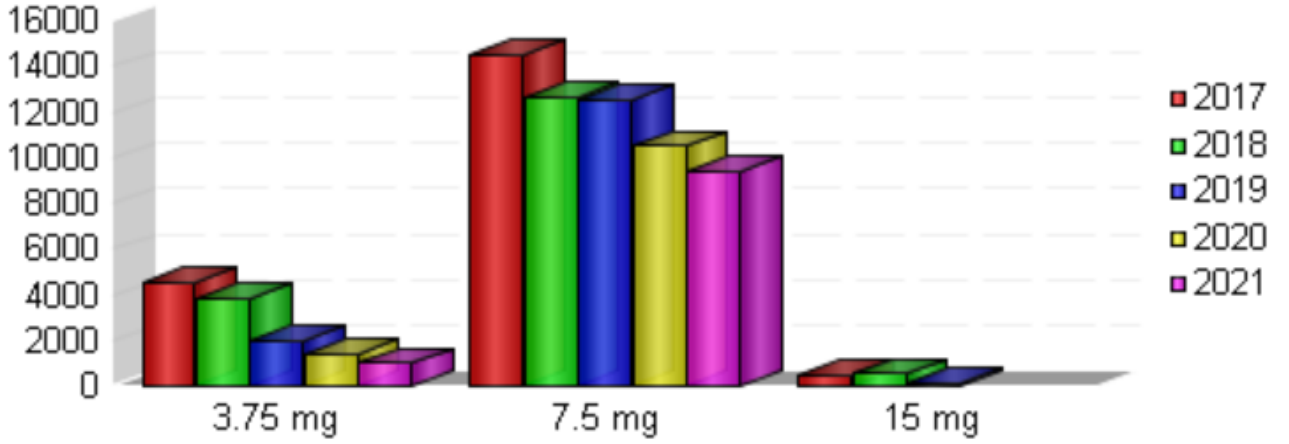
	10 mg
2017	686,158
2018	702,921
2019	745,614
2020	802,838
2021	833,196

CLONAZEPAM



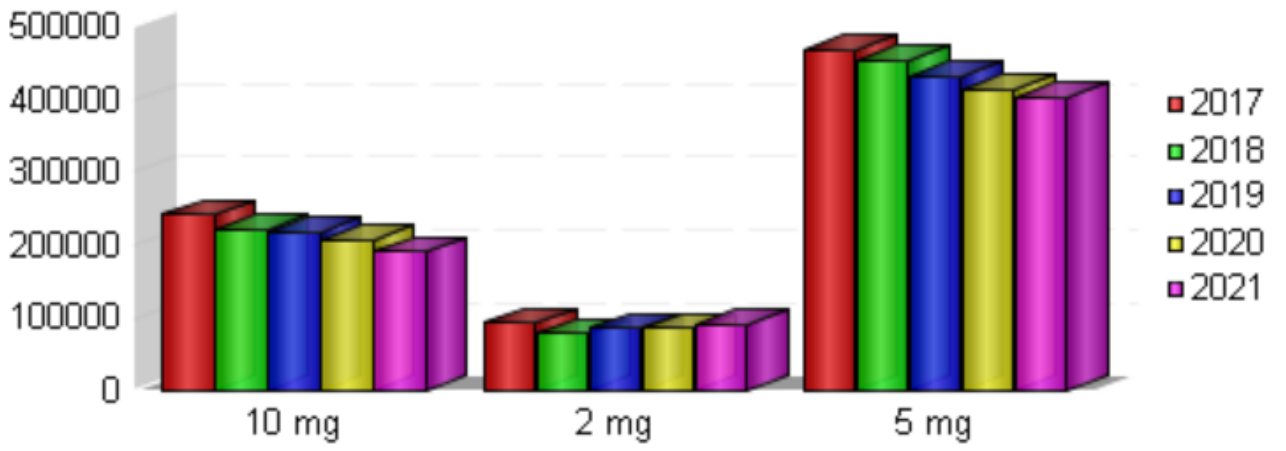
	0.25 mg	0.5 mg	1 mg	2 mg
2017	113,732	2,433,103	446,314	261,569
2018	57,764	2,567,749	322,862	303,513
2019	71,111	2,543,695	448,450	237,963
2020	101,811	2,550,704	507,767	207,179
2021	135,425	2,475,392	540,679	192,595

CLORAZEPATE



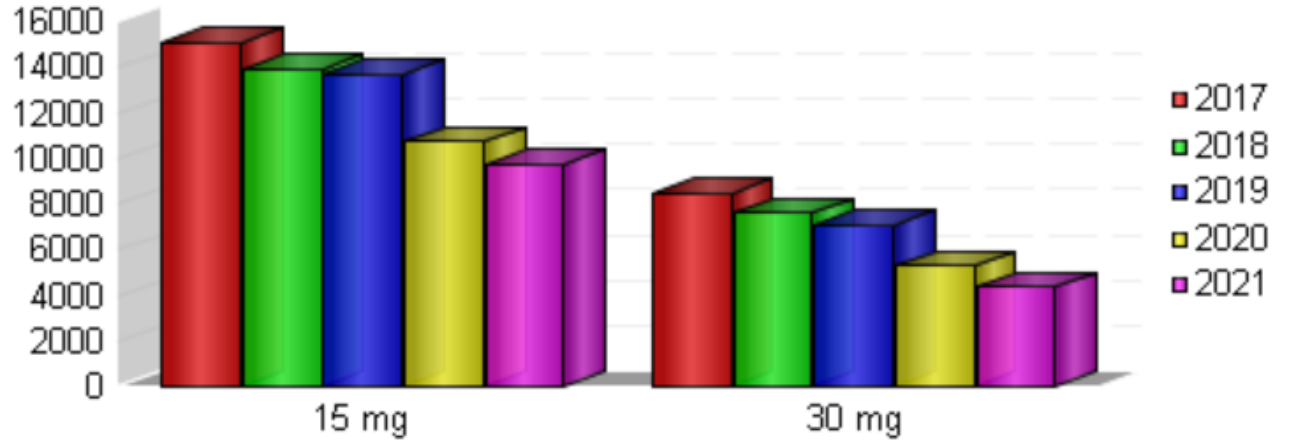
	3.75 mg	7.5 mg	15 mg
2017	4,568	14,554	476
2018	3,818	12,645	524
2019	1,970	12,523	132
2020	1,450	10,513	
2021	1,002	9,422	

DIAZEPAM



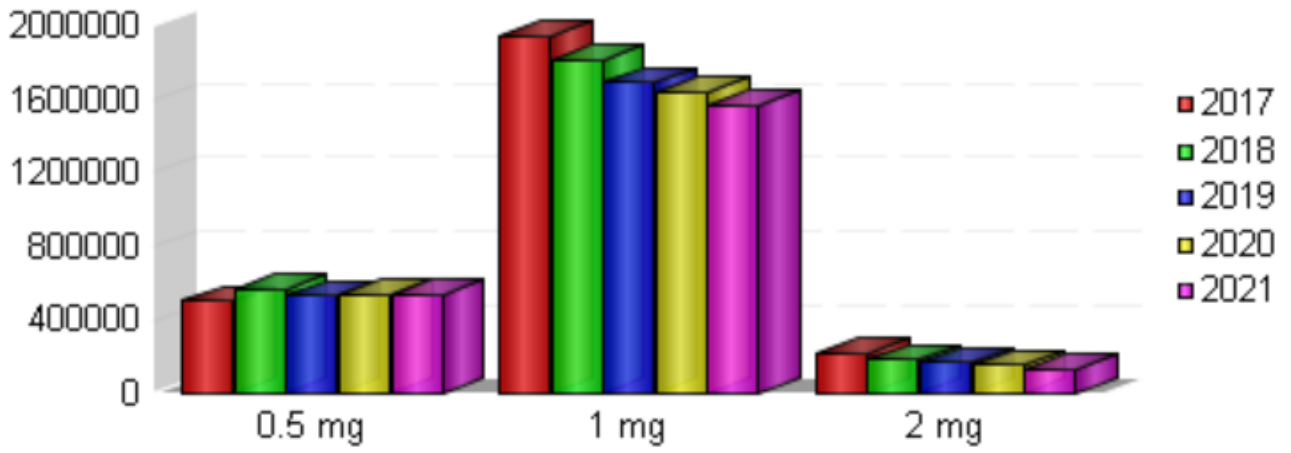
	10 mg	2 mg	5 mg
2017	241,151	93,652	467,343
2018	221,328	78,950	452,901
2019	218,221	85,345	432,604
2020	208,291	85,749	413,007
2021	191,596	92,057	402,525

FLURAZEPAM



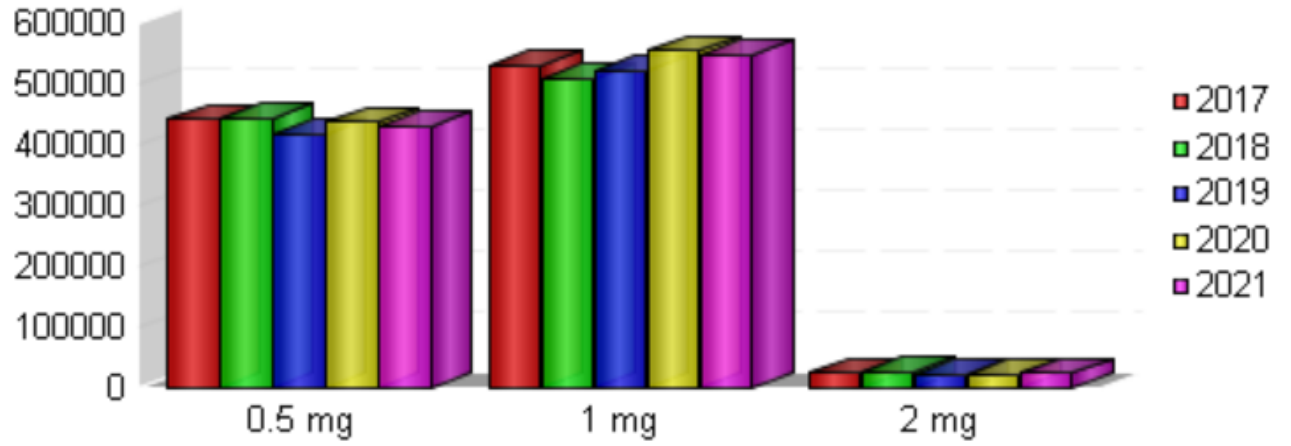
	15 mg	30 mg
2017	15,114	8,459
2018	13,933	7,611
2019	13,693	7,082
2020	10,753	5,315
2021	9,796	4,361

LORAZEPAM



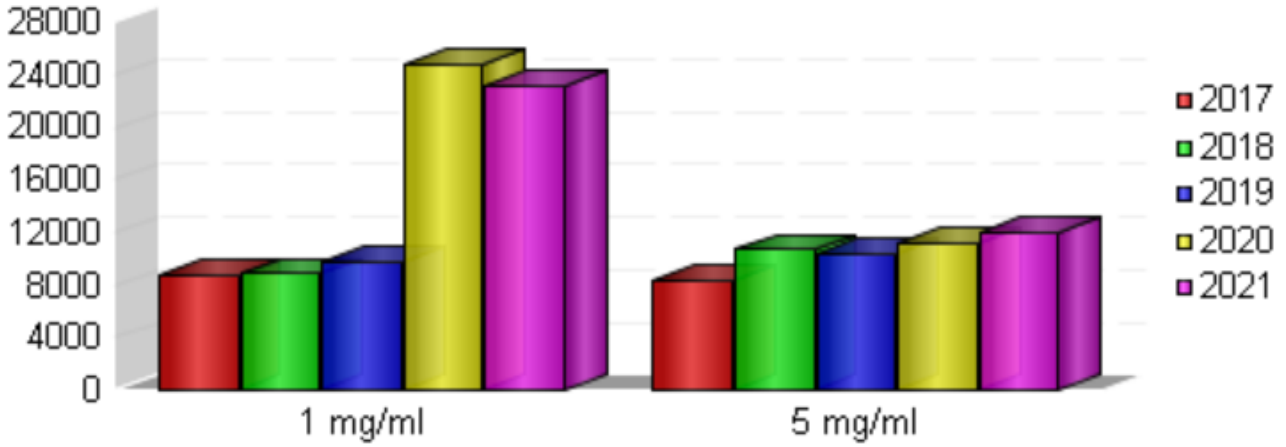
	0.5 mg	1 mg	2 mg
2017	505,710	1,947,151	219,532
2018	571,829	1,818,750	182,788
2019	531,472	1,693,274	171,172
2020	539,987	1,641,167	155,295
2021	535,468	1,568,319	134,256

LORAZEPAM SL



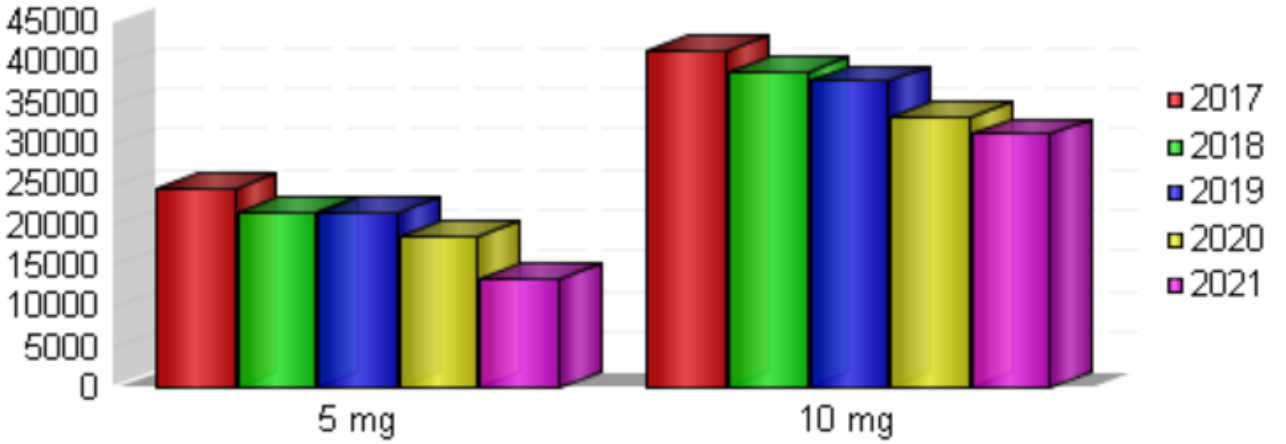
	0.5 mg	1 mg	2 mg
2017	442,596	531,597	25,255
2018	443,363	511,206	26,458
2019	419,370	522,796	22,194
2020	437,923	555,158	23,223
2021	430,589	549,803	24,678

MIDAZOLAM INJECTION



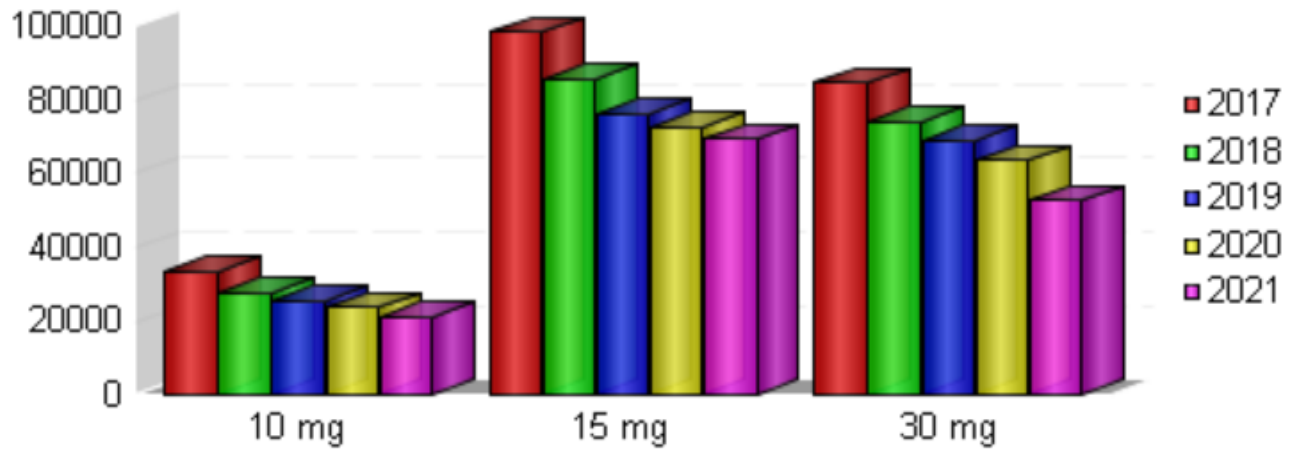
	1 mg/ml	5 mg/ml
2017	8,777	8,347
2018	8,857	10,667
2019	9,807	10,349
2020	24,801	11,152
2021	23,175	12,005

NITRAZEPAM



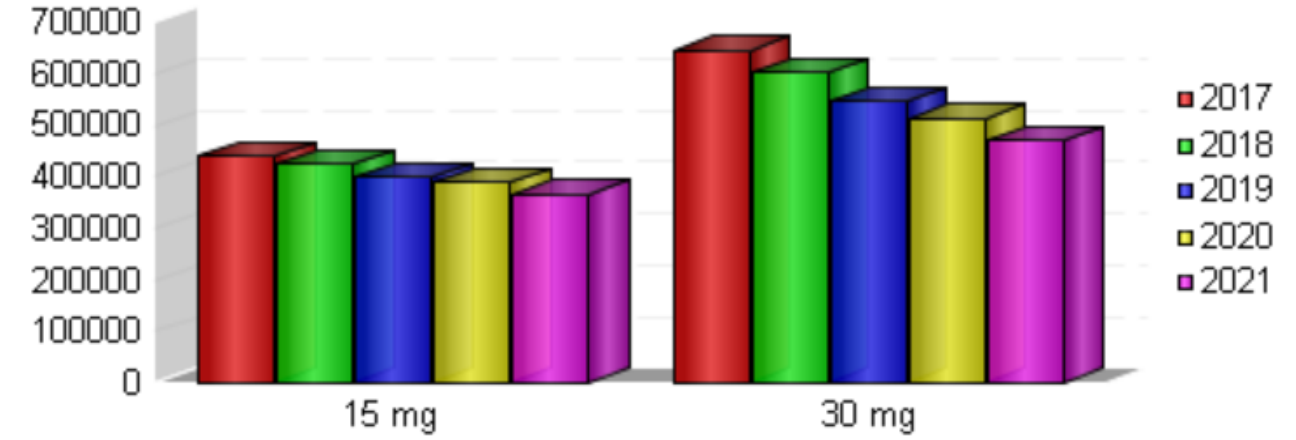
	5 mg	10 mg
2017	24,491	41,504
2018	21,669	38,875
2019	21,638	37,726
2020	18,595	33,442
2021	13,535	31,288

OXAZEPAM



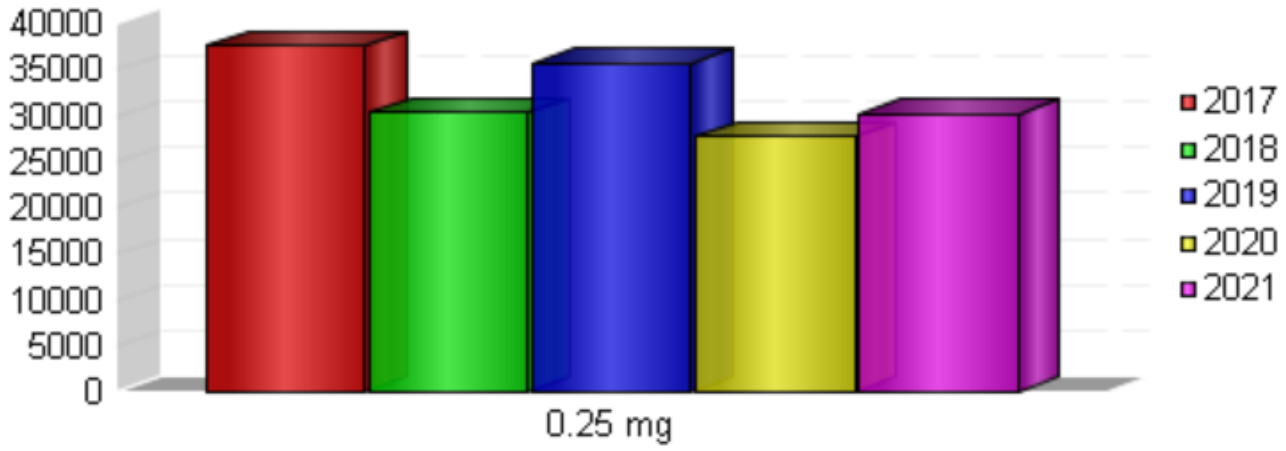
	10 mg	15 mg	30 mg
2017	33,642	98,473	84,514
2018	27,893	85,648	73,921
2019	25,517	76,410	68,946
2020	23,616	72,463	63,527
2021	21,204	69,521	52,635

TEMAZEPAM



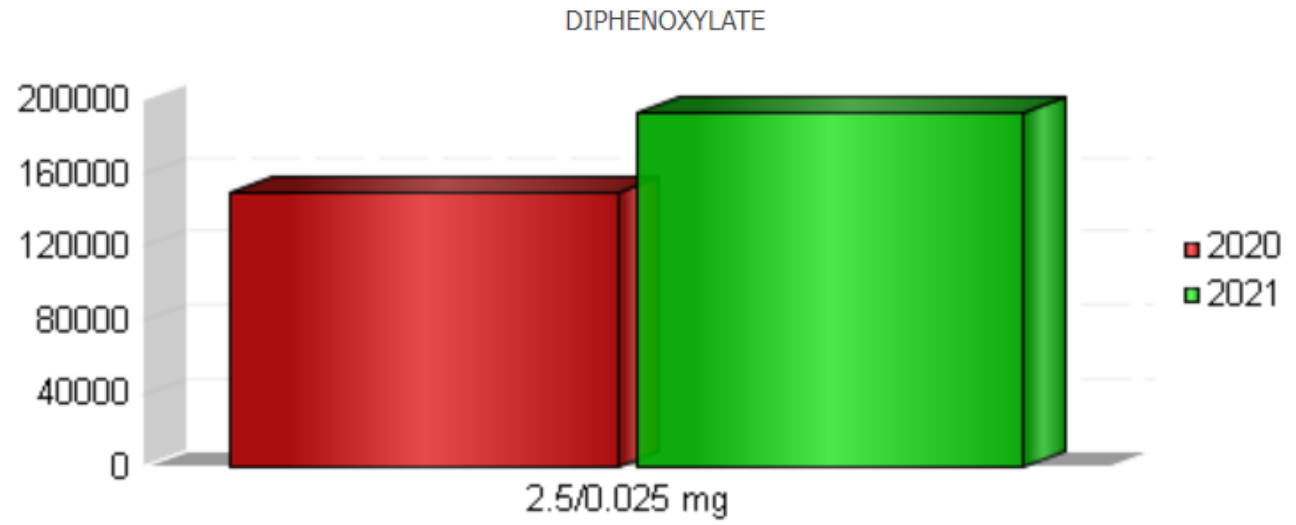
	15 mg	30 mg
2017	439,158	646,301
2018	425,192	601,947
2019	398,759	546,755
2020	389,119	512,617
2021	366,946	470,306

TRIAZOLAM



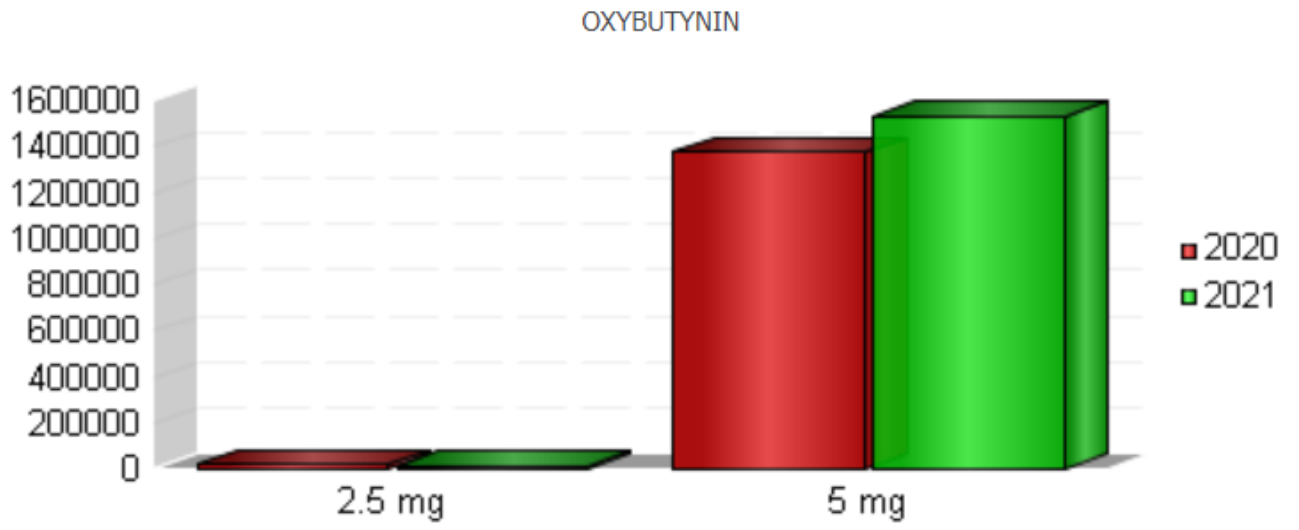
	0.25 mg
2017	37,634
2018	30,388
2019	35,744
2020	27,702
2021	30,142

Appendix K: Antidiarrhea Agents

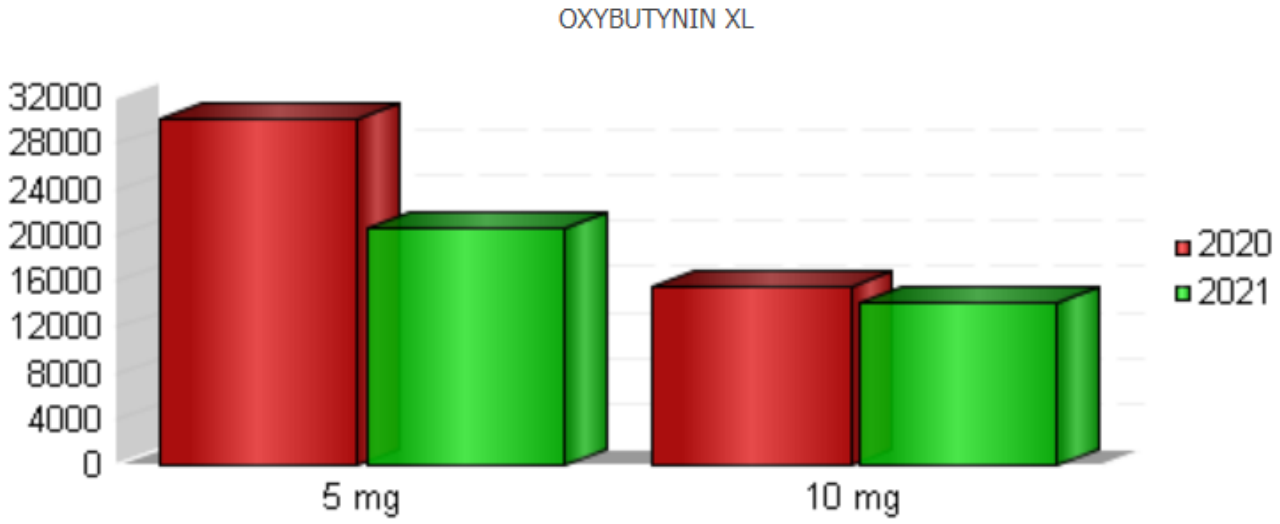


	2.5/0.025 mg
2020	150,075
2021	193,357

Appendix L: Antimuscarinics

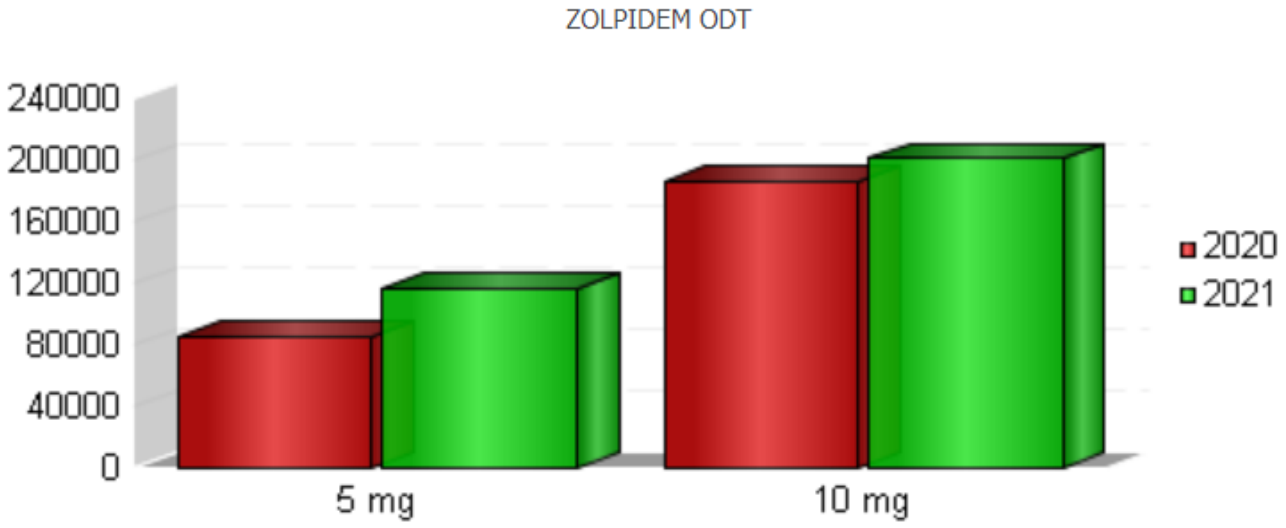


	2.5 mg	5 mg
2020	19,763	1,375,528
2021	16,624	1,534,541

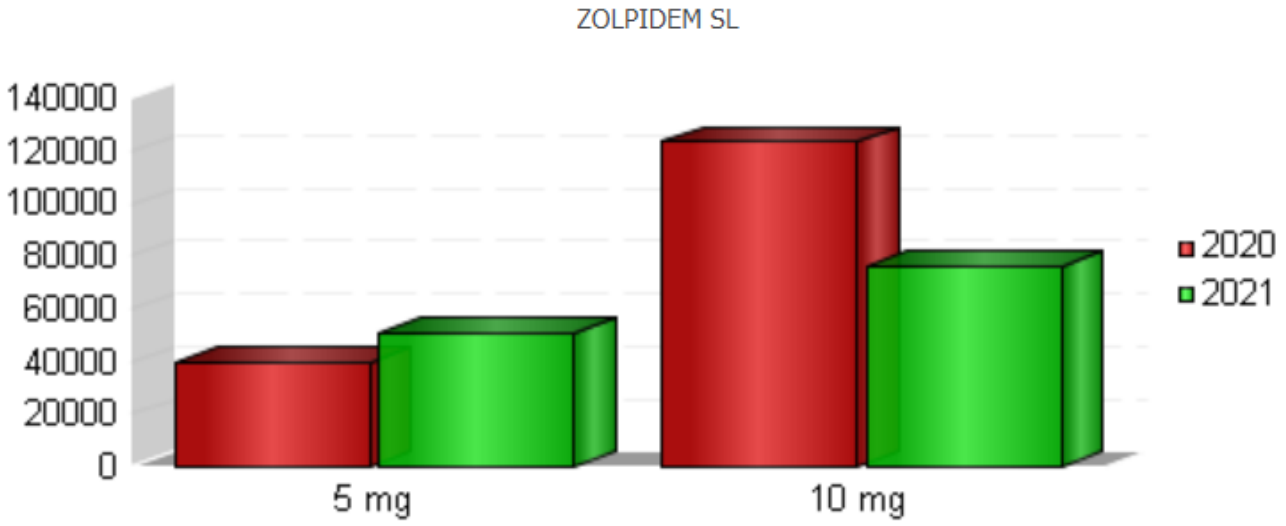


	5 mg	10 mg
2020	30,167	15,536
2021	20,685	14,191

Appendix M: Anxiolytics Sedatives and Hypnotics

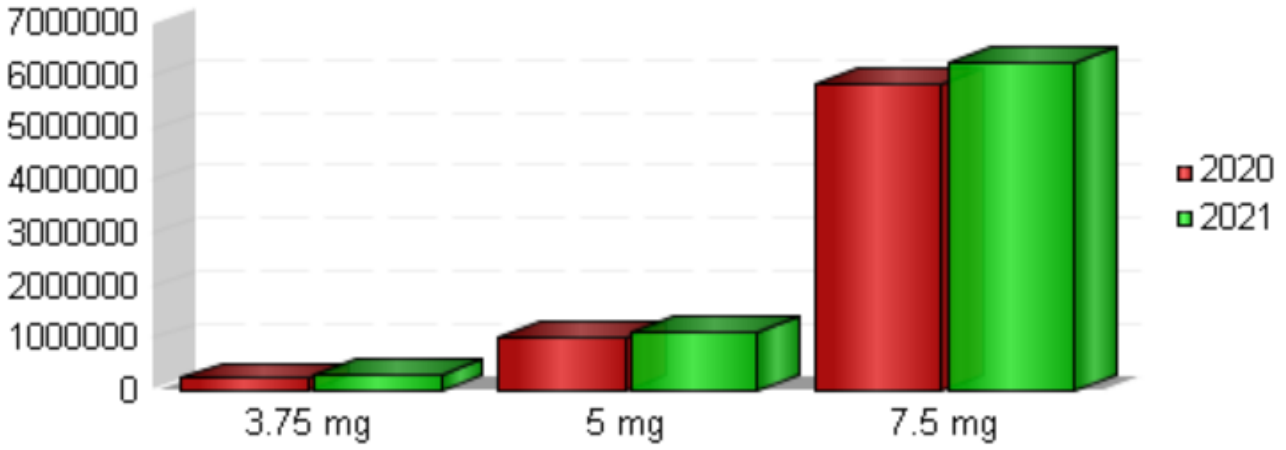


	5 mg	10 mg
2020	85,895	186,986
2021	116,759	201,692



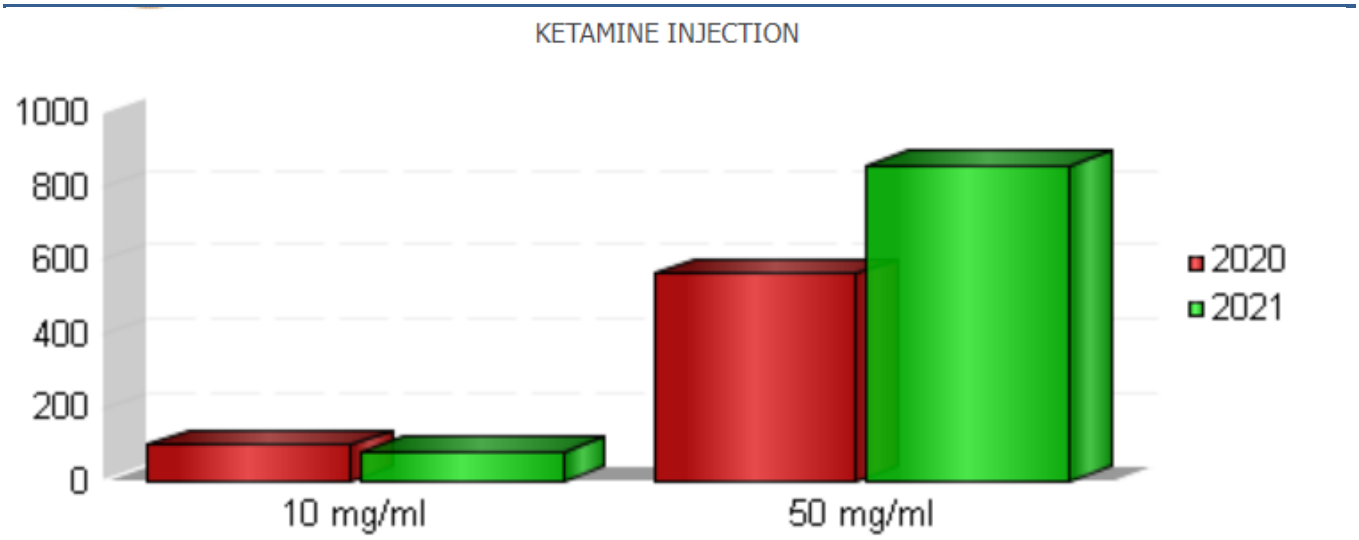
	5 mg	10 mg
2020	40,000	123,530
2021	50,928	76,469

ZOPICLONE



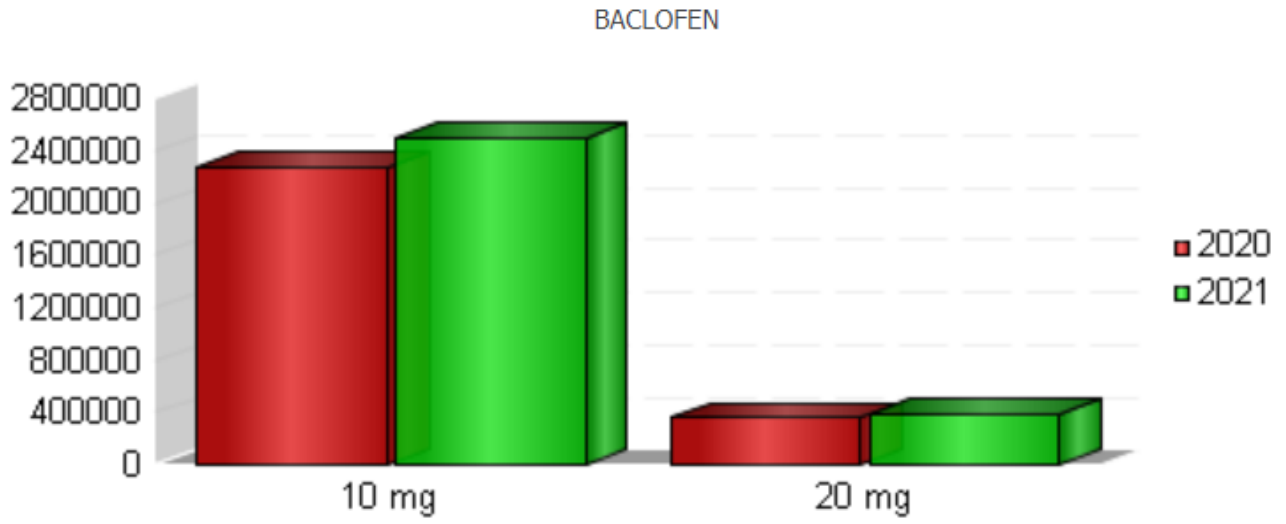
	3.75 mg	5 mg	7.5 mg
2020	246,007	1,037,320	5,859,927
2021	316,388	1,129,892	6,263,275

Appendix N: General Anesthetics



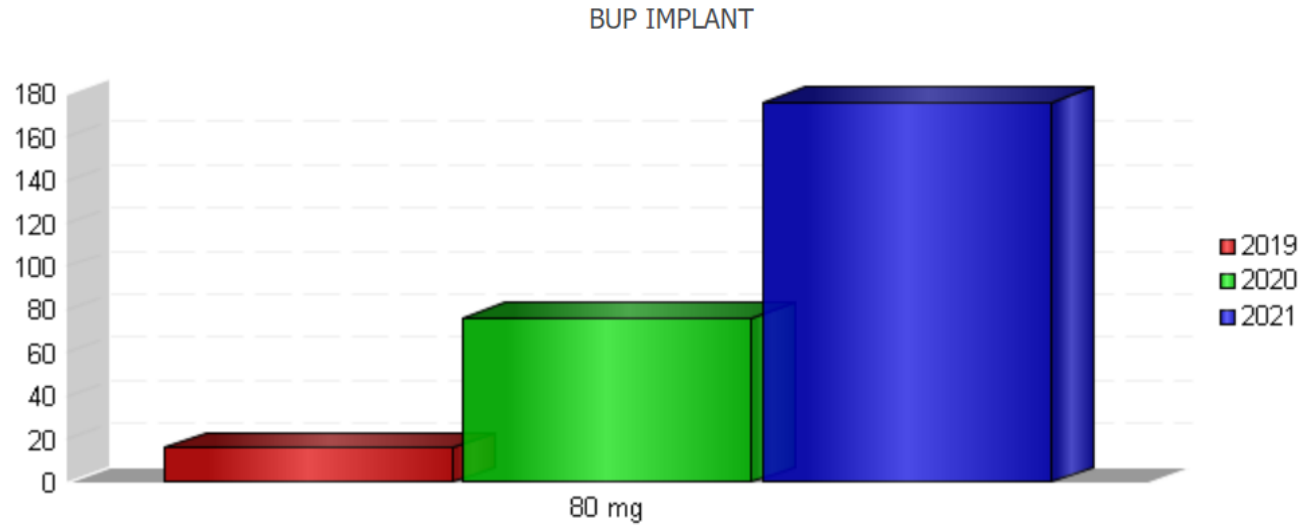
	10 mg/ml	50 mg/ml
2020	100	562
2021	80	857

Appendix O: Muscle Relaxant

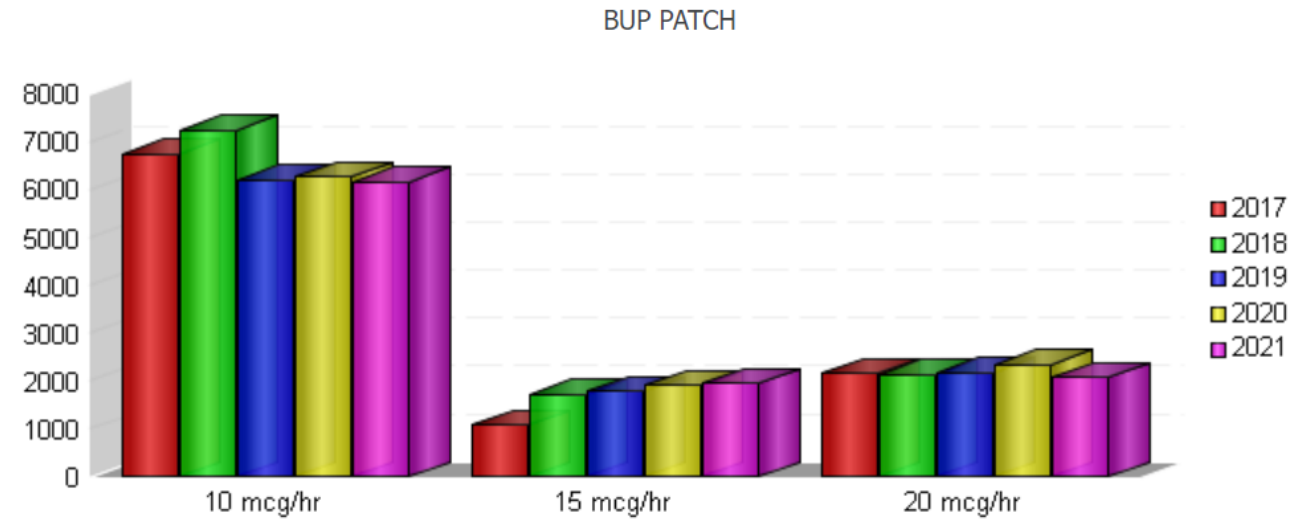


	10 mg	20 mg
2020	2,274,614	358,342
2021	2,506,035	393,415

Appendix P: Opiate Partial Agonists

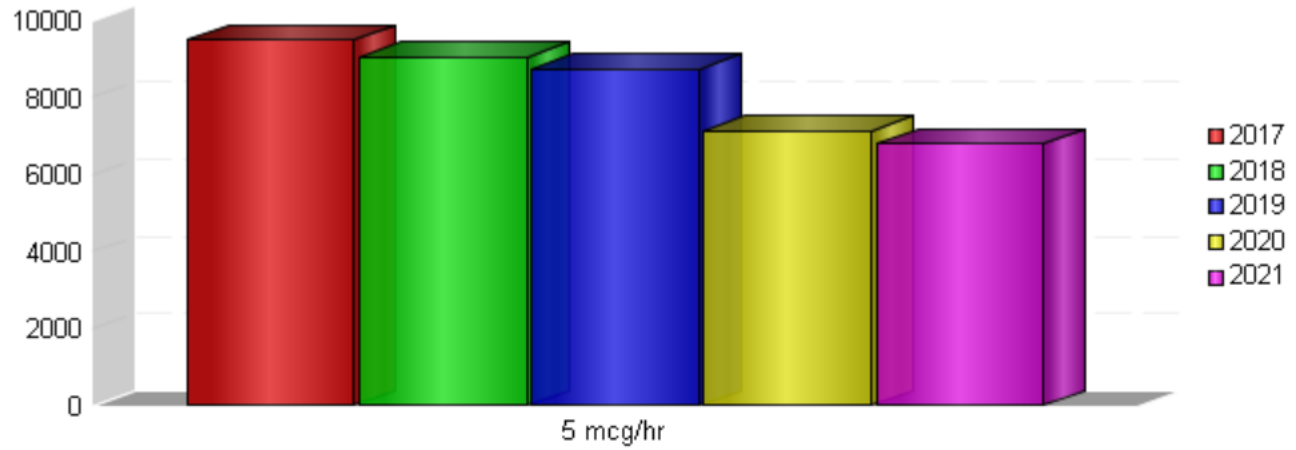


	80 mg
2019	16
2020	76
2021	176



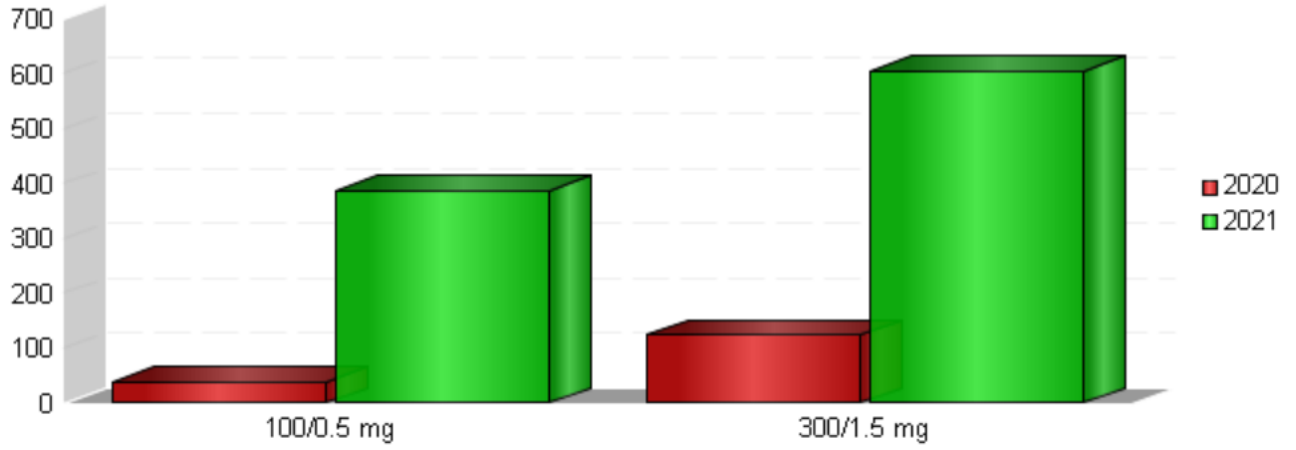
	10 mcg/hr	15 mcg/hr	20 mcg/hr
2017	6,750	1,091	2,160
2018	7,244	1,729	2,135
2019	6,201	1,790	2,182
2020	6,267	1,913	2,352
2021	6,170	1,964	2,082

BUP/NAL



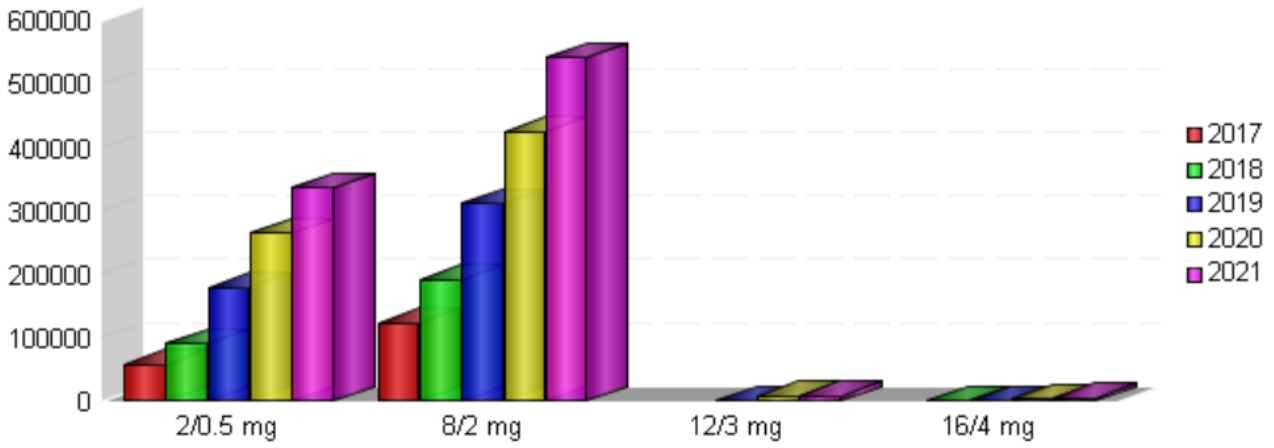
	5 mcg/hr
2017	9,511
2018	9,063
2019	8,751
2020	7,152
2021	6,802

BUP/NAL INJECTION



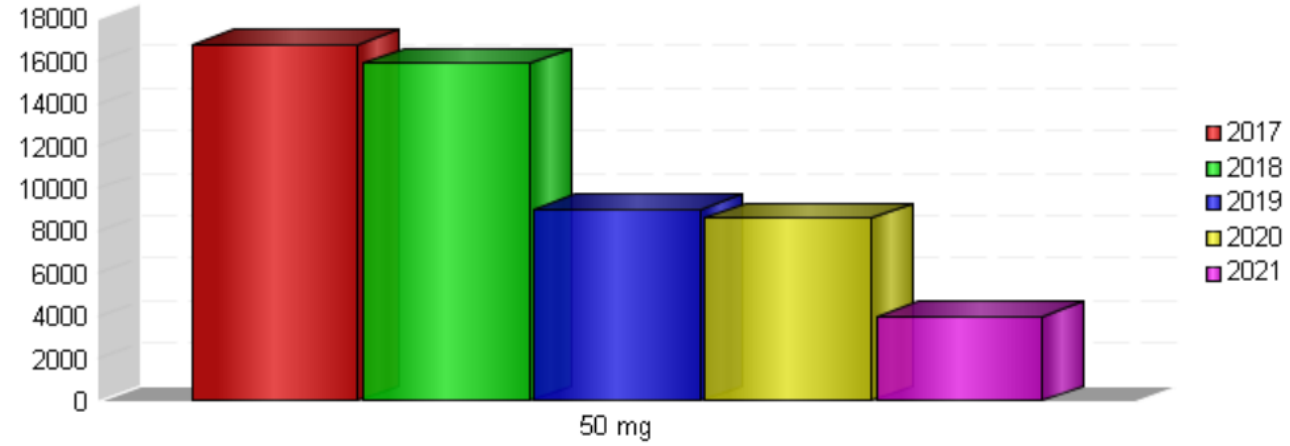
	100/0.5 mg	300/1.5 mg
2020	38	124
2021	388	606

BUP/NAL SL



	2/0.5 mg	8/2 mg	12/3 mg	16/4 mg
2017	57,127	123,705		
2018	90,902	191,648	20	94
2019	178,812	311,735	1,004	750
2020	264,884	425,292	8,142	3,959
2021	336,481	541,713	7,939	4,521

PENTAZOCINE



	50 mg
2017	16,798
2018	15,894
2019	9,000
2020	8,609
2021	3,990

Appendix Q: Coroner Report – Opioid Related Deaths

Saskatchewan Coroners Service

DRUG TOXICITY DEATHS
Saskatchewan, 2016 to 2022
(Confirmed Drug Toxicity Deaths Updated – June 2, 2022)
(Suspected Drug Toxicity Deaths Updated – June 2, 2022)

The data in the following tables include all death investigations concluded by the Saskatchewan Coroners Service (SCS) **between January 1, 2016 and June 2, 2022** where the cause of death was due to a **Drug Toxicity (Single or Combined Drug Toxicity)**. The statistics shown are subject to change as new investigations are undertaken and/or on-going investigations are concluded.

For the following tables please note:

- 'Undetermined' indicates that after completing an investigation, there is equal evidence, or a significant contest between one or more classifications.
- The statistics for 2019, 2020, 2021 and 2022 are preliminary given that not all death investigations for these years have been concluded.
- All statistics in these tables have been confirmed drug toxicity deaths with the exception of the table "Suspected Drug Toxicity Deaths, January 1, 2020 to December 31, 2020", "Suspected Drug Toxicity Deaths, January 1, 2021 to December 31, 2021" and "Suspected Drug Toxicity Deaths, January 1, 2022 to June 2, 2022". At the time of this printing, the statistics in this particular table are preliminary data and may change once the cases have been concluded.

Confirmed Drug Toxicity Deaths by Manner of Death, 2016 - 2022							
	2016	2017	2018	2019	2020	2021	2022
Accident	92	95	139	154	303	343	33
Suicide	13	16	27	21	18	16	3
Homicide	--	--	--	--	--	0	-
Undetermined	4	8	6	4	1	6	-
Total	109	119	172	179	322	365	36

Suspected Drug Toxicity Deaths, January 1, 2020 to December 31, 2020	
Total	5*

Suspected Drug Toxicity Deaths, January 1, 2021 to December 31, 2021	
Total	60*

Suspected Drug Toxicity Deaths, January 1, 2022 to June 2, 2022	
Total	174*

***At the time of this printing, this is preliminary data and these numbers are SUSPECTED drug deaths. These numbers may change once the cases have been concluded.**

***To provide an aggregate number for 2020, please add the Suspected Drug Toxicity Deaths to the 2020 Confirmed Drug Toxicity Deaths shown above. To provide an aggregate number for 2021, please add the Suspected Drug Toxicity Deaths to the 2021 Confirmed Drug Toxicity Deaths shown above. To provide an aggregate number for 2022, please add the Suspected Drug Toxicity Deaths to the 2022 Confirmed Drug Toxicity Deaths shown above.**

Source: Saskatchewan Coroners Service

1

Breakdown of Opioid Drugs Identified in Confirmed Drug Toxicity Deaths by Manner of Death, 2016 – 2022

		Codeine	Fentanyl	Heroin	Hydrocodone	Hydromorphone	Methadone	Morphine	Oxycodone	Opioid (Unknown)	W-18*	Buprenor-phine	Carfentanyl	Acetyl fentanyl	Monoacetyl morphine	Meperidine	Furanyl Fentanyl	Furanyl UF-17	Para-fluorofentanyl
2016	Accident	8	8	1	--	26	34	20	4	--	--	--	--	--	--	--	--	--	--
	Suicide	1	--	--	--	1	2	--	--	--	--	--	--	--	--	--	--	--	--
	Homicide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Undetermined	1	1	--	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--
2017	Accident	14	14	--	5	28	30	27	3	--	--	--	4	--	--	--	--	--	--
	Suicide	3	--	--	1	7	1	2	--	--	--	--	--	--	--	--	--	--	--
	Homicide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Undetermined	--	1	--	--	1	2	1	1	--	--	--	--	--	--	--	--	--	--
2018	Accident	14	46	_	7	41	38	27	8	_	_	1	6	--	7	--	--	--	--
	Suicide	7	1	_	1	2	1	9	4	_	_	--	--	--	--	2	--	--	--
	Homicide	_	_	_	_	_	_	_	_	_	_	--	--	--	--	--	--	--	--
	Undetermined	_	_	_	_	_	1	_	_	_	_	--	--	--	--	--	--	--	--
2019	Accident	13	43	--	5	56	45	36	5	--	--	1	4	10	3	--	--	--	--
	Suicide	3	--	--	--	7	--	2	--	--	--	--	--	--	--	--	--	--	--
	Homicide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Undetermined	--	--	--	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--
2020	Accident	22	163	--	8	85	48	42	5	--	--	5	6	143	1	--	1	2	--
	Suicide	5	3	--	--	6	--	3	--	--	--	--	--	2	--	--	--	--	--
	Homicide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Undetermined	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2021	Accident	4	242	--	3	38	37	17	2	--	--	2	13	190	--	--	--	2	60
	Suicide	--	3	--	--	3	--	--	--	--	--	--	--	3	--	--	--	--	1
	Homicide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Undetermined	--	2	--	--	--	2	--	--	--	--	1	--	1	--	--	--	--	--
2022	Accident	2	20	--	1	4	2	1	--	--	--	--	6	10	--	--	--	--	4
	Suicide	1	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
	Homicide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Undetermined	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

* Illicit Drugs Containing W-18 – As part of a 2015 investigation into the combined drug toxicity death of a male, age 25, there were tablets found at the scene which were analyzed and found to contain fentanyl and W-18. Given the limitations of toxicology testing, it is not possible to quantify W-18 beneath a certain level within a person's blood. The Saskatchewan Coroners Service was unable to determine whether W-18 contributed to this individual's death. Also, based on the circumstances of the death, it could not be confirmed whether the deceased ingested any of the tablets that contained the fentanyl and W-18. The individual's cause of death was combined drug toxicity involving a number of drugs including fentanyl and morphine which are reflected in the statistics contained in the tables of this report.

Source: Saskatchewan Coroners Service 2

Confirmed Drug Toxicity Deaths Involving Opioid Drugs by Manner of Death, Sex and Race, 2016 - 2022									
			2016	2017	2018	2019	2020	2021	2022
Accident	**Female**								
		Caucasian	10	12	19	11	25	22	5
		First Nations (status & non-status)	15	17	25	30	52	64	7
		Asian	-	-	-	-	-	-	-
		Black/African American	-	-	-	-	-	-	-
		Hispanic or Latino	-	-	-	-	-	-	-
		Inuit	-	-	-	-	-	-	-
		Metis	1	-	2	2	7	2	-
		Other Specified Race	-	-	-	-	-	-	-
		Unknown	5	3	3	4	3	7	-
		Total Female	31	32	49	47	87	95	12
	Male								
		Caucasian	19	23	36	33	71	87	4
		First Nations (status & non-status)	15	18	15	30	77	81	6
		Asian	1	-	1	-	3	-	-
		Black/African American	1	-	-	-	1	2	1
		Hispanic or Latino	-	-	-	-	-	1	-
		Inuit	-	-	-	-	-	-	-
		Metis	5	2	2	2	4	3	-
		Other Specified Race	1	-	-	-	2	3	-
		Unknown	3	1	11	11	10	12	3
		Total Male	45	44	65	76	168	189	14
		Total Female and Male	76	76	114	123	255	284	26

** Please note that this table replaces the former table *Drug Toxicity Deaths Involving Opioid Drugs by Manner of Death and Gender, 2010 –2019*. This current table includes Manner of Death, Sex and Race.

Source: Saskatchewan Coroners Service

Confirmed Drug Toxicity Deaths Involving Opioid Drugs by Manner of Death, Sex and Age Group, 2016 - 2022

			2016	2017	2018	2019	2020	2021	2022
Accident	Female	0 – 9	--	--	--	--	--	--	-
		10 – 19	--	3	--	--	4	3	1
		20 – 29	3	12	10	11	18	31	3
		30 – 39	13	5	13	12	22	26	1
		40 – 49	6	3	10	13	14	16	4
		50 – 59	7	4	13	10	19	12	1
		60 – 69	2	5	3	--	10	7	2
		70 – 79	--	--	--	--	--	--	-
		80 +	--	--	--	1	--	--	-
	Male	0 – 9	--	--	--	--	--	--	-
		10 – 19	--	--	--	1	3	1	-
		20 – 29	6	9	16	15	32	34	2
		30 – 39	21	12	18	21	52	40	5
		40 – 49	4	13	12	15	39	55	5
		50 – 59	9	8	11	19	29	44	2
		60 – 69	4	1	6	4	11	13	-
		70 – 79	1	1	2	1	1	2	-
		80 +	--	--	--	--	1	--	-
		Total	76	76	114	123	255	284	26
Suicide	Female	0 – 79	4	6	8	5	6	3	1
		80 +	--	--	--	--	--	--	-
	Male	0 – 19	--	--	--	--	--	--	-
		20 – 29	--	--	3	1	2	1	-
		30 – 39	--	--	--	--	--	1	-
		40 – 49	--	1	--	--	--	--	1
		50 – 80 +	--	3	2	5	3	--	-
		Total	4	10	13	11	11	5	2
Homicide	Female	0 – 80 +	--	--	--	--	--	--	-
	Male	0 – 80 +	--	--	--	--	--	--	-
		Total	--	--	--	--	0	0	0
Undetermined	Female	0 – 19	--	--	--	--	--	--	-
		20 – 29	1	--	1	--	--	--	-
		30 – 80 +	2	2	--	1	--	1	-
	Male	0 – 80 +	--	1	1	1	1	3	-
		Total	3	3	2	2	1	4	0
Total			83	89	129	136	267	293	28

** Please note that this table replaces the former table *Drug Toxicity Deaths Involving Opioid Drugs by Manner of Death and Age Group, 2010 – 2018*. This current table includes Manner of Death, Age Group AND Sex.

Source: Saskatchewan Coroners Service

Confirmed Drug Toxicity Deaths Involving Fentanyl by Manner of Death, Sex and Age Group, 2016 - 2022

			2016	2017	2018	2019	2020	2021	2022
Accident	Female	0 – 9	--	--	--	--	--	--	-
		10 – 19	--	2	--	--	3	3	-
		20 – 29	--	2	2	7	16	27	2
		30 – 39	1	--	7	3	13	20	-
		40 – 49	--	--	2	2	6	12	-
		50 – 59	--	1	2	2	6	3	-
		60 – 69	--	1	--	--	1	4	-
		70 – 79	--	--	--	--	--	--	-
		80 +	--	--	--	--	--	--	-
	Male	0 – 9	--	--	--	--	--	--	-
		10 – 19	--	--	--	1	1	--	-
		20 – 29	1	3	12	6	24	31	1
		30 – 39	5	2	12	14	44	33	2
		40 – 49	--	2	5	4	28	49	4
		50 – 59	--	1	3	3	17	35	1
		60 – 69	1	--	--	--	4	10	-
		70 – 79	--	--	1	1	--	--	-
		80 +	--	--	--	--	--	--	-
		Total	8	14	46	43	163	227	10
Suicide	Female	0 – 29	--	--	--	--	--	1	-
		30 - 39	--	--	--	--	1	--	-
		40 - 49	--	--	--	--	--	--	-
		50 - 59	--	--	--	--	1	--	-
		60 - 79	--	--	--	--	--	--	-
		80 +	--	--	--	--	--	--	-
	Male	0 – 19	--	--	--	--	--	--	-
		20 – 29	--	--	1	--	1	1	-
		30 – 39	--	--	--	--	--	1	-
		40 – 49	--	--	--	--	--	--	-
		50 – 80 +	--	--	--	--	--	--	-
		Total	--	--	1	--	3	3	0
Homicide	Female	0 – 80 +	--	--	--	--	--	--	-
	Male	0 – 80 +	--	--	--	--	--	--	-
		Total	--	--	--	--	--	0	0
Undetermined	Female	0 – 19	--	--	--	--	--	--	-
		20 – 29	1	--	--	--	--	--	-
		30 – 80 +	--	1	--	--	--	1	-
	Male	0 – 80 +	--	--	--	--	1	1	-
		Total	1	1	--	--	1	2	0
Total			9	15	47	43	167	232	10